

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

Thursday April 30th, 2015

1:00 PM– 3:30 PM

SW District office (Dane – Rock Rooms)

Subcommittee Reports:

1. **Subcommittee Concrete Masonry Structures – Ready Mix Industry Concerns.**
(Bill Oliva/Jim Parry/Cherish Schwenn) – Report on Progress
 - Revised Slump guidance published May 2015 CM 8-10.6.1.
 - Air Measurement, Department would consider Hardened Air Measurements from actual cylinders taken during placement. CM 8-70.5.2 may need updates to reflect.
 - Air Content – CM 8-10.6.1.2 has been revised to reflect Sub-Committee recommendations and department agreement.
 - Temperature – Specification 502.3.9.2 has been updated reflect Sub-Committee recommendations and department agreement.
 - Pumping Concrete – There is a need to get the pumping industry at the table for discussion on the process. This may also involve research.

2. **Subcommittee Pile Under-Runs. (Jeff Horsfall, Matt Grove, & Joe Larson)** - Update on Progress.
 - Subcommittee on Pile Overruns has developed Draft Spec Language that appears to meet agreement. Final version will be presented at September BTC meeting.

3. **Subcommittee to develop a ride quality specification for bridges – (Deb Bischoff & Jim Parry)** - I hope to have an SPV done to pilot on some projects this year. Brief presentation to the committee.
 - Jim handed out [QMP Bridge Ride; Incentive IRI Ride Bridge, Item SPV. 440.5020](#)
 - ½” max correction on bridge decks for the ride spec. This will include the 25 ft of pavement each end outside the last of any approach types ('bridge encounter'). Jim indicated that it would be piloted this year.
 - Kevin McMullen noted that there seems to be a promising method to reduce concrete cracking thru the use of small, water holding pellets. He'll send the info. Jim Parry says it sounds promising. NY State has worked with this product.

4. **Subcommittee on Ice Payment for Concrete (Aaron Bonk)** - Update on Progress.
 - Aaron provided updated progress. There will be guidance to designers on paying incentive in the FDM and CMM. BOS will address at Region Construction Training. There will be no change to the Standard Spec.

Standing Topics:

1. **Zoo Interchange** (Laura Shadewald)
2. **IH-39 (Illinois – Dane County)** (Laura Shadewald & Jim Lucht)
3. **Verona Road (Madison)** (Laura Shadewald & Brandon Lamers) –
4. **Every Day Counts – EDC-3 (Initiatives)** (Bill Oliva)
5. **Wisconsin Highway Research Program (WHRP) Bridge Items** – (Bill Oliva)
 - **FY2016 Projects**
 - **New Structures TOC Members Adam Dour of Kraemer North America & David Kiekbusch, Supervisor of BOS APS Unit.**

Previous Meeting Carryover Topics:

1. **Updates - Concrete Slope Paving Constructability and joint design and layout. (Kevin McMullen)** A few of the contractors would like to eliminate the details where the slope paving is done in layers and with keyway joints in favor of placing the entire slope and sawing or forming joints. And the joints are tied together with #4 tie bars.
 - James Luebke agrees that improvements can be made to current concrete slope paving details. He proposed adding an alternative detail, to the bridge standard detail 15.03, that includes sawed joints and tie bars. Draft plans will be sent to Kevin McMullen in the fall of 2014 for review prior to publication.
 - James is expected to provide Kevin a draft (alternative) construction joint detail for review prior to an anticipated 1/15 publication. Mike Hall expressed concerns that the specification language has already been changed and details have not been updated. He recommended that BOS communicate with field staff via a monthly teleconference for the allowance of alternative details. James indicated that plan details should be still applicable and once a detail has been developed it can be shared with others. Note: specifications removed language on pour widths (5 to 10 feet wide) and the mentioning of forms. Standard 15.03 now controls and provides joint spacing and joint details. Current guidance is provided and joint alternatives are expected.
 - This item is in the Queue to be worked on. However, other priorities are being addressed.
 - No update at April 2015 BTC meeting
2. **Internal Curing (Kevin McMullen)**
 - This provides an internal source of water for curing of concrete. Kevin indicated that Jason Weiss, a researcher may want to come and present on this topic to the BTC. Jim Parry said it may have benefits to our industry.
3. **505.3.4 Placing and Fastening (reinforcement). (Joe Balice - FHWA)** On several recent bridge construction projects, I have observed bridge deck reinforcement tied at 50% on the top mat and 25% on the bottom. To my knowledge, the standard specs call out 100% ties unless spa. Of bar intersections is < than 1 ft in both direction. I'm unsure where the 25% comes in and would like to discuss more at the Tech Meeting.
 - Joe indicated that he believed that the Spec language for bar tying based on spacing needs to be cleaned up.

