



**MINUTES  
OF  
IOWA DOT SPECIFICATION COMMITTEE MEETING**

**March 13, 2025**

<b>Members Present:</b>	Mark Dunn Dillon Feldmann Daniel Harness Eric Johnsen, Chair Wes Musgrove Shane Neuhaus Scott Nixon Mike Nop Willy Sorenson Christy Vanbuskirk	Contracts & Specifications Bureau Local Systems Bureau Design Bureau Contracts & Specifications Bureau Construction & Materials Bureau District 6 - Materials District 1 – DCE Bridges & Structures Bureau Traffic & Safety Bureau Fairfield RCE
<b>Members Not Present:</b>	Tony Gustafson	Chief Engineer
<b>Advisory Members Present:</b>	Josh Stott Andy Case Bryan Horesowsky Ben Hucker Dave Carney Kyle Frame Jeff Devries Nate Thede	FHWA Dallas County Muscatine County Maintenance Bureau SUDAS Construction & Materials Bureau Construction & Materials Bureau Project Management

The Specification Committee met on Thursday, March 13, 2025, at 9:00 a.m. Eric Johnsen, Specifications Engineer, opened the meeting. The items were discussed in accordance with the revised agenda dated March 3, 2025.

**1. Article 2301.02, C, 3, Measurement of Materials (Portland Cement Concrete Pavement).**

The Construction and Materials Bureau requested to clarify the tolerances for batching concrete.

**2. Article 2303.03, D, 6, b, 1, e, Class I Field Voids (Flexible Pavement).**

The Construction and Materials Bureau requested to update the PWL lower limit for full pay.

**3. Article 2303.03, D, 6, d, 1, a, Class I Compaction (Flexible Pavement).**

The Construction and Materials Bureau requested to clarify thickness measurements for class I compaction.

**4. Article 2317.05, Pavement Smoothness.**

The Construction and Materials Bureau requested to clarify intent of design thickness columns for primary and interstate pavement projects payment schedules.

**5. Section 4109, Aggregate Gradations.**

The Construction and Materials Bureau requested to eliminate confusion over rounding issues on specification limits.

**6. Article 4136.02, A, Poured Joint Sealer.**

The Construction and Materials Bureau requested to add a new poured joint sealer for bridge ends.

**7. Article 4188.07, Portable Dynamic Message Sign.**

The Traffic and Safety Bureau requested to update PDMS specifications based on revisions to NTCIP Standards.

**8. DS-23067, Alternate Acceptance of HMA for Local Systems Projects.**

The Construction and Materials Bureau requested approval of updates to the Developmental Specifications for Alternate Acceptance of HMA for Local Systems Projects.

Form 510130 (08-15)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove		<b>Office:</b> Construction & Materials	<b>Item 1</b>
<b>Submittal Date:</b> Feb 10, 2025		<b>Proposed Effective Date:</b> October 2025	
<b>Article No.:</b> 2301.02, C, 3 <b>Title:</b> Measurement of Materials (Portland Cement Concrete Pavement)		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved with changes.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 3/13/2025	<b>Effective Date:</b> 10/21/2025
<p><b>Specification Committee Approved Text:</b>  <b>2301.02, C, 3, Measurement of Materials.</b></p> <p><b>Replace the Article:</b></p> <p>Measurement of materials shall meet the requirements for the type of equipment used and the following additional requirements:</p> <ol style="list-style-type: none"> <li>Operate cement scales within a daily delivery tolerance average of 1.0% of the mass of cement, <del>per batch</del> as described in <a href="#">Materials I.M. 527</a>. When operated manually, balance scales to tare before each batch is weighed and after each batch is discharged.</li> <li>Use cement and fly ash scales with automatic controls which meet the requirements of <a href="#">Article 2001.20, B</a>, for all bid items involving more than 6000 square yards of pavement or base. Items made up of irregular areas, such as crossovers, turn lanes, and so forth, are excluded from this requirement.</li> <li>Do not use manual controls for a period longer than 1 working day after a failure of the automatic controls, except with the Engineer's permission.</li> <li>On work requiring automatic scales, the performance of the scale will be determined near the end of the first full day of production. Afterwards, performance of the scale will be determined at a frequency not to exceed 10,000 cubic yards of concrete produced. Performance will be determined by comparing the accumulated mass of cement proportioned with the corresponding accumulated mass of cement shipped to the project. The Contractor shall cooperate. Cement scale performance determinations are not required when a permanent, commercial ready mix plant is used to furnish less than 10,000 cubic yards of concrete for a contract.</li> <li>Determine the performance of fly ash scale, if present, as in Paragraph d above.</li> <li>Operate aggregate scales within a daily delivery tolerance average of 1.0% for each aggregate.</li> <li>Measure water within a daily delivery tolerance average of 1.0% of intended quantity.</li> <li>Measure admixtures with approved equipment and procedures that assure the quantity measured is within a daily delivery tolerance average of <del>3.0</del> 5.0% of batch quantity. Clean and flush out mechanical dispensing equipment daily, and more frequently if necessary to ensure proper operation.</li> </ol>			
<p><b>Comments:</b> District 1 asked if it was clear that the average was a daily average. Language was revised to reflect that.</p> <p>Construction and Materials asked if Materials I.M. 527 needed to be addressed to reflect this change. It is being revised.</p>			

