MINUTES
OF
IOWA DOT SPECIFICATION COMMITTEE MEETING

November 14, 2019

Members Present:	Roger Boulet	District 6 - Materials
	Scott Nixon	District 4 - Creston RCE
	Daniel Harness	Design Bureau
	Wes Musgrove	Construction & Materials Bureau
	Mike Nop	Bridges & Structures Bureau
	Tom Reis, Chair	Contracts & Specifications Bureau
Members Not Present:	Darwin Bishop	District 3 – Construction
	Donna Buchwald	Local Systems Bureau
	Mark Dunn	Contracts & Specifications Bureau
	Eric Johnsen, Secretary	Contracts & Specifications Bureau
	Charlie Purcell	Project Delivery Division
	Willy Sorensen	Traffic & Safety Bureau
Advisory Members Present:	Clayton Burke	Construction & Materials Bureau
	Bob Dawson	Construction & Materials Bureau
	Jeff DeVries	Construction & Materials Bureau
	Robert Fangmann	Cedar County
	Paul Geilenfeldt	Marshall County
	Christian Boehmer	Clarke County
	Paul LaFleur	FHWA
	Stephanie Dawson	FHWA
	Kyle Frame	Construction & Materials Bureau
	Paul Wiegand	SUDAS

Others Present:

The Specification Committee met on Thursday, November 14, 2019, at 9:00 a.m. in the NW Wing, 1st Floor Conference Room. Tom Reis, Specifications Engineer, opened the meeting. The items were discussed in accordance with the revised agenda dated November 8, 2019:

The minutes are as follows:

1. Article 1105.03, E, 2, Working Drawings.

The Bridges and Structures Bureau requested to revise some working drawing submittals to correlate with current practice.

2. **Article 1107.08, I, Public Convenience and Safety.**
Article 2528.03, N, Limitations.

The Construction and Materials Bureau requested to clarify the parking of private vehicles on Contracting Authority Right-of-Way curing construction.

3. **Article 1109.04, Cancelled Work.**

The Construction and Materials Bureau requested to place a cap on payment for cancelled work when materials have already been delivered.

4. **Article 1109.05, A, Progress Payments.**

The Construction and Materials Bureau requested to place a cap on payment for stockpiled materials.

5. **Article 2433.03, J, Crosshole Sonic Log (CSL) Testing.**

The Construction and Materials Bureau requested to clarify CSL testing requirements.

6. **Article 2433.03, J, Crosshole Sonic Log (CSL) Testing.**
Article 2433.05, A, 2, Basis of Payment (Concrete Drilled Shaft).

The Construction and Materials Bureau requested to remove some additional testing cost risk from the Contractor.

7. **Article 2433.03, K, 4, Demonstration Shaft.**
Article 2433.03, L, 2, Test Shaft.

The Construction and Materials Bureau requested to clarify the Contractor pays for additional testing and/or shafts.

8. **Article 2513.03, F, 1, Finish (Concrete Barrier).**

The Construction and Materials Bureau requested to provide more direct reference in the specifications.

9. **Article 2528.03, N, Limitations.**

The Construction and Materials Bureau requested to require additional channelizing devices to protect potential hazards within a work area where the through traffic is detoured on an offsite detour, but access must be maintained to local property owners.

10. **Article 4110.01, Fine Aggregate for Portland Cement Concrete.**

The Construction and Materials Bureau requested to allow incorporation of crushed stone into PCC fine aggregate on a source basis if meeting specific criteria.

11. **Article 4122.02, Gradation (Crushed Stone Base Material).**
Article Appendix, Aggregate Gradation Table.

The Construction and Materials Bureau requested to add a gradation for Macadam choke stone to the Aggregate Gradation Table.

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Mike Nop	**Bureau:** Bridges and Structures	**Item 1**
Submittal Date: 10/10/2019	**Proposed Effective Date:** April 2020	
Article No.: 1105.03, E, 2 **Title:** Working Drawings	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/14/2019	**Effective Date:** 4/21/2020

Specification Committee Approved Text: Approved as recommended.

Comments: None.

Specification Section Recommended Text:
1105.03, E, 2.

Replace the first paragraph of the Article:

For Primary and Interstate projects (and when specified for Secondary Road System projects), submittals shall be made via an electronic document management system (Doc Express unless specified otherwise in the contract documents). If noted in the contract documents, submittals shall also be made~~,~~ to the consultant email address indicated on the contract documents.

Replace Table 1105.03-1:

Table 1105.03-1: Review ~~Offices~~ Bureaus for Working Drawings

DESCRIPTION	REVIEW ~~OFFICE~~ BUREAU	REVIEW TIME (calendar days)
Falsework for slab bridges	Bridges and Structures	30
Cofferdam design (when required)	Bridges and Structures	30
Reconstruction of substructure (detailed plans for supporting the superstructure)	Bridges and Structures	30
Steel Structures	Bridges and Structures	30
Detail plans for falsework or centering support of steel structures (i.e. erection plans)	Bridges and Structures	30
Steel and aluminum pedestrian hand rails and aesthetic fences	Bridges and Structures	30
~~Highway sign~~ Standard support structures for overhead highway signs (i.e. bridge-type trusses, cantilever-type trusses, ~~&~~ and bridge ~~mounts~~ mounted supports)	~~Bridges and Structures~~ Traffic and Safety[(c)]	30
Precast concrete (i.e. deck panels, RCB culverts, noise wall panels, arch sections, etc.)	Bridges and Structures	30
Tower lighting	~~Bridges and Structures~~ Traffic and Safety	30
Highway lighting	Traffic and Safety	30
Highway signing steel breakaway posts	Traffic and Safety	30

