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

Wednesday July 19th, 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 shared a proposed resolution to this. When air is in question on project, contractor to make a request for additional cylinder cast that the QA/QV person would take possession of. DOT would tender to lab. Payment for testing would come from contactor. Need to work some details like type of curing and how to transport. Kevin said he is shooting for final resolution by November 2017 BTC Meeting.

2. **Concrete Overlays Construction Equipment**
   - The group has begun 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.
   - We are drafting a survey for other DOT's
     The Charter is attached below and Javad has replaced Frank Alfaro in the group

The work group consists of the flowing members:

Bill Oliva, WisDOT BOS	Aaron Bonk, WisDOT BOS	Joe Larson, Lunda Inc.
Javad Hosseini, WisDOT BPD	Darrin Stanke, Zenith Tech Inc	Matt Grove, WTBA
Bill Dreher, WisDOT BOS	Ryan Pheifer, Pheifer Brothers	James Parry, WisDOT BTS
Krissy VanHout, WisDOT - NER	Dan Kowalski, Lunda Inc.	

3. **Subcommittee on Structure Design & Construction – (Aaron Bonk) –**
   - Aaron discussed the current efforts to examine decking systems for prestressed girder deck forming. Industry has provided a list of bridges that utilized alternative deck forming systems (i.e., not the conventional Borg hanger system) and WisDOT will be reviewing inspection records and making field visits to review the current condition of the girders at these bridges.

4. **Task Group to follow up on the FHWA's 2016 Bridge Deck Construction report.**
   Joe Balice of FHWA will be leading a Task Group to follow up on the 9 items identified in the 2016 FHWA report and findings. The Task Group is to discuss potential revisions to

the WisDOT Standard Specifications and CMM guidance based on observations from the 2016 FHWA final report. In the coming months, Joe will be reaching out to the group to organize meetings covering specific report recommendations. Kevin asked that we pull into this group the RMI (Regional Materials Staff?)

The Task Group will include:

• Joe Balice - FHWA • Jim Lucht – AECOM • Leo Joyce – Ed Kraemer • Scott Stroud – Collins • Darren Stanke – ZTI • Jim Parry and Chad Hayes – BTS	• Kevin McMullen – WCPA • Cherish Schwenn – WRMCA • Matt Grove - WTBA • Bill Oliva & Bill Dreher – BOS • Richard Sorensen & Mike Hall - BPD

Standing Topics:

1. **Zoo Interchange** (Laura Shadewald) -
2. **IH-39 (Illinois – Dane County)** (Michelle Howe) – Discussed the Lettings coming up

	Summary of Structure Numbers by General Classification Type								
	Bridges (New)	Bridges (Widening & Decking)	MSE Walled Abutments	MSE Walls	Retaining Walls (Others)	Box Culverts	Temp. Bridge Widening	Noise Walls	Overhead Sign Bridges
Anticipated Number of Structures LET in Look-Ahead Period by General Structure Classification =	23	0	10	3	5	6	3	2	25
Anticipated Total Number of All Types of Structures LET in Look-Ahead =	77								

3. **Verona Road (Madison)** (Laura Shadewald) – July 2018 is the next Let
4. **Wisconsin Highway Research Program (WHRP) Bridge Items** – (Bill Oliva)
   - Implementation –
     - Self-Consolidating Concrete for Prestressed Girders – Moving to Implementation on bridge for CY18 or CY19 construction.
   - FY2018 Projects –
     - Protocols for Concrete Bridge Deck Protections and Treatments
     - Performance and Policy Related to Aluminum Box Culverts and Pipe Culverts
     - Concrete placed underwater – Literature Search/Synthesis
   - Research Needs – TOC reviewing needs and opportunities

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

Previous Meeting Carryover Topics:

1. **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. Discussion was that PDA is an advantage for the right situation. Designers should utilize the guidance that is provided in the Bridge Manual to determine to right applications for the use of PDA. This item is closed.

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. The July discussion was that if a contractor has the right equipment (Tremmi and Vibrator) then placement should not be a problem. AASHTO promoted high slump and the use of super plasticizers. This would need to be added to the Standard Spec if we go this route. Proper Placement still needs to be adhered to.
   Jim Parry indicated that Poly Carboxylate Superplasticizers that conforms to ASTM would need to be used.
   This could be placed in the Standard Sign Special Provision and perhaps the Mono Tube Spec.
   The intent of any potential changes to the spec would be applied to sign structure drilled shaft foundations only.
   As of August 16th, 2017 Jeff Horsfall, Bob Arndorfer, and Jim Parry are working out updates for 501.3.7.1 Slump. This should be finalized in the near future. The **Draft** Language is:

   > **"For concrete placed below the ground surface, poly carboxylate superplasticizer may be used to increase the slump to a maximum of 8.0 inches, with the approval of the concrete mix design by the engineer."**

3. **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.
   Removal of overlay is not in the current specification. We should update the Specification for Thin Polymer Overlay. This should consider depth of removal. Bill Dreher said he could look into this and he will be creating a special provision (STD SPEC 509.3.4 Deck Preparation Type 1) for removing polymer overlays

   As part of this discussion, it was noted that Zenith Tech is doing (2017 project) Hydro Demolition on a bridge deck in the Lacrosse area.

