

MINUTES OF IOWA DOT SPECIFICATION COMMITTEE MEETING

November 9, 2006

Members Present:	John Adam Tom Reis, Chair Daniel Harness, Secretary Keith Norris Bruce Kuehl Gary Novey Roger Bierbaum Jim Berger	Statewide Operations Bureau Specifications Section Specifications Section District 2-District Materials Engineer District 6-District Const. Engineer Office of Bridges & Structures Office of Contracts Office of Materials
Members Not Present:	John Smythe Mike Kennerly Larry Jesse Troy Jerman Doug McDonald	Office of Construction Office of Design Office of Local Systems Office of Traffic & Safety District 1-Marshalltown RCE
Advisory Members Present:	Lisa Rold	FHWA
Others Present:	LeRoy Bergmann Wayne Mander Tom Jacobson Vanessa Goetz Mark Bortle	Office of Local Systems Office of Design Office of Construction Office of Materials Office of Construction

Tom Reis, Specifications Engineer, opened the meeting. The following items were discussed in accordance with the agenda dated November 3, 2006:

<u>1.</u> Article 1101.03, Definition of Terms.

The Specifications Section requested changes to several definitions to include developmental specifications, and a change to the definition of Engineer approved at the September 14, 2006 meeting.

2. Article 1102.08, Examination of Plans, Proposal Form, Specifications, Supplemental Specifications, Developmental Specifications, Special Provisions, and of Site of Work.

The Specifications Section requested a change to include Developmental Specifications.

3. Article 2303.03, G, 5, Stop Sign Rumble Strips. Article 2529.12, Limitations of Operations.

The Specifications Section requested a change suggested by the District 1 Office to move language regarding stop sign rumble strips from Section 2303 to Section 2529.

4. Article 2405.09, Anchor Bolts for Bridge Bearings.

The Office of Construction requested a change that will restrict the practice of welding anchor bolts.

5. Article 2522.08, Footings.

The Office of Construction requested a change that will restrict the practice of welding anchor bolts.

6. Article 2523.03, Footings.

The Office of Construction requested a change that will restrict the practice of welding anchor bolts.

7. Article 2525.01, B, 2, Concrete Bases for Poles.

The Office of Construction requested a change that will restrict the practice of welding anchor bolts.

8. Article 2528.07, Portable Temporary Traffic Signals.

The Specifications Section requested a change that will combine Article 2528.07 and DS-01058 to allow expanded use of portable temporary traffic signals and more flexibility for the industry.

9. Article 2544.05, Cleaning and Filling of Cracks.

The Specifications Section and the Office of Contracts requested a change that will bring uniformity among Districts for contract periods.

<u>10</u> Article 4121.03, Quality.

The Office of Materials requested a change to remove quality requirements inadvertently added with GS-01010.

<u>11.</u> Article 4160.01, Wood Preservatives.

The Office of Materials requested a change to delete Ammoniacal Copper Arsenate (ACA) since it is no longer in use and has been removed from the 2006 AWPA Specifications.

12. Article 4161.03, Treatment.

The Office of Materials requested a change to update to the new Use Category System of the 2006 AWPA Specifications.

<u>13.</u> Article 4187.01, C, 2, Anchor Bolts, Nuts, and Washers.

The Office of Construction requested a change that will restrict the practice of welding anchor bolts.

<u>14.</u> SS-01047, High Tension Cable Guardrail.

The Office of Design requested changes to SS-01044 to add language for spare parts kits and for installations in weak soil.

15. SS-01047, Milled Shoulder Rumble Strips – HMA or PCC Surface.

The Specifications Section requested a change to DS-01082 suggested by the District 1 Office to add clarity to the Method of Measurement. The Specification Section is also requesting that DS-01082 be changed to a Supplemental Specification since it is applied to several projects each year.

16. PCC Pavement.

The Specifications Section would like to hear comments from the Committee regarding two issues that arose from the examination of inconsistencies between Iowa DOT and SUDAS:

- Eliminating payment for cold weather protection, and
- Making testing of PCC pavement samples incidental to the PCC paving item.

17. Article 4131.03, Quality (Porous Backfill Material).

The Office of Materials requested a change to Table 4131.03 that would change the maximum allowed percentage for abrasion from 45 to 50%.

18. Article 2529.12, Limitations (Full Depth Finish Patches).

The Specifications Section requested several changes that incorporate language removed from the Standard Road Plans.

Submitted by: Tom Reis / Daniel Harness		Office: Specifications Section Item		Item 1				
Submittal Date:	October 11, 2006		Proposed Effective I	Date: April 17, 2007				
Article No.: 110 Title: Definition	01.03 of Terms		Other:					
Specification C	ommittee Action: Appro	oved with cha	anges noted.					
Deferred:	Not Approved:	Approved	Date: 11/9/06	Effective Date: 4/1	7/07			
Specification C For Proposal Fo capitalize terms	Specification Committee Approved Text: For Engineer, see Specification Section Recommended text. For Proposal Form and Special Provisions, see the Specification Section Recommended text and capitalize terms as noted in the Comments. For Contract (Also Contract Documents), see below:							
Contrac	t (Also Contract Docum	ients).						
The writ obligatio furnishin	ten agreement between then sof the parties thereund of the parties thereund of labor and materials,	he Contractir der, including and the basis	ng Authority and the Co g but not limited to, the g s of payment.	ntractor setting forth performance of the w	the ork, the			
The con Instruction Provision Specific construct which co	tract includes the followin onal Memorandums, Notic ons, Standard sSpecificat cations; also any change ction of the work in an acc onstitute one instrument.	g: addendum ce to Bidders tions, Develo orders and a ceptable man	n, contract bond, contra s, Notice to Proceed, pla pmental Specifications greements which are re ner, including authorize	ct form, Materials ans, proposal, s Spec , and s Supplemental equired to complete t ed extensions thereof	ial he f, all of			
Comments: Th "specifications" s "supplemental s "notice to procee Provisions.	e Office of Contracts note should be "standard speci pecifications", "developme ed" should be capitalized i	ed that under fications". T ental specific in the definition	Contract (Also Contrac hey also noted that "sta ations", "special provisi ons of Contract, Propos	xt Documents) andard specifications" ons", "notice to bidde sal Form, and Specia	', er", and Il			
Specification S 1101.03, Definit Replace the Enginee	ection Recommended T ion of Terms. following definitions: er.	ext:						
The Chio the cour contract represer authority	The Chief Engineer for contracts let by the Department, the County Engineer for contracts let by the county, the City Engineer for contracts let by the city, or other engineer executive of the contracting Authority, acting directly or through duly authorized representatives, such representative acting within the scope of the particular duties assigned to the Engineer or of the authority of the county of the Engineer.							
For the I Enginee represer that are entity ult the own	Department, the Engineer r is a Professional Engine ntative of the Contracting to become publicly owner timately accepting owners er's authorized representa	r is the Chief eer licensed i Authority. Fo d, the Engine ship of the im ative.	Engineer. For publicly in the State of Iowa and or privately contracted p eer is the authorized rep provements. For all oth	owned projects, the I the authorized rojects, with improve presentative of the pu ier projects, the Engin	ments Iblic neer is			

The Engineer may act directly, or through duly authorized representatives, acting within the scope of the particular duties assigned to the Engineer, or of the authority given the Engineer.

Contract (Also Contract Documents).

The written agreement between the Contracting Authority and the Contractor setting forth the obligations of the parties thereunder, including but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment.

The contract includes the following: addendum, contract bond, contract form, Materials Instructional Memorandums, notice to bidders, notice to proceed, plans, proposal, special provisions, specifications, developmental specifications, and supplemental specifications; also any change orders and agreements which are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

Proposal Form.

The approved form which includes Special Provisions Text listing applicable sSupplemental sSpecifications, Developmental Specifications, sSpecial pProvisions, and other requirements of the project(s) on which the Contracting Authority requires formal bids to be prepared and submitted for the work.

Special Provisions.

Additions and revisions to the sStandard, gGeneral sSupplemental, Developmental, and sSupplemental sSpecifications covering conditions peculiar to an individual project. They only apply to a project when noted in the proposal form.

Comments:

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

See Specification Section Recommended Text.

Reason for Revision: SUDAS asked that for publicly owned projects, the Engineer be a Professional Engineer licensed in the State of Iowa. This has been added in to the definition for Engineer approved at the September 14, 2006 meeting.

Developmental Specifications should be added to the definition for Contracts.

For the sake of consistency, the Specifications Section is suggesting to add Developmental

Specifications to the definition for Proposal Form.

Developmental specifications should be added to the definition for Special Provisions.

County or City Input Needed (X one)	Yes	No X

Comments:

Industry Input Needed (X one)		Yes	No X		
Industry Notified:	Yes	No X	Industry Concurrence:	Yes	No
Comments:					

Submitted by: Tom Reis / Daniel Harness		Office: Specifications Item		Item 2			
Submittal Date:	October 11, 2006		Proposed Effective	Date: /	April 17, 2007		
Article No.: 1102.08 Title: Examination of Plans, Proposal Form, Specifications, Supplemental Specifications, Developmental Specifications, Special Provisions, and of Site of Work			Other:				
Specification Committee Action: Approved with changes noted.							
Deferred:	Not Approved:	Approved	I Date: 11/9/06	Effect	tive Date: 4/1	7/07	
Specification Committee Approved Text: 1102.08, Examination of Plans, Proposal Form, Specifications, Supplemental Specifications, Developmental Specifications, Special Provisions, and of Site Work. Replace the title and the first sentence: It is the responsibility of the bidder to examine the plans, proposal form, sStandard sSpecifications, sSupplemental sSpecifications, Developmental Specifications, sSpecial pProvisions, the site of the work, and the state of the work of other contractors on the project to assure that all requirements of the contract proposal form and the plans are fully understood.							
Comments: Of	fice of Contracts noted the	e same corr	rections need to made as	s in Iten	n 1		
Specification S 1102.08, Exami Developmental Replace the	ection Recommended T nation of Plans, Propos Specifications, Special	ext: al Form, Sr Provisions ອາ	pecifications, Suppleme s, and of Site Work.	ental S	specifications	i y	
It is the supplem work, ar of the ee	Replace the title and the first sentence: It is the responsibility of the bidder to examine the plans, proposal form, specifications, supplemental specifications, developmental specifications, special provisions, the site of the work, and the state of the work of other contractors on the project to assure that all requirements of the contract proposal form and the plans are fully understood.						
Comments:							
Member's Requ	lested Change: (Do not u	<mark>ise</mark> ' <u>Track C</u>	hanges', or ' <u>Mark-Up'</u> . Us	e <mark>Strike</mark>	eout and Highli	<mark>íght</mark> .	
See Specificatio	See Specification Section Recommended Text.						
Reason for Rev The use of the te isn't yet a writter	Reason for Revision: Developmental specifications should be added. The use of the term "proposal form" may be more appropriate here than "contract" since at this point there isn't yet a written agreement between the bidder and the Contracting Authority.						
County or City	Input Needed (X one)		Yes		No X		

Comments:						
Industry Input Needed (X one)			Yes	No X	No X	
Industry Notified:	Yes	No X	Industry Concurrence:	Yes	No	
Comments:						

Submitted by: Tom Reis / Daniel Harness		Office: Specifications Section Item 3				
Submittal Date:	October 27, 2006		Proposed Effective I	Date: 4/17/06		
Article No.: 23 Title: Stop Sig	03.03, G, 5 In Rumble Strips.		Other:			
Article No.: 25 Title: Limitatio	29.12 n of Operations.					
Specification C	ommittee Action: Appro	oved with cha	anges noted.			
Deferred:	Not Approved:	Approved	Date: 11/9/06	Effective Date: 4/1	7/07	
Specification Committee Approved Text: 2303.03, G, 5, Stop Sign Rumble Strips. Replace the entire article: The Contractor shall place Stop Sign Rumble Strips prior to opening roadway sections to traffic i If the plans include the bid item Rumble Strip Panel (In Full Depth Patch), Section 2529 shall apply. To meet the requirement of placing Stop Sign Rumble Strips before opening roadway sections to traffic, Tthe Contractor may accomplish this by construction of the permanent Rumble Strip Patch or by constructing construct temporary rumble strip panels meeting the final pattern and location of the Stop Sign Rumble Strip indicated in the plans. 2529.12, Limitation of Operations. Add as the second paragraph: The Contractor shall place Stop Sign Rumble Strips, when included in the plans, prior to opening roadway sections to traffic.						
Comments: The placing temporar Section 2529 an Committee agree	e Specifications Section r ry panels. They suggeste d leaving the language fo ed.	noted that 23 ed placing lar r temporary	03.03, G, 5 should inclung nguage regarding perm rumble strip panels in A	ude language regardi anent rumble strip pa Article 2303.03, G, 5.	ing anels in The	
Specification So 2303.03, G, 5, S Replace the The Cor the plane accompl tempora Strip ind Patch), S	ection Recommended T top Sign Rumble Strips entire article: stractor shall place Stop S s include the bid item Rur ish this by construction of ry rumble strip panels me icated in the plans. If the Section 2529 shall apply.	ext:	Strips prior to opening and (In Full Depth Patc ent Rumble Strip Patch al pattern and location o e the bid item Rumble S	roadway sections to t h). The Contractor m i or by constructing of the Stop Sign Rum Strip Panel (Full Dept	traffic if ay b le h	

2529.12, Limitation of Operations.							
Add as the second	paragraph:						
The Contractor shall place Stop Sign Rumble Strips prior to opening roadway sections to traffic. The Contractor may accomplish this by construction of the permanent Rumble Strip Patch or by constructing temporary rumble strip panels meeting the final pattern and location of the Stop Sign Rumble Strip indicated in the plans.							
Comments:							
Member's Requested	Change: (Do	not use ' <u>Track (</u>	<u>Changes'</u> , or ' <u>Mark-Up'</u> . Use <mark>Stril</mark>	cout and <mark>High</mark>	<mark>ılight</mark> .		
See Specification Secti	on Recommer	nded Text.					
Reason for Revision: District 1 Office pointed out that when a plan requires adding/replacement of rumble strips on projects without HMA bid items (thus no reference to sec. 2303) it appears this important traffic control specification language may not be applicable to the project. They pointed out that it might be better if this language were included in the bid item for 'Rumble Strip Panel (In Full Depth Patch)' covered in Section 2529.							
County or City Input N	Needed (X on	e)	Yes	No X			
Comments:	Comments:						
Industry Input Needed	d (X one)		Yes	No X			
Industry Notified:	Yes	No X	Industry Concurrence:	Yes No			
Comments:							