Traffic signalization [b]	Traffic and Safety	30
Highway signing - Type A and B signs	Traffic and Safety	30
Reference Location Signs	Traffic and Safety	30
Bridge components	Bridges and Structures	30
Pre-engineered steel truss recreational trail bridge	Bridges and Structures	30
MSE, segmental, and modular block retaining walls (Preliminary and final submittals shall include design calculations, shop drawings, and field construction drawings)	Design (Soils Design Section)	30 (preliminary) 14 (final)
Soil nail and tie-back retaining walls (Submittal includes final design plans)	Design (Soils Design Section)	60
Intermediate foundation improvement (IFI) (i.e. stone columns, geopiers, etc.) (Submittal shall include design calculations and field construction drawings)	Design (Soils Design Section)	30
Removal of box girder bridges	Bridges and Structures	30
Structural erection manual	Bridges and Structures	30
Temporary shoring	Bridges and Structures	30
Temporary sheet pile retaining wall	Bridges and Structures	30
Architectural mock-ups[a]	Bridges and Structures	30
Architectural paving[a]	Bridges and Structures	30
Architectural paint color samples and manufacturer data[a]	Bridges and Structures	30
Architectural concrete texture form liner samples and drawings[a]	Bridges and Structures	30
Architectural concrete sealer samples and manufacturer data[a]	Bridges and Structures	30
Architectural ornamental brick[a]	Bridges and Structures	30

(a) Submittals of physical samples shall be through the Engineer.
(b) Submittal time shall be within 45 calendar days from the date of award of contract.
(c) Working drawings for nonstandard support structures of overhead highway signs shall be reviewed through the Bridges and Structures Bureau.

Comments:

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

DIVISION 11. GENERAL REQUIREMENTS AND COVENANTS

Section 1105. Control of Work

1105.03 WORKING DRAWINGS.

...

E. Submittals.

…

2. For Primary and Interstate projects (and when specified for Secondary Road System projects), submittals shall be made via an electronic document management system (Doc Express unless

specified otherwise in the contract documents). If noted in the contract documents, submittals shall also be made~~,~~ to the consultant e-mail address indicated on the contract documents.

…

Table 1105.03-1: Review ~~Offices~~Bureaus for Working Drawings

DESCRIPTION	REVIEW ~~OFFICE~~ BUREAU	REVIEW TIME (calendar days)
Falsework for slab bridges	Bridges and Structures	30
Cofferdam design (when required)	Bridges and Structures	30
Reconstruction of substructure (detailed plans for supporting the superstructure)	Bridges and Structures	30
Steel Structures	Bridges and Structures	30
Detail plans for falsework or centering support of steel structures (i.e. erection plans)	Bridges and Structures	30
Steel and aluminum pedestrian hand rails and aesthetic fences	Bridges and Structures	30
Standard ~~Highway sign~~ support structures for overhead highway signs (i.e. bridge-type trusses, cantilever-type trusses, ~~&~~ and bridge-~~mounts~~ mounted supports)	~~Bridges and Structures~~ Traffic and Safety[(a)]	30
Precast concrete (i.e. deck panels, RCB culverts, noise wall panels, arch sections, etc.)	Bridges and Structures	30
Tower lighting	~~Bridges and Structures~~ Traffic and Safety	30
Highway lighting	Traffic and Safety	30
Highway signing steel breakaway posts	Traffic and Safety	30
Traffic signalization[(b)]	Traffic and Safety	30
Highway signing - Type A and B signs	Traffic and Safety	30
Reference location signs	Traffic and Safety	30
Bridge components	Bridges and Structures	30
Pre-engineered steel truss recreational trail bridge	Bridges and Structures	30
MSE, segmental, and modular block	Design	30

retaining walls (Preliminary and final submittals shall include design calculations, shop drawings, and field construction drawings)	(Soils Design Section)	14
Soil nail and tie-back retaining walls (Submittal includes final design plans)	Design (Soils Design Section)	60
Intermediate foundation improvement (IFI) (i.e. stone columns, geopiers, etc.) (Submittal shall include design calculations and field construction drawings)	Design (Soils Design Section)	30
Removal of box girder bridges	Bridges and Structures	30
Structural erection manual	Bridges and Structures	30
Temporary shoring	Bridges and Structures	30
Temporary sheet pile retaining wall	Bridges and Structures	30
Architectural mock-ups ~~(a)~~(c)	Bridges and Structures	30
Architectural paving ~~(a)~~(c)	Bridges and Structures	30
Architectural paint color samples and manufacturer data ~~(a)~~(c)	Bridges and Structures	30
Architectural concrete texture form liner samples and drawings ~~(a)~~(c)	Bridges and Structures	30
Architectural concrete sealer samples and manufacturer data ~~(a)~~(c)	Bridges and Structures	30
Architectural ornamental brick ~~(a)~~(c)	Bridges and Structures	30

~~**(a)** Submittals of physical samples shall be through the Engineer.~~
(a) Working drawings for nonstandard support structures of overhead highway signs shall be reviewed through the Bridges and Structures Bureau.
(b) Submittal time shall be within 45 calendar days from the date of award of contract.
(c) Submittals of physical samples shall be through the Engineer.

