Iowa Department of Transportation

MINUTES OF SPECIFICATION COMMITTEE MEETING

March 13, 2003

Members Present:	John Adam, Director	Statewide Operations Bureau
	Tom Reis, Chair	Specifications Section
	Roger Bierbaum	Office of Contracts
	Jim Berger	Office of Materials
	Doug McDonald	District 1-Marshalltown RCE Office
	Keith Norris	District 2-Materials Office
	Gary Novey	Office of Bridges and Structures
Members Not Present:	Steve Gent	Office of Traffic and Safety
	Larry Jesse	Office of Local Systems
	Mike Kennerly	Office of Design
	Bruce Kuehl	District 6-Construction Office
	John Smythe	Office of Construction
From FHWA:	Max Grogg	
	Andy Wilson	
Others Present:	Donna Buchwald, Secretary	Specifications Section
	LeRoy Bergman	Office of Local Systems
	Dave Berryhill	Office of Design
	Mark Bortle	Office of Construction
	Todd Hanson	Office of Materials
	Harold Smith	CTRE
	Wayne Sunday	Office of Construction
	Kurtis Younkin	Office of Traffic & Safety

Tom Reis, Specifications Engineer, opened the meeting. The following items were discussed in accordance with the March 7, 2003, agenda:

1. Article 2301.13, D, 2, Ready Mix Concrete

The Office of Materials requested a change to Article 2301.13, D, 2 to clarify the correct mixing time for Ready Mix Concrete.

Submitted by: Jim Berger/Todd Hanson	**Office:** Materials	**Item 1**
Submittal Date: February 21, 2003	**Proposed Effective Date:** October 2003	
Article No.: 2301.13, D, 2, b and c **Title:**	**SS No.:**	**Other:**

Change (Redline/Strikeout):

~~b. Proportioned at a central plant, and only partially mixed in a stationary mixer for transportation and finish mixing in a transit mixer.~~

~~c.~~ b. Proportioned and then mixed in a transit mixer prior to or during transit.

Reason for Revision: This specification causes confusion in the field as to what mix time to enforce. We need a consistent mixing time to produce batch to batch consistency and we don't have enough people to monitor mixing at 2 different locations. It should be either a 60 second mix time (batch plant) or 70 to 90 revolutions (transit). Contractors have tried to use this to their advantage to cut the 60 second mix time, but has not been allowed by the District Materials Office. It would be best if removed.

County or City Input Needed (X one)	**Yes**	**No** X
Comments:		

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

SPECIFICATION SECTION USE ONLY

Specification Section Recommended Language:

2301.13, D, 2, b

Delete entire article:

~~b. Proportioned at a central plant, and only partially mixed in a stationary mixer for transportation and finish mixing in a transit mixer.~~

2301.13, D, 2, c

Re-letter the article:

~~c.~~ b. Proportioned and then mixed in a transit mixer prior to or during transit.

Comments:

SPECIFICATION COMMITTEE ACTION

Final Approved Text: Specification Section recommended language.

Comments: None.

Deferred:	**Not Approved:**	**Approved Date:** 3-13-03	**Effective Date:** 10-21-03

2. Article 2528.02, Signs

The Office of Construction requested a change to Article 2528.02 that will allow the use of square metal tubing to be used for sign posts.

Submitted by: John Smythe / Mark Bortle	**Office:** Construction	**Item 2**
Submittal Date:	**Proposed Effective Date:** October 2003 GSS	
Article No.: 2528.02, 3 **Title:** Signs	**SS No.:**	**Other:**

Change (Redline/Strikeout):

Mounting devices shall not be so substantial as to be a hazard to vehicles. Posts mounted in existing soil shall meet the following requirements:

1. Wood sign supports meeting the materials requirements of Article 4164.04
2. U-shaped rail steel posts not exceeding 3.0 pounds per foot (0.3 m).
3. 2 1/4 or 2 1/2 inch square 12 gauge perforated square steel tubing.

Reason for Revision: To allow for additional temporary work zone sign post mounting alternates. Post mounted signs using the new alternate will have less potential to be twisted during high wind loads.

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

Comments:

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

Comments: Specification change requested from traffic control contractors

SPECIFICATION SECTION USE ONLY

Specification Section Recommended Language:

Add as new article:

3. 2 1/4 or 2 1/2 inch (60 mm or 65 mm) square 12 gauge perforated square steel tubing.

Comments:

SPECIFICATION COMMITTEE ACTION

Final Approved Text: Specification Section recommended language.