**Specification Section Recommended Text:**

**2301.02, C, 3, Measurement of Materials.**

**Replace the Article:**

Measurement of materials shall meet the requirements for the type of equipment used and the following additional requirements:

- a. Operate cement scales within a delivery tolerance average of 1.0% of the mass of cement, ~~per batch~~ as described in [Materials I.M. 527](#). When operated manually, balance scales to tare before each batch is weighed and after each batch is discharged.
- b. Use cement and fly ash scales with automatic controls which meet the requirements of [Article 2001.20, B](#), for all bid items involving more than 6000 square yards of pavement or base. Items made up of irregular areas, such as crossovers, turn lanes, and so forth, are excluded from this requirement.
- c. Do not use manual controls for a period longer than 1 working day after a failure of the automatic controls, except with the Engineer's permission.
- d. On work requiring automatic scales, the performance of the scale will be determined near the end of the first full day of production. Afterwards, performance of the scale will be determined at a frequency not to exceed 10,000 cubic yards of concrete produced. Performance will be determined by comparing the accumulated mass of cement proportioned with the corresponding accumulated mass of cement shipped to the project. The Contractor shall cooperate. Cement scale performance determinations are not required when a permanent, commercial ready mix plant is used to furnish less than 10,000 cubic yards of concrete for a contract.
- e. Determine the performance of fly ash scale, if present, as in Paragraph d above.
- f. Operate aggregate scales within a delivery tolerance average of 1.0% for each aggregate.
- g. Measure water within a delivery tolerance average of 1.0% of intended quantity.
- h. Measure admixtures with approved equipment and procedures that assure the quantity measured is within a delivery tolerance average of ~~3-5~~ 5.0% of batch quantity. Clean and flush out mechanical dispensing equipment daily, and more frequently if necessary to ensure proper operation.

**Comments:**

**Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and ~~Highlight~~.)**

**2301.02, C**

**3. Measurement of Materials.**

Measurement of materials shall meet the requirements for the type of equipment used and the following additional requirements:

- a. Operate cement scales within a delivery tolerance average of 1.0% of the mass of cement, as described in [Materials IM 527](#) ~~per batch~~. When operated manually, balance scales to tare before each batch is weighed and after each batch is discharged.
- f. Operate aggregate scales within a delivery tolerance average of 1.0% for each aggregate.
- g. Measure water within a delivery tolerance average of 1.0% of intended quantity.
- h. Measure admixtures with approved equipment and procedures that assure the quantity measured is within a delivery tolerance average of ~~3-5~~ 5.0% of batch quantity. Clean and flush out mechanical dispensing equipment daily, and more frequently if necessary to ensure proper operation.

**Reason for Revision:** Depending on amount of material batched and conditions, automated gates may be unable to close quickly enough and excess material will pass through the gate causing delivery tolerance greater than 1%. Individual batches should not be assessed for delivery tolerance and IM 527 has been updated with procedures, if outside 1% tolerance. Report will be added to eTicketing to produce a delivery tolerance average report. Admixtures are introduced at a low rate and 5% will give a wider range for the small amount.