New topics:

1. **Structural Backfill for Box Culverts (Matt Grove, Bill Oliva, & James Luebke).** Matt raised a concern about excavation limits and structural backfill on box culverts in recent letting. This will be a discussion on what the intent and standards reflect.
   Open discussion on the Bridge Manual Standard 9.01 and Structural Backfill and excavation limits. This was a lively discussion without agreement between industry and the department.

   The Department stance is that we are specifying where we want the structural backfill placed (required minimum amount) and that we are not indicating the limits of excavation for construction. We believe the limits of construction may vary by means and method. We understand that the limit of excavation will be different than the minimum limit for structural backfill.

   Matt Grove indicated he would prefer to see the old detail (1:1 Slope). The old detail showed a sloping limit that extended beyond the minimal limit the department wanted for structural backfill.

   The big question is do we show a slope beyond the minimal required limit of backfill.

   BOS Staff will reexamine this issue to determine if there is anything else they want to add or revise. More discussion at the November BTC Meeting.

   std901.pdf

2. **Restraint of girder rotation during deck pours (Bill Dreher)**
   Bill Dreher shared the concern that there not be any welding to shear studs or reinforcement to prevent girder rotation during deck forming. The concern is that we do not want to introduce corrosion risk into the reinforcement in the deck. Zenith Tech's representatives indicated that they have not done this in 10 years or more. Joe Larson (Lunda) indicated that Clips are typically used and that Lunda does not weld within the deck. Brent Freeman (Kraemer NA) indicated that he would have to look into whether Kraemer is currently doing this or not. Kraemer confirmed, via email after the meeting, that they also do not restrain girder rotation by welding rebar to shear studs, stirrups, etc.

3. **Secondary metal fabrication (railings & diaphragms) bolt testing (Ryan Pheifer)**
   Recently an engineer required mid-span steel diaphragm bolts on a precast girder project to be tests under the structural steel (skidmore test) standard. Should this be the new process? In the past, the turn of nut method was utilized on these items and a skidmore was only done in tension critical joints such as steel girder connections. We should be uniform across the state and we want to make sure we have the proper equipment onsite to avoid delays if a new process is required for steel diaphragm installation.
   There were issues with field engineers not being experienced with A325 HS Bolts and what is practical for secondary members (diaphragms). Mike Hall has made changes in the 2018 Standard Specification clarifying the requirements for bolting for steel diaphragms on prestressed girder bridges. Looks like the 2018 updates cover the concerns.

This should go to the Monthly BPD Conference Call and Wayne Chase indicated that he would take it there.

4. Concrete Masonry Payment. **(Ryan Pheifer)**
   - An engineer recently cited the payment section of the bid item for concrete masonry standard specifications as justification for withholding payment until all work is complete under the item. This would include wet cure, strength attainment, and joint filler. One went so far as to say 2 or 3 day breaks are required for payment.
   - The industry standard has been that the contractor finances the cost through placement of the concrete. Labor and material heavy processes such as setting and forming the falsework over the weeks prior to placing the concrete are completed with no financial reimbursement from the Department. Once the concrete is placed, the Department pays the item knowing that there is no material and very little labor remaining. Under this longstanding industry practice, the contractor has a substantial financial outlay and the Department a substantial enrichment prior to pouring the deck. For the 28 days the deck is attaining strength contractors receive a de minimis windfall relating to concrete curing and punch list operations where the Department has contract language to recoup costs via disincentive pay items and penalties if something goes wrong.
   - A documented consistent payment practice for this item would be appreciated.
   - Discussion from the meeting also stated that if we are not going to pay 100% of the item we should not be holding retainage on that item. It was noted that other States do not pay 100% of the item until testing is completed, but those States do not also hold a retainer. It was felt by contractors that the department is double-dipping by both not paying the full item and also holding a retainer.
   - This item to be advanced to the Construction Contract Administration Workgroup (CCAW) Committee for discussion and comment.