Submitted by: John Smythe / Wayne Sunday			Office: Construction Item 4				
Submittal Date:	10/26/06		Proposed Effective I	Date: April 17, 2007			
Article No.: 240 Title: Setting Ar	5.09 nchor Bolts For Bridge Be	arings	Other:				
Specification C	ommittee Action: Appro	oved with cha	anges noted.				
Deferred:	Not Approved:	Approved	Date: 11/9/06	Effective Date: 4/1	7/07		
Specification Constraint Specification Sec	ommittee Approved Tex ction Recommended Tex	t: Articles 24 t. Article 240	405.09; 2405.09, A; and 5.09, A, 2 and 2405.09	d 2405.09, A, 1, see 9, B, see below:			
 2. Preset Anchor Bolts. When the contract documents specify, anchor bolts for bridge bearings shall be set prior to placing concrete. The bolts shall be held firmly in a rigid template which spans the concrete with sufficient clearance to permit proper finishing of the surface of the concrete. Welding on anchor bolts shall not be allowed. The Contractor shall obtain a template from the manufacturer/fabricator for proper placement of the anchor bolts. The template shall remain in place until the concrete has hardened. Anchor bolts shall be set accurately at points specified in the contract documents and be plumb within 1/4 inch (6 mm) per 12 inches (300 mm). B. For Foundations. Welding on anchor bolts will not be allowed. The bolts shall be held firmly in a rigid template which spans the concrete with sufficient clearance to permit proper finishing of the surface of the surface of the concrete. The Contractor shall obtain a template from the manufacturer/fabricator. 							
Comments: The for plumbing and inch per foot. Th Construction was Structures to det The Director of the placed prior to p	Comments: The Office of Bridges and Structures asked where the tolerance of 1/8 inch per 48 inches for plumbing anchor bolts came from. They stated that for sign trusses, they are using a tolerance of 1/4 inch per foot. They expressed concern that 1/8 per 48 inches may not be constructible. The Office of Construction wasn't sure where the tolerance came from. They will work with the Office of Bridges and Structures to determine an appropriate tolerance.						
Article 2405.09, After the meeting bolts should be 1	A, 1 will be changed to st g, the Office of Bridges ar 1/4 inch per foot.	ate anchor b nd Structures	olts shall be placed prices of the to	or to concrete placem lerance for plumbing	nent. anchor		
Specification So	ection Recommended T	ext:					
2405.09, Ancho	2405.09, Anchor Bolts for Bridge Bearings.						
Replace the	title and the entire article	:					
2405.09 Anchor b galvaniz The end identify t	2405.09 Anchor Bolts for Bridge Bearings and Foundations. Anchor bolts shall meet the requirements of ASTM F 1554, Grade 36, and be full-length galvanized. Anchor bolts shall be the Unified Coarse Thread Series and have Class 2A tolerance. The end of each anchor bolt intended to project from the concrete shall be color coded in blue to identify the grade. Washers shall be galvanized and shall meet the requirements of ASTM F 436.						

Nuts shall meet the requirements of ASTM A 563, DH, be heavy hex, and be galvanized. Nuts may be over-tapped in accordance with the allowance requirements of ASTM A 563. Galvanizing shall meet the requirements of ASTM A 153, Class C; or ASTM B 695, Class 50.

A. For Bridge Bearings.

Unless otherwise specified in the contract documents, anchor bolts to be embedded in concrete substructures shall be set in drilled holes. Anchor bolts shall be set prior to the time the concrete is placed, when specified in the contract documents.

1. Anchor Bolts Set in Drilled Holes.

Anchor bolts for bridge bearings shall be accurately set perpendicular to the plane of the bridge seat in clean, dry holes. The locations of anchor bolts in relation to slotted holes in expansion shoes shall be varied to compensate for the temperature of the structure. The nuts on anchor bolts at the expansion bearings of spans shall be adjusted to permit movement of the span with changes in temperature. Anchor bolts shall be set with a hydraulic cement or polymer grout.

When a hydraulic cement grout is used, it shall meet the requirements of Materials I.M. 491.13. The diameter of the hole shall be 1/2 inch (13 mm) larger than the bolt diameter, and the annular space shall be slightly overfilled with grout.

When polymer grout is used, it shall meet requirements of Materials I.M. 491.11. The diameter of the hole shall be 1/8 inch (3 mm) larger than the bolt diameter, and the annular space shall be filled with the grout in accordance with the manufacturer's recommendations and limitations, as approved by the Engineer.

2. Preset Anchor Bolts.

When the contract documents specify, anchor bolts for bridge bearings shall be set during the placing of concrete. The bolts shall be held firmly in a rigid template which spans the concrete with sufficient clearance to permit proper finishing of the surface of the concrete. Welding on anchor bolts shall not be allowed. The Contractor shall obtain a template from the manufacturer/fabricator for proper placement of the anchor bolts. The template shall remain in place until the concrete has hardened. Anchor bolts shall be set accurately at points specified in the contract documents and be plumb within 1/8 inch (3 mm) per 48 inches (1200 mm).

B. For Foundations.

Welding on anchor bolts shall not be allowed. The bolts shall be held firmly in a rigid template which spans the concrete with sufficient clearance to permit proper finishing of the surface of the concrete. The Contractor shall obtain a template from the manufacturer/fabricator for proper placement of the anchor bolts. The template shall remain in place until the concrete has hardened. Anchor bolts shall be set accurately at points specified in the contract documents and be plumb within 1/8 inch (3 mm) per 48 inches (1200 mm).

Comments:

Member's Requested Change: (DO NOT USE "Track Changes," or "Mark-Up". Use Strikeout/Highlight)

2405.09 ANCHOR BOLTS FOR BRIDGE BEARINGS.

Unless otherwise specified in the contract documents, anchor bolts to be embedded in concrete substructures shall be set in drilled holes. Anchor bolts shall be set prior to the time the concrete is placed, when specified in the contract documents. Anchor bolts shall meet the requirements of ASTM F 1554, Grade 36, and be full-length galvanized. Anchor bolts shall be the Unified Coarse Thread Series and have Class 2A tolerance. The end of each anchor bolt intended to project from the concrete shall be

color coded in blue to identify the grade. Washers shall be galvanized and shall meet the requirements of ASTM F 436. Nuts shall meet the requirements of ASTM A 563, DH, be heavy hex, and be galvanized. Nuts may be over-tapped in accordance with the allowance requirements of ASTM A 563. Galvanizing shall meet the requirements of ASTM A 153, Class C; or ASTM B 695, Class 50.

A. Anchor Bolts Set in Drilled Holes.

Anchor bolts for bridge bearings shall be accurately set perpendicular to the plane of the bridge seat in clean, dry holes. The locations of anchor bolts in relation to slotted holes in expansion shoes shall be varied to compensate for the temperature of the structure. The nuts on anchor bolts at the expansion bearings of spans shall be adjusted to permit movement of the span with changes in temperature. Anchor bolts shall be set with a hydraulic cement or polymer grout.

When a hydraulic cement grout is used, it shall meet the requirements of Materials I.M. 491.13. The diameter of the hole shall be 1/2 inch (13 mm) larger than the bolt diameter, and the annular space shall be slightly overfilled with grout.

When polymer grout is used, it shall meet requirements of Materials I.M. 491.11. The diameter of the hole shall be 1/8 inch (3 mm) larger than the bolt diameter, and the annular space shall be filled with the grout in accordance with the manufacturer's recommendations and limitations, as approved by the Engineer.

B. Preset Anchor Bolts.

When the contract documents specify, anchor bolts for bridge bearings shall be set during the placing of concrete. The bolts shall be held firmly in a rigid template which spans the concrete with sufficient clearance to permit proper finishing of the surface of the concrete. The template shall remain in place until the concrete has hardened. Anchor bolts shall be set accurately at points specified in the contract documents.

2405.09 ANCHOR BOLTS FOR BRIDGE BEARINGS AND FOUNDATIONS.

Anchor bolts shall meet the requirements of ASTM F 1554, Grade 36, and be full-length galvanized. Anchor bolts shall be the Unified Coarse Thread Series and have Class 2A tolerance. The end of each anchor bolt intended to project from the concrete shall be color coded in blue to identify the grade. Washers shall be galvanized and shall meet the requirements of ASTM F 436. Nuts shall meet the requirements of ASTM A 563, DH, be heavy hex, and be galvanized. Nuts may be over-tapped in accordance with the allowance requirements of ASTM A 563. Galvanizing shall meet the requirements of ASTM A 153, Class C; or ASTM B 695, Class 50.

A. For Bridge Bearings.

Unless otherwise specified in the contract documents, anchor bolts to be embedded in concrete substructures shall be set in drilled holes. Anchor bolts shall be set prior to the time the concrete is placed, when specified in the contract documents.

1. Anchor Bolts Set in Drilled Holes.

Anchor bolts for bridge bearings shall be accurately set perpendicular to the plane of the bridge seat in clean, dry holes. The locations of anchor bolts in relation to slotted holes in expansion shoes shall be varied to compensate for the temperature of the structure. The nuts on anchor bolts at the expansion bearings of spans shall be adjusted to permit movement of the span with changes in temperature. Anchor bolts shall be set with a hydraulic cement or polymer grout.

When a hydraulic cement grout is used, it shall meet the requirements of Materials I.M. 491.13. The diameter of the hole shall be 1/2 inch (13 mm) larger than the bolt diameter, and the annular space shall be slightly overfilled with grout.							
When polymer the hole shall b filled with the g approved by th	grout is used, be 1/8 inch (3 n rout in accorda le Engineer.	it shall meet re nm) larger than ance with the m	quirements of Materials I.M. 48 the bolt diameter, and the anr nanufacturer's recommendatior	91.11. The dia nular space sh ns and limitatic	meter of all be ins, as		
2. Preset Ancl When the cont placing of cond with sufficient of anchor bolts sh manufacturer/f place until the the contract do	hor Bolts. ract documents crete. The bolts clearance to pe hall not be allow abricator for pr concrete has h cuments and b	s specify, anch shall be held f rmit proper fini ved. The Cont oper placemen ardened. Anch pe plumb within	or bolts for bridge bearings sha irmly in a rigid template which shing of the surface of the con ractor shall obtain a template f it of the anchor bolts. The temp or bolts shall be set accurately 1/8 inch (3 mm) per 48 inches	all be set durin spans the con crete. Welding rom the plate shall rem at points spec (1200 mm).	g the crete I on ain in cified in		
B. For Foundations.							
Welding on anchor bolt	is shall not be a	allowed. The b	olts shall be held firmly in a rig	id template wi			
Contractor shall obtain	a template fro	m the manufac	turer/fabricator for proper place	e of the concre	nchor		
bolts. The template sha	all remain in pla	ace until the co	ncrete has hardened. Anchor b	olts shall be s	et		
accurately at points spo	ecified in the co	ontract docume	ents and be plumb within 1/8 in	ch (3 mm) per	48		
inches (1200 mm).							
Reason for Revision: Instances of contractors welding anchor bolts has driven the need to specifically restrict this practice. This rewrite of this article addresses this and will be the primary Article location that will be referenced in other specification articles related to construction involving anchor bolts.							
County or City Input I	Needed (X on	e)	Yes	No			
Comments:							
Industry Input Neede	d (X one)		Yes	No			
Industry Notified:	Yes	Νο	Industry Concurrence:	Yes	No		
Comments:							

Submitted by: John Smythe / Wayne Sunday			Office: Construction Item 5			
Submittal Date: 10/26/06			Proposed Effective I	Date: April 17, 2007		
Article No.: 252 Title: Footings	2.08			Other:		
Specification Co	ommit	tee Action: A	pproved.			
Deferred:	Not A	Approved:	Approved	I Date: 11/9/06	Effective Date: 4/1	7/07
Specification Co	ommit	tee Approved	Text: See Spe	ecification Section Recor	nmended Text.	
Comments: No	ne.					
Specification Se	ection	Recommende	ed Text:			
2522.08, Footing	gs.					
Replace the	third s	entence:				
Placeme and any documer	nt of a other a nts.	nchor bolts sha appurtenant or	all be in accorda optional feature	ance with Article 2405.09 as of the footing shall be	9, B. Placement of , o as shown in the con	onduit , tract
Comments:						
Member's Requ	ested	Change: (DO	NOT USE " <u>Trac</u>	<u>k Changes</u> ," or " <u>Mark-Up</u>	". Use Strikcout /Higl	<mark>hlight</mark>)
2522.08 FOOTIN	IGS.					
Footings shall be	const	ructed as requ	ired in the contr	act documents at the sp	ecified locations. Un	less
specifically state	d othe	rwise, methods	and materials	used for construction of	footings shall be in	
conformance with	n curre	ent specification	ns. <mark>Placement c</mark>	of anchor bolts shall be ir	n accordance with A	rticle
2405.09, B. Plac	emen	t of conduit and	l any other app	urtenant or optional feat	ures of the footing sh	nall be
as shown in the o	contra	ct documents.				
Reason for Revision: Instances of contractors welding anchor bolts has driven the need to specifically restrict this practice. This rewrite of this article addresses this and will be the primary Article location that will be referenced in other specification articles related to construction involving anchor bolts.						
Reason for Rev restrict this pract will be reference	ision: ice. Tl d in oth	his rewrite of the transformed by the transformed b	is article addre n articles relate	sses this and will be the d to construction involvir	primary Article locat ng anchor bolts.	fically ion that
Reason for Rev restrict this pract will be referenced County or City I	ision: ice. Tl d in oth nput N	his rewrite of the her specification	n articles relate	sses this and will be the d to construction involvir Yes	primary Article locat ng anchor bolts.	fically ion that
Reason for Rev restrict this pract will be referenced County or City I Comments:	ision: ice. Tl d in oth nput N	his rewrite of the her specification	article addre n articles relate	sses this and will be the d to construction involvir Yes	primary Article locat ng anchor bolts.	fically ion that
Reason for Rev restrict this pract will be referenced County or City I Comments: Industry Input N	ision: ice. Ti d in oth nput N	his rewrite of the the specification of the specifi	article addre n articles relate	Yes	No	fically ion that
Reason for Rev restrict this pract will be referenced County or City I Comments: Industry Input N Industry Notifie	ision: ice. Ti d in oth nput N leeded d:	A (X one) Yes	n article addre n articles relate	Yes Industry Concurrence	No No Yes	fically ion that

Submitted by: John Smythe / Wayne Sunday			Office: Construction Item 6				
Submittal Date:	: 10/26/06		Proposed Effective I	Date: April 17, 2007			
Article No.: 252 Title: Footings	3.03		Other:				
Specification C	ommittee Action: Appro	oved with cha	anges noted.				
Deferred:	Not Approved:	Approved	Date: 11/9/06	Effective Date: 4/1	7/07		
Specification C 2523.03, Footin	Specification Committee Approved Text: 2523.03, Footings.						
Add as the t	third sentence to the fourt	h paragraph:	l				
Anchor	bolts shall be placed in ac	ccordance wit	th Article 2405.09, B.				
Comments: Th	e Office of Bridges and S	tructures not	ed that 2525.03 should	be 2523.03.			
Specification S	ection Recommended T	ext:					
2525.03, Footin	gs.						
Add as the t	third sentence to the fourt	h paragraph:	1				
Anchor	bolts shall be placed in ac	cordance wit	th Article 2405.09, B.				
Comments:							
Member's Requ	Jested Change: (DO NO	T USE " <u>Track</u>	Changes," or "Mark-Up	". Use Strikeout<mark>/High</mark>	light)		
2523.03 FOOTII The Contractor s or barriers. The (150 mm) below including reinford documents.	2523.03 FOOTINGS. The Contractor shall provide cast-in-place concrete footings for all lighting units not located on structures or barriers. The top portion of all footings shall be formed and poured in form work to at least 6 inches (150 mm) below the finished ground level. The footings shall conform in all respects to the details, including reinforcement and alignment to provide the correct overhang, as indicated in the contract documents.						
The finished sur	faces shall be smooth and	d free from st	tains and foreign mater	ial.			
When shale, sar an alternate foot	When shale, sandstone, broken and shattered rock, solid rock, or other similar materials are encountered, an alternate footing, shall be constructed as directed by the Engineer.						
Anchor bolts sha transformer base are used, Contra base. Anchor be	all be placed to provide for e or pole flange with ampl actor shall position anchor olts shall be placed in acc	r placement of le room for ac r bolts so that cordance with	of nuts and washers on djustment and plumbing t they do not interfere w 1 2405.09, B.	the top and bottom og the pole. When slip vith the operation of tl	of the bases he slip		