<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Comments:</b>		
<b>County or City Comments:</b>		
<b>Industry Comments:</b> Sent to ICPA		

Form 510130 (07-24)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Musgrove/ Johnson		<b>Bureau/Office:</b> Construction and Materials	<b>Item 2</b>
<b>Submittal Date:</b> 1/30/25		<b>Proposed Effective Date:</b> October 2025	
<b>Article No.:</b> 2303.03, D, 6, b, 1, e <b>Title:</b> Class I Field Voids (Flexible Pavement)		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 3/13/2025	<b>Effective Date:</b> 10/21/2025
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b> 2303.03, D, 6, b, 1, e.  Replace the first sentence: When the PWL falls below <del>80.0</del> 90.0, use the procedure outlined in <a href="#">Materials I.M. 501</a> to identify outliers with 1.80 as the quality index criterion.			
<b>Comments:</b>			
<b>Member's Requested Change:</b> ( <b>Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and Highlight.</b> ) 2303.03.D.6.b.1 e) When the PWL falls below <del>80.0</del> 90.0, use the procedure outlined in <a href="#">Materials I.M. 501</a> to identify outliers with 1.80 as the quality index criterion. Only one core may be considered an outlier in a single lot. If an outlier is identified, recalculate the PWL with the results of the remaining cores and determine whether the PWL is improved. Use the larger of the original and recalculated PWL to determine the pay factor.			
<b>Reason for Revision:</b> The old PWL for 100% pay was 80.0. This change reflects 90.0 as the new PWL for 100% pay.			
<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No</b> X	
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No</b> X	
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No</b> X	
<b>Comments:</b>			
<b>County or City Comments:</b>			
<b>Industry Comments:</b>			

Form 510130 (07-24)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Musgrove/ Johnson		<b>Bureau/Office:</b> Construction and Materials Bureau	<b>Item 3</b>
<b>Submittal Date:</b> 1/30/25		<b>Proposed Effective Date:</b> October 2025	
<b>Article No.:</b> 2303.03, D, 6, d, 1, a <b>Title:</b> Class I Compaction (Flexible Pavement)		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 3/13/2025	<b>Effective Date:</b> 10/21/2025
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b> 2303.03, D, 6, d, 1, a, Class I Compaction.			
<p><b>Replace the Article:</b></p> <p>The Engineer will obtain and test samples for each lot according to <a href="#">Materials I.M. 204 Appendix F</a>. Density cores sampled as part of a field voids lot will be combined into daily lots based on cores' intended thickness. Samples for thickness not tested for <math>G_{mb}</math>, because they are less than 70% or greater than 150% of the intended thickness, are included for thickness. In these particular instances, do not measure the thickness of additional sufficiently thick samples used to determine field voids. <del>When measuring density of top lift from a full depth core, measure thickness before trimming core for density testing.</del> Measure core thickness prior to any trimming that may be needed for density testing.</p>			
<b>Comments:</b>			
<b>Member's Requested Change:</b> (Do not use 'Track Changes', or 'Mark-Up'. Use <b>Strikeout</b> and <b>Highlight</b> .)			
2303.03.D.6.d.1			
<p>a) <b>Class I Compaction.</b></p> <p>The Engineer will obtain and test samples for each lot according to <a href="#">Materials I.M. 204 Appendix F</a>. Density cores sampled as part of a field voids lot will be combined into daily lots based on cores' intended thickness. Samples for thickness not tested for <math>G_{mb}</math>, because they are less than 70% or greater than 150% of the intended thickness, are included for thickness. In these particular instances, do not measure the thickness of additional sufficiently thick samples used to determine field voids. <del>When measuring density of top lift from a full depth core, measure thickness before trimming core for density testing.</del> Measure core thickness prior to any trimming that may be needed for density testing.</p>			
<b>Reason for Revision:</b> We want to include thickness measurements that are below 70% <b>AND</b> ones above 150% of intended thickness. Measurements before trimming language was confusing.			
<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>	
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>	

<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Comments:</b>		
<b>County or City Comments:</b>		
<b>Industry Comments:</b>		



Form 510130 (08-15)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove/Jeff De Vries	<b>Office:</b> CMB	<b>Item 4</b>
<b>Submittal Date:</b> 1/30/2025	<b>Proposed Effective Date:</b> October 2025	
<b>Article No.:</b> 2317.05 <b>Title:</b> Pavement Smoothness	<b>Other:</b>	

**Specification Committee Action:** Approved as recommended.

<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 3/13/2025	<b>Effective Date:</b> 10/21/2025
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**Specification Committee Approved Text:** See Specification Section Recommended Text.

