MINUTES
OF
IOWA DOT SPECIFICATION COMMITTEE MEETING

November 13, 2025

Members Present:	Christy Vanbuskirk	Fairfield RCE
	Daniel Harness	Design Bureau
	Eric Johnsen, Chair	Contracts & Specifications Bureau
	Scott Nixon	Construction & Materials Bureau
	Frank Leong	Grimes RCE
	Mike Nop	Bridges & Structures Bureau
	Willy Sorenson	Traffic & Safety Bureau
	Shane Neuhaus	District 6 – Materials
	Ben Hucker	Maintenance Bureau
Members Not Present:	Mark Dunn	Contracts & Specifications Bureau
	Tony Gustafson	Chief Engineer
	Dillon Feldmann	Local Systems Bureau
Advisory Members Present:	Jeff Brinkman	Contracts & Specifications Bureau
	Jeff De Vries	Construction & Materials Bureau
	DeWayne Heintz	Jefferson County
	Ryan Weidemann	Hamilton County
	Andrew Zimmerman	FHWA
	Nate Thede	Project Management
	Lucy Wolz	FHWA
	Curtis Carter	Construction & Materials Bureau
	Scott Sommers	Construction & Materials Bureau
	Melissa Serio	Construction & Materials Bureau
	Elijah Gansen	Construction & Materials Bureau

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

The agenda is as follows:

1. **Article 1103.01, I, Consideration of Bids**
Article 1103.04, Certificate of Insurance
Article 1107.02, Insurance.

Contracts and Specifications Bureau requested to update the insurance requirements for contractors.

2. **Article 1105.04, A. 4, Conformity with and Coordination of the Contract Documents (Control of Work).**

Construction and Materials Bureau requested to clarify digital contract files.

3. **Article 1107.18, Environmental Protection (Legal Relations and Responsibility to the Public)**
Section 2547, Temporary Stream Access.
Construction and Materials Bureau and Location and Environment Bureau requested to clarify dredging and excavating allowances as well as what is required for removed material for temporary stream access.

4. **Article 2105.04, Method of Measurement (Stripping, Salvaging, and Spreading Topsoil).**
The Construction and Materials Bureau requested to change items to contract quantity items.

5. **Section 2303, Flexible Pavement.**
The Construction and Materials Bureau requested to clarify foamed asphalt and water injection.

6. **Section 2317, Pavement Smoothness.**
The Construction and Materials Bureau requested the change to eliminate references to Appendix A in Materials IM 341.

7. **Section 2526, Construction Survey.**
The Construction and Materials Bureau requested the changes to add new bid items and make other changes.

8. **Article 2527.02, D, 2, b, 1, Waterborne and Solvent-Based Paint (Materials).**
Article 2527.03, A, 2, General (Construction).
Construction and Materials Bureau requested the change to eliminate hard cutoff dates, simplifying operations for the industry.

9. **Section 2532, Pavement Surface Repair (Diamond Grinding).**
Construction and Materials Bureau requested the change to require grooving for limestone per Article 2557.

10. **DS-23062, High Performance Concrete for Structures**
Construction and Materials Bureau requested approval of revisions to the Developmental Specifications for High Performance Concrete for Structures.

11. **DS-23076, Fiber Reinforcement for Structural Concrete.**
Construction and Materials Bureau requested approval of revisions to the Developmental Specifications for Fiber Reinforcement for Structural Concrete.

12. **Article 2435.02, B, 2, Intake (Basis of Payment).**
Article 2504.02, B, 1, General (Testing Equipment for Cleaning, Inspection, and Testing Sewers and Drains.
Article 2504.03, L, 2, Video Inspection (Sanitary Sewers).
The Specifications Section requested revisions to the Standard Specifications for sections that utilize SUDAS Standard specifications as the basis.

Form 510130 (07-24)

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Mark Dunn/Eric Johnsen	**Bureau/Office:** Contracts and Specifications	**Item 1**
Submittal Date: 8/25/2025	**Proposed Effective Date:** 1/1/2027	
Article No.: 1103.01, I **Title:** Consideration of Bids **Article No.:** 1103.04 **Title:** Certificate of Insurance **Article No.:** 1107.02 **Title:** Insurance	**Other:**	

Specification Committee Action: Approved as recommended.			
Deferred:	**Not Approved:**	**Approved Date:** 11/13/2025	**Effective Date:** 1/1/2027
Specification Committee Approved Text: See Specification Section Recommended Text.			
Comments: This revision will be a part of the October 2026 GS, but will be written out by proposal note until January 2027 to allow contractors a full calendar year after approval to make sure their insurance meets the new requirements.			

Specification Section Recommended Text:

1103.01, I.

Replace the Article:

For failure to ~~file~~ submit and maintain with the Contracting Authority a current Certificate of Insurance meeting the requirements of Article 1107.02.

1103.04, Certificate of Insurance.

Replace the Article:

The Contractor's or Contractors' certificate(s) of ~~liability and property damage~~ insurance described in Article 1107.02 shall be ~~filed with~~ submitted to the Contracting Authority ~~on or~~ before the execution of the contract ~~and shall be maintained throughout the prosecution of the work and until final acceptance and completion of the contract~~. ~~A separate verification shall be required for contracts awarded on the basis of joint bids.~~

1107.02, Insurance.

Replace the Article:

~~**A.** It shall be the Contractor's responsibility to have liability insurance covering all of the construction operations incident to contract completion and the Contractor must have on file with the Contracting Authority a current "Certificate of Insurance" prior to award of contract. The certificate shall identify the insurance company firm name and address, Contractor firm name, policy period, type of policy, limits of coverage, and scope of work covered (single contract or statewide). This requirement shall apply with equal force,~~

~~whether the work is performed by persons employed directly by the Contractor including a subcontractor, persons employed by a subcontractor, or by an independent contractor.~~

~~**B.** In addition to the above, the Contracting Authority shall be included as an insured party, or a separate owner's protective policy shall be filed showing the Contracting Authority as an insured party.~~

~~**C.** The liability insurance shall be written by an insurance company (or companies) qualified to do business in Iowa. For independent contractors engaged solely in the transportation of materials, the minimum coverage provided by such insurance shall be not less than that required by Chapter 325A, Code of Iowa, for such truck operators or contract carriers as defined therein. For all other contractors, subcontractors, independent contractors, and the Contracting Authority, the minimum coverage by such insurance shall be as follows:~~

~~General Liability, Including: BODILY INJURY~~
~~Independent Contractors $500,000 Each Occurrence~~
~~Contractual Liability, $500,000 Aggregate~~
~~Products and Completed Operations PROPERTY DAMAGE~~
~~$250,000 Each Occurrence~~
~~$250,000 Aggregate~~
~~or~~

~~BODILY INJURY AND PROPERTY DAMAGE~~
~~- COMBINED SINGLE LIMIT*~~
~~$750,000 Each Occurrence~~
~~$750,000 Aggregate~~

~~*A comprehensive Catastrophe Liability Policy (Umbrella) can be used to aid in achieving the minimum required limits.~~

~~**D.** Failure on the part of the Contractor to comply with the requirements of this article will be considered sufficient cause to suspend the work, withhold estimates, and to deny the Contractor from receiving further contract awards, as provided in Article 1103.01.~~

A. At its own expense, the Contractor shall carry insurance covering all construction operations incidental to contract completion. The Contractor shall submit to the Contracting Authority a current certificate (or certificates if necessary) of insurance prior to execution of the contract and thereafter as insurance policies are renewed or replaced. The certificate(s) shall show the Contracting Authority as the certificate holder and identify the Contractor's insurer(s), Contractor's name and address, type of policy, policy number, policy period, limits of coverage, and scope of work covered (single contract or statewide). This requirement applies with equal force, whether the work is performed by the Contractor, or by any subcontractor or independent contractor, or by anyone employed by any of the foregoing. Except as provided elsewhere in this article, coverage shall remain in force until the Engineer's final acceptance of the work.

1. For contracts let by the Department:
- **a.** Submit initial certificate(s) of insurance electronically to the Department per instructions provided by the Contracts and Specifications Bureau prior to signing the contract.
- **b.** Certificates of insurance for Iowa DOT or county contracts may be statewide or contract specific per instructions provided by the Contracts and Specifications Bureau. Contracts for joint ventures or city projects shall be contract specific.
- **c.** Insurance renewals or replacements prior to final acceptance of the work shall be submitted electronically to the Department's Finance Bureau, per the instructions provided by the Department. Provide to the Engineer electronically per their instructions.

2. For locally let contracts:
Provide certificate of insurance as well as any renewals or replacements to the Contracting Authority.

B. The Contractor shall not cancel or fail to renew any required coverage without giving the Contracting Authority at least 30 calendar days' written notice. If any policy is to be canceled or not renewed during any period of required coverage, the Contractor must have in place a new policy before or upon cancelation or non-renewal of the former policy to ensure no lapse in coverage.

C. The insurance shall be written by an insurer or insurers qualified to do business in the State of Iowa. For independent contractors engaged solely in the transportation of materials, the coverage provided by such insurance shall not be less than that required by Iowa Code 325A for such truck operators or contract carriers as defined therein. For all other contractors, subcontractors, and independent contractors, the minimum insurance coverage shall be as follows:

1. Workers' Compensation.
Workers' compensation insurance shall be obtained at applicable State of Iowa statutory limits and include Employer's Liability insurance with limits of not less than: $500,000 per accident for bodily injury by disease; $500,000 per employee for bodily injury by disease; and $500,000 policy limit. When required, US Longshore and Harbor Workers' Compensation Act and Jones Act coverage shall be added with appropriate limits.