Reason for Revision:								
County or City Input Needed (X one)		Yes No						
Comments:								
Industry Input Needed (X one)		Yes	No					
Industry Notified:	Yes	No	Industry Concurrence: Yes		No			
Comments:								

Submitted by: John Smythe / Wayne Sunday			Office: Construction Item 7					
Submittal Date: 10/26/06			Proposed Effective Date: April 17, 2007					
Article No.: 252 Title: Concrete	5.01, E Bases	3, 2 For Poles		Other:				
Specification Co	ommit	ttee Action: A	pproved.					
Deferred:	Not /	Approved:	Approved	I Date: 11/9/06	Effective Date: 4/1	7/07		
Specification Co	ommit	ttee Approved	Text: See Spe	cification Section Recon	nmended Text.			
Comments: No	ne.							
Specification Se	ection	Recommende	ed Text:					
2525.01, B, 2, C	oncre	te Bases for P	oles.					
Add as the f	ourth s	sentence:						
Placeme	nt of a	anchor bolts sha	all be in accorda	ance with Article 2405.09	9, B.			
Comments:								
2. Concrete Bas The material for specified pattern place while the c rigidly in place be accordance with template constru center of the tem requirements of s rounded with an the sidewalk or p the top of the con The exposed sur Reason for Rev	Member's Requested Change: (DO NOT USE "Track Changes," or "Mark-Up". Use Strikeout/Highlight) 2. Concrete Bases for Poles. The material for the forms shall be of sufficient thickness to prevent warping or other deflections from the specified pattern. The forms shall be set level, and means shall be provided for holding them rigidly in place while the concrete is being deposited. All conduit, ground rods, and anchor rods shall be installed rigidly in place before concrete is deposited in the forms. Placement of anchor bolts shall be in accordance with Article 2405.09, B. Anchor bolts for the signal poles shall be set in place by means of a template constructed to space the anchor bolts in accordance with the manufacturer's requirements. The center of the template and the center of the concrete base shall coincide. Concrete shall meet requirements of Section 2403. The top of the base shall be finished level and the top edges shall be rounded with an edger having a radius of 0.5 inch (13 mm). The top of pole bases shall be set flush with the sidewalk or pavement surface. When installed in an earth shoulder away from the pavement edge, the top of the concrete base shall be approximately 4 inches (100 mm) above the surface of the ground. The exposed surface of the base shall have a wood floated finish.							
County or City I	nput l	Needed (X on	e)	Yes	Νο			
Comments:					1			
Industry Input N	leede	d (X one)		Yes	No			
Industry Notifie	d:	Yes	Νο	Industry Concurrence	: Yes	No		
Comments:								

Submitted by: Tom Reis	Office: Specifications	Item 8
Submittal Date: October 27, 2006	Proposed Effective Date: April 2007 GS	
Article No.: 2528.07 Title: Temporary Traffic Signals	Other:	
Developmental Specification: DS-01058 Title: Portable Temporary Traffic Signals		

Specification Committee Action: Approved. The Specifications Section will include comments and concerns raised by the Office of Construction.

Deferred: Not App	roved: Approved Da	te: 11/9/06	Effective Date: 4/17/06
-------------------	--------------------	--------------------	-------------------------

Specification Committee Approved Text:

2528.07 Temporary Traffic Signals.

Replace the entire article:

A. GENERAL.

Temporary traffic signals shall be set up and operated as shown in the contract documents. The temporary traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part 4 of the MUTCD. Unless otherwise stated in the contract documents, the Contractor may provide either a span wire or trailer mounted temporary traffic signal system.

In the event any part of the temporary traffic signal system malfunctions or a continuous red flash mode is encountered, flaggers shall be furnished by the Contractor on a 24 hour-7 day a week basis until repairs are made and the signals are fully functional. For temporary traffic signals at intersections, the Contractor shall install stop signs on all approaches until the signals are fully operational. This shall be at no additional cost to the Contracting Authority.

B. EQUIPMENT

1. TRAILER OR SPAN WIRE MOUNTED SYSTEMS.

The Contractor shall furnish actuated signal controllers complying with NEMA and ITE standards. The temporary traffic signal system shall include a solid state digital traffic signal controller capable of operating the signals in accordance with MUTCD requirements and NEMA Standard TS1 (a copy of the manufacturer's certificate of compliance shall be posted in the control cabinet (in a weatherproof folder) and made available to the Engineer upon request). Temporary traffic signal systems shall have conflict monitoring conforming to NEMA TS1 standard. The conflict monitor shall detect the presence of conflicting signal indications, absence of proper voltages, and proper operation of the controller. Upon detection of a conflict or loss of communication, all signals shall enter into flashing red mode.

Article 2525.03, D shall apply with the following exceptions for one lane two way traffic control:

a. Green Revert.

If during an All Red clearance interval a call occurs on the phase losing the right-of-way prior to a call on any other traffic phase, the right-of-way shall revert to the previous traffic phase, initiating the initial green interval. The transfer shall be immediate without completing the All Red clearance interval.

b. Rest in Absence of Actuation.

In the absence of detector actuation of assertion or recall switch(es), the right-of-way indication shall Dwell In All Red.

Clearance for overhead wiring shall be a minimum of 18 feet (5.5 m).

A detection area shall be located near the stop line with the downstream edge positioned 6 feet (2 m) from the stop line. A second detection area shall be located 100 to 150 feet (30 to 45 m) in advance of the stop line. The size of the detection area shall be 6 feet by 10 feet (2 m by 3 m). A single above-ground detector may be used to provide detection for both areas.

Signal heads shall have 12 inch (300 mm) lenses and conform to ITE Specification "Vehicle Traffic Control Signal Heads". All signal heads shall be equipped with visors and back plates. The backplate shall provide a minimum of 5 inches (125 mm) black field around the signal assembly and shall have a dull black finish.

There shall be a minimum of two traffic signal heads per approach. All signal heads mounted over the road surface shall be mounted a minimum of 15 feet (4.6 m) from the bottom of the signal head to the top of the road surface. One signal head shall be mounted over the center of the travel lane. All far right signal heads shall be mounted a minimum of 8 feet (2.45 m) from the bottom of the signal head to the top of the top of the ground surface. Required signal heads for through traffic on any one approach shall be located not less than 8 feet (2.4 m) apart measured horizontally perpendicular to the approach between the centers of the signal faces.

2. TRAILER MOUNTED SYSTEMS.

Approved trailer mounted systems are listed in Materials I.M. XXX.

The system shall consist of two or more self-contained trailer mounted units each containing two signal heads.

3. SPAN-WIRE MOUNTED SYSTEMS.

Posts shall meet requirements of Article 2528.02.

C. OPERATIONAL REQUIREMENTS.

The exact location of the signals, stop bars, and signs shall be as identified in the contract documents. Temporary traffic signal installations shall be set up securely and leveled in a manner approved by the Engineer.

All temporary traffic signals shall be programmed for red flash upon startup, conflict, or power failure. The temporary traffic signal system shall be programmed to dwell in all-red.

For one lane two way traffic control operations, when an additional phase is used for a side road movement, only one long all red interval shall be used between active phases on each side of the work area.

Signal timing shall be set as identified in the contract documents.

D. EQUIPMENT CROSSINGS.

For equipment crossings, a signal operator shall be used to control the signal system. This operator shall be positioned with good sight distance for both the mainline and haul road.

The signal system shall be preprogrammed with fixed yellow and all red time periods so the operator can only activate the beginning of the yellow interval for mainline traffic.

When the equipment crossing is not in use, the signal shall be set to yellow flash mode. If hauling operations are suspended for more than one week, the signal heads shall be covered or if portable trailer units are used, the trailers shall be removed.

Comments: Below are the comments from ATSSA members:

- The ADDCO representative raised a concern about the requirement for NEMA TS-1 certification. ADDCO stated that they make an equivalent portable trailer mounted temporary signal system that is not NEMA TS-1 certified, but has been approved for use and has been used by the DOTs in Minnesota, Nebraska, Kansas, Missouri, Illinois, and Michigan. ADDCO would like Iowa to modify our specifications to allow their unit. They forwarded a 12 page purchase specification for their system.
- 2. The Horizon Signal representative agreed with the proposed language.
- 3. The OMHC representative requested that the Materials I.M. language include the words, "as long as they meet this specification" after the words, "The following portable temporary traffic signals are approved for use in Iowa."
- 4. The Quality Traffic Control representative agreed with the proposed language.

The Office of Construction explained the Office of Traffic and Safety wants to stick to the NEMA TS-1 certified controllers. They also noted that none of the other I.M.s contain the phrase, "as long as they meet this specification," so they recommend against adding this language.

The Specifications Section noted that a Materials I.M. will be developed that will list approved manufacturers.

The question was raised regarding whether or not span wire controllers must meet TS-1 requirements. The Office of Construction responded that all actuated signal controllers must be TS-1 certified. The question was raised if road standards will need to be changed. The Specifications Section responded that there are a few. References to span wire will be eliminated from the road standards.

The Specifications Section noted that the Office of Construction had some additional comments and formatting concerns. These will be addressed before the recommended changes are added to the General Supplemental.

Specification Section Recommended Text: See Member's requested text.

Comments: Revisions as a result of comments/input from ATSSA will be handed out at the meeting.

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

General rewrite combining DS-01058 and Article 2528.07

2528.07 TEMPORARY TRAFFIC SIGNALS.

A. GENERAL.

Traffic signals shall be as shown in the contract documents and shall be adjusted and operated as required therein. Details for traffic signals are in Part 4 of the MUTCD.

In the event a temporary traffic signal malfunctions or a continuous red flash mode is encountered, flaggers shall be furnished by the Contractor on a 24 hour-7 day a week basis until repairs are made and the signals are fully functional. For temporary traffic signals at intersections, the Contractor shall install stop signs on all approaches until the signals are fully operational. This shall be at no additional cost to the Contracting Authority.

B. EQUIPMENT

1. TRAILER OR SPAN WIRE MOUNTED SYSTEMS.

The Contractor shall furnish actuated signal controllers complying with NEMA and ITE standards. The system shall include a solid state digital traffic signal controller capable of operating the signals in accordance with MUTCD requirements and NEMA Standard TS1 (a certificate of compliance may be required).

Traffic signal systems shall have conflict monitoring that conforms to NEMA TS1 standards. The conflict monitor shall detect the presence of conflicting signal indications, absence of proper voltages, and proper operation of the controller. Upon detection of a conflict or loss of communication, all signals shall enter into flashing red mode.

Signal timing shall be set as identified in the contract documents.

Article 2525.03 shall apply with the following exceptions for two-lane-two-way roadways:

a. Green Revert.

If during an All Red clearance interval a call occurs on the phase losing the right-of-way prior to a call on any other traffic phase, the right-of-way shall revert to the previous traffic phase, initiating the initial green interval. The transfer shall be immediate without completing the All Red clearance interval.

b. Rest in Absence of Actuation.

In the absence of detector actuation of assertion or recall switch(es), the right-of-way indication shall Dwell In All Red.

All signal heads mounted over traffic shall be centered over the appropriate traffic lane.

Clearance for overhead wiring shall be a minimum of 18 feet (5.5 m).

For two-lane-two-way roadways, a detection area shall be located near the stop line with the downstream edge positioned 6 feet (2 m) from the stop line. A second detection area shall be located 100 to 150 feet (30 to 45 m) in advance of the stop line. The size of the detection area shall be 6 feet by 10 feet (2 m by 3 m). A single above-ground detector may be used to provide detection for both areas.

Signal heads shall have 12 inch (300 mm) lenses and conform to ITE Specification "Vehicle Traffic Control Signal Heads". All signal heads shall be equipped with visors and back plates. The backplate shall provide a minimum of 5 inches (125 mm) black field around the signal assembly and shall have a dull black finish.

Posts shall meet requirements of Article 2528.02. Unless otherwise specified in the contract documents, the Contractor may provide a portable temporary traffic signal system.

The operating temperature range of the signal system shall be at least $-30^{\circ}F$ to $120^{\circ}F$ ($-35^{\circ}C$ to $50^{\circ}C$).

2. EQUIPMENT CROSSINGS.

For equipment crossings, a signal operator shall be used to control the signal system. This operator shall be positioned with good sight distance for both the mainline and haul road.

The signal system shall be preprogrammed with fixed yellow and all red time periods so the operator can only activate the beginning of the yellow interval for mainline traffic.

When the equipment crossing is not in use, the signal shall be set to yellow flash mode for spanwire systems and removed for portable trailer systems. If hauling operations are suspended for more than one week, the signal heads shall be covered or if portable trailer units are used, the trailer shall be removed.

3. TRAILER MOUNTED SYSTEMS.

Approved trailer mounted temporary signal systems are listed in Materials I.M. XXX.

The system shall consist of two or more self-contained trailer mounted units each consisting of two signal heads. One signal head shall be mounted on a mast arm capable of extending over the center of the travel lane. The system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part 4 of the MUTCD.

4. SPAN-WIRE MOUNTED

Temporary traffic signals for intersection control may be span-wire mounted. Traffic signals shall be installed as shown in the contract documents.

C. OPERATIONAL REQUIREMENTS

The exact location of the signals, stop bars, and signs shall be as identified in the contract documents. The portable traffic signal installations shall be set up securely and leveled in a manner approved by the Engineer.

All portable traffic signals shall be programmed for red flash upon startup, conflict, or power failure. The portable traffic signal system shall be programmed to dwell in all-red.

There shall be a minimum of two traffic signal heads per each approach. All signal heads mounted over the road surface shall be mounted at a minimum height of 15 feet (4.6 m) from the bottom of the signal head to the top of the road surface. All far right signal heads shall be mounted at a minimum height of 8 feet (2.45 m) from the bottom of the signal head to the top of the ground surface.

For one lane two way operations, when an additional phase is used for a side road movement, only one long all red interval shall be used between active phases on each side of the work area.