New topics:

1. I would like to ask our bridge contractors if the normal 2.5 ft from top of berm to top of abutment body is enough room for the false work for most slab bridges. (Dave Kiekbusch)
 - Dave Kiekbusch asked the contractors if normal 2.5 ft from top of berm to low beam seat was difficult for forming slab structures. Apparently it is. 4 ft would be better. The contractors make the 2.5 ft better, but at what cost? (Dave K has since added this to the Development list to investigate at a later date).
2. From the January 2015 DOT - PD Chief Meeting, Beth Canestra requests that we discuss Pay Plan Quantity for Structures Backfill to the group (BTC) for discussion. – (Don Greuel & Oversight Engineers)
 - Structure backfill tends to over-run plan quantity. The 3' + 1.5:1 slope seems reasonable to the contractors. Quantity is going to tons (keeping CY, too). Finn Hubbard thought it should be LS as the contractor controls the excavation. Contractors would like Heavy Riprap as tons, too.
 - It was stated that backfill projects over-runs could be double the plan quantity. When questioned how that was possible when assuming reasonable slopes there was no answers.
3. Paying incentive/disincentive for seal concrete - (Tom Buchholz & Kristin Van-Hout)
 - Discussion on payment of Incentive/Disincentive for seal concrete. Depending on the application (Spread footing, Combination Footing, or pile foundation), it may or may not make sense.
4. Use of Deeper Prestressed Girders in Wisconsin. Discussion with Industry. Seems like we should be considering incorporating the 82W's into our toolbox. Several states, including our neighbor Minnesota, are using girders that are deeper and longer than our 72W's. (Dave Kiekbusch, Bill Dreher)
 - Bill Dreher and Dave Kiekbusch discussed whether we should lift the ban on 82W" prestressed girders. Chris Kirchner expressed concerns with lifting and hauling. Probably would require legislative changes to help with hauling issues. To allow 82w" would require 1/10th point lifting. 161 ft 82MN girders qualify as super-loads. Finn stated that the 82W" was designed with splicing in mind. Contractors said if we are going to splice, recommend we go to precast tubs.
5. Temporary Bridges – Inspection Requirements for Operation. (Joe Larson & Rick Marz)
 - The need for in-service inspections of temporary bridges was discussed. This inspection is different than the type that would be used for construction contract administration. This inspection is required by FHWA for all bridges in service that carry public roads. This inspection is performed by a bridge inspector that has the FHWA/WisDOT certification (2-week course). BOS Maintenance Section (Rick Marz & Dave Genson) maintains a list of over 200 certified bridge inspectors.

6. **WisDOT Shop Fabrication Process and Shop Drawings (Matt Grove & Rick Marz)**
 - Matt Grove wanted it presented so the contractors that had not seen or heard the new process would have another opportunity to ask questions. A recap of where the department was at with the Shop Fabrication Initiatives provided by Rick Marz.
7. **Saw-Cutting construction joints in pier caps or abutments are not allowed. (Dave Kiekbusch)**
 - This has been discussed at previous BTC Meetings. Apparently this practice is still occurring. We are adding a note to the insert sheet for the alternate joint specifically stating saw-cutting is not allowed.
8. **Suggestions from contractors for widening slab structures - how to address full camber at exterior, no camber at interior where new meets existing. (Bill Dreher)**
 - This will be held to the next BTC Meeting
9. **Certified Anchor Installer Obstacles. Need to discuss the ACI certification requirement at BTC – regarding anchor strength - Previous discussion always said either inspection or pullout testing. (Joe Larson & Matt Grove)**
 - Problems with anchor certification were discussed. The ACI test has vertical down and vertical up, but no horizontal (which is used quite a bit for bridges). There is also an issue with how long it takes to get results (tested in mid-Feb and got results April 30th). Zenith Tech went 10/10. There was talk about providing a modified test. Not sure who would come up with and administer this. WisDOT is not particularly interested due to a resource issue. Perhaps BOS can reach out to ACI for discussion on a more reasonable certification for our actual applications.
10. **Specification Changes / Updates – Discussion (Mike Hall)**
 - Mike brought a handout on Standard Specification Changes – Part 5 Structures (attached) for discussion.
11. **PDA Testing – (Laremy Sacia)**
 - Laremy said that PDA testing is pounding the heck out of the hammers. Will having the contractors perform this test, giving them more control, help this problem? - Contractors questioned the department on whether PDA testing is saving the department money.
 - Jeff Horsfall responded “yes” and recommended that contractors work with their PDA subs to better minimize equipment damage.

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**Bridge Technical Meeting
4/30/2015**

Payment

550.5.2 Piling

(INSERT)

→ DRAFT
BTC

(2) The contractor may be eligible for additional compensation as detailed below.