2. Commercial Auto Liability.
The limit of coverage shall not be less than $1,000,000 combined single limit per accident for bodily injury and property damage. This policy shall be written on an occurrence basis and provide coverage for all owned, non-owned, and hired vehicles used on or off the project site.

3. Commercial General Liability.
The limits of coverage shall not be less than: $1,000,000 per occurrence for bodily injury and property damage; $1,000,000 for personal and advertising injury; $3,000,000 general aggregate; and $3,000,000 products and completed operations aggregate. This policy shall be written on a broad form, occurrence basis, and provide coverage for blanket contractual liability, independent contractors, and general liability. Completed operations coverage shall remain in force for one year after the Engineer's final acceptance of the work. This policy shall not contain any exclusion for explosion, collapse, or underground property damage. Coverage under this policy shall be as broadly construed for the Contracting Authority as is available to the Contractor.

4. Excess or Umbrella Liability.
The Contractor may use Excess or Umbrella Liability insurance to aid in meeting the minimum limits of coverage required by this article.

D. The Contracting Authority shall be named as an additional insured on the Commercial General Liability (including ongoing and completed operations), Commercial Auto Liability, and Excess or Umbrella Liability policies. For general liability, the additional insured coverage shall not be less than that provided by ISO Forms CG 2010 0704 and 2037 0704 (together) or equivalent. All required insurance shall be primary and noncontributory to any insurance available to the Contracting Authority. Each policy shall include a waiver of subrogation in favor of the Contracting Authority. The Contractor shall obtain all endorsements necessary to support these requirements.

E. This article specifies minimum limits of coverage only and shall not be construed to limit the Contractor's actual liability under the contract.

F. Insurance for Joint Ventures.

1. If a contract is awarded to a joint venture, the parties to the joint venture shall each comply with all insurance requirements in this article.

2. Each party to a joint venture shall submit its own certificate of insurance naming itself as the insured but listing the Contracting Authority, the other party or parties to the joint venture, and the joint venture as additional insureds as it pertains to the contract, such to be shown in the certificate's Description of Operations. Each party shall obtain all endorsements necessary to support these requirements.

G. Railroad Insurance.

1. For contracts that involve work on or near railroad ROW, the Contractor shall at its own expense obtain the types and limits of insurance specified in the contract documents, including any requirement to obtain Railroad Protective Liability insurance.

2. A separate certificate of insurance shall be submitted for each railroad with insurance requirements contained in the contract documents. The certificate shall show the railroad as the certificate holder and include the contract ID in the Description of Operations as well as meet all other requirements contained in the contract documents

H. The Contractor's failure to comply with the requirements of this article shall be considered sufficient cause to suspend the work, withhold estimates, and deny the Contractor from receiving further contract awards, as provided in Article 1103.01.

Comments: This revision will be a part of the October 2026 GS, but will be written out by proposal note until January 2027 to allow contractors a full calendar year after approval to make sure their insurance meets the new requirements.

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

Reason for Revision: Update the insurance requirements, which haven't been touched for decades.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments:		
County or City Comments:		
Industry Comments: Some members of AGC are currently doing a final review, but they have been involved in the submitted revisions.		

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/ Melissa Serio	**Office:** CMB	**Item 2**
Submittal Date: 10/22/25	**Proposed Effective Date:** April 2026 GS	
Article No.: 1105.04, A, 4 **Title:** Conformity with and Coordination of the Contract Documents (Control of Work)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 4/21/26

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

1105.04, A, 4.

Replace the Article:

Digital Contract Files. Shall apply only when digital contract files are available and the Contractor uses automated machine control guidance.

Comments:

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

1105.04, A, 4.

Replace the Article:

Digital Contract Files. Shall apply only when digital contract files are available and the Contractor uses automated machine control guidance.

Reason for Revision: Add clarification since digital files could be confused with electronic support files. With this clarification, designers will upload files into subfolders that include the same terminology (Digital Contract Files or Electronic Support Files) used in the specifications.

Worked with Design, BSB, Contracts/Specifications on this revision.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments: None

County or City Comments:

Industry Comments:

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/ Melissa Serio	**Office:** CMB/LEB	**Item 3**
Submittal Date: 10/24/25	**Proposed Effective Date:** April 2026	
Article No.: 1107.18, A **Title:** Environmental Protection (Legal Relations and Responsibility to the Public) **Section No.:** 2547 **Title:** Temporary Stream Access	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 4/21/26

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

1107.18, A, 2.

Replace the Article:

When required, the Contracting Authority will obtain a Section 404 permit and Section 401 Water Quality Certification for essential work on the right-of-way prior to the award of the contract. The Contractor shall adhere to the requirements of the permit. Activities occurring in or across waters of the United States not specifically reviewed and approved in the permit are not authorized, including dredging. If the Contractor desires to use construction methods that are not specifically approved by the permit, the Contractor shall be responsible for obtaining approval in the form of a new Section 404 permit from the U.S. Army Corps of Engineers, US Fish and Wildlife Service (USFWS), and possibly DNR. The Contractor shall not use construction methods that require additional mitigation by the Contracting Authority. The Contractor will not be granted additional compensation or contract time due to their request for a new permit. If, however, due to no fault of the Contractor, a Section 404 permit modification involving activities within the right-of-way is deemed necessary by the Engineer, additional contract time and/or compensation may be considered.

1107.18, A, 3, g, Temporary Fills.

Replace the Article:

If temporary crossings, causeways, or work pads are needed for the work, then temporary structures and fills shall be constructed in accordance with Section 2547. Use of excavated or dredged material from the stream is not allowed as temporary fill unless specifically allowed in the Section 404 permit.

2547.02, Materials.

Replace the Article:

Furnish fill materials. Do not obtain by excavating or dredging from the stream unless specifically allowed elsewhere in the contract documents, including the Section 404 permit.

2547.03, E.

Replace the Article:

Completely remove temporary structures and return affected areas to preconstruction conditions within 30 calendar days of no longer being needed. Revetment that has been removed may be incorporated elsewhere in the project, provided it meets the specification for the intended final use. Remove all other fill material to an upland area, unless the Section 404 permit requires the channel material be returned to the removal area within the stream. Reshape, stabilize, and revegetate as appropriate all disturbed areas.

Comments:

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

1107.18, A, 2.

Replace the Article:

When required, the Contracting Authority will obtain a Section 404 permit and Section 401 Water Quality Certification for essential work on the right-of-way prior to the award of the contract. The Contractor shall adhere to the requirements of the permit. Activities occurring in or across waters of the United States not specifically reviewed and approved in the permit are not authorized, including dredging. If the Contractor desires to use construction methods that are not specifically approved by the permit, the Contractor shall be responsible for obtaining approval in the form of a new Section 404 permit from the U.S. Army Corps of Engineers, US Fish and Wildlife Service (USFWS), and possibly DNR. The Contractor shall not use construction methods that require additional mitigation by the Contracting Authority. The Contractor will not be granted additional compensation or contract time due to their request for a new permit. If, however, due to no fault of the Contractor, a Section 404 permit modification involving activities within the right-of-way is deemed necessary by the Engineer, additional contract time and/or compensation may be considered.

1107.18, A, 3, g, Temporary Fills.

Replace the Article:

If temporary crossings, causeways, or work pads are needed for the work, then temporary structures and fills shall be constructed in accordance with Section 2547. Use of excavated or dredged material from the stream is not allowed as temporary fill unless specifically allowed in the Section 404 permit.

2547.02, Materials.

Replace the Article:

Furnish fill materials. Do not obtain by excavating or dredging from the stream unless specifically allowed elsewhere in the contract documents, including the Section 404 permit.

2547.03, E.

Replace the Article:

Completely remove temporary structures and return affected areas to preconstruction conditions within 30 calendar days of no longer being needed. Revetment that has been removed may be incorporated elsewhere in the project, provided it meets the specification for the intended final use. Remove all other fill material to an upland area, unless the Section 404 permit requires the channel material be returned to the removal area within the stream. Reshape, stabilize, and revegetate as appropriate all disturbed areas.

Reason for Revision: Add language to clarify that dredged/excavated material from the stream is not allowed for use in a temporary stream access unless approved by 404 permit. Also provide requirements for where removed material must be placed after removal of temporary stream access.		
New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments: None		
County or City Comments:		
Industry Comments:		

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Melissa Serio	**Office:** Construction & Materials	**Item 4**
Submittal Date: 10/22/25	**Proposed Effective Date:** April 2026	
Article No.: 2105.04 **Title:** Method of Measurement (Stripping, Salvaging, and Spreading Topsoil)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 4/21/26

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2105.04, Method of Measurement.

Replace the Article:

A. Topsoil Stripped Onsite.

1. The number of cubic yards of topsoil moved will be computed on the basis of a uniform 12 inch cut, or the depth as specified in the contract documents, over the area involved. Sufficient field measurements will be taken to assure reasonable conformity with the required depth of cut. Payment will be made for the quantity shown in the contract documents unless there is a change in encountered depth.

2. Topsoil salvaged from excavated areas and paid for as topsoil will not be included in excavation quantities for which payment is made.

B. Topsoil Furnished by Contractor or Previously Stockpiled Onsite.
The number of cubic yards of topsoil will be computed on the basis of a uniform 8 inch placement, or the depth as specified in the contract documents, over the area involved. Sufficient field measurements will be taken to assure reasonable conformity with the required depth of placement. Payment will be made for the quantity shown in the contract documents.

Comments:

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

2105.04, Method of Measurement.