Comments: The Specifications Section asked if this could be extended to include permanent signs since Maintenance personnel have been replacing damaged wood signs posts with perforated square steel tubing for several years through the Office of Purchasing.

The Office of Construction would like the traffic control contractors to be able to use these posts as soon as possible and are concerned that review of all the post specifications may slow this process.

The Specifications Section and the Office of Traffic and Safety are supportive of using perforated square steel tubing for all signs. The use of the steel tubing system reduces labor for installation and maintenance, and this would be a proactive move on the Department's part considering our reduced forces. The Specification Section explained their understanding of the perforated square steel tubing industry, in that the tubing itself may be purchased through several manufactures and suppliers, but the

appurtenances, like the anchor assemblies and connectors, are proprietary. There are several traffic control signs that are the Department's responsibility to maintain during the winter and the proprietary appurtenances is a concern in their maintenance. The Office of Construction stated that in these cases the Office of Maintenance would replace any damaged tubing with a wood post.

The FHWA would be open to considering a Public Interest Finding on a proprietary system especially if the Department requests its implementation on a statewide basis.

The Specification Committee approved the change in the traffic control signs. They also approved the Office of Construction immediately distributing a letter to the industry approving the use of perforated square steel tubing on traffic control signs. The Specifications Section will contract the Office of Traffic and Safety director for further research in to the use of perforated square steel tubing for permanent signing applications.

Deferred:	**Not Approved:**	**Approved Date:** 3-13-03	**Effective Date:** immediately by letter, with inclusion in the 10-21-03 General Supplemental Specification.

3. Article 2528.03, A, Barricades

The Office of Construction requested a change to Article 2528.03 to improve clarity of the specifications and avoid conflicts with the Standard Road Plans.

Submitted by: John Smythe / Mark Bortle	**Office:** Construction	**Item 3**
Submittal Date:	**Proposed Effective Date:** Oct. 2003 GSS	
Article No.: 2528.03, A **Title:** Barricades	**SS No.:**	**Other:**

Change (Redline/Strikeout): *Rewrite entire article.*

2528.03 CHANNELIZING DEVICES.
Channelizing ~~Devises~~ Devices shall be of the type shown in the contract documents and shall utilize reflective sheeting meeting the requirements of Article 4186.03.

A. Barricades

~~Type II Barricades shall be used for all pavement surfaces on Interstate and multilane roadways which includes travel lanes, intersections, ramps, acceleration and deceleration lanes, crossovers, and shoulders. At locations other than on Interstate and multilane divided roadways, Type I barricades may be used. At any location Type II barricades may be substituted for Type I barricades. Type I and Type II barricades shall have a minimum length of rail of 2 feet (0.6 m).~~

When Type I or Type II Barricades are furnished as one of the options for channelizing devices in lieu of vertical panels, 42 inch channelizers, cones, or drums, a 2 foot (0.6 m) minimum length barricade may be used.

~~Type III barricades shall be used where specifically required. They shall have a minimum length of rail of 4 feet (1.2 m). When used as a shoulder barricade, the minimum barricade is acceptable. Unless otherwise shown in the contract documents, other Type III barricades shall have a minimum effective length of rail of 8 feet (2.4 m), including locations where the barricades are staggered to permit construction or local traffic. Barricades of the minimum length may be used, side by side and rigidly fastened together by bolting or other approved methods, to make this effective length.~~

Type III barricades shall have a minimum length of rail of 6 fet (1.8m). When traffic is permitted in each direction around a Type III Barricade, the Type III Barricade used shall have fully reflectorized faces on both sides of the rails.

Barricades shall be erected in essentially a horizontal position perpendicular to the direction of approaching traffic. ~~When placed on the traveled way or shoulder, they~~ They shall be ballasted ~~with sandbags placed~~ so as not to cover any striped rail.

~~Barricades placed on the traveled way or shoulder shall be spaced at intervals of 20 feet (6 m) on horizontal curves with a radius of 300 feet (90 m) or less, 50 feet (15 m) on horizontal curves with a radius of 300 feet (90 m) to 1,000 feet (300 m), and 300 feet (90 m) on other sections.~~

~~Shoulder barricades shall be erected within 2 feet (0.6 m) of the traveled way.~~

Reason for Revision: Improve clarity of existing paragraph and avoid conflicts with traffic control Standard Road Plans. Allow for use of 6 foot wide Type III barricades in order to increase availability of crash worthy Type III barricades with attached signs. Article 2528.03.Paragraph A is entirely rewritten with this proposed specification change.