1. Adjustments in payment will be made when the final total quantity of acceptably completed piling for each size varies from the original total estimated plan quantity by more than 25%.
2. When the final total quantity of acceptably completed driven piling of each size is less than, or equal to, 75% of the plan estimated quantity, the contractor will receive additional compensation as defined below.
$$\text{Cost adjustment} = (0.15) \times (\text{Piling Contract Unit Price per lineal foot}) \times (75\% \text{ of total plan pile length} - \text{Total length of acceptably completed driven piling})$$
3. When the final quantity of acceptably completed driven piling of each size is more than, or equal to, 125% of the plan estimated quantity, the contractor will receive additional compensation as defined below.
$$\text{Cost adjustment} = (0.05) \times (\text{Piling Contract Unit Price per lineal foot}) \times (\text{Total length of acceptably completed driven piling} - 125\% \text{ of total plan pile length})$$

Provisions of Section 104.2.2.2 and Section 104.2.2.4.3 will not apply to piling.

Subcommittee

Joe Larson
Darrin Stanke
Matt Grove
Bill Oliva
Bill Dreher
Don Greuel
Bob Arndorfer
Doak Christenson
Dave Buschkopf
Mike Hall
Jeff Horsfall

Standard Specifications - 2016 Edition Changes

PART 5 Structures

Section 501 Concrete

Revise 501.2.1(1) to allow type IT ternary blended cements.

Revise 501.2.5.5(1) to clarify sodium sulfate soundness testing procedures for coarse aggregate.

Revise 501.3.1.1(3) to allow type IT ternary blended cements.

Revise 501.3.2.2(2) to allow grade A, B, and C concrete made with type IT ternary blended cements.

Section 502 Concrete Bridges

Revise 502.2.11 to clarify materials for crack, deck, and parapet sealing.

Revise 502.3.9.2(2) to lower the allowable concrete temperature to 50 degrees to be consistent for all concrete uses.

Revise 502.3.13.2 to clarify construction requirements for sealing decks, deck overlays, medians, and sidewalks.

Add 502.3.13.3 to clarify construction requirements for sealing parapets.

Retitle 502.4.6 to cover both pigmented and un-pigmented surface materials and add measurement for a new Pigmented Surface Sealer bid item for use on the inside face and top of parapets.

Revise 502.5.1 to add a new Pigmented Surface Sealer bid item for use on the inside face and top of parapets.

Retitle 502.5.6 to cover both pigmented and un-pigmented surface materials and add payment for a new Pigmented Surface Sealer bid item for use on the inside face and top of parapets.

Section 503 Prestressed Concrete Members

Revise 503.2.2(5) to allow type IT ternary blended cements.

Section 505 Steel Reinforcement

Delete 505.2.7, the department no longer builds continuously reinforced concrete pavement.

Revise 505.5 to eliminate separate bid items for bridges, culverts, and retaining walls.

Section 506 Steel Bridges

Rewrite 506.3.2 to require electronic shop drawing submittal and, for primary steel drawings, a completed department form DT2333. This change was implemented in ASP 6 effective with the May 2015 letting.

Section 513 Railing

Revise 513.4(1) to measure all the bid items by the linear foot.

Revise 513.5 to retire Railing Steel (structure), add Railing Steel Pedestrian bid items, and pay all items by the linear foot.

Section 517 Paint and Painting

Revise 517.5(1) to add a bid item to account for the increased cost associated with painting steel trusses. This revision incorporates the bridge SPV "Painting Epoxy System Pedestrian Bridge (structure) Item SPV.0105.xx".

Section 518 Mortar Rubble Masonry and Dry Rubble Masonry

Revise 518.2.1(1) to allow type IT ternary blended cements.

PART 7 Quality Management Program

Section 715 QMP Concrete Pavement and Structures

Revise 715.2.3(2) to allow type IT ternary blended cements.

BID ITEMS

Part 5 Bid Items

Add Pigmented Surface Sealer bid item for use on the inside face and top of parapets.

Replace separate Bar Steel bid items for bridges, culverts, and retaining walls with a single structures item.

Replace all lump sum Railing bid items with new bid items paid by the linear foot.

Retire Railing Tubular Type F-4 Modified (structure) and Railing Tubular Type F-5 Modified (structure)bid items.

Retire Railing Tubular Special (structure) bid item.

Retire Railing Steel (structure) bid item.

Add bid items for Railing Steel type NY3 and type NY4.

Retire Railing Steel Special (structure) bid item.

Add bid items for Railing Steel Pedestrian types C1, C2, C3, C4, C5, and C6.

Add a new bid item for painting steel trusses.

APRIL 30, 2015

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