Replace the Article:

A. Topsoil Stripped Onsite.

1. The number of cubic yards of topsoil moved will be computed on the basis of a uniform 12 inch cut, or the depth as specified in the contract documents, over the area involved. Sufficient field measurements will be taken to assure reasonable conformity

with the required depth of cut. Payment will be made for the quantity shown in the contract documents unless there is a change in encountered depth.

2. Topsoil salvaged from excavated areas and paid for as topsoil will not be included in excavation quantities for which payment is made.

B. Topsoil Furnished by Contractor or Previously Stockpiled Onsite.
The number of cubic yards of topsoil will be computed on the basis of a uniform 8 inch placement, or the depth as specified in the contract documents, over the area involved. Sufficient field measurements will be taken to assure reasonable conformity with the required depth of placement. Payment will be made for the quantity shown in the contract documents.

Reason for Revision: Change topsoil items to contract quantity items since these items are typically included in Contract Quantity Agreements.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments: None

County or City Comments:

Industry Comments:

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Musgrove/ Johnson	**Bureau/Office:** Construction and Materials	**Item 5**
Submittal Date: 10/9/2025	**Proposed Effective Date:** April 2026	
Section No.: 2303 Title: Flexible Pavement	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 4/21/26

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2303.02, D, 7.

Replace the last sentence:
Temperature reductions may be achieved through additives or water injection systems (foamed asphalt).

2303.02, E, 4, WMA Technologies.

Replace the first sentence:
Chemical additives, organic additives, zeolites, or water injection systems (foamed asphalt) may be used at the rate established by the mixture design in the production of WMA.

2303.03, F, 2, B, 1.

Replace the Article:
Use an approved mix design that incorporates a warm mix additive. Do not use water injection (foamed asphalt).

Comments:

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

4. **WMA Technologies.**
Chemical additives, organic additives, zeolites, or water injection systems (foamed asphalt) may be used at the rate established by the mixture design in the production of WMA. Once production of a bid item has begun with a WMA technology, continue its use throughout the remainder of the bid item's production unless otherwise approved by the District Materials Engineer.

Reason for Revisions: There has been confusion about what water injection systems refers to. This is foamed asphalt. This will better clarify what it is.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X

Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments:		
County or City Comments:		
Industry Comments:		

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Musgrove/De Vries	**Bureau/Office:** Construction and Materials	**Item 6**
Submittal Date: 10/19/25	**Proposed Effective Date:** April 2026	
Section No.: 2317 **Title:** Pavement Smoothness	**Other**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 4/21/26

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2317.02, A.

Replace the first sentence:

Provide and operate an inertial profiler meeting the requirements of AASHTO M328 and Materials I.M. 341~~, Appendix A~~.

2317.03, A, 1.

Replace the first sentence:

Obtain profiles of both wheel paths for each lane according to the procedures shown in Materials I.M. 341, ~~Appendix A~~.

2317.03, B, 1.

Replace the first sentence:

Determine an MRI using the latest version of the ProVAL “Ride Quality” or “Smoothness Assurance” analysis and following the procedures shown in Materials I.M. 341~~, Appendix A~~ for each segment of finished pavement surface with a posted speed or advisory speed over 45 mph except for:

2317.03, B, 2.

Replace the first sentence:

Determine ALR using the latest version of the ProVAL “Smoothness Assurance” analysis and following the procedures shown in Materials I.M. 341~~, Appendix A~~ for each segment of finished pavement surface with a posted or advisory speed over 35 mph except for:

2317.04, A, 4.

Replace the third sentence:

Compare the MRI values and ALR areas according to Materials I.M. 341~~, Appendix A~~.

2317.04, G, 1.

Replace the third sentence:

Disputes between the Contractor's and Engineer's test results will be resolved according to Materials I.M. 341~~, Appendix A~~.

Comments:

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

Section 2317. Pavement Smoothness

2317.02 EQUIPMENT.

A. Provide and operate an inertial profiler meeting the requirements of AASHTO M328 and Materials I.M. 341~~, Appendix A~~. Ensure the operator is trained and certified to operate the profiler as required by the Contracting Authority.

2317.03 TESTING AND EVALUATION.

A. Testing.

1. Obtain profiles of both wheel paths for each lane according to the procedures shown in Materials I.M. 341~~, Appendix A~~. The wheel paths are defined as 3 feet and 9 feet from the center line or lane line. Average the two wheel path profile indexes for each segment.

B. Evaluation.

1. Determine an MRI using the latest version of the ProVAL "Ride Quality" or "Smoothness Assurance" analysis and following the procedures shown in Materials I.M. 341~~, Appendix A~~ for each segment of finished pavement surface with a posted speed or advisory speed over 45 mph except for:

2. Determine ALR using the latest version of the ProVAL "Smoothness Assurance" analysis and following the procedures shown in Materials I.M. 341~~, Appendix A~~ for each segment of finished pavement surface with a posted or advisory speed over 35 mph except for:

2317.04 CORRECTIVE ACTIONS.

A.

1.

2

3.

4. On lanes over 8.5 feet in width, for through traffic which requires matching the surface of the new pavement to the surface of an existing pavement, Determine the MRI and ALR for the existing lane. Compare the MRI values and ALR areas according to Materials I.M. 341,~~Appendix A~~. If the MRI and ALR for the new pavement are less than the MRI and ALR for the existing surface, no negative payment adjustment or correction for MRI or ALR will be required.

G. Verification Testing.

1. The Engineer will perform verification testing to validate the Contractor's certified quality control testing. If the Engineer's verification test results validate the Contractor's test results, the Contractor's results will be used for acceptance. Disputes between the Contractor's and Engineer's test results will be resolved according to Materials I.M. 341,~~Appendix A~~.

Reason for Revision: To remove the 6 references to IM 341 App A, which is no longer current.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments:		
County or City Comments:		
Industry Comments:		

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Elijah Gansen	**Bureau/Office:** Construction and Materials Bureau	**Item 7**
Submittal Date: 10/23/2025	**Proposed Effective Date:** April 2026	
Section No.: 2526 **Title:** Construction Survey	**Other:**	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 4/21/26

Specification Committee Approved Text: See attached Section 2526. This is a general rewrite, so no shading or strikethrough is shown.

Comments: The Construction and Materials Bureau suggested "and/or" replace "or" in Article 2526.01, B so that it applies to both and not just either.

No changes were made to how settlement plates are surveyed. The plans typically give an estimated settlement period, but that can vary depending on the field conditions.

In some regards, the proposed new language is a relaxation compared to the current specification language. The current language prescribes that the independent check "be performed by a second survey crew using their own calculations and equipment entries". The new language includes "and/or" phrasing and accommodates the independent check being performed by the same crew, provided they use "independent methodology as necessary to validate the accuracy…" Compliance with this spec means the contractor's approach to the second survey does not rely on contractor-generated information/input/setup associated with the first survey. There are several conceivable ways to approach this. Two different crews could complete the work using the same methodology, or a single crew could complete the work using different methodology. The surveyor does not necessarily have to change every aspect of their survey approach, but they need to change enough aspects such that the second survey will not be biased by any portion of the work product associated with the first survey. The suggested method of using total station for the first survey and switching to GPS for the second survey would qualify as independent methodology and would satisfy the intent of the proposed new language, provided the math is independently checked if any common calculations are shared between the two methods. If desired, the same calculations can be "regenerated" as part of the check, they just cannot be "reused" without independent check.

We appreciate that some contractors are already doing some or all of this, but we find it important to standardize our expectations for the ones that aren't. With respect to raw data, we are looking for a PDF copy of any text or graphical information that is generated as input, or collected as part of the survey. No special formatting or commentary would be required, and the primary purpose would be for the owner's use in troubleshooting any potential survey issues that may be brought to our attention. The submitted information doesn't have to be "deciphered", it just needs to be "decipherable" in the event it becomes necessary.

Inconsistency in language regarding "Construction Location Survey" versus "Construction Layout Survey" was corrected.

Specification Section Recommended Text: See attached Section 2526. This is a general rewrite, so no shading or strikethrough is shown.

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

See attached document.

Reason for Revision: The intent of this revision is to subdivide the construction survey activities into separate bid items and add additional information that is required for each bid item.		
New Bid Item Required (X one)	**Yes** X	**No**
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes** X	**No**
Comments: New bid items: Construction Survey, Monument Preservation; Construction Survey, Control Point Survey; Construction Survey, Right of Way; Construction Survey, Location Survey		
County or City Comments:		
Industry Comments: 2 Grading. General. Establish benchmarks in the adjacent area before installing settlement plates in accordance with Article 2526.03, C, 4. Locate and determine elevations of settlement plates daily during construction and weekly during delays and following the completion of embankment construction, unless approved otherwise by the Engineer. The information in red, it seems like every project has different intervals, so requiring a delay determination is going to make estimating difficult. I would rather see the plans state the interval and duration, and then we can compute what it takes to provide that service. 3 Bridges. e Perform an independent check of the above stakes. Independent check shall be performed using independent crew, calculations, equipment and/or methodology as necessary to validate the accuracy of the surveyed lines and stakes, without reuse of calculations, equipment setup, or data acquisition from the original survey. We understand that a secondary check is important to make sure there is not a major (or even minor) error in layout but the idea of how to go about this is not realistic. How are expected to do this without reusing the calculations? The location of the bridge is at a certain station/offset, how else do we calculate it. the use of different equipment, we always stake bridges with a total station and generally use GPS (if conditions allow) for the check because it is a different method. Furthermore, there are fewer and fewer surveyors available to do this work overall, so in order to find an independent crew with their own equipment, calculations, etc, is not practical. Plus it would like require a return trip the next day for the 2nd crew to get there to perform the check. How is any of this making sense and making it work more efficiently for everyone, especially the contractors that need to keep building. I'd suggest letting the crew that is already familiar with the project, design, control, conditions, etc., stake the bridge, then switch equipment (from total station to GPS, if conditions allow), and do it again as a check. Errors can be found right away and addressed before leaving the site. f. Submit a staking diagram, accompanied by results of the original and independent check, to the Engineer prior to starting structure construction. The information shall be submitted in electronic (PDF) format and shall include: • Dimensioned, graphical depiction of surveyed lines and stakes. • Raw data and calculations from the original and check survey. Identify date/time, crew, equipment, datum and coordinate system, and primary controls used. We are already doing this, I am not sure how we will be able to send Raw Data that anyone will understand nor have the correct software to even open the file Payment for the following items will be paid for at the lump sum contract price: • Construction Survey, Monument Preservation. • Construction Survey, Control Point Survey. • Construction Survey, Right of Way. • Construction Survey, Location Survey. Should be -> Layout Survey.		