County or City Input Needed (X one)	**Yes**	**No** X
Comments:		

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

Comments:

SPECIFICATION SECTION USE ONLY

Specification Section Recommended Language:

2528.03, Channelizing Devices.

Replace the word "Devises" with "Devices" in the article.

2528.03, A, Barricades.

Replace the entire article:

A. Barricades

~~Type II Barricades shall be used for all pavement surfaces on Interstate and multilane roadways which includes travel lanes, intersections, ramps, acceleration and deceleration lanes, crossovers, and shoulders. At locations other than on Interstate and multilane divided roadways, Type I barricades may be used. At any location Type II barricades may be substituted for Type I barricades. Type I and Type II barricades shall have a minimum length of rail of 2 feet (0.6 m).~~

When Type I or Type II Barricades are furnished as one of the options for channelizing devices in lieu of vertical panels, 42 inch (1050 mm) channelizers, cones, or drums, a 2 foot (0.6 m) minimum length barricade may be used.

~~Type III barricades shall be used where specifically required. They shall have a minimum length of rail of 4 feet (1.2 m). When used as a shoulder barricade, the minimum barricade is acceptable. Unless otherwise shown in the contract documents, other Type III barricades shall have a minimum effective length of rail of 8 feet (2.4 m), including locations where the barricades are staggered to permit construction or local traffic. Barricades of the minimum length may be used, side by side and rigidly fastened together by bolting or other approved methods, to make this effective length.~~

Type III barricades shall have a minimum length of rail of 6 feet (1.8 m). When traffic is permitted in each direction around a Type III Barricade, the Type III Barricade used shall have fully reflectorized faces on both sides of the rails.

Barricades shall be erected in essentially a horizontal position perpendicular to the direction of approaching traffic. ~~When placed on the traveled way or shoulder, they~~ They shall be ballasted ~~with sandbags placed~~ so as not to cover any striped rail.

~~Barricades placed on the traveled way or shoulder shall be spaced at intervals of 20 feet (6 m) on horizontal curves with a radius of 300 feet (90 m) or less, 50 feet (15 m) on horizontal curves with a radius of 300 feet (90 m) to 1,000 feet (300 m), and 300 feet (90 m) on other sections.~~

~~Shoulder barricades shall be erected within 2 feet (0.6 m) of the traveled way.~~

Comments:

SPECIFICATION COMMITTEE ACTION

Final Approved Text: Specification Section recommended language.

Comments: The current specification requires the Type III barricades to have a minimum length of 8 foot, MUTCD requires a minimum 4 foot. To date there has not been an 8 foot Type III barricade pass the crash testing. Dropping the minimum requirement to 6 foot will allow more signing options and is still a massive enough device to close a road. There have been several 6 foot Type III barricade pass the crash testing.

Deferred:	**Not Approved:**	**Approved Date:** 3-13-03	**Effective Date:** 10-21-03

4. Article 2528.04, Pilot Cars

The Office of Construction requested a change to Article 2528.04 that will provide additional language regarding speed of pilot car vehicle queue and length of wait time at flagger stations.

Submitted by: John Smythe / Mark Bortle	**Office:** Construction	**Item 4**
Submittal Date:	**Proposed Effective Date:** Oct. 2003 GSS	
Article No.: 2528.04 **Title:** Pilot Cars	**SS No.:**	**Other:**

Change (Redline/Strikeout): *Add paragraph.*

Pilot cars shall be pickup trucks or automobiles displaying ~~carrying~~ the Contractor's company insignia, equipped with G20-4 signs reading: PILOT CAR - FOLLOW ME. Two signs shall be mounted on the vehicle so as to be clearly visible from both directions of traffic. The bottom~~s~~ of the signs shall be mounted at least 1 foot (0.3 m) above the top of the vehicle's roof ~~cab~~.

Pilot cars shall be operated such that they maintain a uniform speed through the work area, no greater than 25 miles per hour.

Reason for Revision: Provide additional language regarding speed of pilot car vehicle queue and length of wait time at flagger stations.

County or City Input Needed (X one)	**Yes**	**No** X
Comments:		

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

SPECIFICATION SECTION USE ONLY

Specification Section Recommended Language:

Replace the entire article:

Pilot cars shall be pickup trucks or automobiles ~~carrying~~ displaying the Contractor's company insignia, equipped with G20-4 signs reading: PILOT CAR - FOLLOW ME. Two signs shall be mounted on the vehicle so as to be clearly visible from both directions of traffic. The bottom~~s~~ of the signs shall be mounted at least 1 foot (0.3 m) above the top of the ~~cab~~ vehicle's roof.

