



February 17, 2022

Meeting Minutes – Concrete Pavement Technical Committee

Location: Teams Meeting
Date: February 17, 2022
Time: 9:00 am to 12:00 pm

Attendance

Committee Members:

WisDOT Members –

Bureau of Technical Services (BTS):

- Vacant – Director
- Barry Paye – Chief Materials Engineer
- Jim Parry – Quality Assurance Supervisor
- Leslie Hidde – Concrete Quality Assurance Engineer
- Debra Bischoff – QMP Engineer
- Peter Kemp – Pavement Unit Supervisor
- Ali Arabzadeh – Pavement Policy and Research Engineer
- Adam Johnson – Independent Assurance Program Coordinator
- Mark Finnell – Concrete Engineer Consultant (Behnke Materials)
- Signe Reichelt – Test Procedure Manual Consultant (Behnke Materials)

Bureau of Project Development (BPD):

- Vacant – Construction Standards Engineer
- Craig Pringle – Construction Oversight Engineer
- Chad Hayes – Construction Oversight Engineer

Regional Representatives:

- Alan Rommel – NE Region TSS Chief – Management Liaison
- Travis Mikshowsky – SW TSS Supervisor – TSS Liaison
- Paulo Florio – SW Region Soils & Materials Engineer
- Matt Smith – SW Region Independent Assurance
- Kurt Flierl – SE Region Construction Project Manager
- Vacant – SE Freeways Design/Construction Interface Engineer
- Brent Ferguson – NC Region Independent Assurance
- Devin Harings – NW Region Pavement Engineer
- Matt Bertucci – NE Region Materials Engineer

Bureau of Aeronautics (BOA):

- Vacant – Airport Construction Standards Chief

FHWA Members –

- James Pforr – Pavement & Materials/Asset Management Engineer



Industry Members –

- Vacant* – American Council of Engineering Companies Liaison
- Ed Anastas – A.W. Oakes
- Paul Mathe – Carew Concrete
- Barry Bohman – Chippewa Concrete Services
- David Meyer - Continental Cement Company
- Brian Borowski – Lafarge/Holcim
- Mark LaLonde – LaLonde Contractors
- John McConahy – Mapei
- Scott Grams – Michels Paving
- Tom Ptaschinski – Ptaschinski Construction Company
- David McKewin – Sommers Construction Company
- James Palmer – St. Mary’s Cement Company
- Mark Pichler – Stark Paving
- Mike Hammitt – Trierweiler Construction Company
- Heath Schopf – Vinton Construction Company
- Jackie Spoor – Wisconsin Concrete Pavement Association
- Kevin McMullen – Wisconsin Concrete Pavement Association
- Matt Grove – Wisconsin Transportation Builders Association
- Tony Zignego – Zignego Company

Resource Members (as needed)–

- Erik Lyngdal – BTS Concrete Lab Supervisor - Aggregate Tech Committee Chair
- Adam Albers – Concrete Materials Lab Coordinator
- Ryan Ramthun – Michels Paving
- Andrea Breen – Zignego Ready Mix

Guests–

- John Rublein – Materials Automation Engineer
- Mark Zander – Roadway Design Standards Unit
- Rodney Taylor – Roadway Design Standards Unit
- Paul Eggen – Westwood
- Matt Trierweiler – Trierweiler Construction Company
- Marcus Klesit – Trierweiler Construction Company
- Tom Sand – Vinton Construction Company

Agenda Items

1. Welcome and Introductions – L. Hidde (~5 min)
 - a. Review etiquette during virtual meeting
 - b. Recording of Meeting
 - c. Introduce New Members
 - i. **Paulo Florio – SW Region Soils & Materials Engineer**
 - ii. **Paul Mathe – Carew Concrete**
2. AASHTOWare Materials (AWP-M) Implementation & 2024 Spec Updates – J. Rublein (~15 min)