5. **Designers to provide as-built drawings of existing structures at bid time for structures not found in the DOT database (Brent Freeman).** Notes on plan sheets describing the general structure are not enough and then when removals take place and there are new obstructions found, that are not representative of said structure, it creates delays to schedules and arguments between the DOT and the contractor as to what should be included in the contractor's removals price.
   General discussion on As-Built Plan availability including pre-existing. Generally, designers should include plan note on existing (and pre-exiting) structures. The department needs to investigate the internal process that currently removes all bridge information from HSIS when that bridge is taken out of service.

6. **Structural Approach Alternative Pour Detail (Daniel Kowalski & Joe Larson)**
   Lunda has provided a detail that utilizes a saw-cut as opposed to a plastic joint break in order to set the joint between the bridge deck and the structural approach slab after it is poured monolithically. Joe Larson indicated that they used this detail in Lacrosse on a Hwy 35 bridge with high skew and that went well. James - BOS will look at detail

7. **28 day cure period for the staining of the architectural surfaces (Joe Larson).** In the past, this was known by all districts that it can(and often was) completed after the

completion date of the project. The last 2 years we are having more issues with certain regions considering this a bid item and that it needs to be completed prior to the completion date or LD's will be given to the contractor.
This should become less of an issue with the reduce amount of architectural staining that will be used. However, the use of Interim completion dates may be one way of addressing the timing of staining (28-day) and contract time. One question is can we provide stains earlier than 28-days? CCAW should take this topic into their group as it is a contract completion and payment issue.

8. **Use of micro silica on high performance concrete structures (Kevin McMullen).** Ready mix suppliers are proposing to use it more often. Kevin will discuss dosage rates and issues, along with benefits to strength and permeability. Kevin's goal is to bring awareness to the issues and see if we can stop the confusion by the state project managers when the ready mix suppliers propose its use and need approval.
Micro Silica is used to reduce permeability in High Performance Concrete (HPC). A little micro silica is good where too much is not good. Risk is in incorporation (bag residue and workers) and in shrinkage cracks in the final product. Local material availability may drive desire to use to help meet HPC Spec. Kevin McMullen said he would prefer it in the spec. Jim Parry is reluctant to go that way. The use is subject to a project by project proposal and approval.

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

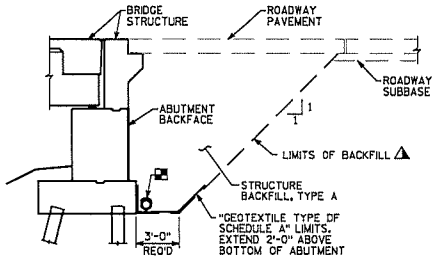
Addition to the Agenda:

1. Use of Ice in large pours or HPC
If you are pouring large (2000 cy) volumes of concrete or using HPC, there should be an Ice Bid Item in the contract. Only some of the projects meet the criteria above. The main issue at hand is whether construction engineers allow the use of ice (and pay for it) or if they are holding up pours due to temperature because it will drop off enough to complete the pours at a later date. It was noted that Parapet pours may be big user need that can benefit from the use of ice.

   A few ideas on addressing:
   - Change order in
   - Have an administrative item of fixed dollar amount
   - Contractor estimate during bidding

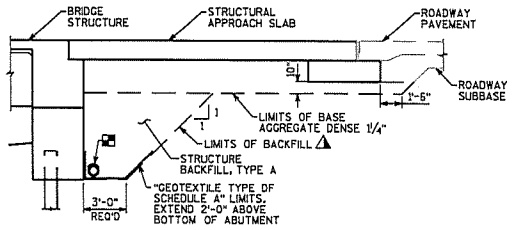
Attachments

Adobe Acrobat Document



TYPICAL SECTION THRU ABUTMENT

(A3 ABUTMENT WITHOUT STRUCTURAL APPROACH)



TYPICAL SECTION THRU ABUTMENT

(A1 ABUTMENT WITH STRUCTURAL APPROACH)

NOTES (ABUTMENTS)

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-_-_" SHALL BE THE EXISTING GROUNDLINE.

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

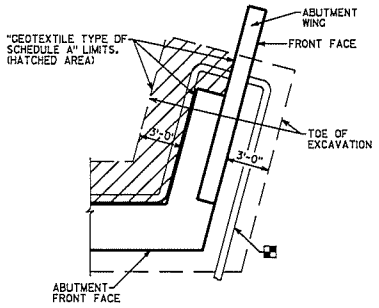
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT. (NOTE INTENDED FOR PILE SUPPORTED ABUTMENTS. SEE DESIGNER NOTES FOR MORE INFORMATION)

NOTES (BOX CULVERTS)

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-_-_" SHALL BE THE EXISTING GROUNDLINE.

