MINUTES
OF
IOWA DOT SPECIFICATION COMMITTEE MEETING

April 14, 2022

Members Present:	Darwin Bishop	District 3 - Construction
	Mark Dunn	Contracts & Specifications Bureau
	Daniel Harness	Design Bureau
	Eric Johnsen, Chair	Contracts & Specifications Bureau
	Wes Musgrove	Construction & Materials Bureau
	Scott Nixon	District 1 - Construction
	Mike Nop	Bridges & Structures Bureau
	Christy VanBuskirk	Local Systems Bureau
	Willy Sorensen	Traffic & Safety Bureau
Members Not Present:	Charlie Purcell	Project Delivery Division
	Bob Welper	District 2 - Materials
Advisory Members Present:	Andy Case	Dallas County
	Ben Daleske	Fayette County
	Jeff Devries	Construction & Materials Bureau
	DeWayne Heintz	Jefferson County
	Desiree McClain	Construction & Materials Bureau
	Lisa McDaniel	FHWA
	Nathan Pohlen	Design Bureau
	Melissa Serio	Construction & Materials Bureau
	Steve Sievert	Bridges & Structures Bureau
	Scott Sommers	Construction & Materials Bureau

The Specification Committee met on Thursday, April 14, 2022, at 9:00 a.m. Eric Johnsen, Specifications Engineer, opened the meeting. The items were discussed in accordance with the agenda dated April 14, 2022:

The minutes are as follows:

1. **Article 1102.01, Competency and Qualification of Bidders.**
Article 1102.04, Contents of Proposal Forms.

The Contracts and Specifications Bureau requested to update contractor qualifications to align with current practice.

2. **Article 2122.02, B, Portland Cement Concrete Base (Paved Shoulders).**

The Construction and Materials Bureau requested to clarify allowable PCC class types for shoulders.

3. **Article 2301.02, B, 1, General (Portland Cement Concrete Pavement).**
Article 2301.03, U, 1, Time for Opening Pavement for Use (Portland Cement Concrete

Pavement).

Article 2511.02, A, 1, Portland Cement Concrete (Removal and Construction of Sidewalks and Recreational Trails).

The Construction and Materials Bureau requested to remove Class B concrete from the specifications.

4. **Article 2303.05, D, 1, Anti-Strip Agent (Flexible Paving Mixtures)**

Article 2303.05, H, 1, Cold Weather Paving (Flexible Paving Mixtures).

The Specifications Section requested to clarify that these items are not paid for as “extra work” covered by Article 1109.03, B, because they have stipulated prices in the contract documents..

5. **Article 2412.02, B, Materials (Concrete Bridge Decks)**

Article 2413.02, D, 2, Class HPC-O High Performance Concrete (Bridge Deck Surfacing, Repair, and Overlay)

Article 2424.02, A, Portland Cement (Shotcrete).

Article 2433.02, B, Concrete (Concrete Drilled Shaft).

Article 2513.03, A, 2, b, 5, Cast-in-Place and Slip Form (Concrete Barrier).

Article 2529.02, B, 4, Cement (Full Depth Finish Patches).

Article 2530.02, B, 4, d, 2, Cement (Partial Depth Finish Patches).

Article 2539.02, A, 1, Mix Design (Concrete Pavement Undersealing by Pressure Grouting).

Article 4101.01, General Requirements (Portland Cement).

The Construction and Materials Bureau requested to update Portland cement specifications to include Type IL and Type IT.

6. **Article 2601.03, C, Types of Seeding (Erosion Control).**

The Design Bureau requested to update seeding mixes to combat shortages in the future.

7. **Article 4112.03, A, Intermediate Crushed Stone (Intermediate Aggregate for Portland Cement Concrete).**

Article 4115.02, Quality (Coarse Aggregate for Portland Cement Concrete).

Article 4115.05, A, Quality (Coarse Aggregate for Bridge Deck Surfacing, Repair, and Overlay).

Article 4121.03, Quality (Granular Subbase Material).

Article 4124.03, Quality (Aggregate for Slurry Mixtures).

Article 4126.03, Quality (Aggregate for Polymer-Modified Microsurfacing).

Article 4127.02, Coarse Aggregate (Aggregate for Flexible Paving Mixtures).

Article 4131.03, Quality (Porous Backfill Material).

The Construction and Materials Bureau requested to revise aggregate quality table notes for clarity and consistency.

8. **Article 4196.01, B, 1, Silt Fencing.**

The Construction and Materials Bureau requested to update silt fencing materials requirements.

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Mark Dunn / Jason Miller	**Office:** Contracts & Specifications	**Item 1**
Submittal Date: 3/22/2022	**Proposed Effective Date:** October 2022	
Article No.: 1102.01 **Title:** Competency and Qualification of Bidders **Article No.:** 1102.04 **Title:** Contents of Proposal Forms	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/14/2022	**Effective Date:** 10/18/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Contracts and Specifications Bureau decided that these revisions could wait until October, as they have not been an issue so far and reflect current practice.

Specification Section Recommended Text:

1102.01, D, 1, b.

Replace the Article:

When an Individually Prepared Statement is submitted to the Department, the maximum prequalification amount will be $400,000 minus the bidder's amount of uncompleted work currently under contract.

1102.04, D, 1.

Replace the first sentence:

Contractors will be permitted to bid on proposals ~~amounting in total to three times~~ exceeding their adjusted prequalification rating (prequalification rating minus uncompleted contracts).

Comments: These changes would be a potential implementation in June by proposal note.

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

1102.01

D. The Department will qualify Contractors into three categories:

1. Individually Prepared Statement.

a. An Individually Prepared Statement is a "Contractor's Financial -Experience - Equipment Statement" that has been completed by the prospective bidder. If the statement has been compiled by a CPA, but does not contain a CPA review or audit of the financial portion of the statement, it is still considered an Individually Prepared Statement.

b. When an Individually Prepared Statement is submitted to the Department, the maximum prequalification amount will be $400,000~~.~~ minus the bidder's amount of uncompleted work currently under contract.

1102.04

D. The following bidding and letting regulations shall apply to all proposals for which the Department receives bids (includes projects on Interstate, Primary, urban, park and institutional roads, farm-to-market, and local county systems).

1. Contractors will be permitted to bid on proposals exceeding ~~amounting in total to three times~~ their adjusted prequalification rating (prequalification rating minus uncompleted contracts).

