



May 16, 2024

Meeting Agenda – Concrete Technical Committee

Location: State Patrol Conference Room, Truax Office, Madison and MS Teams
Date: May 16, 2024
Time: 8:30 AM to 12:00 PM

Attendance

Committee Members:

WisDOT Members –

Bureau of Technical Services (BTS):

- ☐ Barry Paye – Director
- ☒ Erik Lyngdal – Chief Materials and Pavements Engineer
- ☒ Tirupan Mandal – Concrete Materials Unit Supervisor
- ☒ Peter Kemp – Pavement Unit Supervisor
- ☒ Aleksandra Graff – Concrete Engineer
- ☒ Adam Albers – Concrete Materials Lab Engineer
- ☐ *Vacant* – Pavement Policy and Research Engineer
- ☒ Adam Johnson – Independent Assurance Program Coordinator
- ☐ *Vacant* – Concrete Engineer Consultant (Behnke Materials)

Bureau of Project Development (BPD):

- ☐ Mark Zander – Construction Standards Engineer
- ☒ Craig Pringle – Construction Oversight Engineer

Bureau of Structures (BOS):

- ☐ Aaron Bonk – Chief Structures Design Engineer

Bureau of Aeronautics (BOA):

- ☒ Lucas Ward – Chief Airport Construction Standards

Regional Representatives:

- ☐ Alan Rommel – NE Region TSS Chief – Management Liaison
- ☒ Travis Mikshowsky – SW TSS Supervisor – TSS Liaison
- ☐ Matt Smith – SW Region Independent Assurance
- ☒ Bryton Meyer – SW Region Soils and Materials Engineer
- ☒ Nicole Roberts – SE Region Materials Engineer
- ☐ Eric D Hanson – SE Freeways Project Manager
- ☒ Brent Ferguson – NC Region Independent Assurance
- ☒ Devin Harings – NW Region Pavement Engineer
- ☒ Matt Bertucci – NE Region Pavement Engineer

FHWA Members –

- ☒ James Pforr – Pavement & Materials/Asset Management Engineer



Industry Members –

- ☒ Sara Shoenmann – American Council of Engineering Companies Liaison
- ☒ Ed Anastas – A.W. Oakes
- ☐ Brian Luchene – BARD Materials
- ☒ Signe Reichelt – Behnke Materials
- ☒ Paul Mathe – Carew Concrete
- ☐ Barry Bohman – Chippewa Concrete Services
- ☐ David Meyer – Continental Cement Company
- ☒ Nicholas Bowers – Continental Cement Company
- ☐ Dave Stanke – Kraemer North America
- ☐ Brian Borowski – Lafarge/Holcim
- ☐ Mark LaLonde – LaLonde Contractors
- ☒ Brad Diener – Lunda Construction
- ☒ John McConahy – Mapei
- ☒ Scott Grams – Michels Road & Stone
- ☐ Tom Ptaschinski – Ptaschinski Construction Company
- ☒ Anna Romenesko – Sommers Construction
- ☒ James Palmer – St. Mary's Cement Company
- ☒ Benny Walker – Todds Redi-Mix Concrete
- ☒ Matt Trierweiler – Trierweiler Construction Company
- ☒ Heath Schopf – Vinton Construction Company
- ☒ Jackie Spoor – Wisconsin Concrete Pavement Association
- ☒ Kevin McMullen – Wisconsin Concrete Pavement Association
- ☒ Leslie Ashauer – Wisconsin Concrete Pavement Association
- ☒ Cherish Schwenn – Wisconsin Ready Mixed Concrete Association
- ☐ Matt Grove – Wisconsin Transportation Builders Association
- ☒ David Burt – Zenith Tech
- ☒ Andrea Breen – Zignego Ready Mix
- ☐ Tony Zignego – Zignego Company

Resource Members (as needed) –

- ☐ Brandon Lamers – BPD Deputy Director
- ☐ Laura Shadewald – BOS Structures Development Chief
- ☒ Myungook (MK) Kang – BTS Quality Assurance Supervisor
- ☐ Linette Rizo – BTS Quality Assurance and Sustainability Engineer
- ☒ Chad Hayes – BPD Construction Oversight Engineer
- ☒ Zach Dittberner – Michels Road & Stone
- ☒ Tom Sand – Vinton Concrete Construction