Section 2526. Construction Survey

2526.01 DESCRIPTION.
Perform survey for construction projects under one of the following four categories:

A. Monument Preservation: preserving existing monuments (section corners).

B. Control Point Survey: preserving existing control points and/or reestablishing missing control points for roadway alignments.

C. ROW Survey: locating existing or proposed ROW lines for projects.

D. Construction Location Survey: surveying and staking work necessary for construction of the project that is not covered under monument preservation, control point preservation or row survey.

2526.02 MATERIALS.
None.

2526.03 SURVEY.

A. General.

1. Ensure all survey work is completed by a Professional Engineer licensed in the State of Iowa in responsible charge or a Professional Land Surveyor licensed in the State of Iowa in responsible charge, according to the provisions of Iowa Code 542B. Submit a resume to the Engineer identifying the field survey personnel and their capabilities to perform the intended requirements.

2. If, in the opinion of the Engineer, the Contractor has destroyed or disturbed any of the original survey stakes or benchmarks, the cost of replacing will be charged to the Contractor. Bring design errors discovered to the Engineer's attention for review prior to staking.

3. All survey work documentation becomes the property of the Contracting Authority. Assemble required documentation into a single electronic package upon completion of the project and furnish to the Engineer. The work of this specification will be considered complete when the following documentation is furnished to and accepted by the Engineer:
- **a.** ASCII comma delineated file of the coordinates formatted as (point number, northing, easting, elevation, point description, feature). Identify coordinate system used.
- **b.** Recorded copy(ies) of any filed Monument Preservation Certificate(s).
- **c.** Recorded copy(ies) of any filed United States Public Land Survey Corner Certificate(s).
- **d.** Secondary control monument coordinates including traverse check.
- **e.** Reference monument drawings.
- **f.** Benchmark coordinates.
- **g.** Required DTMs.
- **h.** Bridge and box culvert staking diagrams.
- **i.** Final profile grades.

4. For the purpose of subcontracting, these items will be considered a specialty item.

B. Monument Preservation.

1. Ensure monument preservation work is completed by a Professional Land Surveyor licensed in the State of Iowa in responsible charge, according to the provisions of Iowa Code 542B.

2. Preserve any existing survey monuments including right of way monuments, lot/property corners, centerline control, and section corners that are disturbed as a result of construction activities., This work shall be completed as required by Iowa Code 355.11 and 355.6A.

3. Survey monuments, ROW monuments, or section corners located on the project that are not disturbed by construction activity do not need to be preserved; however, they should be protected from damage during construction.

4. After construction, replace all disturbed survey monumentation with a reasonably permanent material solidly embedded in the pavement/ground. The surveyor shall affix a cap (or washer in the pavement) of reasonably inert material bearing an embossed or stencil cut marking of the Iowa registration number of the Land Surveyor completing the work. Other types of monumentation could be used (such as a cut "X" in the pavement) with the written consent of the contracting authority.

C. Control Point Network.

1. **Primary Control Points.**
   A primary control point is a survey point the Contracting Authority establishes prior to project commencement. The point will be established by placing a control point marker in the ground.

2. **Secondary Control Points.**
   A secondary control point is a survey point the Contractor establishes on grading or other projects specified in the plans and preserves on all other projects.
   - **a.** The Engineer will provide control point markers, similar to those the Department uses for GPS control.
   - **b.** Place secondary permanent horizontal control point markers, under the Engineer's direction, at locations likely to survive project construction and at intervals not to exceed 2640 feet. Place the control point marker in the ground along the project corridor. Place at higher elevations along the corridor to provide a view of the immediate project topography and to provide for visible clear line of sight to the nearest secondary permanent control monument in either direction. Primary project markers may be substituted if appropriate.
   - **c.** Plant secondary control point markers 1 to 4 inches below existing ground. Drive a metal fence post within 1 foot of the control point to mark its location. When the control point is near the ROW line the marker shall be placed in the ROW.
   - **d.** Carefully determine project coordinates relative to the nearest primary project control markers using project coordinate values the Engineer has provided. Ensure the resulting error radius of the secondary control point marker does not exceed 0.10 feet ±2 ppm relative to the primary control.
   - **e.** Perform an independent traverse check between the secondary control point markers by observing distance and angular measurements or by use of GPS. Provide the Engineer with a diagram indicating horizontal ground distances to nearest 0.01 foot and angles to at least the nearest 10 seconds between each secondary control point marker. Ensure inverses between the coordinate pairs as determined in the previous paragraph do not exceed 0.10 feet of the direct measurements.
   - **f.** Replace secondary control point markers disturbed during construction activities using procedures outlined above, at no additional cost to the Contracting Authority.

3. **Alignments.**
   Obtain the Engineer's approval for the method of determining alignments and elevations and the method of preserving control points. This approval does not act to relieve the Contractor of the responsibility for the correctness of the survey work. Do not use plan cross-sections for vertical or horizontal control.

4. **Benchmarks.**

a. Establish permanent vertical control benchmarks at all bridges and reinforced concrete box culverts within the project. Use an Iowa DOT brass plug on bridge barrier rail or headwall of reinforced concrete box culvert to indicate the benchmark. If the Engineer approves, a sawn "X" on bridge barrier rail or headwall of reinforced concrete box culvert may be used.

b. Transfer all benchmark elevations from construction plan benchmarks to the permanent benchmarks using the three-wire method or by trigonometric leveling. Use temporary benchmarks of reasonable stability to preserve the plan benchmarks.

c. Ensure benchmark level loops do not exceed an error of 0.05 feet times the square root of the loop's length in miles. Distribute the error equally along the loop on all intermediate traverse/benchmark points.

D. ROW Survey.

1. On projects with new proposed ROW, Temporary Easement, or where existing ROW is to be reestablished.

2. All permanent monumentation will need to be placed in the ground. On projects with new ROW, monumentation is not to be placed until all ROW has been purchased.

a. A comma delineated ASCII point coordinate list will be provided by the contracting authority. The coordinate basis will be defined and provided by the Contracting Authority. The file format will be as follows:

- Point Number,
- Northing,
- Easting,
- Elevation,
- Feature Code and
- Description of what was found or set. (if applicable)

b. A 5/8 inch by 40 inch steel re-rod with an Iowa DOT aluminum cap or an equivalent land surveyors cap that includes their PLS number will be set as the right of way monumentation.

c. A green steel post with a "ROW" sign will be set within the new right of way, no more than a foot away from the right of way point. (Materials will be provided by the contracting authority.)

d. A check shot will be taken on the set monumentation to acquire a set of coordinates that will have the same coordinate basis as what was provided in number one as well as have the file format as follows:

- Point Number,
- Northing,
- Easting,
- Elevation,
- Feature Code and
- Description of what was set.

e. A feature code of "ROW" will be used.

f. The ASCII point list, of the checked points, will be provided to the contracting authority.

g. Submit required documentation per Article 2526.03, A, 3.

E. Construction Location Survey.

1. Furnish all survey necessary for construction of the project before work begins in the area. Comply with Iowa Code requirements under the direct supervision of an Iowa licensed land surveyor. Do not apply the provisions of Article 1105.14 to this work, except to preserve the original stakes set by the Engineer. Refer to Article 1105.15 for requirements when AMG is

utilized. Construction location survey includes qualified personnel, equipment, and supplies required for, but not limited to, the following items:

2. Grading.

a. General.

- Survey right-of-way line between permanent right-of-way corners at 100 foot intervals, or less if needed, including borrows, temporary easements, and right of entry. Mark these points by placement of a metal pin or wood hub, flat, and lath at the same location as the slope stakes. Clearly mark the flat with the station number, distance from centerline, and elevation (cut or fill) to subgrade.
- Take existing and final elevations of all borrows. Provide existing and final digital terrain model (DTM) in LandXML-format, suitable for use by the Engineer to calculate excavation quantities.
- Set bridge berm slope stakes to establish all transitions, including the face of the berm. Set finish grade stakes (blue tops) on all roadway shoulder lines and roadway centerlines to project down the face of the bridge berm at the top, face of berm bench, and toe.
- When Class 12 excavation is an item, provide existing and final DTM in LandXML format for use by the Engineer to calculate the excavation quantities.
- Use a lath to locate on each side of roadway at the right-of-way line, agricultural drain tile shown in the contract documents. Clearly mark lath to show station location, distance from centerline, tile size and type, and flowline elevation.
- Establish benchmarks in the adjacent area before installing settlement plates in accordance with Article 2526.03, C, 4. Locate and determine elevations of settlement plates daily during construction and weekly during delays and following the completion of embankment construction, unless approved otherwise by the Engineer. Submit elevations to the Engineer on Settlement Plate Data Form (available at the Bureau of Construction and Materials website).
- Check tie-ins with existing roadways for correctness of alignment prior to construction staking.

b. Areas Constructed Without AMG.