Materials I.M. xxx

B. LIST OF APPROVED MANUFACTURERS

The following portable temporary traffic signals are approved for use in Iowa.

Horizon Signal Technologies	Model: SQ3TS
OMJC Signal, Inc.	Model: Pop-Up 17-15 IA

Other portable temporary traffic signals may be approved by contacting the State Traffic Engineer at 515.239.1513.

Reason for Revision: Combining Section 2528.07 and DS-01058 will allow expanded use of portable temporary signals and more flexibility for the industry.

County or City Input Needed (X one)			Yes	No		
Comments:						
Industry Input Needed (X one)			Yes x	Νο		
Industry Notified:	Yes x	No	Industry Concurrence:	Yes	No	
Comments: The ATSSA has been notified and their input should be received prior to the November 9, 2006 Specification Committee meeting.						

Submitted by: Roger Bierbaum / Tom Reis			Office:	Contracts /	Specifications	ltem 9	
Submittal Date: October 16, 2006			Proposed Effective Date: 4/17/07				
Article No.: 254 Title: Cleaning	44.05 and Filling of Cracks		Other:				
Specification C	committee Action: Approv	ved.					
Deferred:	Not Approved:	Approved	Date: 11/9	9/06	Effective Date: 4/	17/07	
Specification C	committee Approved Tex	ct: See Spec	cifications	Section Reco	ommended Text.		
Comments: Inc	dustry accepted the propo	sed changes	S.				
Specification S	ection Recommended T	ext:					
2544.05, Cleani	ing and Filling of Cracks	.					
Replace the	e second sentence of the f	first paragrap	bh:				
Except v allowed	when this work is in prepa on pavements from June	ration for a s May 15 to S	eal coat o eptember	r slurry seal, 15 30.	crack filling will not	be	
Comments:							
The Committee received from th	decided to defer until after e AGCI as noted.	r input has b	een receiv	ved from indu	stry. Input has been	I	
The Office of Co that their mainte propose this to i	ontracts suggested the pro mance people suggested ndustry.	posed chang May 15 to Se	ges to pro eptember :	mote consiste 30 instead. T	ency. District 6 com The Office of Contra	mented cts will	
Member's Requ	uested Change: (DO NOT	T USE " <u>Track</u>	Changes,	" or " <u>Mark-Up</u>	". Use Strikeout<mark>/Hig</mark>	<mark>hlight</mark>)	
The 2001 Stand sentence of the "Except allowed become	The 2001 Standard Spec Book has the following limitation for Cleaning and Filling of Cracks. The second sentence of the first paragraph of 2544.01 states: "Except when this work is in preparation for a seal coat or slurry seal, crack filling may not be allowed on pavements in the months of July and August if tracking or soiling of the pavement becomes a problem."						
GS—01002 replaced the second sentence of the first paragraph of 2441.01 with the following: "Except when this work is in preparation for a seal coat or slurry seal, crack filling may will not be allowed on pavements in the months of July and August if tracking or soiling of the pavement becomes a problem from June 15 to September 15."							
Some districts a work to be done should be unifor what limitations uniformly by all o	Some districts are modifying the GS with their own district specific limitations (normally not allowing this work to be done between June 15 and September 15). We have received a complaint that all districts should be uniform. Therefore the Office of Contracts is asking the Specification Committee to review what limitations on Cleaning and Filling of Cracks should be included in the next GS which can be used uniformly by all districts.						
Reason for Rev	vision: Lack of uniformity	between dist	tricts				

County or City Input Needed (X one)			Yes	No X				
Comments:								
Industry Input Needed (X one)			Yes X	No				
Industry Notified:	Yes X	No	Industry Concurrence:	Yes X	No			
Comments: The AGCI contacted their members in May 2006 and have confirmed there are no objections to the changes recommended.								

Submitte	Submitted by: Jim Berger / Keith Norris			Office: M	Office: Materials / District 2 Materials Item 10			
Submittal Date: October 20, 2006				Proposed	Proposed Effective Date: April 17, 2006			
Article No Title: Qua	o.: 4121.03 iality			Other:				
Specifica	ation Commit	tee Action: A	pproved.					
Deferred:	: Not A	Approved:	Approv	red Date: 11/9/	06	Effective Date: 4	/17/07	
Specifica	ation Commit	tee Approved	Text: See S	Specifications S	ection Reco	ommended Text.		
Commen	its: None.							
Specifica 4121.03, 0 Delete	ation Section Quality. te the fourth a	Recommende	ed Text: Table 4121.	03:				
	Total of A	brasion & C Fr	eeze	65				
	Clay Lum	ps and Friable	particles	4	Mate	erials I.M. 368		
Comment	its:							
Member's	s Requested	Change: (Do r	not use ' <u>Trac</u> l	<u>Changes'</u> , or ' <u>N</u>	<u>Mark-Up'</u> . Us	se <mark>Strikeout</mark> and <mark>Hig</mark>	<mark>Jhlight</mark> .	
			TABL	.E 4121.03	-			
	Coarse Aggregate Quality							
	Coarse Ag	gregate Qualit	ty Maxin	Allowed	Т	est Method		
A	Coarse Ag Abrasion	gregate Qualit	ty Maxin	Allowed 50	T AASHTO	Test Method		
A	Coarse Ag Abrasion Alumina ^(a)	gregate Qualit	ty Maxin	Allowed 50 1.5	T AASHTO Iowa DOT Laborator	Test Method T 96 T Materials Y Test Method 222		
A A A	Coarse Ag Abrasion Alumina ^(a) A Freeze	gregate Qualit		Allowed 50 1.5 25	T AASHTO Iowa DOT Laborator Iowa DOT Laborator Method A	Test Method T 96 Materials Y Test Method 222 Materials Y Test Method 211	,	
A A A	Coarse Ag Abrasion Alumina ^(a) A Freeze Fotal of Abras	gregate Qualit		Allowed 50 1.5 25 65	T AASHTO Iowa DOT Laborator Iowa DOT Laborator Method A	Test Method T 96 Materials T Materials T Materials T Materials T Test Method 211	,	
A A T	Coarse Ag Abrasion Alumina ^(a) A Freeze Fotal of Abras Clay Lumps an	gregate Qualit ion <u>& C Freeze</u> id Friable parti		Allowed 50 1.5 25 65 4	T AASHTO Iowa DOT Laborator Iowa DOT Laborator Method A Materials	Test Method T 96 Materials T Test Method 222 Materials T Materials T Test Method 211	,	
A A I C a	Coarse Ag Abrasion Alumina ^(a) A Freeze Fotal of Abras Clay Lumps an ^{a)} If the Alum compliance. Ic	gregate Qualit ion <u>& C Freeze</u> id Friable parti ina value fails, iwa DOT Mater	cles the A Freeze ials Laborato	Allowed 50 1.5 25 65 4 e value shall be bry Test Method	T AASHTO Iowa DOT Laborator Iowa DOT Laborator Method A Materials determined 222 does	Test Method T 96 Materials T Test Method 222 Materials T Test Method 211 Materials T Test Method 211	, 	
A A F C Reason fr Standard	Coarse Ag Abrasion Alumina ^(a) A Freeze Fotal of Abras Clay Lumps an a) If the Alum compliance. Ic for Revision: Specifications	gregate Qualit ion & C Freeze ad Friable parti ina value fails, iwa DOT Mater The last two qu s Series 2001 a	ty cles the A Freeze tals Laborato uality require and were not	Allowed 50 1.5 25 65 4 e value shall be bry Test Method ments listed in fintended to be	T AASHTO Iowa DOT Laborator Iowa DOT Laborator Method A Materials determined 222 does table 4121. added to G	Test Method T 96 Materials T Materials T M	, , ed in the	
A A A F C C C C C C C C C C C C C C C C	Coarse Ag Abrasion Alumina ^(a) A Freeze Fotal of Abras Clay Lumps an a) If the Alum compliance. Ic for Revision: Specifications	gregate Qualit ion <u>& C Freeze</u> nd Friable parti ina value fails, ina valu	ty cles the A Freeze ials Laborato uality require and were not	Allowed 50 1.5 25 65 4 e value shall be bry Test Method ments listed in fintended to be Yes	T AASHTO Iowa DOT Laborator Iowa DOT Laborator Method A Materials determined 222 does table 4121. added to G	Test Method T 96 Materials T Test Method 222 Materials T Materials T Test Method 211 Method 211 Method 211 Method 211 Method 211 Method 211 Method 211 Method 222 Method 221 Method 221 Method 221 Method 221 Method 211 Method 211 Met	, , ed in the	
A A A A A A A A C C C C C C C C C C C C	Coarse Ag Abrasion Alumina ^(a) A Freeze Fotal of Abras Clay Lumps an ^{a)} If the Alum compliance. Ic for Revision: Specifications or City Input I hts:	gregate Qualit ion & C Freeze ad Friable parti ina value fails, ina value fails, ina DOT Mater The last two qu s Series 2001 a	cles the A Freeze ials Laborato uality require and were not	Allowed 50 1.5 25 65 4 e value shall be bry Test Method ments listed in fintended to be Yes	T AASHTO Iowa DOT Laborator Iowa DOT Laborator Method A Materials determined 222 does table 4121. added to G	Test Method T 96 Materials T Materials T M	ed in the	
A A A A A A A A A A A A A A A A A A A	Coarse Ag Abrasion Alumina ^(a) A Freeze Fotal of Abras Clay Lumps an ^{a)} If the Alum compliance. Ic for Revision: Specifications or City Input Needed	gregate Qualit ion & C Freeze ad Friable parti ina value fails, ina value	ty cles the A Freeze rials Laborato uality require and were not e)	Allowed 50 1.5 25 65 4 e value shall be bry Test Method ments listed in fintended to be Yes Yes	T AASHTO Iowa DOT Laborator Iowa DOT Laborator Method A Materials determined 222 does table 4121. added to G	T 96 T 96 T Materials y Test Method 222 T Materials y Test Method 211	ed in the	
A A A A A A A A A A A A A A A A A A A	Coarse Ag Abrasion Alumina ^(a) A Freeze Fotal of Abras Clay Lumps an a) If the Alum compliance. Ic for Revision: Specifications or City Input Needed Notified:	gregate Qualit ion & C Freeze ad Friable parti ina value fails, ina value	ty Maxin cles the A Freeze the A Freeze tals Laborato uality require and were not e) No	Allowed 50 1.5 25 65 4 e value shall be pry Test Method ments listed in finitended to be Yes Yes Industry Co	T AASHTO Iowa DOT Laborator Iowa DOT Laborator Method A Materials determined 222 does table 4121. added to G	rest Method T 96 T Materials y Test Method 222 T Materials y Test Method 211 T Materials y Test Method 211 T Materials the secification not apply to gravel. O3 were not include S 01010. No X No X The secification No X	ed in the	

Submitted by: Jim Berger			Office: Materials Item			
Submittal Date: October 27, 2006			Proposed Effective Date: April 07			
Article No.: 416 Title: Wood Pre	60.01, D, E, and F eservatives		Other:			
Specification C	ommittee Action: Appro	oved.				
Deferred:	Not Approved:	Approved	Date: 11/9/06	Effective Date: 4	/17/07	
Specification C	ommittee Approved Tex	kt: See Spec	cification Section Recor	nmended Text.		
Comments: No	ne.					
Specification S	ection Recommended T	ext:				
4160.01, D, Am	moniacal Copper Arsen	ate.				
Delete the e	entire article:					
D. Amm	ioniacal Copper Arsena	te.				
Ammoni (AWPA	acal copper arsenate (AC P5).	CA) shall con	form to the requiremen	ts of AASHTO M 1	33	
4160.01, E, Amı	moniacal Copper Zinc A	rsenate.				
Renumber t	the article:					
4160.01	, <mark>≣ D</mark> , Ammoniacal Copr	per Zinc Ars	enate.			
4160.01, F, Cop	per Naphthenate.					
Renumber t	the article:					
4160.01	, F E , Copper Naphthen	ate.				
Comments:						
Member's Requ	uested Change: (<mark>Do not ບ</mark>	<mark>ise</mark> ' <u>Track Ch</u>	anges', or ' <u>Mark-Up'</u> .Us	e <mark>Strikeout</mark> and <mark>Hig</mark> l	<mark>hlight</mark> .	
4160.01 DESCR Wood preservati the requirements	NPTION. ives shall meet the require s of all Federal, State, and	ements for th d local regula	e material specified. Us itions.	se of this material s	shall meet	
A. Creo Creosote	sote. e for a wood preservative	shall meet r	equirements of AASHT	O M 133 (AWPA P	1).	
B. Pent a Pentach P8). Pet	achlorophenol. Iorophenol for a wood pre roleum solvent shall mee	eservative sh t requiremen	all meet requirements of AWPA P9 for Hyd	of AASHTO M 133 rocarbon Solvent T	(AWPA ype A.	