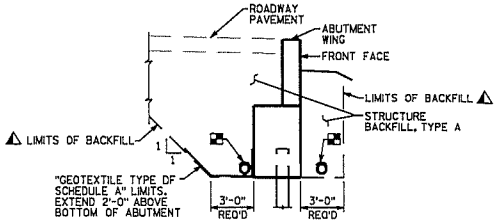
⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL WITHIN THE LENGTH OF THE CULVERT INCLUDING THE APRON WING WALLS.



ABUTMENT PLAN WITH WING

(A1 ABUTMENT WITHOUT STRUCTURAL APPROACH)



TYPICAL SECTION THRU WING

(A1 ABUTMENT WITHOUT STRUCTURAL APPROACH)

☆CULVERT UNDERCUT AND BEDDING BACKFILL TO BE DETERMINED BY GEOTECHNICAL ENGINEER. (CHOOSE APPLICABLE NOTE. MODIFY AS NEEDED)

NOTE AND DIMENSION NOT REQUIRED. (UNDERCUT NOT REQUIRED PER GEOTECHNICAL ENGINEER OR WHEN CONSTRUCTED ON FILLS)

UNDER CUT X'-X". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. BACKFILL WITH "STRUCTURE BACKFILL TYPE B".

UNDER CUT X'-X". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

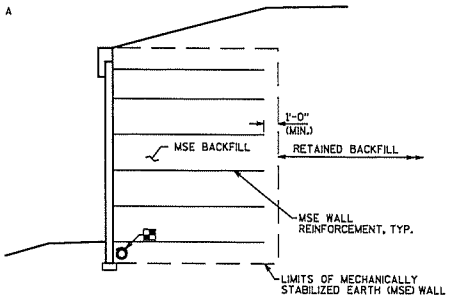
ALL PRECAST BOX SECTIONS SHALL BE PLACED ON A BEDDING OF "STRUCTURE BACKFILL TYPE B" OF 6" MINIMUM DEPTH. (NOTE APPLICABLE WHEN PRECAST NOTE IS SHOWN ON THE PLANS)

NOTES (RETAINING WALLS)

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES RETAINING WALLS R-_-_" SHALL BE THE EXISTING GROUNDLINE.

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

AT THE BACKFACE OF WALL ALL VOLUME WHICH CANNOT BE PLACED BEFORE WALL CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL. (NOTE APPLICABLE FOR CAST-IN-PLACE CONCRETE CANTILEVER WALLS AND SIMILAR STRUCTURES)



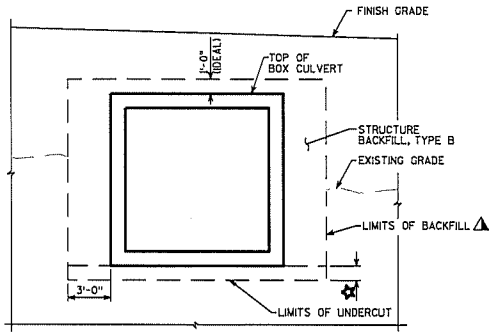
TYPICAL SECTION THRU MSE RETAINING WALL

DESIGNER NOTES

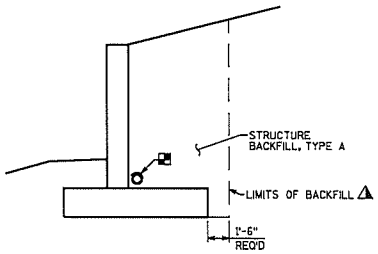
THE DESIGN ENGINEER SHOULD PROVIDE BACKFILL LIMIT DETAILS AND NOTES AS NEEDED. SEE BRIDGE MANUAL SECTIONS 6.4.2 AND 9.10 FOR ADDITIONAL INFORMATION.

FOR CULVERTS, THE ABOVE NOTE REGARDING POTENTIAL SUBSTITUTION OF BREAKER RUN SHOULD ONLY BE INCLUDED ON THE PLANS IF ALLOWED BY THE REGION GEOTECHNICAL ENGINEER.

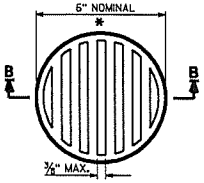
SUBSURFACE DRAINAGE DETAILS AND NOTES SHOULD DIRECT DRAINAGE AROUND THE ABUTMENT RATHER THAN BELOW THE ABUTMENT. DRAINAGE UNDER THE ABUTMENT MAY CAUSE SLOPE PAVING DAMAGE OR FAILURE.