- Set slope stakes at 100 foot intervals, or less if needed, for embankment and excavation work including roadway, channel changes, and borrow areas. Interpolations may be necessary to match cross-sections. Set stakes at toe of foreslope or top of backslope, or both. Mark slope stakes with a flat and lath. Clearly mark flat with station location, distance, slope, and cut or fill information.
- Set grade check stakes at 100 foot intervals for bottoms of subgrade treatments. Set stakes on centerline for two-lane roads and in median for four-lane roads. Mark grade check stakes with a lath. Clearly mark lath with station location and cut or fill information.
- Set finish grade stakes (blue tops) at 100 foot intervals, or less if needed. Set blue tops at each shoulder line and each point where there is a change in cross slope. Mark blue tops with a wood hub and stake chaser or similar type tassel.

c. Areas Constructed with AMG.

- Establish elevation of secondary control points using differential leveling from project benchmarks, forming closed loops. Provide a copy of new control point information to Engineer prior to construction work. Contractor is responsible for errors resulting from their efforts. Correct deficiencies to the satisfaction of the Engineer at no additional cost to Contracting Authority.
- Set hubs at top of finished subgrade at hinge points on cross section at 1,000 foot intervals on mainline and at least two cross sections on side roads and ramps. Establish these hubs, using means other than the machine guidance surface (such as plan typicals and cross sections, for use by Engineer to check accuracy of construction.

- Provide grade stakes at critical transition points such as, but not limited to, PC's, PT's, super elevation transition points, and other critical points required for construction of drainage and roadway structures.

3. Bridges.

a. Provide surveying and staking as appropriate to control the geometry of the work. Mark centerline of the approach roadway, centerline of the substructure units, and other points as necessary to establish the location, elevation and alignment of the structure.

b. Mark locations and elevations with metal pin or tack in a wood hub, flat, and lath. Clearly mark flat with the pier/abutment station location, design number, and offset distance from centerline of the approach roadway.

c. When a test pile, test shaft, or demonstration shaft is specified in the contract documents, mark the location with a wood hub.

d. Establish a minimum of three temporary benchmarks.

e. Perform an independent check of the above stakes. Independent check shall be performed using independent crew, calculations, equipment and/or methodology as necessary to validate the accuracy of the surveyed lines and stakes, without reuse of calculations, equipment setup, or data acquisition from the original survey.

f. Submit a staking diagram, accompanied by results of the original and independent check, to the Engineer prior to starting structure construction. The information shall be submitted in electronic (PDF) format and shall include:

- Dimensioned, graphical depiction of surveyed lines and stakes.
- Raw data and calculations from the original and check survey. Identify date/time, crew, equipment, datum and coordinate system, and primary controls used.

g. When the construction work and associated construction survey will be completed in separate phases, submit an updated staking diagram and independent check of new or relocated stakes, prior to each phase of work.

h. As verification of intended geometry, the following shall be checked using survey methods prior to permanent advancement of the associated production work:

- Location, orientation, and elevation of each separate spread footing, pile footing, pile cap, and/or drilled shaft. Submit to the Engineer as excavated and/or as formed, prior to concrete placement within the respective substructure element.
- Elevation of substructure beam seats, as built. Submit to the Engineer prior to installation of bearings and superstructure elements.
- Top of beam elevations, as erected. Locations for determining top of beam elevations shall be in accordance with the design plans. Tabulate top of beam elevations in Excel spreadsheet format and provide comparison against intended/allowed plan geometry. Identify needs for deck grade adjustments, if discrepancies arise. Submit proposed final deck grades to the Engineer for acceptance

i. For bridges on Primary and Interstate routes, the required beam seat elevations and top of beam elevations shall be tabulated and submitted to the Engineer on the bridge e-File spreadsheet provided with the contract documents.

4. Reinforced Concrete Box Culverts.

a. Provide surveying and staking as necessary to establish the location, elevation and alignment of the structure and flow line.

b. Mark locations and elevations with metal pin or tack in a wood hub, flat, and lath. Clearly mark flat with the station location, design number, cut/fill elevation and offset distance from centerline of the approach roadway and back of parapet.

c. Perform an independent check of the above stakes. Independent check shall be performed using independent crew, calculations, equipment and/or methodology as necessary to validate the accuracy of the surveyed lines and stakes, without reuse of calculations, equipment setup, or data acquisition from the original survey.

d. Submit a staking diagram, accompanied by results of the original and independent check, to the Engineer prior to starting structure construction. The information shall be submitted in electronic (PDF) format and shall include:
- Dimensioned, graphical depiction of surveyed lines and stakes.
- Raw data and calculations from the original and check survey. Identify date/time, crew, equipment, coordinate system, and primary controls used.

e. When the construction work and associated construction survey will be completed in separate phases, submit an updated staking diagram and independent check of new or relocated stakes, prior to each phase of work.

f. Report to the Engineer questionable flow lines and alignments that do not match existing drainage.

5. Pipe Culverts.

a. Mark locations and elevations with metal pin or a wood hub, flat, and lath. Clearly mark the flat with the station location, cut/fill elevation, and offset distance to both ends or centerline of pipe.

b. Report to the Engineer questionable flow lines and alignments that do not match existing drainage.

6. Sanitary and Storm Sewers.

Mark locations and elevations with metal pin or tack in a wood hub, flat, and lath. Clearly mark the flat with the station location, pipe number, cut/fill elevation, and offset distance to centerline of pipe.

7. Water Mains.

Mark locations and elevations with metal pin or tack in a wood hub, flat, and lath. Clearly mark the flat with the station location, pipe number, cut/fill elevation, and offset distance to centerline of pipe.

8. Intakes and Utility Accesses.

Mark locations and elevations with metal pin or tack in a wood hub, flat, and lath. Clearly mark the flat with the station location, intake or utility access number, cut/fill elevation (including bottom of well and form grade), and offset distance to the Station Location.

9. Pavements (PCC & HMA).

a. General.

1) On PCC, PCC overlays, and HMA projects, when a proposed design profile grade is included in the contract documents.

a) Obtain elevations of adjacent pavement and bridges at centerline, edge of pavement, and other locations necessary to characterize existing profile and cross slope. Obtain elevations at maximum 10 foot intervals for a minimum of 100 feet

b) Adjust proposed design profile grade and cross slope to provide a smooth transition, free of bumps and dips, from the new pavement to the existing pavement or bridge. Submit final profile to the Engineer for approval before paving begins.

2) For full depth PCC and HMA pavements, when a proposed design profile grade is not included in the contract documents:

a) Obtain elevations of the existing pavement and bridges at 100 foot intervals on straight and level sections and 50 foot intervals on horizontal and vertical curves.

b) Using these elevations, design a profile grade and cross slopes to provide a smooth transition, free of bumps and dips, from the new pavement to the existing pavement or bridge. Design a smooth profile grade line to provide the required pavement or shoulder thickness as detailed in the contract documents. Submit final profile to the Engineer for approval before paving begins.

3) For PCC overlays, when a proposed design profile grade is not included in the contract documents:

a) Obtain elevations of existing pavement at centerline and both pavement edges for bonded overlays and projects including mainline stress relief course and/or pavement scarification.

b) Obtain elevations of existing pavement at centerline, quarter points, and both pavement edges for unbonded overlays and whitetopping projects when a stress relief course and/or pavement scarification are not included.

c) Obtain elevations at maximum 50 foot intervals on straight and level sections and at maximum 25 foot intervals on horizontal and vertical curves.

d) Using these elevations, design a profile grade and cross slopes to provide a smooth transition, free of bumps and dips, from the new pavement to the existing pavement or bridge. Design a smooth profile grade line to provide the required pavement or shoulder thickness as detailed in the contract documents. Submit final profile to the Engineer for approval before paving begins.

b. Areas Constructed Without AMG.
Mark locations and elevations with metal pin or tack in wood hub (only tack one side), flat, and lath. Mark elevations on both sides of pavement at 50 foot intervals on straight and level sections and 25 foot intervals on horizontal and vertical curves. Clearly mark flat with station location, cut or fill information, and offset distance to edge of pavement. Include pavement cross slope information in superelevated curves.

c. Areas Constructed With AMG.

- When total stations are used for the AMG paving system, set additional control points at maximum 500 foot intervals, 250 foot staggered, on each side of pavement. Control points will be set using a suitable pin or stake, at least 14 inches long, with a flush identifiable location, such as a cap, divot, or tack. Ensure local point to point tolerance of 0.005 foot for elevation and 0.02 foot for position. Furnish x,y,z coordinates rounded to nearest 0.005 foot. Mark each control point with lath indicating point number and station. Where feasible, recess pin below grade to protect from equipment or weather.
- Mark with lath at A, A', B, C, C', and D points along superelevated curve transitions and at station equation locations. Additional paving hubs will not be required for mainline pavement.

10. Structural Walls.

a. Survey requirements for structural walls shall apply to the following work types:

- Mechanically Stabilized Earth (MSE) Walls.
- Cast in Place (CIP) Retaining Walls.
- Soil Nail Walls.
- Tie Back Walls.
- Noise Walls.
- Modular Block Retaining Walls.
- Segmental Retaining Walls.

b. Provide surveying and staking as necessary to establish the location, elevation and alignment of the structure.

c. Mark locations and elevations with a metal pin or a wood hub, flat, and lath. Clearly mark the flat with the station location, cut/fill elevation, and offset distance to face of wall.