C. Chromated Copper Arsenate. Chromated copper arsenate (CCA) shall conform to the requirements of AASHTO M 133 (AWPA P5), Type A, Type B, or Type C.									
D. Ammoniacal Copper Arsenate. Ammoniacal copper arsenate (ACA) shall conform to the requirements of AASHTO M-133 (AWPA P5).									
<mark>E,</mark> <mark>D,</mark> Ammoni Ammoniacal C (AWPA P5).	i acal Copper 2 Copper Zinc Ars	Zinc Arsenate. enate (ACZA)	shall conform to he requireme	nts of AASHT() M 133				
<mark>F₊ E.</mark> Copper I Copper Naphte solvent shall m	F. E. Copper Naphthenate. Copper Naphtenate shall meet the requirements of AASHTO M 133 (AWPA P8). Petroleum solvent shall meet the requirements of AWPA P9 for Hydrocarbon solvent Type A.								
Reason for Revision: from the 2006 AWPA S	Ammoniacal C Specifications.	Copper Arsenat	e (ACA) is no longer in use an	d has been re	moved				
County or City Input	Needed (X on	e)	Yes	No					
Comments:									
Industry Input Neede	d (X one)		Yes	No					
Industry Notified:	Industry Notified: Yes No Industry Concurrence: Yes No								
Comments:									

Submittal Date: October 27, 2006 Proposed Effective Date: April 07 Article No:: 4161.03 Title: Other: Image: Comparison of the	Submitted by: Jim Berger				Offi	Office: Materials Item 12				Item 12	
Article No.: 4161.03 Title: Preservative Treatment Other: Specification Committee Action: Approved with changes noted. Image: Committee Approved Text: See Specification Section Recommended text, except for the first paragraph of Article 4161.03: Specification Committee Approved Text: See Specification Section Recommended text, except for the first paragraph of Article 4161.03: Effective Date: 4/17/07 Specification Committee Approved Text: See Specification Section Recommended text, except for the first paragraph of Article 4161.03: Effective Date: 4/17/07 Attract Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards GU1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Comments: The Office of Local Systems noted that in the first paragraph of Article 4161.03, C1 should be deleted and U1 added. Specification Section Recommended Text: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1: Material and Usage Crepsele Vial Crepsele Repender Material and Usage Crepsele <td>Submittal Date: Oc</td> <td>tober 27, 2006</td> <td>6</td> <td></td> <td>Pro</td> <td>posed</td> <td>Effectiv</td> <td>ve Date:</td> <td>April 07</td> <td></td>	Submittal Date: Oc	tober 27, 2006	6		Pro	posed	Effectiv	ve Date:	April 07		
Specification Committee Action: Approved with changes noted. Deferred: Not Approved: Approved Date: 11/9/06 Effective Date: 4/17/07 Specification Committee Approved Text: See Specification Section Recommended text, except for the first paragraph of Article 4161.03: 4181.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards CU1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Comments: The Office of Local Systems noted that in the first paragraph of Article 4161.03, C1 should be deleted and U1 added. Specification Section Recommended Text: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1: TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (USCUT.ft of wood) (Rilograms per cubic meter of wood) Understandards UC1 and T1, and the applicable AWPA Commodity Standards UC1 and T1, and the applicable AWPA Commodity Standards UC2	Article No.: 4161.0 Title: Preservative	Article No.: 4161.03Other:Title: Preservative TreatmentOther									
Deferred: Not Approved: Approved Date: 11/9/06 Effective Date: 4/17/07 Specification Committee Approved Text: See Specification Section Recommended text, except for the first paragraph of Article 4161.03: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards GU1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Comments: The Office of Local Systems noted that in the first paragraph of Article 4161.03, C1 should be deleted and U1 added. Specification Section Recommended Text: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1: TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (b/cut.f. of wood) (kilograms per cubic meter of wood) CorA CCA Material and Usage Creation for the preservative for wood) Southern Prine for the preservative as the applicable AWPA Commodity Standards UC1 and T1, and the applicable AWPA (CA) CCA CC	Specification Com	nittee Action:	Approved	d with cha	nges no	ted.					
Specification Committee Approved Text: See Specification Section Recommended text, except for the first paragraph of Article 4161.03: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards GU1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Comments: The Office of Local Systems noted that in the first paragraph of Article 4161.03, C1 should be deleted and U1 added. Specification Section Recommended Text: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards U1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1: TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (b/cu.ft. of wood) (kilograms per cubic meter of wood) Retention Material and Usage Creesote 0 Pentachioro 0 Pentachioro 0 Retention 0 Copper herein (10) 10 1 0 Retention 0 Pentachioro 0 Cresote </td <td>Deferred:</td> <td>Not Approve</td> <td>d:</td> <td>Approv</td> <td>ed Dat</td> <td>e: 11/9</td> <td>9/06</td> <td>Effectiv</td> <td>ve Date:</td> <td>4/17/07</td>	Deferred:	Not Approve	d:	Approv	ed Dat	e: 11/9	9/06	Effectiv	ve Date:	4/17/07	
4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards GU1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Comments: The Office of Local Systems noted that in the first paragraph of Article 4161.03, C1 should be deleted and U1 added. Specification Section Recommended Text: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1: TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (b./cu.f. of wood) (kilograms per cubic meter of wood) Material and Usage Creegote Pentachloro Preservative for 422 0.6 0.0225 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6	Specification Com	nittee Approv ticle 4161 03 [.]	ed Text:	See Spec	ification	Sectio	on Recor	nmende	d text, ex	cept for the	
Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards CU1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Comments: The Office of Local Systems noted that in the first paragraph of Article 4161.03, C1 should be deleted and U1 added. Specification Section Recommended Text: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1: TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (b/cu.ft. of wood) (kilograms per cubic meter of wood) Material and Usage Operation Naphenol Naphenol Naphenol Material and Usage Console Pertachlore Replace Table 1: Under the following tables for various materials and usages: Replace Table 1: <td colsp<="" td=""><td>4161.03, Treatment</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td>	<td>4161.03, Treatment</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	4161.03, Treatment									
Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards CU1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Comments: The Office of Local Systems noted that in the first paragraph of Article 4161.03, C1 should be deleted and U1 added. Specification Section Recommended Text: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1: TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (b/cu.ft. of wood) (kilograms per cubic meter of wood) Lumber and Timber for 32 0.6 0.0075 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6	Replace the firs	t paragraph:									
Comments: The Office of Local Systems noted that in the first paragraph of Article 4161.03, C1 should be deleted and U1 added. Specification Section Recommended Text: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AVVPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1: TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (Ib/cu.ft. of wood) (kilograms per cubic meter of wood) Material and Usage Creosot Pentachloro- Pentachloro- Phenot Napthenate Napthenate Structures ^M AWPA U1 AWPA U1 AWPA U1 AWPA U1 MATERIA CCA CCA AWPA Material and Usage Creosot Autor Au	Except as pr recommend: Standards S	rovided herein, ations of AWP pecifications li	preservat A Standard sted in the	ive treatm ds C U1 ar following	ent sha nd T1, ai tables f	ll be in nd the or vari	accorda applicat ous mate	ance with ble AWP/ erials an	n requirer A Commo d usages	nents and odity :	
Specification Section Recommended Text: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1: TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (b./cu.ft. of wood) (kilograms per cubic meter of wood) Material and Usage Creosote Pentachloro- Copper Napthenate ACZA CCA AWPA Lumber and Timber for 42 0.6 0.075 0.6	Comments: The Ot be deleted and U1 a	ffice of Local S dded.	ystems no	ted that ir	the firs	t parag	graph of	Article 4	161.03, 0	C1 should	
TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (Ib./cu.ft. of wood) (kilograms per cubic meter of wood) (kilograms per cubic meter of wood)Material and UsageCreosote (2)Pentachloro- phenol (2)Copper NapthenateACA(4)ACZA (3)CCA (1,3)AWPA Material Standard UC- Section- Special Req.Lumber and Timber for Structures (4)120.60.075 (9.6)0.60.6 (9.6)0.6 	Specification Section Recommended Text: 4161.03, Treatment. Replace the first paragraph: Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards UC1 and T1, and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages: Replace Table 1:										
(kilograms per cubic meter of wood)Material and UsageCreosote (2)Pentachloro- phenol (2)Copper Napthenate (2)ACA(*) (3)ACZA (1,3)CCA Material Standard UC- Section- Special Req.Lumber and Timber for Structures (4)120.60.075 (9.6)0.6 (4.2)0.6 (9.6) <t< td=""><td></td><td>TABLE 1: MI</td><td>NIMUM PRE</td><td>SERVATIV</td><td>E RETEN[®] wood)</td><td>FION RE</td><td>EQUIREM</td><td>ENTS</td><td></td><td></td></t<>		TABLE 1: MI	NIMUM PRE	SERVATIV	E RETEN [®] wood)	FION RE	EQUIREM	ENTS			
Material and UsageCreosote (2)Pentachloro- phenol (2)Copper 			(kilogram	is per cubic	meter of	wood) Retenti	ion				
Lumber and Timber for Structures ⁽⁴⁾ 12 (192.2) AWPA U1 0.6 (9.6) AWPA U1 0.075 (1.2) AWPA U1 0.6 (9.6) AWPA U1 0.6 (9.6) AWPA 0.6 (9.6) AWPA 0.6 (9.6) AWPA 0.6 (9.6) AWPA 0.6 (9.6) AWPA 0.6 AWPA 0.1 <td>Material and Usa</td> <td>ige Creo.</td> <td>sote Per</td> <td>ntachloro- phenol (2)</td> <td>Cop Napth (2</td> <td>per enate</td> <td>ACA⁽³⁾</td> <td>ACZA</td> <td>CCA (1, 3)</td> <td>AWPA Material Standard UC- Section- Special Req.</td>	Material and Usa	ige Creo.	sote Per	ntachloro- phenol (2)	Cop Napth (2	per enate	ACA ⁽³⁾	ACZA	CCA (1, 3)	AWPA Material Standard UC- Section- Special Req.	
Piles for Foundation: 17 - - - - C3, C14 Douglas Fir 17 - - - - - C3, C14 (272) - - - - - UC4C-E Southern Pine 12 - - - - -	Lumber and Timber for Structures ⁽⁴⁾	4: (192 AWP/	<u>2</u> 2.2) A U1 A	0.6 (9.6) WPA U1	0.0 (1. AWP/	75 2) A U1	0.6 (9.6)	0.6 (9.6) AWPA U1	0.6 (9.6) AWPA U1	C2, C14 AWPA U1	
Douglas Fil 17 - - - - - - - - - UC4C-E Southern Pine 12 - - - - - - - - UC4C-E	Piles for Foundation:	4-	7							C2 C14	
	Southern Pine	(27	2) 2 2 2)	-	-			-	-	UC4C-E	

	Post, Guardrail, and Spacer Blocks:							C2, C14 UC4A-A-	
	Sawed Four Sides	12 (192.2)	0.6 (9.6)	0.075 (1.2)	0.5 (8.0)	0.5 (8.0)	0.5 (8.0)	4.3	
ĺ	Posts, Fence, Guide, and Sign:								l
	Round	8 (128)	0.4 (6.4)	0.055 (0.88)	0.4 (6.4)	0.4 (6.4)	0.4 (6.4)	C5, C14 UC4A-B	
	Sawed Four Sides	10 (160)	0.5 (8.0)	0.060 (0.96)	0.4 (6.4)	0.4 (6.4)	0.4 (6.4)	C2, C14 UC4A-A- 4.3	

NOTE: (1) CCA shall not be used for the treatment of Douglas Fir.

⁽²⁾ Oil type preservatives

⁽³⁾ CCA, ACA, and ACZA are waterborne preservatives.

⁽⁴⁾ Retentions based on AWPA. Use Category and Commodity Specification for different applications.

Replace Table 2:

TABLE 2: M	TABLE 2: MINIMUM PRESERVATIVE PENETRATION REQUIREMENTS								
		Penetration							
Material and Usage	Southern Pine	Douglas Fir	APWA Material Standard Section						
Lumber and Timber for Structures ⁽¹⁾	2.5 in. (63 mm) or 85% APWA U1, T1	Under 5 in. (125 mm) thick: 0.4 in. (10 mm) and 90% 5 in. (125 mm) and thicker: 0.5 in (13 mm) and 90% APWA U1, T1	C2, C14 APWA U1, T1						
Piles for Foundation:	2.5 in. (63 mm) or 85%	0.75 in. (19 mm) and 85% up to 1.6 in. (40 mm) and 85%	C3, C14 T1-8.5						
Post, Guardrail, and Spacer Blocks: Sawed Four Sides	2.5 in. (63 mm) or 85%	Under 5 in. (125 mm) thick: 0.4 in. (10 mm) and 90% 5 in. (125 mm) and thicker: 0.5 in. (13 mm) and 90%	C2, C14 T1-8.1						
Posts, Fence, Guide, and Sign:									
Round	2.0 in. (50 mm) or 85%	3/8 in. (9 mm) and 100% up to 1 in. (25 mm) or 85	C5, C1 4 T1-8.2						
Sawed Four Sides	2.0 in. (50 mm) or 85% 2.5 in. (63 mm) or 85%	Under 5 in. (125 mm) thick: 0.4 in. (10 mm) and 90% 5 in. (125 mm) and thicker: 0.5 in. (13 mm) and 90%	C2, C14 T1-8.1						

NOTE:

(1) Penetrations based on AWPA. Use Category and Commodity Specification for different applications.

4161.03, B, Seasoning.

Replace the first sentence:

When sawed material is treated with waterborne preservatives (CCA), ACA, ACZA), the moisture content prior to treatment, as determined by resistance type moisture meter, shall not be more than 20% if kiln dried or not more than 23% if air dried.

4161.03, E, Results of Treatment.

Replace the third sentence:

Other treatment requirements shall be in accordance with AWPA Standards CU1 and T1 and the applicable AWPA Commodity Standards Specifications listed in the above tables.

4161.03, G, Product Marking.

Replace the fourth sentence of the first paragraph:

Acceptable brands or marks shall be similar to the general guidelines for brands listed in AWPA M1 and M6 piles.

Comments:

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

Section 4161. Preservative Treatment.

4161.01 DESCRIPTION.

Preservative treatment of timber, lumber, piling, and posts shall meet requirements of applicable sections, within these specifications, which cover the individual materials. Unless otherwise specified, the treatment process and results of treatment shall meet requirements of this section.

4161.02 PRESERVATIVES.

Preservatives used for treatment shall meet requirements of Section 4160. Unless otherwise specified, treatment may be with creosote, pentachlorophenol, chromated copper arsenate (CCA), ammoniacal copper arsenate (ACA), ammoniacal copper zinc arsenate (ACZA), or Copper Naphthenate.

4161.03 TREATMENT.

Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standards U1, T1C1 and the applicable AWPA Commodity Standards Specifications listed in the following tables for various materials and usages:

TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS (lb./cu.ft. of wood) (kilograms per cubic meter of wood)								
			Rete	ention				
Material and Usage	Creosote	Pentachloro- phenol	Copper Napthenate ⁽²⁾	ACA ⁽³⁾	ACZA ⁽³⁾	CCA ^(1, 3)	AWPA <mark>Material</mark> <mark>Standard</mark> UC- Section- Special Req.	
Lumber and Timber for Structures ⁽²⁾	<mark>12</mark> (192.2)AWPA U1	<mark>0.6(9.6)</mark> AWPA U1	<mark>0.075(1.2)</mark> AWPA U1	<mark>0.6 (9.6)</mark>	<mark>0.6</mark> (9.6)AWP A U1	<mark>0.6</mark> (9.6)AWP A U1	AWPA U1	
Piles for Foundation: Douglas Fir Southern Pine	17 (272) 12 (192-2)	-	.14 (2.2) .10 (1.6)	-	-	-	С3, С14 UC4C-Е	
Post, Guardrail, and Spacer Blocks: Sawed Four Sides	<mark>42 -</mark> (192.2)	<mark>0.6-</mark> 0.5 (9.6) (8.0)	0.075 (1.2)	<mark>0.5</mark> <mark>(8.0)</mark>	0.5 (8.0)	0.5 (8.0)	<mark>C2, C14 UC4A-A-</mark> <mark>4.3</mark>	

Posts, Fence, Guide, and Sign: Round Sawed Four Sides	<mark>8 -</mark> (128) 10 (160)	0.4 (6.4) 0.5 (8.0)	0.055 (0.88) 0.060 (0.96)	<mark>0.4</mark> (6.4) 0.4	0.4 (6.4) 0.4	0.4 (6.4) 0.4	C5, C14 UC4A-B C2, C14 UC4A-A-
Sawed Four Sides	(160)	(8.0)	(0.96)	<mark>-(6.4)</mark>	(6.4)	(6.4)	<mark>4.3</mark>

NOTE:

^(*) Retentions based on AWPA Use Category and Commodity Specification for different applications ⁽¹⁾ CCA shall not be used for the treatment of Douglas Fir.

⁽²⁾ Oil type preservatives

⁽³⁾ CCA, ACA, and ACZA are waterborne preservativees.