**Comments:** None.

**Specification Section Recommended Text:**

**2317.05, C, PCC Pavement.**

**Replace Table 2317.05-3:**

**Table 2317.05-3: Schedule for Adjustment Payment for PCC Pavements for Primary and Interstate Projects**

MRI (inches per mile)	Dollars per 0.1 mile segment per lane	
	Design Thickness	
	Full Depth (> Greater than 6")	Overlay (<=6" or less)
Less than 47.5	1,500.00	1,250.00
47.5 to 57.5	8,625.00-(150*MRI)	5,226.596-(133.2623*MRI)
57.5 to 75	Unit Price	Unit Price
75 to 90	7,500.00-(100*MRI) (or grind <sup>1</sup> )	6,250.00-(83.333*MRI) (or grind <sup>1</sup> )
Greater than 90	Grind <sup>1</sup>	Grind <sup>1</sup>

1. Correct these areas below 75.0 inches per mile

**2317.05, D, HMA Pavement.**

**Replace Table 2317.05-5:**

**Table 2317.05-5: Schedule for Adjustment Payment for HMA Pavements for Primary and Interstate Projects**

MRI (inches per mile)	Dollars per 0.1 mile segment per lane	
	Design Thickness	
	Full Depth (> Greater than 4")	Overlay (<=4" or less)
Less than 29.84	1,500.00	1,250.00
29.84 to 39.22	6,271.915-(159.915*MRI)	5,226.596-(133.2623*MRI)
39.22 to 75	Unit Price	Unit Price

75 to 90	7,500.00-(100*MRI) or grind <sup>1</sup>	6,250.00-(83.333*MRI) or grind <sup>1</sup>
Greater than 90	Grind <sup>1</sup>	Grind <sup>1</sup>
1. Correct these areas below 75.0 inches per mile		

**Comments:**

**Member's Requested Change:** (Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)

**Table 2317.05-3: Schedule for Adjustment Payment for PCC Pavements for Primary and Interstate Projects**

MRI (inches per mile)	Dollars per 0.1 mile segment per lane	
	Design Thickness	
	Full Depth (>6")	Overlay (<=6")
Less than 47.5	1,500.00	1,250.00
47.5 to 57.5	8,625.00-(150*MRI)	5,226.596-(133.2623*MRI)
57.5 to 75	Unit Price	Unit Price
75 to 90	7,500.00-(100*MRI) (or grind <sup>1</sup> )	6,250.00-(83.333*MRI) (or grind <sup>1</sup> )
Greater than 90	Grind <sup>1</sup>	Grind <sup>1</sup>
1. Correct these areas below 75.0 inches per mile		

**Table 2317.05-5: Schedule for Adjustment Payment for HMA Pavements for Primary and Interstate Projects**

MRI (inches per mile)	Dollars per 0.1 mile segment per lane	
	Design Thickness	
	Full Depth (>4")	Overlay (≤4")
Less than 29.84	1,500.00	1,250.00
29.84 to 39.22	6,271.915-(159.915*MRI)	5,226.596-(133.2623*MRI)
39.22 to 75	Unit Price	Unit Price
75 to 90	7,500.00-(100*MRI) or grind <sup>1</sup>	6,250.00-(83.333*MRI) or grind <sup>1</sup>
Greater than 90	Grind <sup>1</sup>	Grind <sup>1</sup>
1. Correct these areas below 75.0 inches per mile		

**Reason for Revision:** Request to strikeout the terms full depth/overlay. The intent was to pay incentive based on the thicknesses shown in table 2317.05-3 and 2317.05-5. The terms were intended to add clarification but instead it has added confusion.

There is no change to the intent.