F. Check tie-ins with existing roadways for correctness of alignment prior to construction staking.

2526.04 METHOD OF MEASUREMENT.
None. Lump sum items.

2526.05 BASIS OF PAYMENT.

A. Payment for the following items will be paid for at the lump sum contract price:
- Construction Survey, Monument Preservation.
- Construction Survey, Control Point Survey.
- Construction Survey, Right of Way.
- Construction Survey, Location Survey.

B. Payment is full compensation for the survey work required for the project as let, including any interpolations that may be necessary between cross-section and field staking.

C. Delivery of all documents electronic and other will be required before final payment in made.

D. Payment for revisions after the letting will be paid for according to Article 1109.03, B.

E. Verifying form work slopes according to Article 2511.03, B, 1, b, shall be incidental to Construction Survey and will not be paid for separately.

F. Recorded copies of monument preservation and/or corner certificates will need to be provided to the Engineer before full payment is made.

Form 510130 (08-24)

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Brian Worrel / Ben Hucker	**Bureau/Office:** Construction & Materials and Maintenance	**Item 8**
Submittal Date: 11/13/2025	**Proposed Effective Date:** 4/21/2026	
Article No.: 2527.02, D, 2, b, 1 **Title:** Waterborne and Solvent-Based Paint (Materials) **Article No.:** 2527.03, A, 2 **Title:** General (Construction)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 4/21/26

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2527.02, D, 2, b, 1.

Replace the Article:

Meet the requirements of Section 4183 and Materials I.M. 483.03 for fast dry paint.

2527.03, A, 2.

Replace the Article:

~~Table 2527.03-1 shows the minimum atmospheric and surface temperatures for application of pavement markings.~~ When waterborne or solvent based traffic paint is specified, use the following to determine which to apply. Monitor weather conditions to ensure equipment capable of placing the proper type of paint is available. The Engineer will not consider temperature conditions an excuse for delaying placement of pavement markings. Follow the manufacturer's written recommendations for other details of application.

a. From April 23rd to October 7th, use waterborne traffic paint when both the atmospheric and surface temperatures are at least 35˚F and rising. Only use solvent-borne paint if these requirements cannot be met.

b. From October 8th to April 22nd, solvent-borne paint may be used any time. Only use waterborne traffic paint if both the atmospheric and surface temperatures are at least 35˚F and rising at the time of application.

~~**Table 2527.03-1: Minimum Atmospheric and Surface Temperatures**~~

~~Type of Marking~~	~~Oct. 23 to Apr. 7~~	~~Apr. 8 to Apr. 22~~	~~Apr. 23 to Oct. 7~~	~~Oct. 8 to Oct. 22~~
~~Waterborne Paint~~	~~not allowed~~	~~45°F~~	~~45°F~~	~~45°F~~

~~Low Temperature Waterborne Paint (Per Materials I.M. 483.03)~~	~~35°F~~	~~35°F~~	~~35°F~~	~~35°F~~
~~Solvent Based Paint~~	~~no restrictions~~	~~no restrictions~~	~~(a)~~	~~no restrictions~~

~~(a) Solvent-based paint may be used only if temperature requirements cannot be met.~~

Comments:

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

2527.02 MATERIALS.

D. Materials for pavement markings are described below:

2. Traffic Paint.

b. Waterborne and Solvent-based Paint.

1) Meet the requirements of Section 4183 and Materials I.M. 483.03 for fast dry paint.

2) Use the nominal application paint and glass bead rates shown in Tables 2527.02-1 and 2527.02-2:

2527.03 CONSTRUCTION.

A. General.

~~**2.** Table 2527.03-1 shows the minimum atmospheric and surface temperatures for application of pavement markings. Follow the manufacturers written recommendations for other details of application.~~

~~**Table 2527.03-1: Minimum Atmospheric and Surface Temperatures**~~

~~Type of Marking~~	~~Oct. 23 to Apr. 7~~	~~Apr. 8 to Apr. 22~~	~~Apr. 23 to Oct. 7~~	~~Oct. 8 to Oct. 22~~
~~Waterborne Paint~~	~~not allowed~~	~~45F~~	~~45F~~	~~45F~~
~~Low Temperature Waterborne Paint (Per Materials I.M. 483.03)~~	~~35F~~	~~35F~~	~~35F~~	~~35F~~
~~Solvent Based Paint~~	~~no restrictions~~	~~no restrictions~~	~~(a)~~	~~no restrictions~~
~~(a) Solvent-based paint may be used only if temperature requirements can not be met.~~				

2. The following requirements shall be used to determine whether to apply waterborne or solvent-based traffic paint. It shall be the responsibility of the Contractor to monitor weather conditions and ensure equipment capable of placing the proper type of paint is available. Temperature conditions shall not be an excuse for not being able to paint.

April 23rd to October 7th

Fast-dry waterborne traffic paint shall be used when both the atmospheric and surface temperatures are at least 35° Fahrenheit and rising. Fast-dry VOC compliant solvent-borne paint should only be used if these requirements cannot be met.

October 8th to April 22nd

Fast-dry VOC compliant solvent-borne paint may be used any time. Fast-dry waterborne traffic paint may only be used if both the atmospheric and surface temperatures are at least 35° Fahrenheit and rising at the time of application.

Follow the manufacturers' written recommendations for all details of application.

Reason for Revision: Beginning in January 2026, I.M. 483.03 will require all waterborne traffic paint to utilize DOW FASTRACK 5408A resin (or approved equal). This new-generation resin is specially formulated to allow placement down to 35 degrees and rising as well as normal high summer temperatures. With this change in requirements and changes in our climate, hard cut-off dates in the specification are less applicable, and the date ranges can be simplified.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments: The industry has long had concerns with our hard, calendar date cutoffs for use of waterborne paint due to the wide variety of weather we experience here in Iowa each fall. This change will significantly simplify their operations.

County or City Comments: This specification revision was sent to the Local Systems Bureau on September 15, 2025. Dillon Feldmann forwarded it to an array of agencies and only received one question regarding the cost of the extended season paint. The switch in waterborne paint materials is driven by a change in I.M. 483.03, not this proposed specification revision.

Industry Comments: This specification revision was sent to all Iowa ATSSA Chapter members on September 19, 2025, requesting feedback by October 15th. Only one comment was received and it was in support of the change. It will also be discussed at their October 28th meeting, and any additional feedback will be brought to the Spec Committee meeting.

Form 510130 (07-24)

IOWA | DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Elijah Gansen	**Bureau/Office:** Construction and Materials	**Item 9**
Submittal Date: 11/13/2025	**Proposed Effective Date:** April 2026	
Article No.: 2532 Pavement Surface Repair (Diamond Grinding)	**Other:**	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 4/21/26

Specification Committee Approved Text:

2532.03, B, 1, i.

Replace the Article**:**

On Interstate and Primary projects ~~W~~when the coarse aggregate used in the existing pavement is limestone, longitudinally groove the surface after grinding in accordance with Section 2557.

Comments: The second requested change was withdrawn by Elijah Gansen, as grooving is a separate bid item, so we did not want to make it incidental to the diamond grinding.

Specification Section Recommended Text:

2532.03, B, 1, i.

Replace the Article**:**

On Interstate and Primary projects ~~W~~when the coarse aggregate used in the existing pavement is limestone, longitudinally groove the surface after grinding in accordance with Section 2557.

~~**2532.05, B.**~~

~~**Add** as the second bullet:~~

- ~~On Interstate and Primary projects with limestone coarse aggregate groove the concrete surface,~~

Comments:

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

2532.03 CONSTRUCTION.

B. Pavement Surface Repair.

1. General.

i. On Interstate and Primary projects ~~W~~when the coarse aggregate used in the existing pavement is limestone, longitudinally groove the surface after grinding in accordance with Section 2557.

2532.05 BASIS OF PAYMENT.

Payment will be as follows:

B. Payment is full compensation for furnishing all equipment, materials, and labor to:

- Grind the concrete surface,
- On Interstate and Primary projects with limestone coarse aggregate groove the concrete surface,
- Test for smoothness according to the contract documents, and
- Remove slurry and residue from this operation.

Reason for Revision: This section requires grooving per Section 2557 if the coarse aggregate is limestone. The grooving bid item is often missed on projects so this change would include the cost of grooving with the cost of grinding the concrete with limestone.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments:		
County or City Comments:		
Industry Comments:		

Form 510130 (08-15)

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove	**Office:** Construction & Materials	**Item 10**
Submittal Date: 10/9/25	**Proposed Effective Date:** December 2025	
Article No.:	**Other:** DS-23062, High Performance Concrete for Structures	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 1/21/26

Specification Committee Approved Text: See attached Developmental Specifications for High Performance Concrete for Structures.

Comments: Effective date was changed to January letting as December letting is already ready to advertise.

Specification Section Recommended Text: See attached draft Developmental Specifications for High Performance Concrete for Structures.

Comments:

Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**
DS-23062 attached

Reason for Revision: Remove the allowance for evaporation retardants due to abuse in the field.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments:

County or City Comments:

Industry Comments:

DS- 23082
(Replaces DS-23062)

DEVELOPMENTAL SPECIFICATIONS FOR HIGH PERFORMANCE CONCRETE FOR STRUCTURES

Effective Date
January 21, 2026

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

23082.01 DESCRIPTION.

A. Develop and provide high performance concrete (HPC) for bridge substructures and decks when called for in the contract documents. HPC is defined as a concrete mix providing the following:
- Desired workability.
- Maximum 28 day permeability of 2000 coulombs for the substructure (or greater than 20 K ohm-cm surface resistivity by Wenner probe) and 1500 coulombs for the deck (or greater than 30 K ohm-cm surface resistivity by Wenner probe), as a target.