   The adjusted prequalification rating will be determined at each letting, taking into consideration the amount of work under contract, equipment and personnel available, and construction periods, etc.

   Approvals for award of contracts will not exceed any contractor's actual adjusted prequalification rating.

Reason for Revision: The basis for these changes is to bring Section 1102 into align with current practices. The department qualifies contractors into three categories and each respective type of Statement should factor in the bidder's amount of uncompleted work currently under contract when calculating the prequalification amount. The requested changes to the specification are to make it clear the Individually Prepared Statement must also factor in the uncompleted work currently under contract. These changes would be a potential implementation in June by proposal note.

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/John Hart	**Office:** Construction & Materials	**Item 2**
Submittal Date: April 2022	**Proposed Effective Date:** October 2022	
Article No.: 2122.02, B **Title:** Portland Cement Concrete Base (Paved Shoulders)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/14/2022	**Effective Date:** 10/18/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2122.02, B, Portland Cement Concrete Base.

Replace the Article:

~~Use materials specified in~~ ~~Section 2201.~~ Use Class A or Class C concrete, or the mixture used in the mainline paving.

Comments:

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

2122.02 MATERIALS.

A. Asphalt Mixture.
Use a Standard Traffic (ST) base mixture with PG 58-28S binder according to Section 2303.

B. Portland Cement Concrete Base.
~~Use materials specified in~~ ~~Section 2201.~~ Use Class A or Class C concrete, or the mixture used in the mainline paving.

Reason for Revision: There is confusion in the field whether Class A mix can be used on paved shoulders. This change will clarify the allowed mixes, putting it directly under paved shoulder specification and should eliminate issues.

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: Industry agrees with spec change.

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/John Hart	**Office:** Construction & Materials	**Item 3**
Submittal Date: April 2022	**Proposed Effective Date:** October 2022	
Article No.: 2301.02, B, 1 **Title:** General (Portland Cement Concrete Pavement) **Article No.:** 2301.03, U, 1 **Title:** Time for Opening Pavement for Use (Portland Cement Concrete Pavement) **Article No.:** 2511.02, A, 1 **Title:** Portland Cement Concrete (Removal and Construction of Sidewalks and Recreational Trails)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/14/2022	**Effective Date:** 10/18/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2301.02, B, 1, General.

Replace the Article:

~~**a.**~~ Proportion materials for pavement concrete in one of the mixtures identified in Materials I.M. 529 for the class of concrete specified in the contract documents. Any of the mixtures may be used, at the Contractor's option, provided the gradation of the separate aggregates complies with the gradation required for that mixture. Do not use C-5 and C-6 concrete mix proportions for pavements on Interstate or Primary highways.

~~**b.** After October 31, use Class A concrete to construct all items of concrete pavement specified to be constructed with Class B concrete. The Engineer will either require completion by continuing placement operations past October 31, or allow the Contractor the option of a winter shutdown. When completion is required, the Contracting Authority will pay the net increase in cost of materials resulting from the change in proportions for any pavement placed within the contract period or authorized extension of the contract period. Other increases shall be at no additional cost to the Contracting Authority.~~

2301.03, U, 1.

Replace Table 2301.03-3:

Table 2301.03- 3: Minimum Flexural Strength

Strength Class of Concrete	Minimum Age	psi
A	14 calendar days[(a)]	500
~~B~~	~~14 calendar days~~	~~400~~

C	7 calendar days[b]	500
M	48 hours[c]	500

(a) 10 calendar days for concrete 8 inches thick or more.
(b) 5 calendar days for concrete 9 inches thick or more.
(c) Pavement may be opened for use prior to 48 hours when minimum flexural strength requirements are met.

2511.02, A, 1.

Replace the Article:

Use Class ~~B Portland cement~~ A or C concrete for sidewalks and Class C concrete for recreational trails. Place according to Section 2301.

Comments:

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

2301.02, B

B. Portland Cement Concrete Pavement.

1. General.

a. Proportion materials for pavement concrete in one of the mixtures identified in Materials I.M. 529 for the class of concrete specified in the contract documents. Any of the mixtures may be used, at the Contractor's option, provided the gradation of the separate aggregates complies with the gradation required for that mixture. Do not use C-5 and C-6 concrete mix proportions for pavements on Interstate or Primary highways.

b. ~~After October 31, use Class A concrete to construct all items of concrete pavement specified to be constructed with Class B concrete. The Engineer will either require completion by continuing placement operations past October 31, or allow the Contractor the option of a winter shutdown. When completion is required, the Contracting Authority will pay the net increase in cost of materials resulting from the change in proportions for any pavement placed within the contract period or authorized extension of the contract period. Other increases shall be at no additional cost to the Contracting Authority.~~

2301.03, U

U. Time for Opening Pavement for Use.

1. The time for opening pavement for use will be based on the restrictions listed in Table 2301.03-3, with flexural strength determined from beam specimens made during the progress of the work.

Table 2301.03- 3: Minimum Flexural Strength

Strength Class of Concrete	Minimum Age	psi
A	14 calendar days[a]	500
~~B~~	~~14 calendar days~~	~~400~~
C	7 calendar days[b]	500
M	48 hours[c]	500

(a) 10 calendar days for concrete 8 inches thick or more.
(b) 5 calendar days for concrete 9 inches thick or more.
(c) Pavement may be opened for use prior to 48 hours when minimum flexural strength requirements are met.

2511.02 MATERIALS.

A. Portland Cement Concrete.

1. Use Class ~~B~~ A or C Portland cement concrete for sidewalks and Class C for recreational trails. Place according to Section 2301.

Reason for Revision: Class B concrete has not been used for many years on county paving. With specification change 2511 to remove Class B for trails and sidewalks, Class B concrete will be removed from IM 529 and no longer be available.

Several trails placed with Class B mix have exhibited poor durability performance. This has resulted in some designers using a plan note to require Class C mix for trails to improve durability. By adjusting the standard specification to a Class C mix for trails and a class A mix for sidewalks, durability will be improved for both applications and use of a plan note can be eliminated.

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: This has been shared with local agencies. No negative comments have been received.

Industry Comments: This has been shared with the ICPA/members. No negative comments have been received.