<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>

**Comments:**

**County or City Comments:**

**Industry Comments:**

Form 510130 (07-24)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Musgrove/Dawson		<b>Bureau/Office:</b> CMB	<b>Item 5</b>
<b>Submittal Date:</b> Feb 7, 2025		<b>Proposed Effective Date:</b> October 2025	
<b>Section No.:</b> 4109 <b>Title:</b> Aggregate Gradations		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 3/13/2025	<b>Effective Date:</b> 10/21/2025
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<p><b>Comments:</b> The Construction and Materials Bureau asked about access and linking to the ASTM referenced. We do not link to ASTM or AASHTO standards, as there are fees associated with those. Contractor's or suppliers would need to cover the cost of buying the standard if need be (cost to download a PDF of this standard is \$57). DOT employees have access to all ASTM and AASHTO standards through the ASTM Compass. We can discuss what the standard is with them, but we can't provide the standard. The standard referenced in this case is pretty basic and probably isn't necessary for contractors or suppliers to buy, they just need to know that the limits are absolute limits.</p>			
<p><b>Specification Section Recommended Text:</b>  <b>4109, Aggregate Gradations.</b></p> <p>Replace the Section title:  <b>Aggregate Gradations General</b></p> <p><b>4109.05, Aggregate Gradations.</b></p> <p>Add the Article:  For purposes of determining conformance with aggregate specifications, all specified limits are absolute limits, as defined in ASTM Practice E 29, for Using Significant Digits in Test Data to Determine Conformance with Specifications.</p>			
<b>Comments:</b>			
<p><b>Member's Requested Change:</b> (Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and Highlight.)  Section 4109. Aggregate <del>Gradations General</del></p> <p>4109.05 For purposes of determining conformance with aggregate specifications, all specified limits are absolute limits, as defined in ASTM Practice E29, for Using Significant Digits in Test Data to Determine Conformance with Specifications.</p>			
<b>Reason for Revision:</b> This change is submitted to eliminate confusion over rounding issues on specification limits.			
<b>New Bid Item Required (X one)</b>		<b>Yes</b>	<b>No X</b>
<b>Bid Item Modification Required (X one)</b>		<b>Yes</b>	<b>No X</b>

<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Comments:</b>		
<b>County or City Comments:</b>		
<b>Industry Comments:</b>		

Form 510130 (07-24)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove / Kyle Frame		<b>Bureau/Office:</b> Construction and Materials	<b>Item 6</b>
<b>Submittal Date:</b> February 2025		<b>Proposed Effective Date:</b> October 2025	
<b>Article No.:</b> 4136.02, A <b>Title:</b> Poured Joint Sealer		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved with a correction.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 3/13/2025	<b>Effective Date:</b> 10/21/2025
<p><b>Specification Committee Approved Text:</b>  <b>4136.02, A, Poured Joint Sealer.</b></p> <p><b>Replace</b> the first sentence:                  Approved sources for poured joint sealers are listed in <a href="#">Materials I.M. 436.01, Appendix A and B</a>.</p> <p><b>Add</b> the Article:</p> <p><b>3.</b> For bridge end (BE) joints utilize fast cure 100% silicone products meeting ASTM C 920, Type M, Grade P, Class 100/50, Use T products. Tack-free time in accordance with ASTM C 679, 60 minutes maximum. Curing evaluation in accordance with ASTM D 5893, pass at 8 hours maximum. Approved sources are listed in Materials I.M. 436.01 Appendix B.</p>			
<p><b>Comments:</b> There was a typo in the ASTM referenced that was corrected.</p> <p>The AGC submitted a question asking about the necessity of this revision and what it would accomplish. The Bridge Maintenance crews have been testing this and other procedures to get better bridge end joints for over 10 years and this one was determined to provide a better joint than the previous one used. The BE joint was added to BR-101 last October and has already been in use on projects. This revision is just moving the material specifications into the Standard Specifications as well as referencing a new Materials I.M. appendix where the approved sources can be found.</p>			
<p><b>Specification Section Recommended Text:</b>  <b>4136.02, A, Poured Joint Sealer.</b></p> <p><b>Replace</b> the first sentence:                  Approved sources for poured joint sealers are listed in <a href="#">Materials I.M. 436.01, Appendix A and B</a>.</p> <p><b>Add</b> the Article:</p> <p><b>3.</b> For bridge end (BE) joints utilize fast cure 100% silicone products meeting ASTM C 902, Type M, Grade P, Class 100/50, Use T products. Tack-free time in accordance with ASTM C 679, 60 minutes maximum. Curing evaluation in accordance with ASTM D 5893, pass at 8 hours maximum. Approved sources are listed in Materials I.M. 436.01 Appendix B.</p>			

<b>Comments:</b>		
<b>Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and Highlight.)</b>		
<p><b>4136.02 CONTRACTION JOINT SEALERS AND SEALS.</b>                  Meet the following requirements:</p> <p><b>A. Poured Joint Sealer.</b>                  Approved sources for poured joint sealers are listed in <a href="#">Materials I.M. 436.01, Appendix A and B.</a></p> <ol style="list-style-type: none"> <li>1. Hot poured: Use sealers composed of petropolymers supplied in solid form and meeting the requirements of ASTM D 6690, Type IV.</li> <li>2. Cold applied: Use sealers that meet the requirements of ASTM D 5893.</li> <li>3. For Bridge ends (BE Joints) utilize fast cure 100% Silicone products meeting ASTM C902, Type M, Grade P, Class 100/50, Use T products. Tack-free time in accordance with ASTM C 679, 60 minutes maximum. Curing evaluation in accordance with ASTM D 5893, pass at 8 hours maximum. Approved sources are listed in IM 436.01 Appendix B.</li> </ol>		
<p><b>Reason for Revision:</b> New BE joint in Standard Road Plans BR series. Incorporates products into a new category of joint sealers. This revision will bring the approved products for these joint sealers into MAPLE under a new IM 436.01 App B. This also defines what products will be allowed under this new listing.</p>		
<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Comments:</b>		
<b>County or City Comments:</b>		
<b>Industry Comments:</b>		

