



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
JULY 18, 2024, 9 A.M. TO 11 A.M.
MDOT LOBBY CONFERENCE ROOM
WITH TEAMS OPTION**

Present: Gregg Brunner Greg Losch Kristin Schuster
 Garrett Dawe Ryan Mitchell Michael Townley
 Mark Dionise Dee Parker Brad Wagner
 Jason Gutting Lindsey Renner Kim Zimmer

Absent: Rebecca Curtis Hal Zweng

Guests: Ben Krom Michelle O’Neill

OLD BUSINESS

1. Approval of the June 20, 2024, meeting minutes – Gregg Brunner

ACTION: Approved

2. Michigan Department of Transportation (MDOT) new materials and products – Lindsey Renner

New Material Monthly Report of Data:

- Number of Submittals Received
- Number of Submittals Accepted
- Number of Submittals Not Accepted
- Qualified Product List Revisions
- New Materials Status Report

ACTION: For information only

NEW BUSINESS

1. Safety Topic: Psychological Safety – Michael Townley

ACTION: For information only

2. MDOT Noise Wall Design Guidelines for use beginning August 1, 2024 – Michelle O’Neill

Issue Statement: This is a resubmittal from the April 29, 2024, Engineering Operations Committee (EOC) meeting. MDOT currently does not have plan development guides specifically addressing the structural design requirements of noise walls. The Ancillary Structures Program Unit has developed a Noise Wall Design Guidelines document complete with sample plans to ensure statewide consistency in noise wall plan development.

Major Issue(s): Current department manuals addressing noise walls focus mainly on the noise abatement requirements and lack specific guidance for the structural engineer/designer. MDOT currently addresses noise wall plan development in Section 7 of the Road Design Manual (RDM). Noise abatement requirements are detailed in the MDOT Highway Noise Analysis and Abatement Handbook (currently being updated by the Bureau of Development, Environmental Services Section).

Background/History: Noise wall plan development lacks specific guidance pertaining to the structural design requirements of the walls themselves. HNTB, Inc. (HNTB), under contract with the Ancillary Structures Unit, has developed a guidance document (along with a team of MDOT subject matter experts) including sample plans to provide statewide consistency for plan development. The guide clarifies for the designer items that are vague or generally omitted from the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Manual. One example of this would be the Manual for Assessing Safety Hardware (MASH) level of crash protection desired for walls that are within 12 feet of the edge of roadway. The manual was reviewed by the Statewide Design Alignment Team and discussed at their February 7, 2024, meeting. The manual was reviewed by the Barrier Advisory Committee on April 29, 2024. To ensure alignment, proposed revisions to the RDM have been provided to Nathan Miller for implementation. Information was also checked against the proposed changes to the updated MDOT Highway Noise Analysis and Abatement Handbook for any conflicting references.

Note: Many items were researched by HNTB that have gone into the development of this document. Items considered in this research including but not limited to wall types, wall geometry, wall placement relative to the right of way, structural and geotechnical design considerations, and construction handling were compiled in a 138-page report titled Noise Barrier Wall Lessons Learned and National Best Practices. Utilizing this data, MDOT staff were able to ensure that this guidance document is providing the Department with the most cost-effective wall design while meeting the structural needs and service life of the asset. HNTB also provided a calculations packet using a standard 20-foot-tall wall design verifying the guide parameters.

The “must” follow items include:

- Following the other MDOT manuals such as the Drainage Manual, Bridge Design Manual, Geotechnical Manual, prescriptions in the site noise analysis, etc.
- Design must follow AASHTO LRFD Bridge Design Specification
- Providing unique details for site specific issues including fire hose access, maintenance access to the back side of wall, etc.

- Design requirements for clear zone and MASH levels of protection depending on wall location relative to the edge of travelled way
- Coordinate with the noise analyst to ensure the cost of the wall stays within the cost threshold specified by the Noise Analysis and Abatement Handbook
- Use of spread footings must be approved by the MDOT Geotechnical Services Section
- Specified deflection limits
- Specific naming conventions
- Prohibited the use of post to foundation anchor bolt connections

Recommendation(s): Adopt the MDOT Noise Wall Design Guidelines for use beginning on August 1, 2024.

Status: This item was tabled at the April 29, 2024, EOC meeting with the request to re-review the language pertaining to the shielding requirements of noise walls located within the clear zone.

The revised noise wall guidelines are attached for the committee's review. Changes to the document are highlighted within the file.

These changes are a result of a series of meetings including Carlos Torres, Kyle Kopper, Jack Rick, HNTB, and Michelle O'Neill. The subject matter experts involved in the development of this document have reviewed the new language. The revised language is more specific and is consistent with the language/policy MDOT currently utilizes for the shielding of bridge elements within the clear zone.

ACTION: Approved contingent on the Federal Highway Administration-Michigan Division Concurrence

3. Pavement Type Selection: US-10 from west of 95th Avenue to the Muskegon River, Osceola County – Ben Krom

Issue Statement: Pavement Type Selection

Route/Location: US-10 from west of 95th Avenue to the Muskegon River, Osceola County

Job Number: 214892

Control Section(s): 67022

Letting Date: 8/1/2025

Total Estimated Construction Cost: \$15.0M

State law and department policy requires that a Life Cycle Cost Analysis (LCCA) be used to determine the most cost-effective pavement design.

Major Issue(s): None. The paving industries had no comments on this LCCA.

Background/History: Pavement selection was determined using the procedures outlined in the MDOT Pavement Selection Manual. Department policy requires that the pavement

alternate with the lowest Equivalent Uniform Annual Cost (EUAC) be selected. Final pavement selection requires approval by the EOC.

Recommendation(s): Approve the hot mix asphalt pavement alternate, which has the lowest EUAC.

ACTION: Approved



Michael Townley, Secretary
Engineering Operations Committee

RA:lr

cc: EOC Members	L. Mester (MDOT)	S. Waalkes (MCA)
Meeting Guests	C. Newell (MDOT)	C. Mills (APAM)
Region Engineers (MDOT)	V. Zokvic (MDOT)	D. Needham (MAA)
Assoc. Region Engineers (MDOT)	M. Ackerson-Ware (MRPA)	R. Vandeventer (MITA)
TSC Managers (MDOT)	T. Burch (FHWA)	
L. Doyle (MDOT)	R. Brenke (ACEC)	