MINUTES
OF
IOWA DOT SPECIFICATION COMMITTEE MEETING

September 9, 2021

Members Present:	Darwin Bishop	District 3 - Construction
	Roger Boulet	District 6 - Materials
	Mark Dunn	Contracts & Specifications Bureau
	Daniel Harness	Design Bureau
	Eric Johnsen, Secretary	Contracts & Specifications Bureau
	Wes Musgrove	Construction & Materials Bureau
	Scott Nixon	District 1 - Construction
	Mike Nop	Bridges & Structures Bureau
	Tom Reis, Chair	Contracts & Specifications Bureau
	Willy Sorensen	Traffic & Safety Bureau
	Christy VanBuskirk	Local Systems Bureau
Members Not Present:	Charlie Purcell	Project Delivery Division
Advisory Members Present:	Jeff Devries	Construction and Materials
	Desiree McClain	Construction and Materials

The Specification Committee met on Thursday, September 9, 2021, at 9:00 a.m. Tom Reis, Specifications Engineer, opened the meeting. The items were discussed in accordance with the agenda dated August 30, 2021:

The minutes are as follows:

1. Article 1107.06, B, Buy America.

The Construction and Materials Bureau requested to clarify that Buy America only applies to permanently installed products.

2. Article 1109.07, Certified Statement of Sales Tax and Use Tax Paid.

The Contracts and Specifications Bureau requested to clarify that the sales tax exemption applies only to tax collected by the Iowa Department of Revenue.

3. Article 2407.03, B, 4, Concrete (Precast and Prestressed Concrete Bridge Units).

The Construction and Materials Bureau requested to update AASHTO TP 95 to T358 and provide guidance on a minimum amount of class F fly ash and slag or blended cements to determine when testing may be waived.

4. Article 2419.03, D, Curing (Precast Concrete Units).

The Construction and Materials Bureau requested to update the maximum temperature allowed when curing precast concrete units.

5. Article 2433.03, J, Crosshole Sonic Log (CSL) Testing (Concrete Drilled Shaft).

The Construction and Materials Bureau requested to update specifications to conform with industry standards.

6. Section 4119, Bedding and Backfill Material for Interstate and Primary Road Projects.

The Construction and Materials Bureau requested to clarity the classes of material needed for bedding and backfill.

7. Article 4123.03, Modified Subbase Material.

The Construction and Materials Bureau requested to eliminate a quality requirement for modified subbase material.

Form 510130 (08-15)

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Roger Boulet	**Office:** Construction and Materials	**Item 1**
Submittal Date: 7/30/2021	**Proposed Effective Date:** April 2022	
Article No.: 1107.06, B **Title:** Buy America	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 9/9/2021	**Effective Date:** 4/19/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Bridges and Structures Bureau asked about sheet pile left in place on one contract, but intended to be removed on a later contract. This would not be considered permanent and has been allowed by FHWA on I-80/380 interchange construction.

Specification Section Recommended Text:
1107.06, B, Buy America.

Replace the first sentence:

On Federal aid contracts and contracts where the Department is the Contracting Authority, all products of iron, steel, or a coating of steel which are permanently incorporated into the work shall be of domestic origin and shall be melted and manufactured in the United States, according to Materials I.M. 107.

Comments:

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

1107.06 FEDERAL REQUIREMENT.

A. The attention of the Contractor is directed to the provisions of an act of Congress known as Title 23, United States Code, Section 1 and any other acts of Congress providing for road improvements. When the Federal Government is to pay all or any portion of the cost of an improvement or project, the construction work, although it is under the supervision of the Department and subject to laws of the State of Iowa, is also subject to the above mentioned acts of Congress and to all authorities. This construction work shall be subject to inspection by duly authorized agents of the Federal Government, but this inspection will not make the Federal Government a party to the contract.

B. **Buy America**.
On Federal aid contracts and contracts where the Department is the Contracting Authority, all products of iron, steel, or a coating of steel which are permanently incorporated into the work shall be of domestic origin and shall be melted and manufactured in the United States, according to Materials I.M. 107. The Engineer may allow minimal amounts of these materials from foreign sources, provided the cost does not exceed 0.1% of the contract sum or $2,500, whichever is greater. This amount shall include transportation, assembly, and testing as delivered cost of foreign products to the project.

Reason for Revision: The need for this clarification has been highlighted due to numerous project situations in which non-domestic material has been temporarily used, but not permanently incorporated. The proposed revision was discussed at the June 9, 2021 DME meeting, and has their support. FHWA was also present and supportive, as the proposed clarification is consistent with Federal requirements for Buy America as being specific to permanently incorporated material.