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IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Eric Johnsen	**Office:** Specifications	**Item 4**
Submittal Date:	**Proposed Effective Date:** October 2022	
Article No.: 2303.05, D, 1 **Title:** Anti-Strip Agent (Flexible Paving Mixtures) **Article No.:** 2303.05, H, 1 **Title:** Anti-Strip Agent (Flexible Paving Mixtures)	**Other:**	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 4/14/2022	**Effective Date:** 10/18/2022

Specification Committee Approved Text:

2303.05, D, 1.

Replace the Article:

When anti-strip agent is required, ~~the incorporation of the anti-strip agent into the asphalt mixture will be considered as extra work ordered by the Engineer if the Contracting Authority's test results from the field produced mixture meet or exceed the minimum requirement established in Article 2303.02, E, 2, d.~~ ~~P~~payment will be made at the rate of $2.00 per ton of asphalt mixture in which the anti-strip agent is incorporated, if the Contracting Authority's test results from the field produced mixture meet or exceed the minimum requirement established in Article 2303.02, E, 2, d.

2303.05, H, 1.

Replace the Article:

When cold weather paving is permitted by the Engineer, ~~incorporation of warm mix additive into the asphalt mixture will be considered as extra work ordered by the Engineer. P~~payment will be made at the rate of $2.00 per ton of flexible paving mixture in which the warm mix additive is incorporated.

Comments: The Design Bureau suggested revised language to make the language less confusing.

Specification Section Recommended Text:

2303.05, D, 1.

Replace the first sentence:

When anti-strip agent is required, the incorporation of the anti-strip agent into the asphalt mixture will be considered ~~as extra work~~ ordered by the Engineer if the Contracting Authority's test results from the field produced mixture meet or exceed the minimum requirement established in Article 2303.02, E, 2, d.

2303.05, H, 1.

Replace the first sentence:

When cold weather paving is permitted by the Engineer, incorporation of warm mix additive into the asphalt mixture will be considered ~~as extra work~~ ordered by the Engineer.

Comments:

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

Reason for Revision: To clarify that these items are not "extra work" covered by Article 1109.03, B, because they have stipulated prices in the contract documents.

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/John Hart	**Office:** Construction & Materials	**Item 5**
Submittal Date: April 2022	**Proposed Effective Date:** October 2022	
Article No.: 2412.02, B **Title:** Materials (Concrete Bridge Decks) **Article No.:** 2413.02, D, 2 **Title:** Class HPC-O High Performance Concrete (Bridge Deck Surfacing, Repair, and Overlay) **Article No.:** 2424.02, A **Title:** Portland Cement (Shotcrete) **Article No.:** 2433.02, B **Title:** Concrete (Concrete Drilled Shaft) **Article No.:** 2513.03, A, 2, b, 5 **Title:** Cast-in-Place and Slip Form (Concrete Barrier) **Article No.:** 2529.02, B, 4 **Title:** Cement (Full Depth Finish Patches) **Article No.:** 2530.02, B, 4, d, 2 **Title:** Cement (Partial Depth Finish Patches) **Article No.:** 2539.02, A, 1 **Title:** Mix Design (Concrete Pavement Undersealing by Pressure Grouting) **Article No.:** 4101.01 **Title:** General Requirements (Portland Cement)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/14/2022	**Effective Date:** 10/18/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Construction and Materials Bureau will send out guidance to the RCE's, DME's, Local Systems, and Systems Planning noting that Contractors may be requesting use of Type 1L cement on projects this summer as supplies of Type I/II cement become scarcer. A mutual benefit contract modification would be justified for substituting Type 1L cement if requested.

Developmental Specifications and Supplemental Specifications were reviewed to see if there are any references to Type I/II cement that need to be revised. DS-15073 has cement type references and has already been submitted for the May Specification Committee Meeting.

Specification Section Recommended Text:

2412.02, B.

Replace Table 2412.02-1:

Table 2412.02-1: Maximum Allowable Substitution Rates.

Cement Type	Maximum Allowable Substitution[(a)]	Time Period
Type I, Type II, IL	35% GGBFS 20% Fly Ash	March 16 through October 15
Type IS, IP, IT	0% GGBFS 20% Fly Ash	March 16 through October 15
Type I, II, IL, IS, IP, IT	0% GGBFS 0% Fly Ash	October 16 through March 15
[(a)] Maximum total mineral admixture substitution is 50%.		

2413.02, D, 2, d.

Replace the Article:

Use Type IS, ~~or~~ Type IP, or Type IT cement. If Type I/II or Type IL is used, a minimum of 25% replacement with GGBFS is required.

2413.02, D, 2, Class HPC-O High Performance Concrete.

Add the Article:

f. Maximum total mineral admixture substitution rate of 50%.

2424.02, A, Portland Cement.

Replace the Article:

Meet the requirements of Section 4101~~, Type I~~.

2433.02, B, 4.

Replace the Article:

Portland cement: meet the requirements of ~~ASTM C 150 Type I or II and~~ Section 4101.

2433.02, B, 8.

Replace the Article:

Limit total mineral admixture substitution rate to 40%. Between October 15 and March 15, do not substitute GGBFS with ~~Type I or Type II~~ Type IL cement; or fly ash with Type IP, ~~or~~ IS, or IT cement.

2513.03, A, 2, b, 4, Fly Ash and GGBFS.

Replace Table 2513.03-3:

Table 2513.03-3: Fly Ash and GGBFS Substitution

Cement Type	Maximum Allowable Substitution[(a)]	Time Period

Type I, II, IL	35% GGBFS 20% Fly Ash	March 16 to October 15
Type IS, IP, IT	20% Fly Ash	March 16 to October 15
Type I, II, IL	20% Fly Ash	October 16 to March 15
Type IS, IP, IT	0%	October 16 to March 15
[(a)] Maximum total mineral admixture substitution is 50%.		

2529.02, B, 4, Cement.

Replace Table 2529.02-1:

Table 2529.02-1: Cement Types and Maximum Allowable Substitution Rates

Patch Type	Cement Type	Maximum Allowable Substitution	Minimum Mix Temperature
5 Hour	Type I~~, Type~~/ II, IL Type IS, IT	0% Fly Ash 0% Fly Ash	75ºF 80ºF*
10 Hour	Type I~~, Type~~/ II, IL Type IS, IT	10% Fly Ash 0% Fly Ash	65ºF 70ºF*
24 Hour	Type I~~, Type~~/ II, IL Type IS, IT	0% Fly Ash	50°F
* When a Type A Mid Range Water reducing admixture is used, limit the minimum mix temperature to that required when Type I/II or IL cement is used.			