Guests –

- ☐ Keena Spencer-Dobson – NWR Materials Engineer
- ☒ Jeff Bruesewitz – SE Freeways IA Specialist/Mega Material Engineer
- ☒ Julie Slota – BPD Construction Oversight Engineer



Agenda Items

1. Welcome and Introductions – T. Mandal (10 min)
 - In-person meeting on August 15, 2024?
 - Next in-person meeting will be in January 2025.
 - New members
 - Brandon Lamers – BPD Deputy Director
 - Nicholas Bowers – Continental Cement Company
 - Anna Romenesko – Sommers Construction
 - Jeff Bruesewitz – SE Freeways IA Specialist/Mega Material Engineer
2. Review of Action Items – T. Mandal (10 min)
3. Charter Update – All (10 mins)
 - The previous charter is for the period 2022-2024. WisDOT plans to update and finalize the charter for 2024-2026 by the CTC meeting in August.
 - **Action Item:** Send any proposed new goals for the charter to T. Mandal by August 1, 2024, so that the charter can be finalized by the CTC meeting in August.
4. HTCP Mix Design Certification – T. Mandal (5 min)
 - A new HTCP course focused on concrete mix design review is currently under development. The aim is to offer the course in every region next year. Project personnel involved in reviewing concrete mix designs will be required to take this course and obtain certification. The specifics regarding the duration and content of the course are still being finalized.
5. APL Update – A. Graff/ T. Mandal (10 min)
 - Class F Fly ash
 - BTS sent a draft class F Fly ash APL approval document to CTC members for review on February 27, 2024. The document was briefly shared during the meeting as well.
 - **Action Item:** T. Mandal will re-send the draft document and CTC members to review the document and send comments back by May 23, 2024. (Completed, re-sent on May 17th)
6. WHP Research Updates – P. Kemp/ T. Mandal (10 min)
 - Field Investigation of Dowel and Tie Bar Placement
 - Data was collected from 10 sites. The researcher is analyzing the data and plans to provide Pavement ME inputs for dowel bars.
 - Timely and Uniform Application of Curing Materials
 - The draft report of the research project is due July 1st. The researcher plans to visit one more site (USH 53) next month.



- Chemistry and Performance of SCMs for Wisconsin Concrete Pavement
 - Research is on track and will be completed at the end of this year.
 - Alternative Conditioning Method to Calculate Formation Factor for Wisconsin Concrete Pavement
 - Research is on track. No updates currently.
 - Proactive Prevention of Pavement Buckling
 - Research is on track. No updates currently.
 - Optimization of Dowel Bars in Concrete Pavements
 - PI was selected and the project will start in October 2024.
7. Concrete Inspection Training – WCPA/ BTS (5 min)
- BTS and WCPA did construction inspection training in three Regions. The goal is to do more interactive training next year. Some feedback asked for less specification content in this training.
 - Numerous new inspectors observed projects that did not participate in the training but would benefit from it. Communication lines may need to be improved to have a broader reach. Training needs to be done earlier before the construction starts. BTS and WCPA to discuss a new timeline for the training.
8. Dowel Basket Anchoring – P. Kemp (New discussion item)
- The NW region experienced some movement in anchored baskets on projects. The standard detail drawing requires a minimum of 4 anchors, but project staff suggested increasing the number of basket anchors from 4 to 6 to prevent the baskets from moving. This issue may be related to inspection rather than the minimum number of anchors. This information is in the construction inspection guide and is covered in construction inspection training. The recommended practice is to increase the number of basket anchors if movement is observed. This topic can be covered in more depth in future construction inspection training.
9. Specification Re-org – All (150 min)
- Concrete Grades – Comments #1, #65, #66, and #67
 - WCPA is concerned about the removal of the grades in the spec reorganization. Many STSPs also reference grades. Eliminating grades will create issues with special concrete items. For instance, the current specification requires grade B HES for base patching. The new specification has a minimum cementitious content (e.g., 494 lbs/CY). The industry may face issues distinguishing what constitutes a HES mix.