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: Ed Kasper / Mark Dunn	**Office:** Contracts & Specifications	**Item 2**
Submittal Date: 5/25/2021	**Proposed Effective Date:** April 2022 GS	
Article No.: 1109.07 **Title:** Certified Statement of Sales Tax and Use Tax Paid	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 9/9/2021	**Effective Date:** 4/19/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

1109.07, Certified Statement of Sales Tax and Use Tax Paid.

Replace the Article:

Contractors and approved subcontractors will be provided an Iowa Sales Tax Exemption Certification. This applies to the purchase of building materials, supplies, or equipment in the performance of construction contracts let by the Department; in accordance with requirements of the Iowa Department of Revenue.

Comments:

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

1109.07 CERTIFIED STATEMENT OF SALES TAX AND USE TAX PAID.

Contractors and approved subcontractors will be provided an Iowa Sales Tax Exemption Certification. This applies to the purchase of building materials, supplies, or equipment in the performance of construction contracts let by the Department; in accordance with requirements of the Iowa Department of Revenue.

Reason for Revision: To clarify that the sales tax exemption certificate applies only to tax collected by Iowa Department of Revenue, and not to other taxes collected in other states or other entities.

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: none solicited prior to submission to spec committee

Industry Comments: none solicited prior to submission to spec committee

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Mahbub Khoda	**Office:** Construction & Materials	**Item 3**
Submittal Date: June 2021	**Proposed Effective Date:** April 2022	
Article No.: 2407.03, B, 4 **Title:** Concrete (Precast and Prestressed Concrete Bridge Units)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 9/9/2021	**Effective Date:** 4/19/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:
2407.03, B, 4.

Replace the Article:

If using HPC for prestressed concrete beams, use a mix design that has been evaluated according to ASTM C 1202 or AASHTO ~~TP 95~~ T358 and approved by the Engineer. To obtain mix design approval either:

a. Submit to the Engineer ASTM C 1202 results from mix samples taken and tested by an independent laboratory. The results shall be 1500 coulombs or less when cured using accelerated moist curing.

b. Submit to the Engineer AASHTO ~~TP 95~~ T358 results from mix samples taken and tested by an independent. The results shall be 30 kilohm-cm or more when cured for 28 day moist curing.

c. Contact the Engineer and arrange for a trial batch. The producer certified technician shall cast 4 inch by 8 inch cylinders for testing by the Materials Laboratory. The ~~ASTM C 1202 results shall be 1500 coulombs or less when cured using accelerated moist curing or the~~ AASHTO ~~TP 95~~ T358 results shall be 30 kilohm-cm or more on samples moist cured for 28 days.

d. When ~~silica fume,~~ a minimum of 20% class F fly ash~~,~~ or GGBFS, or Type IS or IP cement is used in the mix, the Engineer may waive ASTM C 1202 or AASHTO ~~TP 95~~ T358 testing.

Comments:

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

B. Concrete.

4. If using HPC for prestressed concrete beams, use a mix design that has been evaluated according to ASTM C 1202 or AASHTO T358 ~~TP 95~~ and approved by the Engineer. To obtain mix design approval either:

a. Submit to the Engineer ASTM C 1202 results from mix samples taken and tested by an independent laboratory. The results shall be 1500 coulombs or less when cured using accelerated moist curing.

b. Submit to the Engineer AASHTO T358 ~~TP 95~~ results from mix samples taken and tested by an independent. The results shall be 30 kilohm-cm or more when cured for 28 day moist curing.

c. Contact the Engineer and arrange for a trial batch. The producer certified technician shall cast 4 inch by 8 inch cylinders for testing by the Materials Laboratory. The ~~ASTM C 1202 results shall~~

~~be 1500 coulombs or less when cured using accelerated moist curing or the~~ AASHTO T358 ~~TP 95~~ results shall be 30 kilohm-cm or more on samples moist cured for 28 days. **d.** When ~~silica fume,~~ a minimum of 20% class F fly ash~~,~~ or GGBFS, or Type IS or IP cement is used in the mix, the Engineer may waive ASTM C 1202 or AASHTO T358 ~~TP 95~~ testing.		
Reason for Revision: Update TP 95 to T358. Also, provide some guidance on a minimum amount of F ash and slag or blended cements to determine when testing may be waived.		
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 / Mahbub Khoda	**Office:** Construction & Materials	**Item 4**
Submittal Date: June 2021	**Proposed Effective Date:** April 2022	
Article No.: 2419.03, D **Title:** Curing (Precast Concrete Units)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 9/9/2021	**Effective Date:** 4/19/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: Delayed ettringite formation (DEF) is expansion and cracking of concrete associated with the delayed formation of the mineral ettringite which is a normal product of early cement hydration. DEF is a result of high early temperatures in the concrete which prevents the normal formation of ettringite.