B. Apply Sections 2403, 2412, and Division 41 of the Standard Specifications with the following modifications.

23082.02 MATERIALS.

Contractor may use other mixes than those described below provided they meet the requirements of this specification and are approved by the District Materials Engineer.

A. Substructure.

1. Apply the following conditions for substructure HPC mixes:
- Coarse aggregate meeting Class 3i durability.
- Basic water to cementitious material (w/c) ratio in accordance with Materials I.M. 529.

2. HPC mix for substructure may be a HPC-S or CV-HPC-S. Apply the following conditions:
- **a.** Use one of the following cement combinations:
  - Type IS, IP or IT.
  - Type I, II or IL with a minimum of 30% weight substitution with GGBFS.
- **b.** Fly ash substitution not to exceed 20% by weight of the cement.
- **c.** Maximum total substitution of 50%
- **d.** A high range water reducer may be used with a maximum allowable slump of 8 inches and target air content of 7.5% ± 2.0%.

B. Deck.

1. Apply the following conditions for deck HPC mixes:

a. Use coarse aggregate meeting Class 3i durability.
b. Basic w/c ratio in accordance with Materials I.M. 529.

2. The HPC mix for the deck may be a HPC-D or a CV-HPC-D. Apply the following conditions:
a. Use one of the following cement combinations:
- Type IS, IP or IT.
- Type I, II or IL with a minimum of 30% weight substitution with GGBFS.

b. Fly ash substitution not to exceed 20% by weight of the cement.
c. Maximum total substitution of 50%.
d. Combined aggregate gradation optimized in Zone II according to Materials I.M. 532.

C. Contractor Designed HPC.
Other mixes meeting the above requirements may be approved by the District Materials Engineer.

23082.03 CONSTRUCTION.

A. Production Concrete.

1. Notify the Engineer at least 48 hours prior to placement of production concrete. Use only approved HPC mixes for production concrete. If a mix other than mix described in Article DS-23082.02, A or B is to be used, ensure it has same materials, proportions, and properties (including slump, air content, and w/c ratio) as approved by the District Materials Engineer.

2. District Materials Engineer will obtain random verification strength samples on a minimum of one deck placement. Strength samples will be tested at District Materials Laboratory according to AASHTO T 22. A set of four cylinders will be cast, cured, and handled according to Materials I.M. 315. Three cylinders will be tested for strength at 28 days. One cylinder will be tested for permeability on a random basis by Central Materials Laboratory or Wenner probe resistivity testing by the District Materials Engineer. Permeability testing will not be evaluated on footings or drilled shafts.

B. Placing Concrete.
For the deck, placing of concrete floors shall not begin if the theoretical rate of evaporation exceeds 0.1 pounds per square foot per hour. Monitor theoretical evaporation rate at a maximum interval of every three hours during placement at a location as near the deck as possible. If the rate exceeds 0.15 pounds per square foot per hour cease placement at next location acceptable to Engineer.

C. Curing.

1. Substructure.
a. Leave forms in place for 96 hours of curing.
b. Apply curing protection to exposed surfaces of concrete in accordance with Article 2403.03, E, 4, b. Leave curing protection in place for 96 hours.

2. Deck.
a. Leave forms in place for 168 hours of curing.
b. Apply water to the burlap covering for 168 hours of continuous wet sprinkling system curing.
c. Do not place curing compound on floor.
d. Use burlap that is prewetted by fully saturating, stockpiling to drain, and covering with plastic to maintain wetness prior to placement. Place two layers of prewetted burlap on floor immediately after artificial turf drag or broom finish with a maximum time limit of 10 minutes after final finishing. Apply water to burlap covering for entire curing period by means of a continuous wet sprinkling system that is effective in keeping burlap wet during moist curing period.

~~**e.** Use evaporation retardant only in situations where equipment and/or labor delays, or environmental conditions, prevent adequate protection of concrete until prewetted burlap is in place. Have an evaporation retardant, including Confilm, Conspec Acquafilm, Evapre, or Sure Film, readily available during placement for application as directed by the Engineer. Do not work evaporation retardant into concrete surface or use as a finishing aid.~~

D. Cold Weather Protection.

1. Furnish results to Engineer in electronic format as required. Apply Article 2403.03, F of the Standard Specifications.

2. Replace the provisions of Article 2403.03, F, 5, d, of the Standard Specifications with the following:

a. Substructure.
The duration of required cold weather protection shall be the first 120 hours after placing. Ensure concrete and its surface temperature are maintained at a temperature of no less than 50ºF for the first 120 hours after placing. Curing time will not be counted if concrete temperature falls below 50ºF. Following completion of the cold weather protection period, regulate the rate of concrete cooling to prevent thermal shock, until the concrete temperature falls within 35ºF of ambient air temperature.

b. Deck.
The duration of required cold weather protection shall be the first 168 hours after placing. Ensure concrete and its surface temperature are maintained at a temperature of no less than 50ºF for the first 168 hours after placing. Curing time will not be counted if the concrete temperature falls below 50ºF. Following completion of the cold weather protection period, regulate the rate of concrete cooling to prevent thermal shock, until the concrete temperature falls within 35ºF of ambient air temperature.

23082.04 METHOD OF MEASUREMENT.
Measurement for High Performance Concrete will be the cubic yards shown in the contract documents.

23082.05 BASIS OF PAYMENT.

A. Payment for High Performance Concrete will be at the contract unit price per cubic yard. Payment includes cost for testing production concrete.

B. For High Performance Concrete placed within the contract period, additional payment will be made for heating of concrete mix ingredients, cold weather protection of placed concrete, or both. Payment for heating of mix ingredients and cold weather protection will be in accordance with Articles 2403.05, A, 3 and 4, of the Standard Specifications. The duration of cold weather protection eligible for payment shall be as specified in Article DS-23082.03, D, 2.

Form 510130 (08-15)

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove	**Office:** Construction & Materials	**Item 11**
Submittal Date: 10/9/25	**Proposed Effective Date:** December 2025	
Article No.:	**Other:** DS-23076, Fiber Reinforcement for Structural Concrete	

Specification Committee Action: See attached DS-23083 (New)

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 1/21/26

Specification Committee Approved Text: See attached Developmental Specifications for Fiber Reinforcement for Structural Concrete

Comments: Effective date was changed to January letting as December letting is already ready to advertise.

Construction and Materials suggested adding “target” to the revised language so that the ±2% wasn’t on top of the range already allowed for production air content.

Specification Section Recommended Text: See attached draft Developmental Specifications for Fiber Reinforcement for Structural Concrete

Comments:

Member’s Requested Change: **(Do not use ‘Track Changes’, or ‘Mark-Up’. Use ~~Strikeout~~ and Highlight.)**
DS-23076 attached

Reason for Revision: Update the trial batch air content to the required air content for the placement.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments:

County or City Comments:

Industry Comments: Request by ready mix producers and field.

DS- 23083
(Replaces DS-23076)

DEVELOPMENTAL SPECIFICATIONS
FOR
FIBER REINFORCEMENT FOR STRUCTURAL CONCRETE

Effective Date
January 21, 2026

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.

23083.01 DESCRIPTION.

A. Fiber reinforcement shall be incorporated in the locations and quantities of concrete designated in the contract documents. Work types for structures which may be designated for incorporation of fiber reinforcement could include bridge substructures, bridge decks, bridge deck overlays, structural repairs, or other applications.

B. Use approved products and proportions of synthetic macro fiber and incorporate into the concrete mix in accordance with these developmental specifications. The purpose of the fiber reinforcement is to mitigate risk and effects of cracking and improve the durability of the concrete.

C. Apply Section 2403 of the Standard Specifications, subject to the modifications herein. When relevant to the work type, also apply Sections 2412 or 2413 of the Standard Specifications, subject to the modifications herein.

D. The contract documents may designate incorporation of fiber reinforcement into concrete mixes governed under other developmental specifications. Examples could include High Performance Concrete for Structures, or Structural Concrete (4500 psi or Greater). Meet the provisions of applied developmental specifications concurrently. The provisions for concrete slump specified in DS-23083.02, A, 3, shall prevail over provisions for concrete slump specified in other applied developmental specifications.

23083.02 MATERIALS.

A. General.

1. Fibers shall be incorporated as an admixture to the concrete mix. Adjustments to the base volumetric proportions of mix constituents are not required to compensate for the volumetric proportion of fiber admixture.

2. Select a concrete mix which satisfies all applicable requirements and achieves appropriate workability upon incorporation of fibers at the required dosage rate.

3. Material properties of the fiber reinforced concrete (FRC) shall comply with the material properties for concrete specified elsewhere in the contract documents, except the following relaxations are permissible for FRC slump:
   a. **Bridge Decks.**
      When mid-range water reducer is used with Class C or Class HPC-D mix, target slump may be increased to 5 inches, allowing a maximum of 6 inches as a tolerance. Commence testing for slump within 0 to 4 minutes after the FRC is discharged.
   b. **Bridge Deck Overlays.**
      When mid-range water reducer is used with Class HPC-O mix, target slump may be increased to 5 inches, allowing a maximum of 6 inches as a tolerance. Commence testing for slump within 0 to 4 minutes after the FRC is discharged.

B. Fiber.

1. **General.**
   Fiber reinforcement shall consist of macro fibers.

2. **Macro Fiber.**
   a. Use product approved in accordance with Materials I.M. 491.27 Appendix B.
   b. Dose macro fiber at a minimum rate of 4 pounds per cubic yard of concrete.

C. Documentation and Acceptance of Fiber Reinforced Concrete.

1. FRC shall comply with ASTM C1116, Type III. Furnish documentary evidence by the fiber manufacturer demonstrating satisfactory performance history and compliance with ASTM C1116, Type III for fiber product(s) used.