2530.02, B, 4, d, 2, Cement.

Replace Table 2530.02-1:

Table 2530.02-1: Cement Types and Maximum Allowable Substitution Rates

Patch Class	Cement Type	Maximum Allowable Substitution	Minimum Mix Temperature
B	Type I~~, Type~~/ II, IL Type IS, IT	0% Fly Ash 0% Fly Ash	75ºF 80ºF*
C	Type I~~, Type~~/ II, IL Type IS, IT	10% Fly Ash 0% Fly Ash	65ºF 70ºF*
* When a Type A Mid Range water reducing admixture is used, limit the minimum mix temperature to that required when Type I/II or IL cement is used.			

2539.02, A, 1.

Replace the first sentence:

One part by volume of ~~Type I~~ Portland cement, and three parts by volume of Class C fly ash.

4101.01, General Requirements.

Replace the Article:

A. ASTM C 150 Cements.

1. Unless specified otherwise, meet the requirements of ASTM C 150.

2. Limit the alkali content expressed as total equivalent sodium oxide to no more than 0.60% for all cements.

B. ASTM C 595 Cements.
Unless specified otherwise, meet the requirements of ASTM C 595 and the following requirements:

1. Pozzolan constituent of Type IP cement no more than 25 weight percent of the Portland-pozzolan cement.

2. Slag constituent of Type IS cement no more than 40 weight percent of the Portland blast-furnace slag cement.

~~**3.** No Class C fly ash in Type IP cement.~~

~~4~~ 3. To produce blended cement, use ~~Portland~~ an approved Type I, II or IL cement ~~meeting the requirements of Article 4101.01, A, but~~ with ~~the~~ an alkali content expressed as a total equivalent being no more than 0.75% from the clinker portion.

~~5~~ 4. ~~Meet the requirements of Materials I.M. 401 for initial approval of Type IL cement.~~ Limit total replacement of Type IT to no more than 40 weight percent.

C. ASTM C 1157 Cements.
Unless specified otherwise, meet the requirements of ASTM C 1157 and the following requirements:

1. Limit the alkali content expressed as a total equivalent being no more than 0.75% from the clinker portion.

2. Limit total replacement to no more than 40 weight percent.

~~C~~ D.Cement Type Usage.
Comply with the following unless specified otherwise:

1. Type I or Type II cement may be used for pavements, structures, and other applications. Type III cement may be used in precast and prestressed concrete only.

2. Type IP, Type IS, ~~or~~ Type IL, Type IT, or ASTM C 1157 Type GU, MS, or MH cement may be furnished at the Contractor's option when Type I or Type II cement is specified. ASTM C 595 or C 1157 with HE designation may be furnished for Type III. Apply the limitations of the following articles:

- 2301.02, B.
- 2403.02, B.
- 2407.02.
- 2412.02.
- 2413.02.
- 2424.02.
- 2426.02.
- 2507.02.
- 2513.02.

- 2529.02.
- 2530.02.
- 2539.02.

3. Use the same unit volume, based on the specific gravity, of Type IP, Type IS, ~~or~~ Type IL, Type IT, or ASTM C 1157 Type GU, MS, or MH cement in the concrete that is specified for Type I or Type II cement.

Comments:

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

2412.02 MATERIALS.

B. Use concrete that meets the requirements for C-4WR and C-V47B concrete mixtures, as specified in Materials I.M. 529. Use Gradation No. 3 or 5 of the Aggregate Gradation Table in Section 4109. Meet the requirements of Section 4108 for fly ash and GGBFS. Refer to Table 2412.02-1 for the maximum allowable substitution rates:

Table 2412.02-1: Maximum Allowable Substitution Rates.

Cement Type	Maximum Allowable Substitution[(a)]	Time Period
Type I, Type II, IL	35% GGBFS 20% Fly Ash	March 16 through October 15
Type IS, IP, IT	0% GGBFS 20% Fly Ash	March 16 through October 15
Type I, II, IL, IS, IP, IT	0% GGBFS 0% Fly Ash	October 16 through March 15
[(a)] Maximum total mineral admixture substitution is 50%.		

2413.02, D, 2 MATERIALS.

2. Class HPC-O High Performance Concrete.

Meet the requirements of Materials I.M. 529 and the following:

a. A slump of 1 inch to 4 inches, measured according to Materials I.M. 317, with a maximum of 5 inches. Commence testing for concrete slump from a continuous mixer within 2 to 4 minutes after the concrete is discharged. Before placing ready mix concrete, test the slump.

b. Use a normal water reducing admixture listed in Materials I.M. 403, Appendix C and a retarder listed in Materials I.M. 403 Appendix G. When the expected haul time is less than 30 minutes or the maximum air temperature expected is less than 75°F, addition of a retarder is not required. The Engineer may approve other admixtures or combinations of admixtures and dosages to achieve a workable low w/c ratio mix.

c. Air content is to be the same as required for Class O PCC.

d. Use Type IS, ~~or~~ Type IP, or Type IT cement. If Type I/II or Type IL is used, a minimum of 25% replacement with GGBFS is required.

e. Limit fly ash substitution to 20% replacement by weight.

f. Maximum total mineral admixture substitution rate of 50%.

2424.02 MATERIALS.

Use materials for shotcreting that meet the following requirements:

A. Portland Cement.

Meet the requirements of Section 4101~~, Type I~~.

2433.02, B

B. Concrete.
Comply with the following:

4. Portland cement: meet the requirements of ~~ASTM C 150 Type I or II and~~ Section 4101.

8. Limit total mineral admixture substitution rate to 40%. Between October 15 and March 15, do not substitute GGBFS with ~~Type I or Type II~~ Type IL cement; or fly ash with Type IP, ~~or~~ IS, or IT cement.

2513.03, A, 2, b, 5 Table 2513.03-3

Table 2513.03-3: Fly Ash and GGBFS Substitution

Cement Type	Maximum Allowable Substitution[(a)]	Time Period
Type I, II, IL	35% GGBFS 20% Fly Ash	March 16 to October 15
Type IS, IP, IT	20% Fly Ash	March 16 to October 15
Type I, II, IL	20% Fly Ash	October 16 to March 15
Type IS, IP, IT	0%	October 16 to March 15
[(a)] Maximum total mineral admixture substitution is 50%.		