Reason for Revision: The Bridges and Structures Bureau and the Traffic and Safety Bureau have agreed that working drawings for standard support structures of overhead highway signs (i.e., bridge-type sign trusses, cantilever-type sign trusses, and bridge-mounted sign supports) shall now be reviewed by engineering consultants through the Traffic and Safety Bureau. Working drawings for standard tower lighting structures (i.e., high-mast lighting towers) are already being reviewed by engineering consultants through the Traffic and Safety Bureau. Working drawings for nonstandard support structures of overhead highway signs shall still be reviewed by the designer through the

Bridges and Structures Bureau.		
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)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Clayton Burke	**Office:** Construction & Materials	**Item 2**
Submittal Date: 10/28/2019	**Proposed Effective Date:** April 2020	
Article No.: 1107.08, I **Title:** Public Convenience and Safety **Article No.:** 2528.03, N **Title:** Limitations	**Other:**	

Specification Committee Action: Item will be deferred until further review by the Department.

Deferred: X	**Not Approved:**	**Approved Date:**	**Effective Date:**

Specification Committee Approved Text:

Comments:

Specification Section Recommended Text:

1107.08, I.

Delete the first sentence of the Article:

~~Parking of private vehicles on Interstate right-of-way will not be allowed~~.

2528.03, N, Limitations.

Replace Article 14 and add the Article.

14. Active contractor vehicles and self-propelled equipment (except hand operated equipment) operating or parked within 15 feet of an open traffic lane (unless shielded by temporary or permanent barrier) and contractor, delivery, ~~and~~ service, or private vehicles entering or exiting work area shall display cab roof mounted amber or yellow high intensity rotating, flashing, or oscillating warning lights. Repair or replace vehicle warning lights not functional or missing within 24 hours.

15. Parking of private vehicles on Interstate right-of-way will be allowed if private vehicle is parked at least 15 feet away from an open traffic lane while Contractor is actively working. Parking of private vehicles on Interstate right-of-way is not permitted during non-working hours. Engineer will approve location for parking of private vehicles.

Comments:

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

1107.08.I.

~~Parking of private vehicles on Interstate right-of-way will not be allowed~~. Parking of unattended equipment within the median or storage of equipment within 50 feet of the edge of pavement will not be allowed.

2528.03.N

14. Active contractor vehicles and self-propelled equipment (except hand operated equipment) operating or parked within 15 feet of an open traffic lane (unless shielded by temporary or permanent barrier) and contractor, delivery, ~~and~~ service, or private vehicles entering or exiting work area shall display cab roof mounted amber or yellow high intensity rotating, flashing, or oscillating warning lights. Repair or replace vehicle warning lights not functional or missing within 24 hours.

15. Parking of private vehicles on Interstate right-of-way will be allowed if the private vehicle is parked at least 15 feet away from an open traffic lane while the contractor is actively working. Parking of private vehicles on Interstate right-of-way is not permitted during non-working hours. The Engineer will approve the location for parking of private vehicles.

Reason for Revision: This specification addition is to incorporate into the specifications what is already being allowed on many projects Statewide and to provide that these private vehicles are parked outside of the work zone clear zone to minimize any potential issues with their parking location. This revision also requires that these private vehicles display an amber or yellow warning light when entering or exiting the work area.

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: n/a		
Industry Comments: n/a		

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Kevin Merryman	**Office:** Construction & Materials	**Item 3**
Submittal Date:	**Proposed Effective Date:** April 2020	
Article No.: 1109.04 **Title:** Cancelled Work	**Other:**	

Specification Committee Action: Approved with minor revisions.

Deferred:	**Not Approved:**	**Approved Date:** 11/14/2019	**Effective Date:** 4/21/2020

Specification Committee Approved Text:

1109.04, H

Replace the third sentence of the Article:

For all items, materials ordered and delivered for the unfinished portion of such canceled or omitted items, the Contracting Authority will pay invoiced cost, not to exceed 80% of the authorized amount of associated bid item, plus 10% as an overhead charge.

Comments: The Specifications Section will search for potential conflicts in the specifications when the term 'invoiced cost' is used and clarify those instances.

Specification Section Recommended Text:

1109.04, H

Replace the third sentence of the Article:

For all items, materials ordered and delivered for the unfinished portion of such canceled or omitted items, the Contracting Authority will pay cost, not to exceed 80% of the bid amount of associated bid item, plus 10% as an overhead charge.

Comments:

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

1109.04 CANCELLED WORK.

H. For finished portions of non-major items canceled, the Contractor will be paid at the contract unit prices, in accordance with the provisions of Article 1109.03. For finished portions of major items canceled, the Contractor will be paid as provided in Article 1109.14. For all items, materials ordered and delivered for the unfinished portion of such canceled or omitted items, the Contracting Authority will pay cost, not to exceed 80% of the bid amount of the associated bid item, plus 10% as an overhead charge. The Contractor's expense for work of handling or transporting this material shall be included in computing the cost. The Contracting Authority will also pay any actual expenses sustained by the Contractor by reason of such cancellation or omission and not represented by work completed or material delivered. In computation of material cost or expenses sustained, no anticipated profit will be included. Material paid for shall become the property of the Contracting Authority and shall be disposed of as directed by the Engineer.