- a. Introduction to what AWP-M is and plans for specification reorganization
- b. Power point presentation attached.
3. Proposed Rumble Strip Updates – M. Zander (~15 min)
 - a. Convert to sinusoidal rumbles to reduce sound (mumbles) in specific situations.
 - b. Update rumbles with 2024 specification
 - c. Mainline lanes are only to be ground. Shoulder lanes will allow carbide mill.
 - d. Rumble and Mumble are 2 separate machines. (2 mobilizations). Put information in FDM guidance.
 - e. Informational document attached.
4. Review & Approval of December 16, 2021 Minutes – L. Hidde (~10 min)
 - a. Approved as written.
5. Tech Team Updates (~30 min)
 - a. Fast Track – M. Finnell
 - i. Met with traffic to gain understanding of how closures are determined.
 - b. Sidewalk Staking – L. Hidde
 - i. TF concluded 01/2022
 - ii. Preliminary FHWA Concurrence on Spec and FDM language.
 - iii. BPD has all documents for incorporation.
 - c. Curb Shear – L. Hidde
 - i. Need to get information from additional regions regarding extend of issue.
 - ii. Have some options that are being looked at including:
 1. “Felt” height
 2. Flattening median slopes in roundabouts
 3. Middle island expansion
 4. Possible increase of curb head width from 6” to 12”
 - iii. Looking at other expansion material options.
 - d. SAM – M. Finnell
 - i. No Update – January meeting canceled.
6. Proposed 2023 Specification Updates – L. Hidde / M. Finnell (~35 min)
 - a. Explanation of changes that are proposed for 2023.
 - b. Recap of Aggregate Testing changes from Nov 2021 ASP-6 changes
 - c. CMM guidance to come in Fall 2022 (no spring CMM 2022 release)
7. Dowel Bar Size (1¼” max) – J. Parry / P. Kemp (~15 min)
 - a. Trying to stop delamination cracking
 - b. SDD will be changed to have max 1¼” dowel



c. Update to SDD's in August 2022

8. Recap of WCPA Conference – K. McMullen / J. Spoor (~5 min)

- a. 310 in attendance
- b. Suggestions for next year speakers – reach out to Jackie & Kevin.

9. DT2220 & DT2221 Forms – M. Finnell / L. Hidde (~35 min)

a. Concerns

- i. W/c ratio not changing in OAG spreadsheet.
- ii. Create sheet for just gradation analysis.
- iii. Need clarification as to what is required for submittal.
- iv. Optimized tool in the “old” spreadsheet is preferred over current.
- v. Contractors need way to easily figure out aggregate economics within the tarantula curve. Would like spreadsheet to accommodate that parameter.
- vi. Secure signatures? Excel does have signatures and will lock the information after signed.
- vii. Date spreadsheets as they are posted / updated.

b. Process for 2022

- i. Mix designs will be accepted per the DT forms or the “old” spreadsheet for 2022.
- ii. DT2220 & DT2221 have the WS5014 incorporated. Entire spreadsheet needs to be submitted.
- iii. If using the “old” spreadsheet, the WS5014 will need to be submitted.
- iv. Memo will be created and sent out with all the guidance/parameters for 2022 mix design submittal. This will be distributed to ALL – contractors, consultants, DOT staff.
- v. BTS will work to determine where the “old” spreadsheet will be housed.

10. Action Item Updates (~15 min)

- a. Remove driveway to curb tie bar to SDD 8d18 & add isolation/expansion joint. – P. Kemp
- COMPLETE
 - i. Changes made to SDD's. They are live!
- b. BTS & Region review of concrete pavement approach detail – P. Kemp
 - i. A Arabzadeh & P Kemp reviewed bridges.
 - ii. Pavement Unit to reach out to regions to review their bridges using a BTS provided template.
 - iii. Add time of construction to the data gathering.
- c. Concrete Barrier CMJ/CCO – L. Hidde – COMPLETE
 - i. CMJ/CCO will be distributed to Regions for use.