2529.02, B

4. Cement.
For Class M mixes, meet the requirements of Section 4101. Table 2529.02-1 lists cement types and maximum allowable substitution rates. The maximum substitution for Type IS shall not exceed 25%.

Table 2529.02-1: Cement Types and Maximum Allowable Substitution Rates

Patch Type	Cement Type	Maximum Allowable Substitution	Minimum Mix Temperature
5 Hour	Type I, ~~Type~~ II, IL Type IS, IT	0% Fly Ash 0% Fly Ash	75ºF 80ºF*
10 Hour	Type I, ~~Type~~ II, IL Type IS, IT	10% Fly Ash 0% Fly Ash	65ºF 70ºF*
24 Hour	Type I, ~~Type~~ II, IL Type IS, IT	0% Fly Ash	50°F
* When a Type A Mid Range Water reducing admixture is used, limit the minimum mix temperature to that required when Type I/II or IL cement is used.			

2530.02, B, 4

d. Cement.
1) For Class M concrete mixtures, meet the requirements of Section 4101.
2) Refer to Table 2530.02-1 for cement types and maximum allowable substitution rates. The maximum substitution for Type IS is not to exceed 25%.

Table 2530.02-1: Cement Types and Maximum Allowable Substitution Rates

Patch Class	Cement Type	Maximum Allowable Substitution	Minimum Mix Temperature

B	Type I~~, Type~~ II, IL Type IS, IT	0% Fly Ash 0% Fly Ash	75ºF 80ºF*
C	Type I~~, Type~~ II, IL Type IS, IT	10% Fly Ash 0% Fly Ash	65ºF 70ºF*
* When a Type A Mid Range water reducing admixture is used, limit the minimum mix temperature to that required when Type I/II or IL cement is used.			

2539.02 MATERIALS.

A. Mix Design.
The mix design for the pressure grout for undersealing is as follows:

1. One part by volume of ~~Type I~~ Portland cement, and three parts by volume of Class C fly ash. Use fly ash from a source approved for this use according to Materials I.M. 491.17.

4101.01 GENERAL REQUIREMENTS.

A. ASTM C 150 Cements.

1. Unless specified otherwise, meet the requirements of ASTM C 150.

2. Limit the alkali content expressed as total equivalent sodium oxide to no more than 0.60% for all cements.

B. ASTM C 595 Cements.
Unless specified otherwise, meet the requirements of ASTM C 595 and the following requirements:

1. Pozzolan constituent of Type IP cement no more than 25 weight percent of the Portland-pozzolan cement.

2. Slag constituent of Type IS cement no more than 40 weight percent of the Portland blast-furnace slag cement.

~~**3.** No Class C fly ash in Type IP cement.~~

~~**4.** **3.**~~To produce blended cement, use ~~Portland~~ an approved Type I, II or IL cement ~~meeting the requirements of Article 4101.01, A, but~~ with ~~the~~ an alkali content expressed as a total equivalent being no more than 0.75% from the clinker portion.

~~**5.** **4.** Meet the requirements of Materials I.M. 401 for initial approval of Type IL cement.~~ Limit total replacement of Type IT to no more than 40 weight percent.

C. ASTM C 1157 Cements.
Unless specified otherwise, meet the requirements of ASTM C 1157 and the following requirements:

1. Limit the alkali content expressed as a total equivalent being no more than 0.75% from the clinker portion.

2. Limit total replacement to no more than 40 weight percent.

D.~~C~~. Cement Type Usage.
Comply with the following unless specified otherwise:

1. Type I or Type II cement may be used for pavements, structures, and other applications. Type III cement may be used in precast and prestressed concrete only.

2. Type IP, Type IS, ~~or~~ Type IL, Type IT, or ASTM C 1157 Type GU, MS, or MH cement may be furnished at the Contractor's option when Type I or Type II cement is specified. ASTM C 595 or C 1157 with HE designation may be furnished for Type III. Apply the limitations of the following articles:

- 2301.02, B.
- 2403.02, B.
- 2407.02.
- 2412.02.
- 2413.02.
- 2424.02.
- 2426.02.
- 2507.02.
- 2513.02.
- 2529.02.
- 2530.02.
- 2539.02.

3. Use the same unit volume, based on the specific gravity, of Type IP, Type IS, ~~or~~ Type IL, Type IT, or ASTM C 1157 Type GU, MS, or MH cement in the concrete that is specified for Type I or Type II cement.

Reason for Revision: Most cement manufacturers are converting to Type IL cements and Type I/II cements will no longer be available. This spec change is needed to update specifications to the newer cement types.

Clarification is also provided on the required GGBFS minimum replacement and the maximum total mineral admixture substitution rate.

Any type of Portland cement can be used for undersealing.

With all cement plants switching to Type IL, cement specs need updating to include IT, which is a ternary blend with slag/limestone or pozzolan/limestone. ASTM C1157 is now included to accommodate new cement blends coming with more than three cementitious materials. C595 specification only covers up to three cementitious materials.

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: Mike Kennerly/Daniel Harness	**Office:** Design	**Item 6**
Submittal Date: 3-29-22	**Proposed Effective Date:** October 2022 GS	
Article No.: 2601.03, C **Title:** Types of Seeding (Erosion Control)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/14/2022	**Effective Date:** 10/18/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Construction and Materials Bureau asked if this revision was consistent with the current proposal note allowing alternative seed mixes on projects. The current note does cover Table 2601.03-3 but does not conflict with these changes. The proposal note is a more temporary situation to allow substitution of part of the ryegrass with additional fescue.

Specification Section Recommended Text:

2601.03, C, 2, b, Seed Mixture.

Replace Table 2601.03-3:

Table 2601.03-3: Permanent Seed Rates, Rural Areas

Fescue, Tall[1] ~~(Fawn)~~	100 lbs. per acre
Ryegrass, Perennial[2] ~~(Linn)~~	75 lbs. per acre
Bluegrass, Kentucky	20 lbs. per acre

1. Tall Fescue shall be cultivars Fawn or K-31, or a combination thereof. All Tall Fescue shall be endophyte free.
2. Perennial Ryegrass shall be cultivars Linn, Amazon, Norlea, or Nui, or a combination thereof.