Reason for Revision: There currently is no cap on the amount that can be reimbursed for materials when work is cancelled. This change caps the amount at 80% of the bid amount of the bid item. A recent project in which work was cancelled required payment exceeding the bid amount of the bid item since there currently is no cap on this payment.

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 limit has been discussed and agreed upon with FHWA.		
County or City Comments:		
Industry Comments:		

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Kevin Merryman	**Office:** Construction and Materials	**Item 4**
Submittal Date: 10/28/19	**Proposed Effective Date:** April 2020	
Article No.: 1109.05, A **Title:** Progress Payments	**Other:**	

Specification Committee Action: Approved as recommended with minor revisions.

Deferred:	**Not Approved:**	**Approved Date:** 11/14/2019	**Effective Date:** 4/21/2020

Specification Committee Approved Text:

1109.05, A, 2.

Replace the Article:

On contracts for which the contract sum is $10,000 or more, payments may be allowed based on value of processed or fabricated materials or rolled steel products which have been delivered on the work or 90% of the value of processed or fabricated material, or rolled steel products, reserved for the project and stored elsewhere conform to the requirements of the contract and the manner of storage is satisfactory to the Engineer. Payment of this materials allowance will not exceed 80% of the authorized amount of the associated bid item. Contractor is responsible for damages and material losses until the material is incorporated into the work and the work is accepted.

Comments: None.

Specification Section Recommended Text:

1109.05, A, 2.

Replace the Article:

On contracts for which the contract sum is $10,000 or more, payments may be allowed based on value of processed or fabricated materials or rolled steel products which have been delivered on the work or 90% of the value of processed or fabricated material, or rolled steel products, reserved for the project and stored elsewhere conform to the requirements of the contract and the manner of storage is satisfactory to the Engineer. Payment of this materials allowance will not exceed 80% of the bid amount of the associated bid item. Contractor is responsible for damages and material losses until the material is incorporated into the work and the work is accepted.

Comments:

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

1109.05 PARTIAL PAYMENTS.

A. Progress Payments.

2. On contracts for which the contract sum is $10,000 or more, payments may be allowed based on value of processed or fabricated materials or rolled steel products which have been delivered on the work or 90% of the value of processed or fabricated material, or rolled steel products, reserved for the project and stored elsewhere conform to the requirements of the contract and the manner of storage is satisfactory to the Engineer. Payment of this materials allowance will not exceed 80% of the bid amount of the associated bid item. Contractor is responsible for damages and material losses until the material is incorporated into the work and the work is accepted.

Reason for Revision: Caps stockpile payments at 80% of the bid amount of a bid item. Recent discussions with FHWA regarding use of federal funds for stockpiles brought to light this deficiency in

the specification. Federal requirements limit use of federal funds to an “appropriate amount” for stockpiled materials. It was agreed with FHWA that 80% of the bid amount is appropriate. While federal funds will not be used for stockpile payments until Workday and AASHTOWare have been fully implemented, this change prepares for the use of federal funds in the future.		
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)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Desiree McClain	**Bureau:** Construction & Materials	**Item 5**
Submittal Date: October 28, 2019	**Proposed Effective Date:** April 2020	
Article No.: 2433.03, J **Title:** Crosshole Sonic Log (CSL) Testing	**Other:**	

Specification Committee Action: Approved with minor revisions.

Deferred:	**Not Approved:**	**Approved Date:** 11/14/2019	**Effective Date:** 4/21/2020

Specification Committee Approved Text:

2433.03, J, Crosshole Sonic Log (CSL) Testing.

Replace Articles 2, 3, and 6.

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 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 ~~with external couplings for CSL testing~~, except for three tubes if the reinforcing cage is 2.5 feet in diameter or less. Furnish access pipes complying with the following:

- 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.

Comments: None.

Specification Section Recommended Text:

2433.03, J, Crosshole Sonic Log (CSL) Testing.

Replace Articles 2, 3, and 6.

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 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 ~~with external couplings for CSL testing~~, except for three tubes if the reinforcing cage is 2.5 feet in diameter or less. Furnish access pipes complying with the following:

- 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.

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.

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, with the exception of 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 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, with the exception of three tubes if the reinforcing cage is 2.5 feet in diameter or less. ~~with external couplings for CSL testing.~~ Furnish access pipes complying with the following:

- 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.

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: CSL test results are difficult to interpret when the pipes are too close together. Clarification on how we want the grout to be placed.

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)

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Kyle Frame	**Bureau:** Construction and Materials	**Item 6**
Submittal Date: 10/25/2019	**Proposed Effective Date:** April 2020	
Article No.: 2433.03, J **Title:** Crosshole Sonic Log (CSL) Testing **Article No.:** 2433.05, A, 2 **Title:** Basis of Payment (Concrete Drilled Shaft)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/14/2019	**Effective Date:** 4/21/2020

Specification Committee Approved Text: Approved as recommended.