Pilot cars shall be operated such that they maintain a uniform speed through the work area, no greater than 25 miles per hour (40 km/hr).

Comments:

SPECIFICATION COMMITTEE ACTION

Final Approved Text:

Replace the entire article:

Pilot cars shall be pickup trucks or automobiles ~~carrying~~ displaying the Contractor's company insignia, equipped with G20-4 signs reading: PILOT CAR - FOLLOW ME. Two signs shall be mounted on the vehicle so as to be clearly visible from both directions of traffic. The bottom~~s~~ of the signs shall be mounted at least 1 foot (0.3 m) above the top of the ~~cab~~ vehicle's roof.

Pilot cars shall be operated such that they maintain a uniform speed through the work area, no greater than 40 miles per hour (65m/hr).			
Comments: The Specification Committee voiced concerns about the 25 mile per hour speed limit being unrealistic, especially in a long work zone. The main concern is getting the pilot car and the following public to slow down around the working equipment and workers. The Specification Committee agreed to have a reasonable uniform speed limit throughout the work zone.			
Deferred:	**Not Approved:**	**Approved Date:** 3-13-03	**Effective Date:** 10-21-03

5. Article 2530.03, B, 4, d, Cement

The Office of Materials requested a change to Article 2530.03 that will modify the specifications so that the cement requirements for both Full Depth and Partial Depth patches are the same.

Submitted by: Jim Berger/Todd Hanson			**Office:** Materials	**Item 5**
Submittal Date: January 13, 2003			**Proposed Effective Date:** October 2003	
Article No.: 2530.03, B, 4, d **Title:** Cement			**SS No.:**	**Other:**
Change (Redline/Strikeout): Cement for Class M concrete mixtures shall meet the requirements of Section 4101.~~,~~ ~~except that Class F fly ash,~~ Type IP cement, ~~or Type~~ I(PM), IS, and I(SM) cement shall not be used in ~~Class M~~ patching concrete unless approved in Materials I.M. 401.				
Reason for Revision: To match what we do with Full Depth Patches 2529.02 B.4				
County or City Input Needed (X one)			**Yes**	**No**
Comments:				
Industry Input Needed (X one)			**Yes**	**No** X
Industry Notified:	**Yes**	**No**	**Industry Concurrence:**	**Yes** / **No**
Comments:				
SPECIFICATION SECTION USE ONLY				
Specification Section Recommended Language: **Replace** the first paragraph: Cement for Class M concrete mixtures shall meet the requirements of Section 4101. ~~except that Class F fly ash,~~ Type IP ~~cement~~, ~~or Type~~ I(PM), IS, and I(SM) cement shall not be used in ~~Class M~~ patching concrete unless approved in Materials I.M. 401.				
Comments:				
SPECIFICATION COMMITTEE ACTION				
Final Approved Text: Specification Section recommended language.				
Comments: None.				
Deferred:	**Not Approved:**	**Approved Date:** 3-13-03		**Effective Date:** 10-21-03

6. Article 4115.05, Gradation

The Office of Materials requested a change to Article 4115.05 that will correct several errors in the specification.

Submitted by: Jim Berger/Todd Hanson	**Office:** Materials	**Item 6**
Submittal Date: January 13, 2003	**Proposed Effective Date:** October 2003	
Article No.: 4115.05 **Title:** Gradation	**SS No.:**	**Other:**

Change (Redline/Strikeout):

Mix Class	Mix Number	Gradation Numbers
D~~57~~	57, 57-6	3 or 5
~~2 to 8~~ A, B, C	2 to 8, V47B	3, 4, or 5
M	4	3, 4, or 5
A, B, C, M	V	7

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:

SPECIFICATION SECTION USE ONLY

Specification Section Recommended Language:

Replace the table:

Mix Class	Mix Number	Gradation Numbers
D~~57~~	57, 57-6	3 or 5
~~2 to 8~~ A, B, C	2 to 8, V47B	3, 4, or 5
M	4	3, 4, or 5
A, B, C, M	V	7

Comments:

SPECIFICATION COMMITTEE ACTION

Final Approved Text: Specification Section recommended language.

Comments: This also incorporates and clarifies some Mix Classes from the Urban manual.

Deferred:	**Not Approved:**	**Approved Date:** 3-13-03	**Effective Date:** 10-21-03

7. Article 4186.09, A, Type A Signs

The Office of Traffic and Safety requested a change to Article 4186.09 that will allow the use of galvanized fasteners in lieu of aluminum for Type A Signs.