- d. Industry practice for constructing driveway to curb – K. McMullen – **COMPLETE**
 - e. Expansion material alternatives – L. Hidde – **COMPLETE**
 - i. This has been added to the Curb Shear TF. They will be looking into alternatives and providing responses back to CPTC.
 - f. Trial Batching for IL Cements – L. Hidde - **COMPLETE**
 - i. Memo sent out in December 2021 clarifying expectations for trial batching.
 - ii. Memo to be sent over ListServ at the end of month as additional outreach.
 - iii. Link to Memo: (On QMP webpage)
<https://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrcs/tools/qmp/Type-IL-Cement-Mix-Design-Acceptance.pdf>
11. ListServ Sign Up – L. Hidde (~2 min)
- a. Visit QMP Webpage:
<https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/qmp/default.aspx>
NEED TO CONFIRM SIGNUP! You will get an email sent to you to confirm you want to be included.

Action Items

Old Items:

- 1. Driveway Tie Bar Locations & Type A Curb & Gutter – P. Kemp (November 2021) – **COMPLETE**
 - a. Remove Driveway to Curb Tie Bars from SDD 8d18 and add isolation/expansion joint. – P. Kemp (January 2022)
- 2. Concrete Pavement Approach Detail – P. Kemp (December 2021 Update) – **IN PROCESS**
 - b. Have BTS & regions review. (February 2022 Update)
- 3. Concrete Barrier CMJ/CCO – L Hidde (January 2022) – **COMPLETE**
- 4. Industry practice for constructing driveway to curb. Address if expansion/bond breaker is needed. – K. McMullen (February 2022) – **COMPLETE**
- 5. Research alternatives to asphalt fiberboard expansion material – Send to Curb Shear TF
- 6. Guidance to all Regions on Trial Batching requirements for IL Cements – M. Finnell / L. Hidde (January 2022) - **COMPLETE**

New Items:

- 7. AWP Presentation to all – L. Hidde (February 2022)
- 8. Rumble Strip Notes to all – L. Hidde (February 2022)
- 9. List of questions regarding Rumbles & Mumbles – K McMullen (February/March 2022)
- 10. Concrete Barrier Strength: where called out? – L. Hidde (February/March 2022)
- 11. SDD change max dowel bar change: August Publication – P. Kemp (June 2022)
- 12. CMM Updates – L. Hidde / M. Finnell (August 2022)
- 13. "Old" mix design spreadsheet location – L Hidde / M. Finnell (ASAP)
- 14. Memo regarding 2022 Mix Design submittals – L. Hidde / M. Finnell (ASAP)
- 15. List of Task Force Members – L. Hidde (February 2022)



Action Items – Long Term

1. 4 x 4 Concrete Beam Task Force – M. Finnell (August 2021): *ON HOLD until WHRP Study Complete*
 - a. Rename to Concrete Strength TF

Other Notes

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Upcoming Meetings

2022		
February 17, 2022	9:00 am to 12:00 pm	CPTC
February 18, 2022	8:00 am to 10:00 am	TF: Fast Track
February 28, 2022	9:00 am to 11:00 am	TF: Curb Shear
March 9, 2022	1:00 pm to 2:30 pm	TF: SAM
March 11, 2022	8:00 am to 10:00 am	TF: Fast Track
March 28, 2022	9:00 am to 11:00 am	TF: Curb Shear
April 4-8, 2022	multi day	National Concrete Consortium
April 15, 2022	8:00 am to 10:00 am	TF: Fast Track
May 11, 2022	1:00 pm to 2:30 pm	TF: SAM
May 13, 2022	8:00 am to 10:00 am	TF: Fast Track
May 22-25, 2025	multi day	ACEC
June 16, 2022	9:00 am to 12:00 pm	CPTC
August 11, 2022	9:00 am to 12:00 pm	CPTC
November 17, 2022	9:00 am to 12:00 pm	CPTC