2601.03, C, 9, b, Seed Mixture

Replace Table 2601.03-7:

Table 2601.03-7: Salt Tolerant Seed Rates

Alkali grass	109 lbs. per acre
Turf-type Tall Fescue[1]	109 lbs. per acre
Perennial ryegrass	66 lbs. per acre
Crested wheatgrass	66 lbs. per acre
Hard fine fescue	44 lbs. per acre
Sheep fine fescue	44 lbs. per acre

1. Turf-type Tall Fescue shall ~~contain a minimum 36 lbs. of each cultivar Inferno and Quest~~ be endophyte free.

Comments:

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

2601.03, C, 2, b, Seed Mixture

Replace Table 2601.03-3: Permanent Seed Rates, Rural Areas

Table 2601.03-3: Permanent Seed Rates, Rural Areas

Fescue, Tall ~~(Fawn)~~[1]	100 lbs. per acre
Ryegrass, Perennial ~~(Linn)~~[2]	75 lbs. per acre
Bluegrass, Kentucky	20 lbs. per acre

1. Choose a Tall Fescue that is one of, or combination of, cultivars Fawn and/or K-31. All Tall Fescue shall be endophyte free.
2. Choose a Perennial Ryegrass that is one of, or combination of, cultivars Linn, Amazon, Norlea, or Nui.

2601.03, C, 9, b, Seed Mixture

Replace Table 2601.03-7: Salt Tolerant Seed Rates

Table 2601.03-7: Salt Tolerant Seed Rates

Alkali grass	109 lbs. per acre
Turf-type Tall Fescue[1]	109 lbs. per acre
Perennial ryegrass	66 lbs. per acre
Crested wheatgrass	66 lbs. per acre
Hard fine fescue	44 lbs. per acre
Sheep fine fescue	44 lbs. per acre

1. Turf-type Tall Fescue shall ~~contain a minimum 36 lbs. of each cultivar Inferno and Quest~~ be turf type and endophyte free.

Reason for Revision: Adding seed varieties will help to combat shortages in the future due to weather conditions and gradual varietal obsolescence.

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: Discussed change at 5/29/19 meeting with erosion control and landscaping contractors.

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Jeff DeVries	**Bureau:** Construction & Materials	**Item 7**
Submittal Date:	**Proposed Effective Date:** October 2022	
Article No.: 4112.03, A **Title:** Intermediate Crushed Stone (Intermediate Aggregate for Portland Cement Concrete) **Article No.:** 4115.02 **Title:** Quality (Coarse Aggregate for Portland Cement Concrete) **Article No.:** 4115.05, A **Title:** Quality (Coarse Aggregate for Bridge Deck Surfacing, Repair, and Overlay) **Article No.:** 4121.03 **Title:** Quality (Granular Subbase Material) **Article No.:** 4124.03 **Title:** Quality (Aggregate for Slurry Mixtures) **Article No.:** 4126.03 **Title:** Quality (Aggregate for Polymer-Modified Microsurfacing) **Article No.:** 4127.02 **Title:** Coarse Aggregate (Aggregate for Flexible Paving Mixtures) **Article No.:** 4131.03 **Title:** Quality (Porous Backfill Material)		

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/14/2022	**Effective Date:** 10/18/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

4112.03, A, Intermediate Crushed Stone.

Replace Table 4112.03-1:

Table 4112.03-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Alumina[a, b]	0.5	Office of Materials Test Method No. Iowa 222
A Freeze	6	Office of Materials Test Method No. Iowa 211, Method A

Clay Lumps and Friable Particles	0.5	Materials I.M. 368

(a) If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze for specification compliance.
(b) Alumina does not apply to gravel.

4115.02, Quality.

Replace Table 4115.02-1:

Table 4115.02-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion (Cr. Stone)	50	AASHTO T 96
Abrasion (Gravel)	35 (may be increased by 0.1% for each 1% of particles with at least one fractured face)	AASHTO T 96
Alumina[a, b]	0.5	Iowa DOT Materials Laboratory Test Method No. 222
A Freeze	6	Iowa DOT Materials Laboratory Test Method No. 211, Method A
Clay Lumps and Friable Particles	0.5	Materials I.M. 368

(a) If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze value for specification compliance. ~~Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravel.~~
(b) Alumina does not apply to gravel.

4115.05, A, Quality.

Replace Table 4115.05-1:

Table 4115.05-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	40	AASHTO T 96
Alumina[a, b]	0.5	Iowa DOT Materials Laboratory Test Method No. 222
A Freeze	6	Iowa DOT Materials Laboratory Test Method No. 211, Method A
Absorption	2.5	Iowa DOT Materials Laboratory Test Method No. 201

(a) If the Alumina value passes, the A-Freeze is not needed for specification compliance.If the Alumina value fails, determined the A Freeze value for specification compliance. ~~Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravels.~~
(b) Alumina does not apply to gravel.

4121.03, Quality.

Replace Table 4121.03-1:

Table 4121.03-1: Coarse Aggregate Quality (Virgin Material)

Coarse Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	50	AASHTO T 96

Alumina[a, b]	1.5	Iowa DOT Materials Laboratory Test Method No. 222
A Freeze	25	Iowa DOT Materials Laboratory Test Method No. 211, Method A

(a) If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze value for specification compliance. ~~Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravel.~~
(b) Alumina does not apply to gravel.

4124.03, Quality.

Replace Table 4124.03-1:

Table 4124.03-1: Aggregate Quality (Slurry Mixtures)

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	40	AASHTO T 96
A Freeze	10	Iowa DOT Materials Laboratory Test Method No. 211, Method A
Alumina[a, b]	0.7	Iowa DOT Materials Laboratory Test Method No. 222
Sand Equivalence	45 (Minimum)	AASHTO T 176
Organic Materials	0.01	Iowa DOT Materials Laboratory Test Method No. 215

(a) If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze value for specification compliance. ~~Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravel.~~
(b) Alumina does not apply to gravel.

4126.03, Quality.

Replace Table 4126.03-1:

Table 4126.03-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	40	AASHTO T 96
A Freeze	10	Office of Materials Test Method No. Iowa 211, Method A
Alumina[a, b]	0.7	Office of Materials Test Method No. Iowa 222
Sand Equivalence	45 (Minimum)	AASHTO T 176
Organic Materials	0.01	Office of Materials Test Method No. Iowa 215

(a) If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze value for specification compliance. ~~Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravel or quartzite.~~
(b) Alumina does not apply to gravel.
(c)

4127.02, Coarse Aggregate.