Construction and Materials Bureau will review monitoring requirements to make sure we are consistent between Specifications and Materials I.M.s on when monitoring is required and the method of monitoring. Materials I.M. requires probes, but only requires monitoring when accelerated heat is used.

Specification Section Recommended Text:

2419.03, D, 1.

Replace the first sentence:

Use a method of curing that prevents loss of moisture and maintains an internal concrete temperature of at least 40°F and not more than 155°F during the curing period.

2419.03, D, 3, d.

Replace the second sentence:

After the 2 hour period, the temperature of the concrete may be raised to a maximum temperature of ~~160~~ 155°F at a rate not to exceed 25°F per hour.

Comments: What is DEF?

Is the maximum curing temperature an issue during normal curing or just when using accelerated heat?

How do they know the internal concrete temperature if they are not required to use a system to monitor the temperature?

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

D. Curing.

1. Use a method of curing that prevents loss of moisture and maintains an internal concrete temperature at least 40°F during the curing period. Obtain the Engineer's approval for this method. Limit the maximum curing temperature of the concrete to 155°F .

2. When using accelerated heat curing, do so under a suitable enclosure. Use equipment and procedures that will ensure uniform control and distribution of heat and prevent local overheating. Ensure the curing process is under the direct supervision and control of competent operators.

3. When accelerated heat is used to obtain temperatures above 100°F:

- **a.** Record the temperature of the interior of the concrete using a system capable of automatically producing a temperature record at intervals of no more than 15 minutes during the entire curing period.
- **b.** Space the systems at a minimum of one location per 100 feet of length per unit or fraction thereof, with a maximum of three locations along each line of units being cured.
- **c.** Ensure all units, when calibrated individually, are accurate within ± 5°F.
- **d.** Do not artificially raise the temperature of the concrete above 100°F for a minimum of 2 hours after the units have been cast. After the 2 hour period, the temperature of the concrete may be raised to a maximum temperature of ~~160~~155°F at a rate not to exceed 25°F per hour.

Reason for Revision: During investigation it was found that DEF starts around 158°F.

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 / Desiree McClain	**Office:** Construction & Materials	**Item 5**
Submittal Date: August 17, 2021	**Proposed Effective Date:** April 2022	
Article No.: 2433.03, J **Title:** Crosshole Sonic Log (CSL) Testing (Concrete Drilled Shaft)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 9/9/2021	**Effective Date:** 4/19/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2433.03, J, 2, c.

Replace the Article:

Perform CSL testing after the shaft concrete has cured at least 48 hours but no later than ~~7~~ 14 calendar days.

2433.03, J, 3.

Replace the first bullet:

1.5 to 2 inch diameter, Schedule 40 pipe conforming to ASTM A 53, Grade A or B, Type E, F, or S.

2433.03, J, 6.

Delete the third and fourth sentences:

~~Prior to CSL testing, flush all access pipes containing debris, refill with water of similar temperature, and reseal. Use water of similar temperature to avoid debonding of access pipes with surrounding concrete~~.

Comments:

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

2. The procedure in ASTM D 6760 will be followed with the exceptions listed below:
   - **a.** Plastic access ducts and drilled boreholes will not be allowed unless the Engineer approves.
   - **b.** A minimum of four access ducts are required, except for three tubes if the reinforcing cage is 2.5 feet in diameter or less
   - **c.** Perform CSL testing after the shaft concrete has cured at least 48 hours but no later than ~~7~~ 14 calendar days.
   - **d.** Grout the access ducts after the Engineer's approval of the testing results. Place grout with a pump, starting at the bottom of each access duct.
   - **e.** Include the waterfall diagram (which is a nesting of ultrasonic pulses in an ultrasonic profile) in the report.