Comments: None.

Specification Section Recommended Text:

2433.03, J, Crosshole Sonic Log (CSL) Testing.

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

8. Further investigation may be required of shafts with defects or poor quality concrete (as defined by Publication No. FHWA-NHI-10-016 Drilled Shaft Manual).

a. If subsequent testing (CSL, tomography, coring, etc.) at a drilled shaft indicates the presence of a defect in the drilled shaft, testing costs and delay costs resulting from each of the additional testing methods and required remediation shall be borne by Contractor.

b. If this additional testing indicates the drilled shaft has no defect, testing costs and delay costs resulting from the test which provided acceptable results will be paid by Contracting Authority.

~~**8**~~ **9.**
~~**9**~~ **10.**
~~**10**~~ **11.**

2433.05, A, 2.

Replace the fifth bullet:

All CSL pipe and initial testing~~,~~. Further investigation and remediation of shafts with proven defects or poor quality concrete ~~(as defined by Publication No. FHWA-NHI-10-016 Drilled Shaft Manual) identified by CSL tests, shaft inspection~~ is also included, and

Comments:

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

Replace the fifth bullet:

CSL pipe, testing, investigation and remediation of shafts with defects, including any void, discontinuity, deficient concrete strength, inclusion, crack, or poor quality concrete (as defined by Publication No. FHWA-NHI-18-024 Drilled Shaft Manual) identified by CSL test and/or shaft inspection.

If subsequent testing (CSL, tomography, coring, etc.) at a drilled shaft indicates the presence of a defect(s) in the drilled shaft, the testing costs and the delay costs resulting from each of the additional testing methods shall be borne by the Contractor.

If this additional testing indicates that the drilled shaft has no defect, the testing costs and the delay costs resulting from the test which provided acceptable results will be paid by the Owner.

Reason for Revision: Remove some of the additional testing cost risk from the contractor so this isn't bid into every drilled shaft item. Specification 1108.07 will cover extension of contract period for critical path work.

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

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/ Desiree McClain	**Bureau:** Construction & Materials	**Item 7**
Submittal Date: October 28, 2019	**Proposed Effective Date:** April 2020	
Article No.: 2433.03, K, 4 **Title:** Demonstration Shaft **Article No.:** 2433.03, L, 2 **Title:** Test Shaft	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/14/2019	**Effective Date:** 4/21/2020

Specification Committee Approved Text: Approved as recommended.

Comments: None.

Specification Section Recommended Text:

2433.03, K, 4.

Replace the second sentence of the Article:

The Contractor may be required to perform additional demonstration shafts at their own expense until an adequate procedure is demonstrated and approved by the Engineer.

2433.03, L, 2.

Replace the Article:

If the Engineer determines the test shaft to be unacceptable, submit a plan for remedial action to the Engineer for approval. The Engineer may require another load cell test on another shaft, at no additional expense to the Contracting Authority.

Comments:

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

2433.03, K, Demonstration Shaft.

4. If the demonstration shaft installation demonstrates the equipment and methods used to construct drilled shafts to the requirements of this specification are inadequate, the Engineer will require appropriate alterations in equipment or methods, or both, to eliminate the unsatisfactory results. The Contractor may be required to perform additional demonstration shafts at their own expense until an adequate procedure is demonstrated and approved by the Engineer.

2433.03, L, Test Shaft.

2. If the Engineer determines the test shaft to be unacceptable, submit a plan for remedial action to the Engineer for approval. The Engineer may require another load cell test on another shaft, at the Contractor's own expense.

Reason for Revision: Current practice is at the contractor's expense, it should be stated so that everyone is on the same page.

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)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Wayne Sunday	**Bureau:** Construction and Materials	**Item 8**
Submittal Date: 10/25/2019	**Proposed Effective Date:** April 2020	
Article No.: 2513.03, F, 1 **Title:** Finish (Concrete Barrier)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/14/2019	**Effective Date:** 4/21/2020

Specification Committee Approved Text: Approved as recommended.

Comments: None.

Specification Section Recommended Text:
2513.03, F, 1.

Replace the Article:

For permanent precast and cast-in-place concrete barrier, apply Article ~~2419.03, I~~ 2403.03, P, 2, b, except do not commence the finishing operation until completion of the initial wet cure period.

Comments:

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

F. Finish.

1. For permanent precast and cast-in-place concrete barrier, apply Article ~~2419.03, I~~, 2403.03,P,2,b except do not commence the finishing operation until completion of the initial wet cure period.

Reason for Revision: To provide more direct reference in the specifications.

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

Comments:

County or City Comments:

Industry Comments:

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IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Mike Kennerly/Dan Sprengeler	**Office:** Design	**Item 9**
Submittal Date: 10-28-2019	**Proposed Effective Date:** 4-21-2020	
Article No.: 2528.03, N **Title:** Limitations	**Other:**	

Specification Committee Action: Deferred for further review and input.

Deferred: X	**Not Approved:**	**Approved Date:**	**Effective Date:**

Specification Committee Approved Text:

Comments: None.

Specification Section Recommended Text:

2528.03, N, Limitations.

Add the Article:

16. When a road is closed to traffic and access must be maintained for local businesses, farm field entrances, and property owners; place a Type III barricade for each approaching direction 25 feet in front of stockpiled materials, parked equipment, or other hazards located within the traveled way.