Form 510130 (07-24)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Willy Sorenson		<b>Bureau/Office:</b> Systems Operations/Traffic & Safety	<b>Item 7</b>
<b>Submittal Date:</b> October 2024		<b>Proposed Effective Date:</b> October 2025	
<b>Article No.:</b> 4188.07 <b>Title:</b> Portable Dynamic Message Sign		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 3/13/2025	<b>Effective Date:</b> 10/21/2025
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b>			
<b>4188.07, A, Sign Design.</b>			
<p><b>Add the Articles and renumber</b> subsequent articles:</p> <p><b>3.</b> All fonts loaded into the PDMS shall consist of at least glyphs for ASCII characters 32-96 and 123-126 (0x20-0x60 and 0x7B-0x7E). This includes uppercase alphabetic characters, numeric digits, the space character, and all standard ASCII 7-bit symbols. If any lower-case alphabetic characters are included, glyphs for all characters 97-122 (0x61-0x7A) shall also be included.</p> <p><b>3 4.</b></p> <p><b>4 5.</b></p> <p><b>6.</b> The font configured as the sign's default font shall be able to display a message consisting of at least three lines of eight characters at a size compatible with NEMA TS-4 2016 standards.</p> <p><b>5 7.</b></p> <p><b>6 8.</b></p> <p><b>7 9.</b></p>			
<b>4188.07, B, 3.</b>			
<b>Replace the Article:</b>			
<b>3. Submittals.</b>			
<p><b>a.</b> Upon deployment of PDMS and confirmation that remote communication has been successfully setup; the following information shall be supplied to the Traffic Management Center (TMC) via email at <a href="mailto:DOT-IWZ@iowadot.us">DOT-IWZ@iowadot.us</a> to <a href="mailto:iowaDOT.Traffic@iowadot.us">iowaDOT.Traffic@iowadot.us</a> or by phone at (515) 237-3300 for integration into the statewide ATMS software:</p>			



- IP address
  - Port number (may not use default, 161)
  - Protocol used (TCP or UDP)
  - SNMP community name (may not use default names, i.e., “public” or “administrator”)
  - Sign Number
  - Latitude and Longitude Coordinates
  - Route PDMS is on and direction of traffic flow that can view PDMS
- b.** Modem and PDMS credentials shall not be default values or recorded on any part of the trailer.
- c.** Upon relocation or removal of PDMS, send email to [DOT-IWZ@iowadot.us](mailto:DOT-IWZ@iowadot.us) the TMC at [lowaDOT.Traffic@iowadot.us](mailto:lowaDOT.Traffic@iowadot.us) or call (515) 237-3300, with the PDMS sign number and new location so it can be updated or released by the TMC’s software.

**4188.07, C, NTCIP Compliance.**

**Replace the Article:**

- 1.** PDMS onboard computer and operating firmware shall be compliant with at least NTCIP 1203 v1.15 supplemented with NTCIP 1203 Amendment 1v07, (dated July 1, 2001) v03 (dated September 2014) for the following commands:
  - Read configuration data from sign,
  - Send configuration data to sign,
  - Poll sign (retrieve sign status) both manual and automated with software,
  - Activate a message,
  - Blank or remove a message,
  - Upload fonts, and
  - Reset controller/onboard computer.
- 2.** The firmware must fully implement all “mandatory” NTCIP requirements identified in the PRL (Protocol Requirements List) in section 3.3 of the NTCIP 1203 v03 document.
- 3.** Any NTCIP requirements identified as “optional” or “conditional” in that PRL, that are implemented by the firmware, must be compliant with the implementation of those requirements described in the NTCIP 1203 v03 document.