3. Furnish and install one access pipe per 1 foot of shaft diameter, but no less than four per shaft, except for three tubes if the reinforcing cage is 2.5 feet in diameter or less. Furnish access pipes complying with the following:

- 1.5-2 inch diameter, Schedule 40 pipe conforming to ASTM A 53, Grade A or B, Type E, F, or S.
- Round, regular inside diameter free of defects and obstructions, including all pipe joints, in order to permit the unobstructed passage of 1 3/8 inch maximum diameter source and receiver probes used for the CSL tests.
- Watertight and free from corrosion with clean internal and external faces to ensure a good bond between the concrete and the access pipes.
- Fitted with a watertight cap on the bottom and a removable, watertight cap on the top to prevent debris from entering the pipes.
- Watertight joints to achieve the specified length.
- Use external couplings for CSL testing tubes.

6. Fill the access pipes with clean water prior to concrete placement. To prevent debris from entering the pipe, reseal each access pipe immediately after water placement. ~~Prior to CSL testing, flush all access pipes containing debris, refill with water of similar temperature, and reseal. Use water of similar temperature to avoid debonding of access pipes with surrounding concrete~~. Dewater all access pipes and fill with grout after the tests are completed, and the shaft has been accepted by the Engineer. Place grout with a pump, starting at the bottom of each access duct. Use grout meeting the requirements of Materials I.M. 388.

Reason for Revision: Conforming more to industry standards, gives a larger window for the tester and Contractor to work with.

Conformance with industry standards.

Flushing water through them could be more detrimental and cause debonding of the tubes.

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 / Bob Dawson	**Bureau:** Construction & Materials	**Item 6**
Submittal Date: August 17, 2021	**Proposed Effective Date:** April 2022	
Section No.: 4119 **Title:** Bedding and Backfill Material for Interstate and Primary Road Projects		

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 9/9/2021	**Effective Date:** 4/19/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

4119.02, Crushed Stone.

Replace the Article title:

CLASS A CRUSHED STONE.

4119.03, Crushed Gravel.

Replace the Article title:

CLASS C CRUSHED GRAVEL.

Comments: I'm not sure how the type of material is unclear when the entirety of the Article is referring you to the Articles for Class A crushed stone and Class C crushed gravel.

Actions: Add Class A and Class C to Crushed Stone and Crushed Gravel

Section 4119. Bedding and Backfill Material for Interstate and Primary Road Projects.

4119.01 DESCRIPTION.
Aggregate of the following types:

- Crushed Stone,
- Gravels for which 75% or more of the particles retained on the 3/8 inch sieve have at least one fractured face as defined in Materials I.M. 305 (the fractured face requirement shall only apply to bedding material placed under Primary or Interstate roadways), or
- Crushed PCC, if approved by the Engineer.

4119.02 CLASS A CRUSHED STONE.
Meet the requirements of Article 4120.04.

4119.03 CLASS C CRUSHED GRAVEL.
Meet the requirements of Article 4120.03.

4119.04 CRUSHED PCC.
Meet the requirements of Materials I.M. 210 and for Gradation No. 11 of the Aggregate Gradation Table, Article 4109.02.

Reason for Revision: Recommended by the Iowa Limestone Producers Association to clarify type of

material used for Pipe bedding and backfill. The problem was the type of material was unclear but customers and Producers are familiar with the terms Class A and Class C.		
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: This should be a minor change only for clarification of the specification		
County or City Comments:		
Industry Comments: This proposed revision was recommended and is supported by the aggregate industry/ILPA.		

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IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Bob Dawson	**Bureau:** Construction & Materials	**Item 7**
Submittal Date:	**Proposed Effective Date:**	
Article No.: 4123.03 **Title:** Modified Subbase Material		

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 9/9/2021	**Effective Date:** 4/19/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:
4123.03, A.

Replace Table 4123.03-1, Aggregate Quality:

Table 4123.03-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	50	AASHTO T 96
C Freeze	15	Iowa DOT Materials Laboratory Test Method No. 211, Method C
~~Alumina [a] (minus No. 40 material)~~	~~4.7~~	~~Iowa DOT Materials Laboratory Test Method No. 222~~

Comments:

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

4123.03 QUALITY.

A. The requirements of Table 4123.03-1 apply to virgin materials:

Table 4123.03-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	50	AASHTO T 96
C Freeze	15	Iowa DOT Materials Laboratory Test Method No. 211, Method C
~~Alumina [a] (minus No. 40 material)~~	~~4.7~~	~~Iowa DOT Materials Laboratory Test Method No. 222~~

Reason for Revision: Modified Subbase and Class A roadstone stockpiles are used interchangeably, with both having a C-freeze requirement in the specification. This test was originally an old soils test and Geology Section feels this is not a relevant test for this product.

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: Approved at the last District Materials Engineers.meeting.		
County or City Comments:		
Industry Comments No objections from the Iowa Limestone Producers (ILPA)		