Replace Table 4127.02-1:

Table 4127.02-1: Coarse Aggregate Quality (Flexible Paving Mixtures)

Coarse Aggregate Quality	Type A Maximum %	Type B Maximum %		Test Method
		Primary	Other	
Abrasion	45	45	45	AASHTO T 96
Absorption[(a)]	6.0	6.0	6.0	Iowa DOT Materials Laboratory Test Method No. 201
Alumina[(b, c)]	1.0	1.5	~~2.5~~ 1.8	Iowa DOT Materials Laboratory Test Method No. 222
A Freeze	15	25	~~45~~ 28	Iowa DOT Materials Laboratory Test Method No. 211, Method A
~~C Freeze~~	~~N/A~~	~~10~~	~~10~~	~~Iowa DOT Materials Laboratory Test Method No. 211, Method C~~
Clay Lumps/Friable Particles	2.0	~~N/A~~ 3.0	~~N/A~~ 3.0	Materials I.M. 368
Organic Material	0.01	0.01	0.01	Iowa DOT Materials Laboratory Test Method No. 215

(a) When a coarse aggregate for use in asphalt fails absorption using Iowa DOT Materials Laboratory Test Method No. 201; absorption determined by Materials I.M. 380 (Vacuum-saturated specific gravity & absorption) will be used. The 6.0% maximum absorption applies.
(b) If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze value for specification compliance. ~~Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravel.~~
(c) Alumina does not apply to gravel.

4131.03, Quality.

Replace Table 4131.03-1:

Table 4131.03-1: Aggregate Quality (Porous Backfill Material)

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	50	AASHTO T 96
Alumina[(a, b)]	0.7	Iowa DOT Materials Laboratory Test Method No. 222
A Freeze	10	Iowa DOT Materials Laboratory Test Method No. 211, Method A
Shale	5	Materials I.M. 345

(a) If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze value for specification compliance. ~~Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravel or quartzite.~~
(b) Alumina does not apply to gravel.

Comments:

Action: Replace Note A and add Note B to Alumina in Table 4112.03-1, 4115.02-1, 4115.05-1, 4121.03-1, 4124.03-1, 4126.03-1, 4127.02-1, and 4131.03-1.

Section 4112. Intermediate Aggregate for Portland Cement Concrete

Table 4112.03-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Alumina[a, b]	0.5	Office of Materials Test Method No. Iowa 222
A Freeze	6	Office of Materials Test Method No. Iowa 211, Method A
Clay Lumps and Friable Particles	0.5	Materials I.M. 368

(a) ~~If the Alumina value fails, determine the A Freeze value for specification compliance~~. If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze for specification compliance.
(b) Alumina does not apply to gravel.

Section 4115. Coarse Aggregate for Portland Cement Concrete

Table 4115.02-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion (Cr. Stone)	50	AASHTO T 96
Abrasion (Gravel)	35 (may be increased by 0.1% for each 1% of particles with at least one fractured face)	AASHTO T 96
Alumina[a, b]	0.5	Iowa DOT Materials Laboratory Test Method No. 222
A Freeze	6	Iowa DOT Materials Laboratory Test Method No. 211, Method A
Clay Lumps and Friable Particles	0.5	Materials I.M. 368

(a) ~~If the Alumina value fails, determine the A Freeze value for specification compliance. Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravel~~. If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze for specification compliance
(b) Alumina does not apply to gravel.

4115.05 COARSE AGGREGATE FOR BRIDGE DECK SURFACING, REPAIR, AND OVERLAY.

Table 4115.05-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	40	AASHTO T 96
Alumina[a, b]	0.5	Iowa DOT Materials Laboratory Test Method No. 222
A Freeze	6	Iowa DOT Materials Laboratory Test Method No. 211, Method A
Absorption	2.5	Iowa DOT Materials Laboratory Test Method No. 201

(a) ~~If the Alumina value fails, determined the A Freeze value for specification compliance. Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravels.~~ If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze for specification compliance.
(b) Alumina does not apply to gravel.

Section 4121. Granular Subbase Material

Table 4121.03-1: Coarse Aggregate Quality (Virgin Material)

Coarse Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	50	AASHTO T 96
Alumina[a, b]	1.5	Office of Materials Test Method No. Iowa 222
A Freeze	25	Office of Materials Test Method No. Iowa 211, Method A

(a) ~~If the Alumina value fails, determine the A Freeze value for specification compliance. Office of Materials Test Method No. Iowa 222 does not apply to gravel.~~ If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze for specification compliance.

(b) Alumina does not apply to gravel.

Section 4124. Aggregate for Slurry Mixtures

Table 4124.03-1: Aggregate Quality (Slurry Mixtures)

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	40	AASHTO T 96
A Freeze	10	Office of Materials Test Method No. Iowa 211, Method A
Alumina[a, b]	0.7	Office of Materials Test Method No. Iowa 222
Sand Equivalence	45 (Minimum)	AASHTO T 176
Organic Materials	0.01	Office of Materials Test Method No. Iowa 215

(a) ~~If the Alumina value fails, determine the A Freeze value for specification compliance. Office of Materials Test Method No. Iowa 222 does not apply to gravel.~~ If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze for specification compliance.

(b) Alumina does not apply to gravel.

Section 4126. Aggregate for Polymer-Modified Microsurfacing

Table 4126.03-1: Aggregate Quality

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	40	AASHTO T 96
A Freeze	10	Office of Materials Test Method No. Iowa 211, Method A
Alumina[a, b]	0.7	Office of Materials Test Method No. Iowa 222
Sand Equivalence	45 (Minimum)	AASHTO T 176
Organic Materials	0.01	Office of Materials Test Method No. Iowa 215

(a) ~~If the Alumina value fails, determine the A Freeze value for specification compliance. Office of Materials Test Method No. Iowa 222 does not apply to gravel or quartzite.~~ If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze for specification compliance.

(b) Alumina does not apply to gravel.