**Comments:**

**Member’s Requested Change: (Do not use ‘Track Changes’, or ‘Mark-Up’. Use ~~Strikeout~~ and Highlight.)**

**4188.07 PORTABLE DYNAMIC MESSAGE SIGN.**

**A. Sign Design.**

- 1.** A PDMS is defined as all components working together to accomplish the requirements of the specifications. These components include, but are not limited to, LED pixel boards, on-board computer, cellular modem (when specified), trailer, mounting equipment, solar panels, batteries, charge controller, etc.
- 2.** The message panel shall be trailer mounted. Message panel shall be mounted at a height of at least 7 feet, measured from bottom of sign to ground directly below. Sign presents a level appearance. Sign is capable of displaying three lines of up to eight characters at one time. Characters shall be configured using a 7 pixel tall by 5 pixel wide ratio font. Characters shall be either yellow or orange

and be displayed on a black background. Message panel may be configured as character matrix, line matrix, or full matrix.

3. All fonts loaded into the PDMS shall consist of at least glyphs for ASCII characters 32-96 and 123-126 (0x20-0x60 and 0x7B-0x7E). This includes uppercase alphabetic characters, numeric digits, the space character, and all standard ASCII 7-bit symbols. If any lower-case alphabetic characters are included, glyphs for all characters 97-122 (0x61-0x7A) shall also be included.
4. PDMS (18 inch) shall have minimum 18 inch tall characters as defined by NEMA TS-4-2016 with a character width of 12.5 inches +/- 1.0 inch. Character spacing shall be 2.8 inches +/- 0.5 inch. This PDMS size shall be used on all roadways except as allowed in [Article 4188.07, A, 4](#).
5. PDMS (12 inch) shall have minimum 12 inch tall characters as defined by NEMA TS-4-2016 with a character width of 8.5 inches (+/- 1.0 inch). Character spacing shall be 1.7 inches +/- 0.5 inch. The overall size of the PDMS display panel shall not exceed 86 inches in width. This DMS size shall only be used on roadways where the speed is 40 mph or less when shown in the contract documents.
6. The font configured as the sign's default font shall be able to display a message consisting of at least three lines of eight characters at a size compatible with NEMA TS-4 2016 standards.
7. Message panel shall be visible from 1/2 mile under both day and night conditions. Letters shall be legible from 600 feet for nighttime conditions and 800 feet for normal daylight conditions. Message sign shall include automatic dimming for nighttime operation and a power supply capable of providing service for 7 continuous days without recharging.
8. Message panel controlled by an onboard computer capable of:
  - Storing a minimum of 99 programmed messages for instant recall,
  - Being programmed to accept messages created by the operator via an alpha-numeric keyboard, and
  - Being programmed remotely by National Transportation Communication for Intelligent Transportation Systems Protocols (NTCIP) DMS software (when specified).
9. Physical access to the onboard computer protected by a padlock or other locking handle mechanism. Electronic access to the onboard computer protected by a username and password.

#### **B. Cellular Communications.**

PDMS shall be equipped with a cellular modem for remote communications.

1. Cellular service provider shall have data coverage within project limits. Contractor shall be responsible for integrating cellular modem with the PDMS.
2. Cellular modem shall be capable of obtaining its location by GPS. Current location from GPS coordinates shall be stored in cellular modem's memory for retrieval by NTCIP software. Modem shall have firewall security protections that only allow communications from specified IP addresses. Cellular modem shall not use default usernames or passwords.
3. Upon deployment of PDMS and confirmation that remote communication has been successfully setup; the following information shall be supplied to the Traffic Management Center (TMC) via email at to [DOT-IWZ@iowadot.us](mailto:DOT-IWZ@iowadot.us) [IowaDOT.Traffic@iowadot.us](mailto:IowaDOT.Traffic@iowadot.us) or by phone at (515) 237-3300 for integration into the statewide ATMS software:
  - IP address
  - Port number (may not use default, 161)
  - Protocol used (TCP or UDP)
  - SNMP community name (may not use default names, i.e., "public" or "administrator")
  - Sign Number
  - Latitude and Longitude Coordinates
  - Route PDMS is on and direction of traffic flow that can view PDMS

Modem and PDMS credentials shall not be default values or recorded on any part of the trailer.

Upon relocation or removal of PDMS, send email to [DOT-IWZ@iowadot.us](mailto:DOT-IWZ@iowadot.us) the Traffic Management Center (TMC) [IowaDOT.Traffic@iowadot.us](mailto:IowaDOT.Traffic@iowadot.us) or by phone at (515) 237-3300, with the PDMS sign number and new location so it can be updated or released by the TMC's software.