Comments:

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

2528.03, N.

Add as new article 15:

When a road is closed to traffic and access must be maintained for local businesses, farm field entrances, and property owners, place a Type III barricade for each approaching direction 25 feet in front of any stockpiled materials, parked equipment, or other hazards that are located within the traveled way.

Reason for Revision: To provide for additional channelizing devices to protect potential hazards within a work area where the through traffic is detoured on an offsite detour, but access must be maintained to local property owners.

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: Discussed at the October 2019 Work Zone Traffic Safety Committee meeting.

County or City Comments: n/a

Industry Comments: n/a

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove	**Office:** Construction & Materials	**Item 10**
Submittal Date: 10/28/2019	**Proposed Effective Date:** 4/21/2020	
Article No.: 4110.01 **Title:** Fine Aggregate for Portland Cement Concrete		

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/14/2019	**Effective Date:** 4/21/2020

Specification Committee Approved Text: Approved as recommended.

Comments: None.

Specification Section Recommended Text:

4110.01, Description

Replace the first sentence of the Article:

Natural sands resulting from disintegration of rock through erosional processes unless specified otherwise on the source approval.

Comments:

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

Section 4110. Fine Aggregate for Portland Cement Concrete

4110.01 DESCRIPTION.

Natural sands resulting from disintegration of rock through erosional processes unless specified otherwise on the source approval. Acquire mineral aggregate from an approved source as described in Materials I.M. 409.

Reason for Revision: To allow incorporation of crushed stone into PCC fine aggregate on a source basis if meeting specific criteria.

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:

SOURCE APPROVALS FOR AGGREGATES

GENERAL

Written source approval is required for PCC crushed stone, PCC gravel, PCC fine aggregate, and revetment (forms are available at: http://www.iowadot.gov/Construction_Materials/materials_forms.html or in the appendices of this IM). Only those sources, which can provide aggregates consistently compliant with the applicable specification shall be approved.

For proportioned aggregates, aggregate sources shall not be blended to produce a single stockpile. An aggregate source is defined by an individual A-number. For PCC, approved ledges shall not be blended without written approval.

APPROVAL PROCESS

A. A producer request for source approval shall be made, in writing, to the appropriate District Materials Engineer with a copy to Geology Section, Office of Construction and Materials in Ames, Iowa.

B. Following documentation of the basis of approval (described below), the District Materials Engineer will respond to the Chief Geologist with supportive evidence and recommendations to:

1. Approve the source
2. Not approve the source, or
3. Request that specific additional information is obtained as a basis for a final decision

C. Upon the signature of the Chief Geologist, the approval will be returned to the District Materials Engineer who will return the signed document to the aggregate producer.

APPROVALS FOR AGGREGATES USED IN PCC

A. Source approvals shall describe, in detail, any physical limitations of the subject source and any special production methods, or restrictions required to produce specification material.

B. Preliminary source approvals may be issued whenever sufficient quality information is available. This will expedite the development of new sources or ledges by establishing the primary quality level without requiring production material to be available. A final source approval will follow only after adequate amounts of compliant material have been produced. Aggregate producers may quote from ledges with preliminary approvals assuming full responsibility for the timely delivery of compliant materials to the projects in question.

C. A new or updated source approval will be required if the aggregate durability of a quarry ledge changes or a new bed grouping is approved. The source approval remains with the source. Any changes in management of the source may be documented by letter and will be recorded in IM T203, with a copy maintained in the District source files and Geology Section of the Materials Laboratory. Changes to production restrictions, resulting from joint producer/District quality control discussions, may also be documented by letter, which will be signed by the producer and the District Materials Engineer. A copy of this letter will be

maintained in the District source file and Geology Section of the Materials Laboratory.

D. For crushed stone, the ledges shall contain no more than 5% noncompliant materials within the approved bedding planes. At least 95% of carbonate coarse aggregate particles produced by crushing rock shall be derived from ledges in which the rock complies with the requirements for the durability class for which it is being produced.

E. When processing coarse aggregate for PCC no material larger than the gradation top size may be removed from the product unless allowed by the source approval. When processing multiple PCC products simultaneously, crush to 1.5" nominal before fractionating. Removal of other products may be allowed by the District Materials Engineer if the PCC durability meets or exceeds the original full-face Durability Class and the production method is documented in an amended source approval.

F. Limestone and Dolomite sources greater than 100 miles from the nearest Iowa DOT District Materials Office or area inspection laboratory may not be allowed to furnish aggregate to Iowa DOT projects. These may be considered too distant to provide source monitoring by Department employees as required in Materials IM 209.

APPROVAL PROCEDURES FOR AGGREGATES USED IN PCC

The basis of approval shall be by one of three methods or combination of methods:

1. Service History
2. Geologic Correlation
3. Testing

A. Approval by Service History

1. Aggregate will be considered durable when it does not contribute to the premature deterioration in concrete. Durability classes will be assigned on the basis of qualifying performance in air-entrained concrete pavements of appropriate age.

2. Meet the durability requirements of Article 4115.01.

B. Approvals by Geologic Correlation

1. Sources may be approved based on geologic correlation to a source with an established service history.

2. Sources may be approved if there is a satisfactory similarity to any approved source with no aggregate-related deterioration as determined by the Department through pavement coring and petrographic examination.