- The reorganized specifications with categories (without grades) will create concrete ordering issues. Redi-mix plants have about 10% of their work for WisDOT projects, but they utilize the DOT grade system to order concrete for non-DOT/private sector jobs.
- The combinations of class and grade can be complex. The category system simplifies it by defining it for the application.
- WCPA proposes that grades be kept and tied to the categories.
- Trial Batching – Comments #41 and #54
 - WCPA would like to know why the air content tolerance changed and why the PWL equation was removed.
 - The industry prefers to have $\pm 1.5\%$ air tolerance to avoid having to do additional trial batches due to air variation. They want to have a wider range for their trial batches that will simulate if something goes wrong in the field. The Department/FHWA believes that this should be part of their process control and not the trial batch. The Department wants consistency and for contractors to be able to produce a consistent mix with very little variation from batch to batch.
 - Previous data shows that all mixes that passed PWL would also pass 0.9 strength difference highest vs the lowest criteria. The industry doesn't have a preference for whether a 0.90 strength difference between the lowest and highest number of PWL is used.
- Max. Temp. Spec – Comment #45
 - WCPA had concerns that the reorganized specification could potentially reduce the number of days available for paving in the summer if a contractor is unable to keep their concrete temperature below 90 degrees. The reorganized specifications require the contractor to have a temperature control plan by referring to hot weather concreting (501.3.8.2) for pavements. However, the specs do not require the paving to stop if the temperature is at or above 90 degrees. The department wants the contractor to document their plan and then adhere to it.
 - The suggestion is to make the language clear and write a note that is specific to pavements instead of referencing 501.3.8.2.
- Lot Units (CY) – Comment #47
 - Industry is concerned that if the department switches to CY, they will lose the random element because individuals in the field/contractor have to communicate with the plant. The industry is also concerned about theoretical vs. actual placed. If

contractors place more concrete than planned to accommodate the spread loss, concerns about more testing or locations not being tested were raised

- The spreadsheet that was developed during the spec re-org task force that converts CY to LF and stations was shared during the meeting. Using the spreadsheet, the random testing locations can be determined based on CY, LF, and station. The task force needs to meet and decide on testing frequency.
- All options (cubic yard (CY), lane feet (LF), square yard (SY)) are still being evaluated by the task force. The proposed specification will be updated with the task force's outcome before it moves to pilot project testing. BTS wants to use a single unit but does not have a preference for what unit is. It will be easier to compare contractor and department data and when WisDOT moves to AWP.
- **Action Item: T. Mandal to share the Excel sheet with lot/sublot quantity and random number calculation with CTC members. (Completed, sent on May 28th with meeting minutes)**
- Location of Lots/Sublots – Comment #57
 - WCPA is concerned that contractors are unable to specify the paving locations in advance and include this information in the QC plan. They know the random numbers, but they lack information about the exact lots/sublots. They aim to provide lot/sublot details once they have determined their paving plan, which typically happens early in the morning just before paving.
 - FHWA explains that how you label the lots/sublots doesn't matter as long as you are entering the data chronologically. This will work only if the same mix is used. You can have multiple mixes, but as long as their lots are logged chronologically, we can determine the frequency of testing (QC/QV).
 - Many issues with locations of lots and sublots come from changes in mix design and how that will be handled. Mix designs can change due to several issues (change of material sources, etc) but when this happens without notice it causes an issue with this system. If there is planned notice of changing mix design the lot and sublot system works fine. This is mainly an issue for ancillary, not large paving projects.
 - Communication is essential and the engineer must be notified immediately. Consider adding language to notify the engineer immediately when a new mix design change is proposed.
- Notification to engineer for Lot/Sublot – Comment #61
 - This language is used primarily for partial sublots. Originally, the “notify the engineer” language was used to foster communication between the engineer and the



contractor with the goal for the engineer to direct the test so that the contractor could get paid. This is a non-random test.

- WCPA wants the language cleared instead of referring back to the engineer for a directed test.
- The test must be directed to be used for acceptance. The contractor can't decide on their own where to take the test as that would be a process control test. If a contractor has time, they can run the random number for those partial sublots.

Review of Action Items

1. BTS to follow-up on sawcut depth standard drawing (d/3)
 - WCPA drafted a document to address the issue. This document will be shared with BTS before being brought to the CTC meeting.
2. Adjustment to Pay for Crack Repair - WCPA to send proposed revisions to WisDOT. WisDOT will review the proposed revisions and respond to WCPA.
 - WisDOT is still reviewing this agenda item.

Upcoming Meetings

2024		
May 16, 2024	9:00 am to 12:00 pm	CTC
August 15, 2024	9:00 am to 12:00 pm	CTC
November 14, 2024	9:00 am to 12:00 pm	CTC