4. Typical monthly data usage by Contracting Authority is 5 Mb when PDMS is in good working condition. Additional data usage is possible if PDMS requires remote troubleshooting or maintenance.

**C. NTCIP Compliance.**

PDMS onboard computer and operating firmware shall be compliant with at least NTCIP 1203 v03 (dated September 2014) ~~NTCIP 1203 v1.15 supplemented with NTCIP 1203 Amendment 1v07, (dated July 1, 2004)~~ for the following commands:

- Read configuration data from sign,
- Send configuration data to sign,
- Poll sign (retrieve sign status) both manual and automated with software,
- Activate a message,
- Blank or remove a message,
- Upload fonts, and
- Reset controller/onboard computer.

The firmware must fully implement all "mandatory" NTCIP requirements identified in the PRL (Protocol Requirements List) in section 3.3 of the NTCIP 1203 v03 document.

Any NTCIP requirements identified as "optional" or "conditional" in that PRL, that are implemented by the firmware, must be compliant with the implementation of those requirements described in the NTCIP 1203 v03 document.

**Reason for Revision:** Updates have been made to the NTCIP (National Transportation Communications for ITS (Intelligent Transportation Systems) Protocol) Standards. NTCIP provide the protocols (rules for communications) and objects (vocabulary) necessary to allow ITS equipment from different manufacturers to operate with each other as a system (source: NTCIP.org). Revisions to the Iowa specifications will align Iowa DOT with current NTCIP industry standards to aid in onboarding new devices, manufacturers, and systems while still allowing legacy NTCIP complied device (current fleet) to function within the system.

<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Comments:</b>		
<b>County or City Comments:</b>		
<b>Industry Comments:</b>		

Form 510130 (08-15)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove/Brian Johnson		<b>Office:</b> CMB	<b>Item 8</b>
<b>Submittal Date:</b> February 24, 2025		<b>Proposed Effective Date:</b> June 17, 2025	
<b>Article No.:</b> <b>Title:</b>		<b>Other:</b> DS-23067, Alternate Acceptance of HMA for Local Systems Projects	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 3/13/2025	<b>Effective Date:</b> 6/17/2025
<b>Specification Committee Approved Text:</b> See attached Developmental Specifications for Alternate Acceptance of HMA for Local Systems Projects.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b> See attached Draft Developmental Specifications for Alternate Acceptance of HMA for Local Systems Projects.			
<b>Comments:</b>			
<b>Member's Requested Change:</b> (Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and Highlight.) <b>See Attachment</b>			
<b>Reason for Revision:</b> Paragraph not needed due to new Air Void Spec. Clearly spells out field void guidance. We added State Aid project exclusion. This is a large change to the DS.			
<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>	
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>	
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>	
<b>Comments:</b>			
<b>County or City Comments:</b>			
<b>Industry Comments:</b>			

DS-23075  
(Replaces DS-23067)



**DEVELOPMENTAL SPECIFICATIONS  
FOR  
ALTERNATE ACCEPTANCE OF HMA FOR LOCAL SYSTEMS PROJECTS**

**Effective Date  
June 17, 2025**

**THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.**

This Specification becomes void on federal and state aid contracts. Apply requirements of Article 2303 of the Standard Specifications unless otherwise stated.

**2303.03, D, 6, a, Lab Voids.**

**Replace** the Article:

For mixture bid items not defined as small quantities in [Article 2303.03, A, 2, b](#), acceptance for laboratory voids will be based on a moving average absolute deviation (AAD) from target as defined in Materials I.M. 501. Use the production tolerance in Table 2303.03-4.

~~**2303.03, D, 6, b 1, d, 2.**~~

~~**Replace** the first paragraph of the Article:~~

~~For all other areas of Class I compaction, determine PWL as defined in [Materials I.M. 501](#). The PWL upper limit shall be 91.5% of  $G_{mm}$  (8.5% voids). Use maximum specific gravity ( $G_{mm}$ ) results in field voids calculations as follows:~~

**2303.05, A, 3, b, 1.**

**Replace** the Article:

Payment when PWL is used for acceptance:

<u>PWL</u>	<u>Pay Factor</u>
80.0 – 100.0	1.000
50.0 – 79.9	PF = 0.008333*PWL + 0.3333
Less than 50.0	0.750 maximum

When PWL is less than 50.0, the Engineer may declare the lot or parts of the lot deficient or unacceptable.