C. Approvals by Chemical & Physical Testing

Aggregate sources without qualifying performance records or satisfactory similarity to any approved source can be provisionally assigned to a Durability Class based on physical and chemical tests meeting the following requirements:

DURABILITY CLASS	QUALITY	TEST LIMITS	TEST METHOD
Class 2	Salt susceptibility quality	Max. 4.5	Iowa 223
	Secondary Pore Index	Max. 30	Iowa 219
Class 3	Salt susceptibility quality	Max. 1.5	Iowa 223
	Secondary Pore Index	Max. 25	Iowa 219
Class 3i	Salt susceptibility quality	Max. 1.0	Iowa 223
	Secondary Pore Index	Max. 20	Iowa 219

NOTE: If there is a discrepancy in classification between Quality Number and Pore Index classification, the source will be assigned to the lower Durability Class.

CONTINUED PCC COARSE AGGREGATE APPROVAL

An approved Portland cement concrete aggregate must have pore index test results of no greater than 25 for a Durability Class 3i and no greater than 30 for a Durability Class 3 or Class 2.

A pore index failure will trigger an investigation of possible changes to ledge quality and if proper ledge control has been maintained. If the ledge has been properly controlled, a second stockpile sample can be obtained and tested. If the second sample fails, the approval will be suspended until complying test results are obtained.

PCC FINE AGGREGATE APPROVAL

A. Quality

For Fine Aggregate (glacial sands) for Portland Cement Concrete (4110), meet the requirements in the Table below. Sampling for approval should be a minimum of three samples taken at a frequency of one per 2,000 tons or one per week once the working depth has been established.

Fine Aggregate Quality	Test Limits	Test Method
Shale and Coal	2.0% (maximum)	Materials I.M. 344

B. Gradation

The fineness modulus must be no lower than 2.60. A target fineness modulus (or base-line) will be established for each source at the time of approval. The target should be the average of at least 5 Iowa DOT gradations taken at the sampling frequency outlined in Paragraph A. Establishing the target may be supplemented using Producer gradations. Sources with a variation of the fineness modulus of lower than 0.2 and greater than 0.25 from the proposed target will not be approved until the variability is eliminated.

C. The DME may approve a gravel source to allow up to 20 percent crushed particles in the fine aggregate with the concurrence of the Chief Iowa DOT Geologist. This allowance would require a new source approval with a revised target fineness modulus.

   Meet the following requirements:

   - The proportioning must be through a controlled and measured process.
   - The crushed material must be from an approved Class 3 or 3i source with not less than 70 percent igneous and metamorphic particles and meeting the requirements of Article 4115 of the Standard Specifications. The crushed material must be from the same source as the natural fine aggregate.
   - The fine aggregate angularity is determined using AASHTO T 304, modified such that bulk dry specific gravity is calculated in accordance with Iowa IM 380.
   - The fine aggregate angularity may not exceed 40%.
   - The crushed fine aggregate must meet Gradation 1 and the fineness modulus restrictions listed in this section.
   - The crushed material must be compared to the uncrushed and tested using ASTM C 1260 Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method) and shall not exceed the uncrushed results by 0.10% which is the Precision and Bias of the Test Method. Testing must be done by a certified independent laboratory at the expense of the Producer and reported directly to the DOT Testing Engineer.

CONTINUED PCC FINE AGGREGATE APPROVAL

A. Existing sources with a fine aggregate approval must establish a target fineness modulus, as described above. This should be done using Iowa DOT gradations which may be supplemented with Producer gradations if a correlation exists. Variation from the target fineness modulus should be monitored by both the aggregate Producer and Iowa DOT personnel.

B. Variation of the fineness modulus of lower than 0.2 and greater than 0.25 from the target should be investigated. Variability in fineness may result in rejection of the stockpile.

STONE FOR REVETMENT

A. Source approvals, written by the appropriate District Materials Engineer, shall be required for limestone, dolomite, and quartzite materials. The source approvals shall identify the ledges and the types of revetment for which they are approved.

B. The basis of approval shall be by one of the three methods stipulated in 4130.01:

   1. Service History
   2. Test Plot Performance (see Appendix F for construction guidelines)
   3. Testing

C. All revetment stone from ledges containing conglomerate or breccia, where the performance history has not been established shall be evaluated using a two-year wet test plot before approval. Conglomerate and breccia shall be defined as any rock that contains clasts (i.e., fragments or pieces) of a pre-existing material.

D. The distribution of approvals will include the producer and the Materials Engineer.

E. The District may place restrictions on the revetment approval prohibiting winter production of revetment.

F. When subsequent performance indicates the source approval to be in error it shall be modified or rescinded as necessary.

G. For Erosion stone or stone for Gabion baskets the only requirements are the stone shall not exceed a maximum C-Freeze test limit of 15 when tested in accordance with Iowa 211 Method C and the abrasion maximum shall not exceed 50% when tested in accordance with AASHTO T96.

H. Material meeting the specifications for any of the revetment classes can be certified for use as Erosion Stone or Gabion stone. Otherwise meet the requirements of Article 4130.03 through 4130.08 as appropriate.