CONCRETE PAVEMENT TECHNICAL COMMITTEE MEETING TOPICS

Thursday, February 17, 2022 (9:00 - 9:15am)

MS Teams Meeting

1. Introduction and Discussion Topic (What are we proposing?)

- adding option for concrete rumbles on 2-lane, undivided, rural high-speed
- adding option for sinusoidal rumbles on 2-lane, undivided, rural high-speed

2. Why Install Rumble Strips?

- Safety Benefits (Crash reductions) - FHWA Proven Safety Countermeasures web site (<https://safety.fhwa.dot.gov/provencountermeasures/>), Longitudinal Rumble Strips and Stripes



FHWA_2021_Brochure_08_Longitudinal

- Michigan DOT "Centerline Rumble Strips Save Lives"

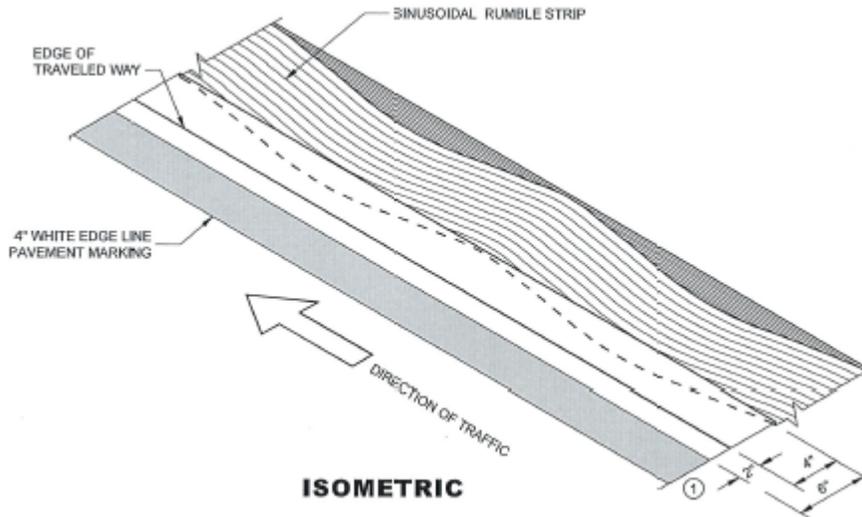


MDOT_Highlighted_Brochure_Centerline

- Note: Results are from conventional rumble strips.

3. New Milling Type and Testing Sinusoidal Rumble Strips

- Sinusoidal rumble – to reduce exterior sound (2 to 6 dBA quieter), undulating sine wave pattern



- Pilot Test Summary
 - 2018 to present - 12 test projects
- State GIS location map sinusoidal rumble strips: <https://geoportal.dot.state.wi.us/portal/home/webmap/viewer.html?webmap=87d4a81cfca04dc99d41c14bdf36997f>
- Two reports of water in 16" wide CL sinusoidal rumble strip groove reducing or eliminating

visibility of CL pavement marking during nighttime rain events (STH 70 and STH 93).

- Investigated and recommended to reduce the width of CL sinusoidal rumble strip so that pavement marking is partially in the groove and partially outside the groove (with 10" rumble width then 2" in groove and 2" out of groove).

4. Existing vs. Proposed Locations

- Divided Highways
 - *no change to proposed guidance*
 - *install on right and left shoulders (conventional rumbles on concrete or asphalt)*

- Undivided Highways (rural, 2-Lane, high speed (>50mph))
 - Existing
 - *asphalt centerline, shoulder type 1 and type 2 (edge line)*
 - *not installed on concrete*
 - Proposed (conventional/sinusoidal)
 - *conventional asphalt centerline, shoulder, and edge line*
 - *sinusoidal asphalt centerline and shoulder*
 - *conventional concrete centerline, shoulder, and edge line*
 - *sinusoidal concrete shoulder*

Table 1.1 Summary of Rumble Strip Milling and Pavement Type vs. Allowable Location