TABLE 2: MINIMUM PRESERVATIVE PENETRATION REQUIREMENTS inches (mm) of wood and/or % of sapwood penetration

		Penetration	
Material and Usage	Southern Pine	Douglas Fir	AWPA Material Standard Section
Lumber and Timber for Structures ^(*)	2.5 in. (63 mm) or 85% AWPA U1, T1	<mark>Under 5 in. (125 mm) thick:</mark> 0.4 in. (10 mm) and 90% <mark>5 in. (125 mm) and thicker:</mark> 0.5 in (13 mm) and 90% AWPA U1,T1	C2, C14 AWPA U1, T1
Piles for Foundation:	2.5 in. (63 mm) or 85%	0.75 in. (19 mm) and 85% up to 1.6 in. (40 mm) and 85%	<mark>C3, C14</mark> T1-8.5
Post, Guardrail, and Spacer Blocks: Sawed Four Sides	2.5 in. (63 mm) or 85%	Under 5 in. (125 mm) thick: 0.4 in. (10 mm) and 90% 5 in. (125 mm) and thicker: 0.5 in. (13 mm) and 90%	<mark>C2, C1</mark> 4T1-8.1
Posts, Fence, Guide, and Sign: Round	2.0 in. (50 mm) or 85%	3/8 in. (9 mm) and 100% up to 1 in. (25 mm) or 85%	C5, C14 T1-8.2
Sawed Four Sides	<mark>2.0 in. (50 mm)</mark> 2.5 in. (63 mm) or 85%	Under 5 in. (125 mm) thick: 0.4 in. (10 mm) and 90% 5 in. (125 mm) and thicker: 0.5 in. (13 mm) and 90%	<mark>62, 614</mark> T1-8.1

NOTE:

^(*) Penetrations based on AWPA Use Category and Commodity Specification for different applications

Other aspects of the treatment process shall meet the following requirements:

A. Incising.

Coastal Douglas Fir lumber shall be incised.

B. Seasoning.

When sawed material is treated with waterborne preservatives (CCA), ACA, ACZA), the moisture content prior to treatment, as determined by resistance type moisture meter, shall not be more than 20% if kiln dried or not more than 23% if air dried. The moisture content shall be measured at a depth equivalent to the required penetration up to a maximum of 1.5 inches (38 mm). Unless otherwise specified, lumber 2 inches (50 mm) or less in nominal thickness that is treated with a

waterborne preservative shall be dried after treatment to a moisture content of not more than 20% if kiln dried or not more than 23% if air dried.

C. Special Treatment for Guardrail and Sign Posts Treated With Oil Type Preservative.

Before being removed from the treatment cylinder, sign and guardrail posts shall be further subjected to live steam at a maximum pressure of 13 psi (90 kPa), and following that, to an additional period of vacuum to insure that the surface of the wood is free from accumulation of oil type preservative.

D. Method of Treatment.

The preservative used shall be the same for all the product furnished for each contract item or order. Unless otherwise specified, treatment with creosote oil, pentachlorophenol, or copper naphthenate solution shall be made by the empty cell process with initial air pressure. Treatment with waterborne preservative shall be made by the full cell process.

E. Results of Treatment

Unless otherwise specified, retention and penetration of preservatives shall be in conformance with the above tables. Preservative retentions shall be determined by assay method. Other treatment requirements shall be in accordance with AWPA Standards C-101, T1 and the applicable AWPA Commodity Standards listed in the above tables.

F. Handling Treated Products.

Care and handling of preservative treated wood products shall be in accordance with AWPA Standard M4.

G. Product Marking.

The individual pieces of inspected, treated material shall bear a legible identification mark either hammer or heat branded, die stamped, or metal tagged. For material treated with waterborne preservatives, the identification mark may be ink stamped provided the information is clearly visible and legible. As a minimum, the identification mark shall indicate the treater, the species of wood, the preservative treatment type, and the retention level. Acceptable brands or marks shall be similar to the general guidelines for brands listed in AWPA M1 and M6-piles. All treated wood material that requires a grade, with the exception of 45 inch (1145 mm) Terminal Posts¹, shall contain a quality grade mark of an accredited grade monitoring and inspection agency approved under the American Lumber Standards Committee (ALSC).

¹ In the event that Terminal Posts that are 45 inches (1145) in length to be used for Guardrails can not be stamped with a quality grade mark due to sizing of material, Terminal Posts shall then be stamped "MFG No. 1" to indicate that the Terminal Posts were cut from an original piece graded as a No. 1. Wane requirements will be waived.

Material less than 3 feet (1 m) in length does not require a grade mark; however, a certification statement from the mill/processor certifying the grade of the material shall be provided. See Documentation Section of Materials I.M. 462. Round wood posts, round wood piles, and round wood poles do not require a grade, since the grading rules apply only to sawn material.

In addition, each bundle of treated wood products shall have at least one plastic tag identifying the charge number for the bundle.

H. Inspection.

White and treatment inspections, certifications, and test reports for each shipment shall be furnished in accordance with Materials I.M. 462.

Reason for Revision: Updating to the new Use Category System of the 2006 AWPA Specs. The C Commodity Standards are no longer in use.								
County or City Input Needed (X one) Yes No								
Comments:				·				
Industry Input Needed	(X one)		Yes	No				
Industry Notified:	Yes	No	Industry Concurrence:	Yes	No			
Comments:								

ousinitiou syr o	ohn Smythe / Wayne	Sunday	Office: Construction Iten							
Submittal Date:	10/26/06		Proposed Effective Date: April 17, 2007							
Article No.: 418 Title: Anchor Bo	7.01, C, 2 blts, Nuts, and Washe	rs	Other:							
Specification Co	ommittee Action: Ap	oproved.								
Deferred:	Not Approved:	Approved	I Date: 11/09/06	Effective Date: 0	4/14/07					
Specification Co	ommittee Approved	Text: See Spe	cification Section Recon	nmended Text.						
Comments: No	ne.									
Specification Se	ection Recommende	d Text:								
4187.01, C, 2, A	nchor Bolts, Nuts, ar	nd Washers.								
Add as the f	irst sentence:									
Welding	of anchor bolts will no	ot be allowed.								
Comments:										
Member's Requ	ested Change: (DO I	NOT USE " <u>Trac</u>	<u>k Changes,</u> " or " <u>Mark-Up</u>	". Use Strikeout/Hi	<mark>ghlight</mark>)					
2. Anchor Bolts	. Nuts. and Washers									
Welding of ancho	or bolts shall not be al	lowed. The an	chor bolts shall meet the	e requirements of A	STM F					
1554, Grade 105	6 (724 MPa), and be fu	ull-length galva	nized. Anchor bolts shal	I be the Unified Co	arse					
Thread Series ar	nd have Class 2A tole	rance. The end	Thread Spring and have Class 24 telerance. The end of each appear belt intended to project from the							
concrete shall be color coded in red to identify the grade. Washers shall be galvanized and shall meet the										
concrete shall be	e color coded in red to	identify the gra	ade. Washers shall be g	ended to project fro alvanized and shall	m the meet the					
concrete shall be requirements of <i>i</i>	e color coded in red to ASTM F 436. Nuts sha	identify the gra all meet the rec	ade. Washers shall be gauirements of ASTM A 5	ended to project fro alvanized and shall 63, DH, be heavy f	m the meet the nex, and					
concrete shall be requirements of <i>i</i> be galvanized. N	e color coded in red to ASTM F 436. Nuts sha uts may be over-tapp	identify the gra all meet the rec ed in accordan	ade. Washers shall be ga quirements of ASTM A 5 ce with the allowance re	ended to project fro alvanized and shall 63, DH, be heavy h quirements of AST	m the meet the nex, and M A 563.					
concrete shall be requirements of <i>i</i> be galvanized. N Galvanizing shal	e color coded in red to ASTM F 436. Nuts sha uts may be over-tapp I meet the requiremen	identify the gra all meet the red ed in accordan its of ASTM A	ade. Washers shall be ga quirements of ASTM A 5 ce with the allowance re 153, Class C; or ASTM B	ended to project fro alvanized and shall 63, DH, be heavy f quirements of AST 3 695, Class 50.	m the meet the nex, and M A 563.					
concrete shall be requirements of <i>i</i> be galvanized. N Galvanizing shal Reason for Rev	e color coded in red to ASTM F 436. Nuts sha uts may be over-tapp I meet the requiremen	identify the gra all meet the red ed in accordan hts of ASTM A	ade. Washers shall be ga quirements of ASTM A 5 ce with the allowance re 153, Class C; or ASTM E	ended to project fro alvanized and shall 63, DH, be heavy h quirements of AST 3 695, Class 50.	m the meet the hex, and M A 563.					
concrete shall be requirements of <i>i</i> be galvanized. N Galvanizing shal Reason for Rev County or City I	e color coded in red to ASTM F 436. Nuts sha luts may be over-tappe I meet the requiremen ision: nput Needed (X one	identify the gra all meet the rec ed in accordan ats of ASTM A	ade. Washers shall be ga quirements of ASTM A 5 ce with the allowance re 153, Class C; or ASTM E	ended to project fro alvanized and shall 63, DH, be heavy h quirements of AST 3 695, Class 50.	m the meet the mex, and M A 563.					
concrete shall be requirements of <i>J</i> be galvanized. N Galvanizing shal Reason for Rev County or City I Comments:	e color coded in red to ASTM F 436. Nuts sha luts may be over-tappe I meet the requiremen ision:	identify the gra all meet the red ed in accordan its of ASTM A	Ade. Washers shall be ga quirements of ASTM A 5 ce with the allowance re 153, Class C; or ASTM E	ended to project fro alvanized and shall 63, DH, be heavy h quirements of AST 3 695, Class 50.	m the meet the mex, and M A 563.					
concrete shall be requirements of <i>J</i> be galvanized. N Galvanizing shal Reason for Rev County or City I Comments: Industry Input N	e color coded in red to ASTM F 436. Nuts sha luts may be over-tappe I meet the requiremen ision: nput Needed (X one leeded (X one)	identify the gra all meet the rec ed in accordan ats of ASTM A	Ade. Washers shall be ga quirements of ASTM A 5 ce with the allowance re 153, Class C; or ASTM E Yes	ended to project fro alvanized and shall 63, DH, be heavy h quirements of AST 3 695, Class 50. No	m the meet the mex, and M A 563.					
concrete shall be requirements of <i>J</i> be galvanized. N Galvanizing shal Reason for Rev County or City I Comments: Industry Input N Industry Notifie	e color coded in red to ASTM F 436. Nuts sha luts may be over-tapped I meet the requiremen ision: Input Needed (X one leeded (X one) d: Yes	identify the gra all meet the red ed in accordan hts of ASTM A	Ade. Washers shall be ga quirements of ASTM A 5 ce with the allowance re 153, Class C; or ASTM E Yes Yes Industry Concurrence	ended to project fro alvanized and shall 63, DH, be heavy h quirements of AST 3 695, Class 50. No No : Yes	m the meet the hex, and M A 563.					

Submitted by: N	Submitted by: Mike Kennerly / Deanna Maifield		nna Maifield	Office: Design	Item 14	
Submittal Date:				Proposed Effective I	Date:	
Article No.: SS- Title: High Tensi	01044 ion Ca	4 (DRAFT SS-0 able Guardrail)10XX)	Other:		
Specification Co	ommit	ttee Action: A	pproved			
Deferred:	Not /	Approved:	Approved	d Date: 11-09-06	Effective Date: 0	4/17/07
Specification Co	ommit	ttee Approved	Text: See atta	chment		
Comments: The and weak soil cor for purchase with the bid item could	Comments: The Office of Design provided a handout of additional changes regarding spare parts kits and weak soil conditions. The Specifications Section noted that the spare parts kits may be not eligible for purchase with Federal aid funding. FHWA will look into this further. The Office of Contracts noted that the bid item could be changed to non-Federal aid.					
The Office of Contracts suggested bidding spare parts kits by count rather than lump sum. They also pointed out that if a city or county is using this SS, they would not want the spare parts kits delivered to an lowa DOT maintenance garage. The Specifications Section will replace "lowa DOT" with "Contracting Authority".						
District 6 Constru tension cable gua standards.	ction ardrail	noted that they systems. The	are seeing a lo y asked the Off	ot of variation in plans req ice of Design to review th	garding grading for he possibility of dev	high /eloping
There was conce the Committee fe agreed that the p scenario, or take	rn exp It it wa ropos boring	pressed with ac as too much to ed language w gs and design t	dding language ask Contractors ill work, as it lea the end anchors	to deal with weak soil co s to take borings at each aves it up to Contractors s according to the manuf	nditions. Some mo installation. The C to use a worst cas acturer's recomme	embers of Committee e ndation.
The Committee a should be inciden	greed tal to	I that grading to the end ancho	o meet the man r.	ufacturer's recommenda	tions for the end ar	nchor
Specification Sect	tion R	ecommended T	ext:			
Comments:						
Member's Reques	ted Cl	hange: See att	ached Draft SS-0	1047.		
Reason for Revisi	on: Ac	dd spare parts ki	t and address cor	ncerns associated with insta	allations in weak soils	S.
County or City Inp	out Ne	eded (X one)		Yes	No X	
Comments:						
Industry Input Nee	eded	(X one)		Yes	No X	
Industry Notified:		Yes	No X	Industry Concurrence:	Yes	No
Comments:						

Draft SS-010XX (Replaces SS-01044)

Iowa Department of Transportation

SUPPLEMENTAL SPECIFICATIONS FOR HIGH TENSION CABLE GUARDRAIL

Effective Date Month Day, 2007

THE STANDARD SPECIFICATIONS, SERIES 2001, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SUPPLEMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

010XX.01 Description.

This work shall consist of constructing high tension cable guardrail by furnishing and installing posts, cables, end anchors, and any special connections and fittings which may be required in the contract documents.

High tension cable guardrail shall:

- 1. Meet the requirements of NCHRP Report 350, Test Level 4 criteria.
- 2. Be accepted as a crashworthy device by the FHWA.
- 3. Exhibit a dynamic deflection for NCHRP Report 350 Test 3-11 of 8 feet (2.4 m) or less.

Approved products are listed in Materials I.M.455.01.

010XX.02 Materials.

The materials used for construction of high tension cable guardrail shall meet the manufacturer's requirements. Concrete for concrete foundations for posts and end anchorages shall be Class C mix in accordance with Section 2403 of the Standard Specifications.

Spare parts kits for high tension cable guardrail shall consist of:

- An extra supply of TL-4 line posts (socketed-type), including post hardware and accessories (caps, reflective sheeting, straps, spacers, and socket covers). This supply shall include enough materials to complete a 300 foot installation.
- An extra supply of anchor posts (socketed-type), including post hardware and accessories (caps, reflective sheeting, straps, fittings, spacers, and socket covers). This supply shall include enough materials to complete one end anchor installation.
- Specialized tools necessary to maintain the guardrail, such as a spreader tool.

Spare parts kits shall not include a tension meter. The spare parts kit shall be delivered to the Contracting Authority's nearest maintenance office.

010XX.03 Construction.