4127.02 COARSE AGGREGATE.
Meet the requirements of Table 4127.02-1:

Table 4127.02-1: Coarse Aggregate Quality (Flexible Paving Mixtures)

Coarse Aggregate Quality	Type A Maximum %	Type B Maximum %		Test Method
		Primary	Other	
Abrasion	45	45	45	AASHTO T 96
Absorption[a]	6.0	6.0	6.0	Iowa DOT Materials Laboratory Test Method No. 201
Alumina[b,c]	1.0	1.5	~~2.5~~ 1.8	Iowa DOT Materials Laboratory Test Method No. 222
A Freeze	15	25	~~45~~ 28	Iowa DOT Materials Laboratory Test Method No. 211, Method A
~~C Freeze[b]~~	~~N/A~~	~~10~~	~~10~~	~~Iowa DOT Materials Laboratory Test Method No. 211, Method C~~
Clay Lumps/Friable Particles	2.0	~~N/A~~ 3.0	~~N/A~~ 3.0	Materials I.M. 368
Organic Material	0.01	0.01	0.01	Iowa DOT Materials Laboratory Test Method No. 215

(a) When a coarse aggregate for use in asphalt fails absorption using Iowa DOT Materials Laboratory Test Method No. 201; absorption determined by Materials I.M. 380 (Vacuum-saturated specific gravity & absorption) will be used. The 6.0% maximum absorption applies.
(b) If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze for specification compliance. ~~Iowa DOT Materials Laboratory Test Method No. 222 does not apply to gravel.~~
(c) Alumina does not apply to gravel.

Section 4131. Porous Backfill Material

Table 4131.03-1: Aggregate Quality (Porous Backfill Material)

Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	50	AASHTO T 96
Alumina[a, b]	0.7	Office of Materials Test Method No. Iowa 222
A Freeze	10	Office of Materials Test Method No. Iowa 211, Method A
Shale	5	Materials I.M. 345

(a) ~~If the Alumina value fails, determine the A Freeze value for specification compliance. Office of Materials Test Method No. Iowa 222 does not apply to gravel.~~ If the Alumina value passes, the A-Freeze is not needed for specification compliance. If the Alumina value fails, determine the A Freeze for specification compliance.
(b) Alumina does not apply to gravel.

Reason for Revision: Revision of Notes for clarity and consistency. Table 4127.02-1 1) C-Freeze is redundant to the A-Freeze requirement 2) Rewording Note (b) emphasizes the A-Freeze is not necessary if the alumina passes. 3) Putting A Freeze for "Other" at a better specification limit based on review of historic test result data. 4) Clarification of Notes. "Other" is rarely used but making the specification limits closer to Type B. There should be spec limits for clay and friable particles on Type B and "Other" for quality reasons.		
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	**Office:** Construction & Materials	**Item 8**
Submittal Date: March 23, 2022	**Proposed Effective Date:** October 2022	
Article No.: 4196.01, B, 1 **Title:** Silt Fencing	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/14/2022	**Effective Date:** 10/18/2022

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Design Bureau asked if this revision would have any affect on the Standard Road Plans, but the Construction and Materials Bureau indicated it would not.

Specification Section Recommended Text:

4196.01, B, 1, a.

Delete Article 4 and **renumber** following Article:

~~**4) Fabric and any reinforcing plastic netting that contains or is treated with ultraviolet stabilizers, sufficient to help prevent damaging deterioration for 2 years of outdoor exposure.**~~

~~**5**~~ **4)** Has the properties listed in Table 4196.01-1.

4196.01, B, 1, b.

Replace the Article:

The fabric may be reinforced with plastic netting ~~of nominal 3/4 inch strand spacing and a minimum three strand grab strength of 40 pounds and 15 pounds after the same accelerated weathering as required for the fabric. Fabric that is reinforced in this manner may have lower grab strengths as indicated~~ or wire. Fabric property requirements shall remain as listed in Table 4196.01-1.

Table 4196.01-1: Silt Fencing Fabric Properties

Property	Value	Test Method No.
Grab Strength, dry, minimum average fill direction run direction[(a)]	 100 lbs. 150 lbs.	ASTM D 4632
Ultraviolet Stability (Retained Strength)	70%	ASTM D 4355
Permittivity	0.05	ASTM D 4491
Apparent Opening Size, maximum	US Sieve No. 30	ASTM D 4751

~~(a) When plastic net reinforcing is used, ensure the minimum average grab strength requirement for fabric, before and after accelerated weathering, is 100 pounds and 35 pounds, respectively. Apply the grab strength to both the fill and run direction.~~

Comments:

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

1. **Silt Fencing.**
   - **a.** Meet the following requirements:
     - **1)** Woven material with a minimum width of 36 inches.
     - **2)** Top edge of the fabric hemmed or modified otherwise so that a braided cord or woven belt can be suitably attached for loop tying to fence posts.
     - **3)** The cord or belt of minimum tensile strength of 150 pounds.
     - **4)** ~~Fabric and any reinforcing plastic netting that contains or is treated with ultraviolet stabilizers, sufficient to help prevent damaging deterioration for 2 years of outdoor exposure.~~
     - ~~**5)**~~ Has the properties listed in Table 4196.01-1.
   - **b.** The fabric may be reinforced with plastic netting or wire. Fabric property requirements shall remain as listed in Table 4196.01-1. ~~of nominal 3/4 inch strand spacing and a minimum three strand grab strength of 40 pounds and 15 pounds after the same accelerated weathering as required for the fabric. Fabric that is reinforced in this manner may have lower grab strengths as indicated.~~

Table 4196.01-1: Silt Fencing Fabric Properties

Property	Value	Test Method No.
Grab Strength, dry, minimum average fill direction run direction~~(a)~~	 100 lbs. 150 lbs.	ASTM D 4632
Ultraviolet Stability (Retained Strength)	70%	ASTM D 4355
Permittivity	0.05	ASTM D 4491
Apparent Opening Size, maximum	US Sieve No. 30	ASTM D 4751

~~(a) When plastic net reinforcing is used, ensure the minimum average grab strength requirement for fabric, before and after accelerated weathering, is 100 pounds and 35 pounds, respectively. Apply the grab strength to both the fill and run direction.~~

Reason for Revision: All products on our current approved products list are woven polypropylene yarns that have the properties listed in table 4196.01-1 (None utilize plastic net reinforcing). Note 4 is modified as this is handled by ASTM D4355 requirements in table 4196.01-1 and no test method exists for proving any ultraviolet stabilizers can prevent damaging deterioration for 2 years of outdoor exposure. Note b. is modified to allow reinforcement of the fabric but strengths need to remain the same in order to maintain integrity of the silt fence installation. All fabrics on our current list meet grab strength requirements without extra reinforcement, however if they are wished to be used may be allowed still pursuant to meeting table 4196.01-1 properties.

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:		