Rumble Strip Location	Rumble Strip Milling and Pavement Type			
	Conventional		Sinusoidal	
	Asphalt	Concrete	Asphalt	Concrete
Centerline Rumble Strip	Yes	Yes	Yes	No
Shoulder Rumble Strip	Yes	Yes	Yes	Yes
Edge Line Rumble Strip	Yes	Yes	No	No

5. Review Proposed FDM Guidance and SDDs

FDM Guidance (FDM 11-15-1.8 and FDM 11-40-1.7)

- Update milling and rumble strip nomenclature
 - *conventional and sinusoidal*
 - *CL, shoulder, edge line*
- Divided highways
 - *no change, do not install sinusoidal*
- Undivided highways (2-lane, rural, high-speed (>50 mph), undivided)
 - *add options for concrete and sinusoidal*
 - *No Change to installation requirements:*
 - *Centerline - install with 12' lanes*
 - *Shoulder – install with 12' lanes and 5' paved shoulders*
 - *Edge line – not installed unless high ROR crash rates, 3' to 5' paved shoulder,*

Region traffic safety engineer, BTO pavement marking.

- Conventional vs. Sinusoidal Milling (undivided, 2-lane, rural, high-speed (>50 mph) highways)
 - *Designers should install conventional rumble strips whenever possible and install sinusoidal rumble strips when justified by receptor location, noise, or other concerns.*
 - *Work with BPD Design Oversight Engineer when using sinusoidal rumble strips.*
- Perpetuation and Rehabilitation Projects (FDM 11-40-1.7)
 - Refers to conditions in FDM 11-15-1.8 and Region Pavement Engineer

1.7 Rumble Strips

See [FDM 11-15-1.8](#) for additional rumble strip design guidance.

1.7.1 Centerline Rumble Strips

Install centerline rumble strips on Perpetuation and Rehabilitation projects **when the conditions listed in [FDM 11-15-1.8](#) are met** and **when the Region Pavement Engineer has reviewed and concurred that the centerline joint will be in good, stable condition to mill-in rumbles after the proposed work is completed.**

1.7.2 Shoulder Rumble Strips

Install rural shoulder rumble strips on Perpetuation and Rehabilitation projects **when** the conditions listed in [FDM 11-15-1.8](#) **are met** and **with concurrence from** the Region Pavement Engineer.

Standard Detail Drawings

- SDD 13A10 Sheets A to F (Shoulder Rumble Strips – Asphalt or Concrete, 2-Lane Rural Roadway)
 - *Add sheet B – Concrete shoulder rumble strip*
 - *Add sheets C and D – Shoulder Sinusoidal rumble strips asphalt and concrete*
 - *Add sheet F – Concrete edge line rumble strip*



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- SDD 13A11 Sheets A to D (Centerline Rumble Strips – Asphalt or Concrete, 2-Lane Rural Roadway)
 - *SDD 13A11 Sheets A to D (Center Line Rumble Strips – Asphalt and Concrete, 2-Lane Rural Roadway)*



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6. Proposed Schedule

- WisDOT (Brandon Lamers, Chief Construction Standards & Oversight) discussed at CCAW Feb. 7th. Develop subgroup with WisDOT, pavement associations and industry representatives to review information.
- Proposed Schedule
 - FDM guidance and SDD publication in February or May 2023
 - Standard Spec update with bid items 2024
 - CMM would get updated spring 2024