A. Installation of High Tension Cable Guardrail.

The Contractor shall install high tension cable guardrail according to the manufacturer's recommendations. Prior to construction, the Contractor shall provide the Engineer with three copies of the manufacturer's most current product manuals covering installation and maintenance of the

installation and signed certification statements for all materials to be incorporated into the installation in accordance with Materials I.M. 455.01.

The Contractor shall tension the cables according to the manufacturer's recommendations at the time of installation, then check and adjust the tension approximately three weeks after installation.

B. Posts.

The posts shall be plumb and at the manufacturer's recommended location, spacing, and elevation.

All posts shall be the "socketed" type and shall be installed in concrete foundations. Foundations shall be cast in place and constructed in accordance with Article 2505.03, B, 4 of the Standard Specifications. Dimensions and reinforcement shall be according to manufacturer's recommendations except that foundation depth shall be at least 42 inches (1.1 m).

C. End Anchors.

High tension cable guardrail installations shall incorporate one of the approved end anchors listed in Materials I.M. 455.01. Within each installation, end anchors and high tension cable guardrail shall be produced by the same manufacturer.

End anchors shall be constructed according to the manufacturer's recommendations for the site specific soil conditions. Soils testing required shall be incidental to the cable installation.

D. Delineating High Tension Cable Guardrail.

High tension cable guardrail installations shall be delineated with retroreflective sheeting. The sheeting shall be applied to the last five posts at each end of an installation and throughout the remainder of the installation at a maximum spacing of 50 feet (15 m). The sheeting shall be Type III or IV retroreflective sheeting meeting the requirements of Article 4186.03 of the Standard Specifications. The sheeting shall provide at least 7 square inches (4500 mm²) of surface area when viewed from a line parallel to the roadway centerline and shall be applied to that side of the post in a manner recommended by the manufacturer. The sheeting shall be applied to that side of the post from which vehicle impacts are most likely. For installations where impacts are likely to occur from either side, the sheeting shall be applied to both sides of the post. The sheeting shall be yellow or white and shall be the same color as the adjacent edge line.

010XX.04 Limitations.

In case of a discrepancy between these Specifications and the manufacturer's recommendations, these Specifications shall govern.

Concrete foundations for posts and end anchors may be subjected to cable tensioning after 3 calendar days. This time requirement may be lengthened by the Engineer during cool weather.

Grading work, if required, shall be completed prior to installation of new guardrail.

When a roadway is open to traffic during construction, high tension cable guardrail installations shall be completed within 5 working days from the day the structure, barrier rail, pavement, shoulder, or whichever is the controlling item of work, is sufficiently completed to allow high tension cable guardrail installation. At locations where the proposed high tension cable guardrail installation does not interfere with the functioning of the existing guardrail, the existing guardrail shall not be removed until the high tension cable guardrail system is fully functional. High tension cable guardrail end anchors shall be delineated with a temporary traffic drum until the final end anchor is completed and the cables properly tensioned. Each installation exceeding the 5 calendar working day completion requirement will be subject to a contract price adjustment of \$500 per working day. This price adjustment will be waived when the linstallation is designated as crossover protection only and no guardrail or concrete barrier has been removed.

When a roadway is closed to public traffic for construction, all high tension cable guardrail installations shall be completed before opening the road to traffic.

010XX.05 Method of Measurement.

A. High Tension Cable Guardrail.

The quantity of high tension cable guardrail will be the length shown in the contract documents. The length will be calculated as the protection length, not including lengths of high tension cable guardrail end anchors.

B. High Tension Cable Guardrail End Anchors.

The Engineer will count the quantity number of high tension cable guardrail end anchors constructed.

C. High Tension Cable Guardrail Spare Parts Kit.

The Engineer will count the number of spare parts kits delivered.

010XX.06 BASIS OF PAYMENT.

Payment for high tension cable guardrail will include the furnishing of all materials, equipment, tools, and labor necessary to provide a complete installation of the high tension cable guardrail, including excavation and backfilling. However, excavation in unexpected rock will be paid for as extra work in accordance with Article 1109.03 of the Standard Specifications. Unexpected rock will be considered as rock encountered during excavation that was not visible from the roadway and was not indicated in the contract documents. The Engineer may adjust the payment for high tension cable guardrail in accordance with Article 2505.06, B of the Standard Specifications.

A. High Tension Cable Guardrail.

The Contractor will be paid the contract unit price per linear foot (meter) for the installation of high tension cable guardrail. All posts and accessories required by the manufacturer, as well as additional hardware and concrete, will be incidental to the item.

B. High Tension Cable Guardrail End Anchor.

The Contractor will be paid the contract unit price for each high tension cable guardrail end anchor. Grading required to meet the manufacturer's recommendations will be considered incidental to the high tension cable guardrail anchor.

C. High Tension Cable Guardrail Spare Parts Kit.

The Contractor will be paid the contract unit price for each spare parts kit delivered. Payment will be full compensation for delivering spare parts kits to the location identified in the contract documents.

Submitted by:	Submitted by: Tom Reis / Daniel Harness			Office: Specifications Section Item 15				
Submittal Date:	Octo	ber 27, 2006		Proposed Effective Date: January 17, 2007				
Article No.: DS Title: Milled Sho Surface	-01082 oulder	2 (DRAFT SS-0 Rumble Strips)1047) – HMA or PCC	Other:	Other:			
Specification C	ommit	ttee Action: A	pproved					
Deferred:	Not /	Approved:	Approved	d Date: 11/9/07	Effective Date: 2	/20/07		
Specification C	ommit	ttee Approved	Text:					
Comments: Off The Specification examine which p	Comments: Office of Contracts asked if this is to be effective with the April 07 GS or with the next letting. The Specifications Section noted that it will be effective with the next letting (January 2007). They will examine which projects will be affected and make appropriate changes.							
District 6 noted to expressways or	hat the for inte	ere is no guidar erstates. They	ice for what to have had one p	do on freeways, whether project that was milled inc	to use the standar correctly.	d for		
This was presen	ted as	SS-01048 in th	ne meeting. Th	is will be issued as SS-0	1047.			
After the meeting projects which has with the Februar	3, the S ave alr y lettin	Specifications S eady been turr g.	Section determi red in for the Ja	ned that since this would anuary letting, it was best	affect more than a to make this SS e	ı dozen ffective		
Specification So	ection	Recommende	ed Text: See m	nember's requested chan	ge.			
Comments:								
Member's Requ	ested	Change: (Do r	not use ' <u>Track C</u>	<u>Changes'</u> , or ' <u>Mark-Up'</u> . Us	e <mark>Strikeout</mark> and <mark>Hig</mark>	<mark>hlight</mark> .		
See attached SS	3-0104	7						
Reason for Rev lanes, and media made along both roads.	ision: an cros 1 shoul	District 1 Officessings. They also ders of a 2 land	e noted that the so requested th e road, and alor	e MOM does not address ne intent be made clearer ng outside and median sl	gapping intersecti that measuremen houlders for multi-l	ons, turn t is to be ane		
Since this DS ha unchanged (othe changed to an S select this DS.	s no c r than S in pr	ontroller, is app for minor clarif reparation to ac	blied to several fications) the Sp Iding to the nex	projects each year, and t pecifications Section is re t book, and to eliminate t	the content has rer commending this l the need for design	nained be her to		
County or City	Input I	Needed (X on	e)	Yes	No			
Comments:								
Industry Input N	leede	d (X one)		Yes	No			
Industry Notifie	d:	Yes	No	Industry Concurrence	: Yes	No		
Comments:								

Draft SS-01047 (Replaces DS-01082)

Iowa Department of Transportation

DEVELOPMENTAL SPECIFICATIONS FOR MILLED SHOULDER RUMBLE STRIPS - HMA OR PCC SURFACE

Effective Date February 20, 2007

THE STANDARD SPECIFICATIONS, SERIES 2001, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SUPPLEMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

01047.01 GENERAL.

This work shall consist of furnishing all necessary labor, equipment, and materials; and performing all operations necessary for milling shoulder rumble strips in HMA or PCC surfaced shoulders. Shoulder rumble strips shall be milled to the dimensions and spacing shown in the plans. The work shall also include applying diluted asphalt emulsion to the milled shoulder rumble strips by means of a bituminous distributor.

01047.02 MATERIALS.

A. Milling.

Milling equipment shall be equipped with a cutting head with cutting tips arranged in a pattern as to provide a smooth cut, approximately 1/16 inches (2 mm) between peaks and valleys.

B. Asphalt Emulsion Fog Seal.

Asphalt emulsion grade CSS-1h, meeting requirements of Section 4140 of the Standard Specifications, shall be used.

The asphalt emulsion shall be diluted with water prior to application to the milled shoulder rumble strip. The dilution rate is one part of asphalt emulsion to one part of water.

01047.03 CONSTRUCTION.

If degraded shoulders are encountered that will not accommodate milled rumble strips, the Engineer shall be notified. These sections shall be skipped.

A. Test Strip.

The Contractor shall demonstrate to the Engineer on an initial 500 foot (150 m) test section that the equipment and method will provide the desired milled shoulder rumble strip and surface inside each depression without damaging the adjacent pavement. If the desired results are not being provided, as determined by the Engineer, the Contractor shall provide new equipment, different methods, or make necessary adjustments to provide the desired results. If the initial 500 foot (150 m) section results are unsatisfactory, it will be repaired or replaced as determined by the Engineer, at no additional cost to the Contracting Authority.

B. Milling.

Shoulder rumble strips shall be milled in a straight line, offset from the painted edge line as shown in the plans and shall not deviate from that offset more than ± 2 inches (50 mm). The offset may be

decreased to 6 inches (150 mm) on shoulders with a top width less than 30 inches (750 mm). The depth of the rumble strips shall be as shown in the plans. The alignment and depth will be randomly checked by the Engineer.

Waste material (millings) resulting from the operation shall be removed on a daily basis. The waste material may be used as fillet material adjacent to the paved shoulder or it may become property of the Contractor and disposed of off the project. Disposal of material may be at an approved landfill, approved stockpile, or other methods that will allow the material to be recycled. Waste material shall be removed prior to opening adjacent lane to traffic.

C. Asphalt Emulsion Fog Seal.

The equipment shall meet the requirements of Section 2001 of the Standard Specifications.

Application width shall cover the entire milled shoulder rumble strip.

The diluted asphalt emulsion fog seal shall be placed in accordance with Article 2308.06 of the Standard Specifications, at a rate of 0.13 gallon per square yard (0.6 L/m²).

Asphalt emulsion shall not be placed on a damp or wet surface.

Asphalt emulsion shall be applied during weather conditions under which satisfactory application can be obtained. Asphalt emulsion shall not be applied when the air temperature is below 50°F (10°C). Asphalt emulsion shall not be placed after October 15 without permission from the Engineer.

D. Limitations.

The Contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The Contractor shall not park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas shall be subject to approval of the Engineer.

01047.04 METHOD OF MEASUREMENT.

A. Milled Shoulder Rumble Strips.

The quantity of Milled Shoulder Rumble Strips, of the type specified, in stations (meters), along each edge of the mainline pavement abutting a paved shoulder, will be the quantity shown in the contract documents. Unless stated otherwise in the contract documents, Nno deduction will be made for gapped areas sections through interchanges, and bridges. The quantity will be adjusted for the length of degraded shoulders skipped, not milled, as defined in Article 01047.03 of this specification. The quantity will be adjusted for test sections that were deemed unsatisfactory.

B. Asphalt Emulsion for Fog Seal.

The quantity of undiluted Asphalt Emulsion for Fog Seal will be measured in gallons (liters) as provided in Article 2307.06, B, of the Standard Specifications.

01047.05 BASIS OF PAYMENT.

A. Milled Shoulder Rumble Strips.

The Contractor will be paid the contract unit price for Milled Shoulder Rumble Strips, of the type specified, per station (meter).

B. Asphalt Emulsion for Fog Seal.

The Contractor will be paid the contract unit price per gallon (liter) for undiluted Asphalt Emulsion for Fog Seal that is mixed and used on the project. Diluted asphalt emulsion that is delivered to the project site, but not applied to the roadway surface will not be considered for payment.

This payment shall be full compensation for cleaning the shoulder surface, furnishing and applying diluted asphalt emulsion, mixing water, and protecting the adjacent pavement and edge lines.

Item 16

PCC Pavement

The Specifications Committee discussed two items related to inconsistencies between Iowa DOT Standard Specifications and SUDAS. These issues came out of a meeting in November of 2005 held with SUDAS.

Eliminating Payment for Cold Weather Protection.

District 6 noted that it isn't likely that Industry will go along with eliminating payment for cold weather protection. The Office of Contracts agreed. District 6 pointed out that eliminating payment for cold weather protection could end up costing the DOT more as opposed to paying for it only when needed. In addition, this could open the Contractor up to refusing to pave if cold weather protection is required, but isn't paid for.

Decision: Take this item back to SUDAS and let them know lowa DOT isn't interested in dropping payment for cold weather protection. Ask SUDAS if they are willing to pay for cold weather protection. If they aren't, a different course of action will be pursued.

Making Testing of PCC Pavement Samples Incidental to the PCC Paving Item.

District 6 Construction asked if anyone on the Committee could remember why PCC Pavement Samples became a sample item. Nobody could remember. The Specifications Section will investigate.

The Office of Contracts noted that this is an item that is small and is proportional to the item being bid. This makes it a good candidate for being incidental. District 6 Construction agreed.

The Specifications Section suggested that testing for HMA paving samples be made incidental to the HMA paving item.

Decision: Bring these items up with Industry at the next ICPA and APAI Specification Committee meetings and explain that Iowa DOT is working towards uniformity with SUDAS and would like to drop these bid items.