2. A trial batch and test placement will be required in accordance with DS-23083.03, A. Acceptance of the FRC mix shall be contingent on successful completion of the trial batch and test placement. At a minimum, the trial batch and test placement must demonstrate all the following:
   - Compliance with the contract documents and specified material properties.
   - Acceptable workability.
   - Batching and finishing processes representative of the proposed means and methods of construction for production work.
   - No detrimental effects associated with mix inconsistency, mix segregation, bleeding, or balling of fibers.

23083.03 CONSTRUCTION.

A. Trial Batch and Test Placement.

1. **General.**
   a. Provide the Engineer notice, mix proportions, and scheduled date at least 7 calendar days prior to trial batch and test placement. Do not proceed with trial batch and test placement without authorization of the Engineer.
   b. Conduct trial batch and test placement at least 7 calendar days prior to planned placement of production FRC.
   c. Do not place production FRC until the trial batch and test placement have been accepted by the Engineer. Trial batches or test placements which fail to meet acceptance criteria must be repeated at no additional cost to the Contracting Authority, following appropriate material and/or procedure modifications by the Contractor.
   d. After acceptance of the trial batch and test placement, any contractor-initiated changes to the mix design, fiber product or dosage, mix batching process, and/or methods of installation shall constitute basis for requiring a new trial batch and test placement at no additional cost to the Contracting Authority.

e. The Engineer may waive the trial batch and test placement on the basis of past successful placement of the same combination of mix design, fiber product and dosage, mix batching process (including key personnel), and installation process (including key personnel).

2. Trial Batch.

a. Identify dedicated batching personnel for FRC.

b. Establish and demonstrate the sequence of constituent material introduction during the trial batch. Ensure the fiber manufacturer's technical representative is available for advice and guidance regarding fiber inclusion into the mix, as needed.

c. Batch the trial batch concrete for slump within 1 inch of the maximum slump permitted, air content ~~of 6% +/- 1%~~ intended target for the production placement ± 2%, and w/c ratio typical of the production FRC to be placed. Include any other admixtures proposed for use in the production FRC, including but not limited to water reducers, viscosity modifiers and set retarders as applicable, at their respective intended production dosage rates.

d. Sample and test the trial batch placement for the following:

- Materials I.M. 340 – Unit Weight of Plastic Concrete.
- Materials I.M. 318 – Air Content of Plastic Concrete.
- Materials I.M. 317 – Slump of Plastic Concrete
- Visual Stability of Plastic Concrete – Following slump test performed in accordance with Materials I.M. 317, leave slumped concrete undisturbed on the test board for 3 minutes and observe for mortar ring or bleed water at the base of the concrete. Report presence, description, and size of any mortar ring and/or bleed water halo.

e. Trial batch volume shall be in accordance with the following:

- **Bridge Decks and Deck Overlays:** 6 cubic yards, minimum.
- **Non-Deck Applications;** 3 cubic yards, minimum.

3. Test Placement.

a. General.

1) Utilize the trial batch concrete to conduct a test placement. Subject to the requirements herein, the test placement may not require use of the full volume of trial batch concrete.

2) Test placement shall be made within side/edge forms, on sufficiently rigid subbase, to allow representative demonstration of the placement and finishing methods proposed for production work. Use a durable, impermeable separation barrier between the subbase and test placement.

3) Place, consolidate and finish the concrete within the test placement using methods that are representative of the methods to be used with the production concrete. For production methods deemed impractical to duplicate during the test pour (e.g. pump placement, self-propelled machine finishing), substitute methods may be used subject to the Engineer's approval, provided the substitute methods allow full evaluation of any/all mix properties that may affect the actual production methods. Evaluate workability, finishability, and general suitability of the mix for production use.

4) Following completion of the test placement, deposit any remaining trial batch concrete to an open container or other accessible location to allow further inspection for potential mix inconsistency, mix segregation, bleeding, balling of fibers, or other detrimental properties. Do not obscure or dispose of the trial batch or test placement concrete until a minimum time of 2 hours has elapsed after completion of the test placement, or until authorized by the Engineer, whichever comes first.

b. Test Placement for Bridge Decks and Deck Overlays.

1) Simulate the general placement conditions for production concrete. Conduct the test placement in open air, during weather generally consistent with the anticipated conditions during production placement.

2) Following trial batching, suspend the test placement for a period of time approximately equal to the anticipated delivery time for production concrete. During this suspension, maintain the concrete in a state of agitation generally

representative of the anticipated delivery conditions for production concrete.

3) The area of the test placement shall be a minimum of 200 square feet. The least horizontal dimension of the test placement shall be a minimum of 12 feet. Nominal thickness of the test placement shall match as close as practical the nominal thickness of the production concrete, except nominal thickness of the test placement need not exceed 9 inches.

4) Test placements for bridge decks shall include reinforcing steel, oriented in two mats of two layers each (longitudinal and transverse). Reinforcing steel shall have similar size, spacing, top clearance to top mat and bottom clearance to bottom mat, as shown in the contract documents for the production work. No reinforcing steel is required for test placements for bridge deck overlays.

c. Test Placement for Non-Deck Applications.

Deposit the trial batch concrete into formwork with minimum dimensions of at least 3 feet length by 3 feet width by 3 feet depth. Alternate formwork dimensions may be permitted, subject to approval by the Engineer.

B. Production FRC.

1. Batching.

a. Production batching methods, equipment, sequence and personnel shall match those used for the approved trial batch.

b. Introduce fibers into the mix in accordance with the fiber manufacturer's recommendations, unless otherwise approved by the Engineer.

c. Mix FRC in accordance with the Standard Specifications applicable for concrete, unless otherwise approved by the Engineer.

d. Ensure uniform distribution and random orientation of fibers throughout the concrete.

2. Placing, Consolidating, Finishing and Curing.

Comply with provisions for concrete specified in Sections 2403, 2412, and 2413 of the Standard Specifications, as well as other applied developmental specifications, as applicable to the contract and the work type.

23083.04 METHOD OF MEASUREMENT.

A. Fiber Reinforcement for Structural Concrete.

1. Fiber reinforcement for structural concrete shall be measured and paid separate from the concrete the fiber reinforcement is incorporated in. Measurement and payment for the concrete shall be as specified elsewhere in the contract documents.

2. The unit of measurement for Fiber Reinforcement for Structural Concrete shall match the unit of measurement applicable to the concrete the fiber reinforcement is incorporated in (ex. per square yard or per cubic yard).

3. The quantity of Fiber Reinforcement for Structural Concrete will be the quantity shown in the contract documents. The quantity of Fiber Reinforcement for Structural Concrete shall match the quantity of the concrete the fiber reinforcement is incorporated in.

B. Trial Batch and Test Placement.

Trial Batch and Test Placement is a combined lump sum item.

23083.05 BASIS OF PAYMENT.

A. Fiber Reinforcement for Structural Concrete.

Payment with be at the contract unit price for Fiber Reinforcement for Structural Concrete. Payment includes all cost of furnishing and incorporating fiber reinforcement, at the specified

dosage rate, per applicable unit of concrete.

B. Trial Batch and Test Placement.
Payment will be at the lump sum contract unit price for the combined bid item Trial Batch and Test Placement. Payment includes full compensation for Trial Batch and Test Placement, inclusive of all materials and labor for furnishing, forming, placing, finishing, and evaluating.

Form 510130 (07-24)

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Eric Johnsen	**Bureau/Office:** Specifications	Item 12
Submittal Date: 10/27/2025	**Proposed Effective Date:** April 2026	
Article No.: 2435.02, B, 2 **Title:** Intake (Basis of Payment) **Article No.:** 2504.02, B, 1 ***Title:*** *General (Testing Equipment for Cleaning, Inspection, and Testing Sewers and Drains* **Article No.:** 2504.03, L, 2 **Title:** Video Inspection (Sanitary Sewers)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/13/25	**Effective Date:** 4/21/26

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2435.05, B, 2.

Replace the Article:

Payment is full compensation for excavation, furnishing (if required) and placing bedding and backfill material, compaction, base, structural concrete, reinforcing steel, precast units (if used), fillets, pipe connections, castings, ~~and~~ adjustment rings, and the insert/boxout.

2504.02, B, 1, General.

Replace the Article:

Comply with applicable sections of ASTM, NASSCO Specifications, and other applicable industry standards and codes.

2504.03, L, 2, b, Inspection Procedure.

Add the Article and **renumber** following Articles:

3) Pan camera around the circumference of each joint per NASSCO requirements.
4) ~~**3)**~~ Inspect all lateral connections and other observations at right angles utilizing the pan and tilt capabilities of the camera.
5) ~~**4)**~~ Center the video camera in the pipe during the inspection.
6) ~~**5)**~~ Do not exceed 30 feet of inspection per minute.

2504.03, L, 2, d, Inspection Acceptance.

Replace the Article:

The Engineer may reject ~~low quality videos or~~ videos failing to meet specifications. Any reinspection will be conducted at the Contractor's expense.

1) Videos can be rejected if the speed or comprehensiveness of the pan and tilt provided in the video does not allow full inspection of a lateral connection and joints. **2)** Full observation of the new or rehabilitated pipe is required in the video provided after the inspection. If the amount of water, debris within the pipe, equipment present in the pipe, or other circumstances during the inspection results in a video not allowing the full observation of new or rehabilitated sewer pipe, the inspection can be rejected.		
Comments:		
Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**		
Reason for Revision: To match SUDAS specifications for sections that are derived from them.		
New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments:		
County or City Comments:		
Industry Comments:		