7. Questions /Discussion

AASHTOWare-Materials and 2024 Specification Updates



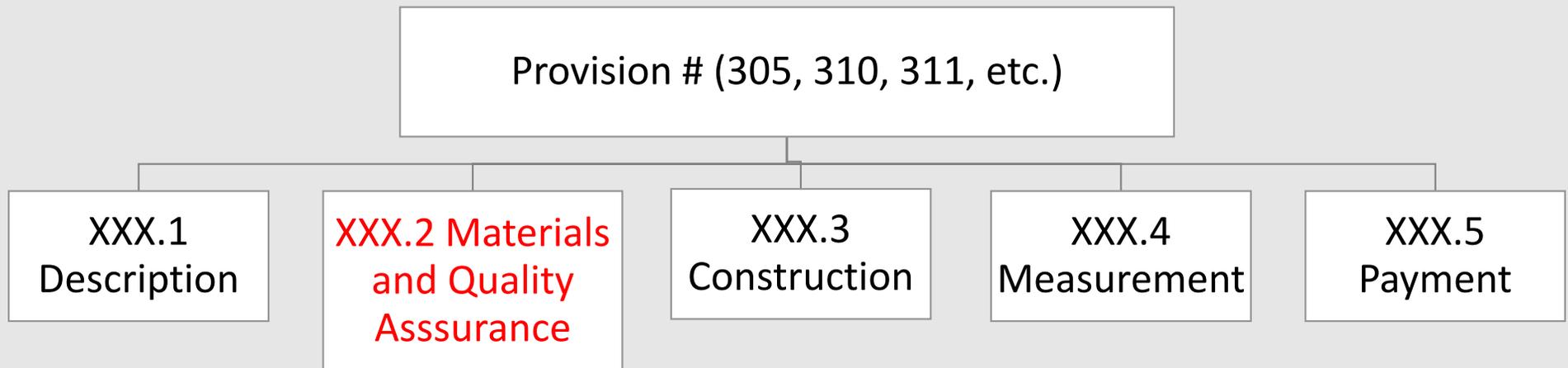
Current Spec Layout – Parts (1-6)

Materials are currently given directly in the technical provisions, and cross-referenced among them. New format will mainly impact Materials. Impacts to other provisions will be minimized.



New Spec Layout – Parts (1-6)

- Materials will be referenced by code from a new Chapter 8
- All QA will be consolidated in a revised Chapter 7
- New XXX.2 will list Materials by code and project QA by Part 7 provision



New Spec Layout

Technical Provisions

Chapter 7 – Quality Assurance

Chapter 8 - Materials Codes

7.1 Statewide/Contract – Level
Procedures; Source Approvals,
Mix Designs

7.2 Project – Level
Administration; QMP, Project
Sampling/Testing



Aggregate Spec Layout (new)

Chapter 8 -
Materials

Chapter 7.1 -
Source Approval

Chapter 7.2 –
Project QA

200, 300, 400, 500, 600 – Chapter 7 & 8 References,
Construction Provisions



Example: Dense Graded Base Part 8 Materials

301.2.1 General

- (1) Provide coarse aggregates from a department-approved source as specified under [106.3.4.2](#).

305.2.1 General

- (1) Provide aggregate conforming to [301.2](#) for crushed stone, crushed gravel, crushed concrete, reclaimed asphalt, reprocessed material, or blended material. Provide QMP for dense-graded base as specified in [730](#).



Part 8 Spec Example – Quality requirements (#s may vary)

Test Method	8XX Base Dense	8XX Base Open	8XX HMA LT	8XX HMA MT/HT	8XX HMA SMA	8XX PCC	8XX ...
LA Wear	50	50	50	45	40	50	...
Sodium Sulfate Soundness	18	12	12	12	12	12	...
Freeze Thaw Soundness	18	18	18	18	18	18	...

Example: Dense Graded Base Part 7.1 QA

106.3.4.2.2 Department-Approved Aggregate Sources

106.3.4.2.2.1 General

- (1) Coordinate with the department to collect sample aggregates. The department and contractor will jointly obtain and split samples with the department taking immediate possession of the department's splits. Ensure that samplers are HTCP certified to sample aggregates. Costs associated with the required aggregate quality sampling and testing are incidental to the work.

Example: Dense Graded Base Part 7.2 QA

730.3.2 Contractor QC Testing

- (1) Provide stockpile test results to the engineer before placing material.
- (2) Split and label each QC sample. Retain the split for 10 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.



Why? AASHTOWare and Specification Quality

Questions?