Submittal Date: November 8, Proposed Effective Date: April 17, 2007 Article No.: 4131.03 Title: Quality Other: Specification Committee Action: Approved. Deferred: Not Approved Text: See Specification Section Recommended Text. Comments: None. Specification Section Recommended Text: 4131.03, Quality Replace the first line of Table 4131.03: TABLE 4131.03 Maximum Allowed Apgregate Quality Apravion Apgregate Quality Maximum Allowed Abrasion 45% 50% A Freeze 10% I the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Stelkeeut and Highlight. Table 4131.03 Porous Backfill Material. C'hange: Abrasion Maximum Allowed Percent from 45 to 50 TABLE 4131.03 TABLE 4131.03 Change: Abrasion Maximum Allowed Percent from 45 to 50 Change: Abrasion Maximum Allowed Percent from 45 to 50 TABLE 4131.03 Change: Abrasion Maximum Allowed Percent from 45 to 50 Comments:	Submitted by:	Jim Berger/Keith	Norris		Office: Materials Item 17				
Article No.: 4131.03 Title: Quality Other: Specification Committee Action: Approved. Effective Date: 4/17/07 Specification Committee Approved Text: See Specification Section Recommended Text. Comments: None. Specification Section Recommended Text: Specification Section Recommended Text: 4131.03, Quality Replace the first line of Table 4131.03: Replace the first line of Table 4131.03: TABLE 4131.03 Maximum Allowed Aggregate Quality Percent Percent Test Method Abrasion 45% 50% Alumina (a) 0.7% (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up', Use Strikeeut and Highlight. Table 4131.03 Porous Backfill Material. TABLE 4131.03 Change: Abrasion Maximum Allowed Percent from 45 to 50 Test Method Abrasion 45% 50% AASHTO T96 Abrasion 45% 50% AASHTO T96 Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 222 A Freeze 10% Iowa 222 A Freeze 10%	Submittal Date	November 8,			Propo	sed Effecti	ve Date: April 17, 20	07	
Specification Committee Action: Approved. Deferred: Not Approved: Approved Date: 11/9/06 Effective Date: 4/17/07 Specification Committee Approved Text: See Specification Section Recommended Text. Comments: None. Specification Section Recommended Text: 4131.03, Quality Replace the first line of Table 4131.03: Replace the first line of Table 4131.03: TABLE 4131.03 TABLE 4131.03 Maximum Allowed Test Method Aggregate Quality Aggregate Quality Percent Test Method Abrasion 4694 50% AASHTO T 96 Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 221 A Freeze 10% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeeut and Highlight. Table 4131.03 Change: Abrasion Maximum Allowed Percent from 45 to 50 TABLE 4131.03 Maximum Allowed Percent from 45 to 50 AsHTO 196 Alumina (a) 0.7% Iowa 222 A	Article No.: 413 Title: Quality	31.03			Other				
Deferred: Not Approved: Approved Date: 11/9/06 Effective Date: 4/17/07 Specification Committee Approved Text: See Specification Section Recommended Text. Comments: None. Specification Section Recommended Text: 4131.03, Quality Replace the first line of Table 4131.03: TABLE 4131.03 Aggregate Quality Percent Abrasion 45% 50% Alumina (a) 0.7% Iowa 221 A Freeze 10% Iowa 221 A Freeze 10% Iowa 222 A Freeze 10% Iowa 221 A Freeze 10% Iowa 222 A Freeze 10% Iowa 221 A Freeze 10% Iowa 222 Iowa 221 A Freeze 10% Iowa 222 Iowa 221 A Freeze 10% Iowa 222 Iowa 222 A Freeze Iowa 222 A Freeze Iowa 222 Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight.	Specification C	ommittee Actior	: Approved.						
Specification Commended Text: See Specification Section Recommended Text. Comments: None. Specification Section Recommended Text: 4131.03, Quality Replace the first line of Table 4131.03: TABLE 4131.03 Maximum Allowed Aggregate Quality TABLE 4131.03 Maximum Allowed Aggregate Quality Test Method Abrasion ASM Colspan="2">ASM Colspan="2">Comments: Member's Requested Quality is the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: TABLE 4131.03 TABLE 4131.03 <td col<="" th=""><th>Deferred:</th><th>Not Approved:</th><th>Арј</th><th>proved</th><th>Date: 1</th><th>1/9/06</th><th>Effective Date:</th><th>4/17/07</th></td>	<th>Deferred:</th> <th>Not Approved:</th> <th>Арј</th> <th>proved</th> <th>Date: 1</th> <th>1/9/06</th> <th>Effective Date:</th> <th>4/17/07</th>	Deferred:	Not Approved:	Арј	proved	Date: 1	1/9/06	Effective Date:	4/17/07
Comments: None. Specification Section Recommended Text: 4131.03, Quality Replace the first line of Table 4131.03: TABLE 4131.03 Maximum Allowed Percent Test Method Abrasion 45% 50% AASHTO T 96 Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 211, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight. TABLE 4131.03 TABLE 4131.0	Specification C	Specification Committee Approved Text: See Specification Section Recommended Text.							
Specification Section Recommended Text: 4131.03, Quality Replace the first line of Table 4131.03: TABLE 4131.03 Maximum Allowed Percent Test Method Abrasion 45% 50% AASHTO T 96 Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 221 Ashale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use ' <u>Track Changes'</u> , or ' <u>Mark-Up'</u> . Use <u>Strikeout</u> and <u>Highlight</u> . TABLE 4131.03 A	Comments: No	one.							
TABLE 4131.03 Aggregate Quality Maximum Allowed Test Method Abrasion 45% 50% AASHTO T 96 Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 211, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight. Table 4131.03 Porous Backfill Material. Change: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Aggregate Quality Table 4131.03 Afrasion 45% 50% AASHTO T96 Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 222 A Freeze 10% Iowa 222 A Freeze 10% Iowa 221 A Freeze 10% Iowa 221 A Freeze 10% Iowa 221 A Freeze 10% Iowa 211, Method A Shale 5% Materials I.M. 345	4131.03, Quality Replace the first line of Table 4131.03:								
Maximum Allowed Percent Test Method Abrasion 45% 50% AASHTO T 96 Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 211, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight. Table 4131.03 Porous Backfill Material. Change: Abrasion Maximum Allowed Percent from 45 to 50 TABLE 4131.03 Maximum Allowed Percent Test Method Abrasion 45% 50% AASHTO T96 Alumina (a) 0.7% Alumina (a) 0.7% Abrasion 45% 50% AFreeze 10% A Freeze 10% (a) If the Alumina value fails,			Т	ABLE 4	4131.03				
Aggregate Quality Percent Test Method Abrasion 45% 50% AASHTO T 96 Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 211, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight. Table 4131.03 Porous Backfill Material. Change: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Abrasion 45% 50% AASHTO T96 Alumina (a) 0.7% Abrasion 45% 50% AASHTO T96 Alumina (a) 0.7% A Freeze 10% A Freeze 10% A Freeze 10% A Freeze 10% I owa 222 A Freeze A freeze 10% A freeze 10% I owa 222 A Freeze A Freeze 5% Materials I.M. 345 <th></th> <th></th> <th>Maximur</th> <th>m Allow</th> <th>ved</th> <th>-</th> <th></th> <th></th>			Maximur	m Allow	ved	-			
Abiration 44% 50% AASHTO 196 Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 211, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight. Table 4131.03 Porous Backfill Material. Change: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Abrasion 46% 50% ASHTO T96 Alumina (a) 0.7% Iowa 222 10% Asset Construct from 45 to 50	Aggr	regate Quality		rcent			lest Method		
Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 211, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight. Table 4131.03 Porous Backfill Material. Change: Abrasion Maximum Allowed Percent from 45 to 50 TABLE 4131.03 Maximum Allowed Percent from 45 to 50 Aggregate Quality Maximum Allowed Percent Aggregate Quality Maximum Allowed Percent A Freeze 10% Iowa 222 A Freeze 10% Iowa 222 A Freeze 10% Iowa 221, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel.	Abrasi		40%	o 50%		AASHIU I	90		
A Freeze 10% 10wa 211, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight. Table 4131.03 Porous Backfill Material. Change: Abrasion Maximum Allowed Percent from 45 to 50 TABLE 4131.03 Maximum Allowed Percent from 45 to 50 Aggregate Quality Maximum Allowed Percent Aggregate Quality Maximum Allowed Percent Alumina (a) 0.7% ASHE 4131.03 Maximum Allowed Percent Aggregate Quality Maximum Allowed Percent Aggregate Quality ASHE 4131.03 Alumina (a) 0.7% Alumina (a) 0.7% Aster colspan="2">Materials I.M. 345 (a) If the Alumina value fails, the A Freeze valu			0.	.1 %		10wa 222	Mathad A		
Strate The function of the funct	AFIE	eze	I	0%		Notoriolo I			
(a) In the Aldminia value fails, the A Preeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. Comments: Member's Requested Change: (Do not use ' <u>Track Changes'</u> , or ' <u>Mark-Up'</u> . Use <u>Strikeout</u> and Highlight. Table 4131.03 Porous Backfill Material. Change: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Maximum Allowed Percent from 45 to 50 Image: Abrasion Aspect from 45% 50% AASHTO T96 Alumina (a) 0.7% Image: Abrasion Aspect from 45% 50% Alumina (a) 0.7% Image: Abrasion Aspect from 45% 50% Alumina (a) 0.7% Image: Abrasion Aspect from 45% 10wa 222 Image: Abrasion Aspect from 45% 10% Image: Abrasion Aspect from 45% 10% Image: Abrasion Aspect from 45% 10%		ha Alumina valua	faile the A E	570 roozo v		IVIALEITAIS I.	inad for apositiontion		
Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight. Table 4131.03 Porous Backfill Material. Change: Abrasion Maximum Allowed Percent from 45 to 50 TABLE 4131.03 Meximum Allowed Percent from 45 to 50 Change: Abrasion Maximum Allowed Percent from 45 to 50 Aggregate Quality Test Method Abrasion 45% 50% Alumina (a) 0.7% Iowa 222 Iowa 222 A Freeze 10% Iowa 221, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel.		moliance Iowa 23	22 does not a	apply to	aravel		nineu ior specification		
TABLE 4131.03Aggregate QualityMaximum Allowed PercentTest MethodAbrasion45% 50%AASHTO T96Alumina (a)0.7%Iowa 222A Freeze10%Iowa 211, Method AShale5%Materials I.M. 345(a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel.	Comments: Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use Strikeout and Highlight. Table 4131.03 Porous Backfill Material. Change: Abrasion Maximum Allowed Percent from 45 to 50								
Abrasion45% 50%AASHTO T96Alumina (a)0.7%Iowa 222A Freeze10%Iowa 211, Method AShale5%Materials I.M. 345(a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel.	TABLE 4131.03 Maximum Allowed Percent					Test Method			
Alumina (a) 0.7% Iowa 222 A Freeze 10% Iowa 211, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel.	Abrasion <u>45%</u> 50% AASHTO T96						—		
A Freeze 10% Iowa 211, Method A Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel.	Alumina	(a)		-11	0.7%		lowa 222	—	
Shale 5% Materials I.M. 345 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel.	A Freez	e			10%		Iowa 211. Method A		
 (a) If the Alumina value fails, the A Freeze value shall be determined for specification compliance. Iowa 222 does not apply to gravel. 	Shale 5% Materials I M 345								
compliance. Iowa 222 does not apply to gravel.	(a) If the	Alumina value f	ails the A Fre	eze val	ue shall	be determin	ned for specification	———	
	com	pliance, Iowa 222	does not an	ply to ar	avel				

County or City Input Needed (X one)			Yes	No X			
Comments:							
Industry Input Needeo	d (X one)		Yes	No			
Industry Notified:	Yes X	No	Industry Concurrence:	Yes X	No		
Comments: Industry is strongly in favor.							

Submitted by:	Tom Reis		Office: Specifications Item 18					
Submittal Date:	November 1, 2006		Proposed Effective Date: April 17, 2007					
Article No.: 252 Title: Limitation	29.12 of Operations		Other:					
Specification C	ommittee Action: Appro	ved with cha	nges.					
Deferred:	Not Approved:	Approved	ed Date: 11/09/2006 Effective Date: 4/17/2007					
Specification C	ommittee Approved Tex	ct:						
2529.12, Limitat	tion of Operations.							
Replace the	first paragraph:							
All opera maintain	ations shall be conducted ed during construction op	with minimul perations unle	m inconvenience to trates the road is closed.	ffic. Traffic shall be				
On two-l maintain	ane roads, patching shall ed.	be conducte	ed on only one lane at a	a time when traffic i	s			
For road or as allo same loo	Is with multiple lanes in ea owed by the traffic control cation the median lane sh	ach direction I details. Whe all be comple	, the work area may inc ere patching is required eted first.	clude one lane eacl I in adjacent lanes :	h direction at the			
Replace the	fifth paragraph:							
When P meeting where th Addition	CC patches without calciu the requirements of Artic there is a possibility of turn al drums need not be place	um chloride a le 2528.03, E ing into or re ced for patch	are constructed, a Type 3 shall be placed in fror sturning to the closed la tes spaced closer than	H barricade two dr ht of each patch loc ne. These barricad 150 feet (45 m).	ums ation les			
Comments: Dis Section explaine put traffic since t done first and a	strict 6 Construction asked d that if work is done in th he Contractor will have ed blowup occurs, traffic can	d why work is ne outside lan quipment and be placed o	s done in the median la ne first and a blowup of d material on the should n the shoulder.	ne first. The Speci ccurs, there is no p der. If the median	ifications lace to lane is			
The Office of Co needs to be rewo	ntracts noted that a patch orded to state this applies	a, by definitio to patches t	n, can only be in one tr hat extend into adjacer	affic lane. The sen nt lanes.	ntence			
Specification Se	ection Recommended T	ext:						
2529.12, Limitat	tion of Operations.							
Replace the	Replace the first paragraph:							
All opera maintain	ations shall be conducted ed during construction op	with minimu perations unle	m inconvenience to trates the road is closed.	ffic. Traffic shall be				
On two-l maintain	ane roads, patching shall ed.	be conducte	ed on only one lane at a	a time when traffic i	S			

For roads with multiple lanes in each direction, the work area may include one lane each direction or as allowed by the traffic control details. Where a patch extends into an adjacent traffic lane, work shall be completed in the median lane first.

Replace the fifth paragraph:

When PCC patches without calcium chloride are constructed, a Type II barricade two drums meeting the requirements of Article 2528.03.B shall be placed in front of each patch location where there is a possibility of turning into or returning to the closed lane. These barricades Additional drums need not be placed for patches spaced closer than 150 feet (45 m).

Industry Notified:

Comments:

Yes

No

Comments:		
Member's Requested Change: (Do not use ' <u>Track Changes'</u> , or ' <u>Mark-Up'</u> . Use <mark>Strikeout</mark> and <mark>Highlight</mark> . 2529.12, LIMITATION OF OPERATIONS.		
Replace the second and fifth paragraphs:		
All operations shall be conducted with minimum inconvenience to traffic. Traffic shall be maintained during construction operations unless the road is closed. On two-lane roads, patching shall be conducted on only one lane at a time when traffic is maintained. For roads with multiple lanes each direction, the work area may include one lane each direction or as allowed by the traffic control details. Where a patch extends into two traffic lanes, work shall be completed in the median lane first.		
When conditions permit, patch areas may extend up to 2 feet (0.6 m) into an adjacent lane. When this encroachment is not tabulated in the contract documents, it must be approved by the Engineer prior to beginning work. A flagger will be required at these locations. Work in an adjacent lane must be completed and opened to traffic the same day using PCC (Class A or B) or HMA to match the normal patch area material.		
When HMA patches on two-lane roadways and PCC patches with calcium chloride are constructed, the work schedule shall be adjusted so all equipment and obstructions are removed from the travel lanes and shoulders from 30 minutes before sunset to 30 minutes after sunrise.		
When PCC patches without calcium chloride are constructed, a Type II barricade two drums meeting the requirements of Article 2528.03.B shall be placed in front of each patch location where there is a possibility of turning into or returning to the closed lane. Additional These drums barricades need not be placed for patches spaced closer than 150 feet (45 m).		
Reason for Revision: Language that was removed from Road Standards		
County or City Input Needed (X one)	Yes	No X
Comments:		
Industry Input Needed (X one)	Yes	No X

Industry Concurrence:

No

Yes