TYPICAL SECTION THRU BOX CULVERT



TYPICAL SECTION THRU RETAINING WALL



SECTION B-B

RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. (SHOW DETAIL ON PLANS)

STRUCTURE BACKFILL LIMITS AND NOTES

BUREAU OF STRUCTURES

APPROVED: Bill Oliva

DATE: 1-17

STANDARD 9.01

Bridge Technical Committee
Work Group – Concrete Overlays
Thursday, March 9th, 2017

As a follow up to the November 2016 Bridge Technical Committee, we formed a working group to look at two issues related to concrete overlays on bridges.

The Two Issues to be examined:

1. Contractors have requested to pour the second half of a staged concrete overlay on the following day. 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. This may relate to both construction loading (traffic) and operational traffic (in-service public). We are examining the intent of what is required for curing of concrete overlays before construction and/or operational loading is allowed. Is it time related or strength related? (See attached Bridge Technical Committee November 2016 Meeting Minutes for discussion). (Attachment #1)

2. Equipment required for placing concrete overlays. Does the department have a machine/ design in mind that they wrote the special provision for concrete overlays around? Our current Low Slump Type E overlay and finishing machine requirements are problematic for some contractors to meet (equipment no longer manufactured). This limits the number of contractors that can bid on this type of work. Please see Ryan Pheifer email requesting some insight to what the department is looking for as it relates to equipment requirements. (Attachment #2)

The work group consistent of the flowing members:

Bill Oliva, WisDOT BOS	Aaron Bonk, WisDOT BOS	Joe Larson, Lunda Inc.
Frank Alfaro, WisDOT BPD	Darrin Stanke, Zenith Tech Inc	Matt Grove, WTBA
Bill Dreher, WisDOT BOS	Ryan Pheifer, Pheifer Brothers	James Parry, WisDOT BTS
Krissy VanHout, WisDOT - NER	Dan Kowalski, Lunda Inc.	

Item #1 – Overlays and traffic loading (STD SPEC 509.3.9.4)

Discussion from the group hit on a number of items that included

- Department is interested in what the loading imparted on the overlay would be.
- What is adequate strength of overlay for paver rail loading?
- Finishing machine service loading is estimated at 167 PSI based on a sketch of a typical finishing machine and rails system. This is based on a sketch that Lunda supplied
    - 15,000 pound machine
    - 3,750 pounds bearing per leg (4 legs)
    - Bearing Area = 22.5 sq.in.
    - Pressure = +/- 167 psi
- There are no construction vehicle on the new overlay, just the paving machine rails.
- Overlay production rates are about 20-25 CY per hour for this type of operation.

Recommendation:

- 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.
- Matt Grove asked if this would be an ASP 6 item.

Item #2 – Equipment required for placing concrete overlays

Discussion from the group hit on a number of items that included:

- The equipment characteristics in the current low slump specification (STD SPEC 509.3.2 Equipment) are obsolete and no longer supported by the equipment manufactures.
- The current (new) overlay equipment improves consolidation as compared with traditional Bidwell.
- There are concerns that you will not get a good finish with current overlay spec and traditional Bidwell paver.
- This issue may come down to what type mix design for overlays do we want to use (Low Slump, Micro-Silica, or Latex Modified)?
    - Low Slump – (we are very comfortable with this mix, but the equipment required limits number of potential bidders)
    - Micro-Silica - (Difficult to do well)
    - Latex Modified and Hydro-Demolition – (hydro-demolition may or may not be required for latex modified concrete overlays, some contractors feel the hydro demolition is not a challenge, but the latex modified concrete is difficult or problematic to work with)
- The recent Hoan project used a Modified Low-Slump mix with Bidwell. The Hoan was included in the FHWA Joint Review project and Joe Balice's report may have some information we should consider.

Recommendation (Next Steps):

- Bill Oliva will work with Ryan Pheifer to do a literature search on some of the key questions involved. This will also involve a short survey to other Mid-West DOT's.
    - Types of overlays used
    - Specifications
    - Performance
- Ryan will reach out to industry.
- We will shoot to have a plan that can be implemented in the 2019 Standard Specification.

Attachments #1:

Bridge Technical Committee
Work Group – Concrete Overlays
Thursday, March 9th, 2017

Minutes of
November 11th 2...

Attachments #2:

RE: Bridge Overlay
Machine/ Sp...

Wisconsin Bridge Technical Committee

Date: Wednesday July 19th, 2017

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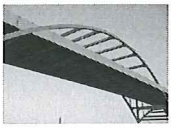

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