APPROVAL PROCEDURES

A. Approvals by Service History

1. The source approvals shall document the location, age, and sources of all usage forming the basis of the approvals.

2. The historical usage must conform to the revetment class approved.

B. Approvals by Test Plot Performance

1. Test plots may be of any size that incorporates all beds of the ledge under evaluation.

2. For Class A, B, C, D, and E revetment, the test plots must be constructed in an environment of wetting and drying cycles combined with seasonal freezing and thawing cycles that meet with the approval of the District Materials Engineer.

3. The test plots will be evaluated after two years and shall have no more than 25% of the stones showing cracks or fractures.

C. Approvals by Testing.

1. A record of Alumina Content (Iowa DOT Test Method 222) or freeze and thaw tests (Test Method 211, Method A) and Iowa Pore Index Tests (Test Method 219) should exist such that the District Materials Engineer is assured of reasonable conformance to the specifications. When no record exists, test results may be secured from production samples; ledge samples (block stoning), or samples from rock cores.

2. When the source test plot or service history is not available, the virgin stone shall meet the following requirements on stone crushed to 3/4 inch to 1 1/2inch (19 mm to 37.5 mm) nominal maximum sizes:

REVETMENT TYPE	REVETMENT QUALITY	TEST LIMITS	TEST METHOD
Class A, B, C, and E revetment	Alumina	0.7	Iowa 222
	A Freeze	10	Iowa 211, Method A
	Secondary Pore Index	25	Iowa 219
Class D revetment	C Freeze	10	Iowa 211, Method C

NOTE: Revetment may pass either Alumina or A-Freeze for compliance.

The abrasion loss for all revetment shall not exceed 50% when tested in accordance with AASHTO T96.

OTHER AGGREGATES

A. When appropriate, and after review and concurrence of the Geologist, the District Materials Engineer may establish source approval procedures, including production restrictions.

B. A copy of such source approvals, and any subsequent changes to them, shall be provided to the Geologist in the Office of Construction and Materials.

C. The District aggregate source files should retain all documentation of materials approved for production, including production equipment, production methods, restrictions, etc.

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IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Bob Dawson	**Office:** Construction & Materials	**Item 11**
Submittal Date: 10/28/2019	**Proposed Effective Date:** 4/21/2020	
Article No.: 4122.02 **Title:** Gradation (Crushed Stone Base Material) **Article No.:** Appendix **Title:** Aggregate Gradation Table	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 11/14/2019	**Effective Date:** 4/21/2020

Specification Committee Approved Text: Approved as recommended.

Comments: None.

Specification Section Recommended Text:

4122.02, Gradation.

Replace the Article:

A. Produce Macadam Crushed Stone with a nominal maximum size of 3 inches. Screen over a 3/4 inch screen, or when specified in the contract documents, a 1 inch screen. This is identified as Gradation No. 13a of the Aggregate Gradation Table, Article 4109.02.

B. The aggregate passing the 3/4 inch or 1 inch screen may be furnished as the Choke Stone material; however, 6% to 16% of the material shall pass the No. 200 sieve. This is identified as Gradation No. 13b of the Aggregate Gradation Table, Article 4109.02.

Appendix.

Replace Gradation No. 13 and **add** the new gradation to the Aggregate Gradation Table:

AGGREGATE GRADATION TABLE

Grad. No.	Section No.	Std. Sieve Sz.	1 1/2"	1.00"	3/4"	1/2"	3/8"	4	8	30	50	100	200	
		Intended Use	Percent Passing											Notes
13a	4122.02 (Cr. St.)	Macadam St. Base	3" nominal maximum size screened over 3/4" or 1.00" screen.											
13b	4122.02	Macadam Choke St.		100									6-16	11

Comments:

Action: Give Macadam choke stone a gradation number and place in the aggregate gradation table. Give the aggregate gradation table a Table number.

Section 4122. Crushed Stone Base Material

4122.01 DESCRIPTION.
Crushed stone meeting the following requirements.

4122.02 GRADATION.

A. Produce Macadam Crushed Stone with a nominal maximum size of 3 inches. Screen over a 3/4 inch screen, or when specified in the contract documents, a 1 inch screen. This is identified as Gradation No. 13a of the Aggregate Gradation Table, Article 4109.02.

B. The aggregate passing the 3/4 inch or 1 inch screen may be furnished as the Choke Stone material; however, 6% to 16% of the material shall pass the No. 200 sieve. This is identified as Gradation No. 13b of the Aggregate Gradation Table, Article 4109.02.

Appendix

Table 4109.02-1

AGGREGATE GRADATION TABLE														
Grad. No.	**Section No.**	**Std. Sieve Sz.**	**1 1/2”**	**1.00”**	**3/4”**	**1/2”**	**3/8”**	**4**	**8**	**30**	**50**	**100**	**200**	
		Intended Use	**Percent Passing**											**Notes**
13a	4122.02 (Cr. St.)	Macadam St. Base	3” nominal maximum size screened over 3/4” or 1.00” screen.											
13b	4122.02	Macadam Choke St.		100									6-16	11

Reason for Revision: The gradation for Macadam choke stone (4122) was not in the gradation table.

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 is a clarification and not a change in the specification.

County or City Comments:

Industry Comments: Supported by the Iowa Limestone Producers Association