Submitted by: Steve Gent/Tim Crouch	**Office:** Traffic and Safety	**Item 7**
Submittal Date: November 22, 2002	**Proposed Effective Date:** October 2003	
Article No.: 4186.09, A **Title:** Type A Signs.	**SS No.:**	**Other:**

Change (Redline/Strikeout):

A. Type A Signs

Type A sign fasteners shall be as follows:

1. Bolts.

Bolts shall be 3/8 inch (9.5 mm) in diameter with a hexagonal head~~, manufactured from aluminum wire or rod meeting requirements of ASTM B 211 Alloy 2024-T4~~. Thread fit shall conform to ANSI Class 2A. The length required shall be dependent upon the type of post supplied by the Contractor (wood, steel or aluminum). The minor thread diameter shall be used in determining stress area.

2. Nuts.

Nuts shall be finished, finished thick, regular, or heavy, hexagonal, self locking nuts for 3/8 inch (9.6 mm) bolts, but all nuts shall be of the same type. ~~Nut shall be manufactured from any aluminum allow listed in ASTM B 211 or from stainless steel.~~ The axial tensile strength at room temperature shall be not less than 4,730 pounds (21 kN).

3. Self Locking Nuts.

Self locking nuts shall be approved by the Engineer. Thread fit shall be as recommended by the manufacturer.

4. Washers.

Washers shall be made of a quality of material approved by the Engineer. The washers shall be ~~7/16~~ 3/8 inch (~~11~~ 9.5 mm) I.D. x 1 3/8 inch (~~25~~ 35 mm) O.D. x ~~0.078~~ 0.125 inch (~~2~~ 3 mm). A thickness tolerance of ± 0.006 inch (0.15 mm) will be allowed.

Neoprene washers shall be ~~7/16~~ 3/8 inch (~~11~~ 9.5 mm) I.D. x ~~¾~~ 15/16 inch (~~19~~ 24 mm) O.D. x 1/8 inch (3 mm) thickness. (Neoprene washers are required when treated wood posts are used). Durometer hardness shall be 60 to 70 with a tolerance of ± 5.

5. Other Details.

Other details, including post clips on I-beams posts, etc., are shown in the contract documents. ~~Though aluminum hardware is specified, equivalent h~~ Hardware may be furnished in stainless steel or galvanized steel as approved by the ~~Engineer~~ Department. Galvanizing shall meet requirements of ASTM A 153, Class D, or ASTM B 633, Class Fe/Zn 12, Type 1.

Reason for Revision: Our current specifications require contractors to furnish aluminum washers, bolts, and nuts on the type A signs. When our maintenance forces replace them, they use stock issue galvanized steel. Aluminum has been used to prevent rust stains from running down sign faces. 3M company tells us that with the neoprene washer between the sign and the regular washer, this shouldn't be a problem. The stock issue galvanized and neoprene washers have been performing well and are more durable because of the sizing.

We recommend changing the specification to adopt to the less costly yet more durable hardware that our maintenance forces use.

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: 3M was the only contract regarding the reaction to the sign material.					

SPECIFICATION SECTION USE ONLY

Specification Section Recommended Language:

Replace entire article:

A. Type A Signs

Type A sign fasteners shall be as follows:

1. Bolts.

Bolts shall be 3/8 inch (9.5 mm) in diameter with a hexagonal head~~, manufactured from aluminum wire or rod meeting requirements of ASTM B 211 Alloy 2024-T4~~. Thread fit shall conform to ANSI Class 2A. The length required shall be dependent upon the type of post supplied by the Contractor (wood, steel or aluminum). The minor thread diameter shall be used in determining stress area.

2. Nuts.

Nuts shall be finished, finished thick, regular, or heavy, hexagonal, self locking nuts for 3/8 inch (9.6 mm) bolts, but all nuts shall be of the same type. ~~Nut shall be manufactured from any aluminum allow listed in ASTM B 211 or from stainless steel.~~ The axial tensile strength at room temperature shall be not less than 4,730 pounds (21 kN).

3. Self Locking Nuts.

Self locking nuts shall be approved by the Engineer. Thread fit shall be as recommended by the manufacturer.

4. Washers.

Washers shall be made of a quality of material approved by the Engineer. The washers shall be ~~7/16~~ 3/8 inch (~~11~~ 9.5 mm) I.D. x 1 3/8 inch (~~25~~ 35 mm) O.D. x ~~0.078~~ 0.125 inch (~~2~~ 3 mm). A thickness tolerance of ± 0.006 inch (0.15 mm) will be allowed.

Neoprene washers shall be ~~7/16~~ 3/8 inch (~~11~~ 9.5 mm) I.D. x ~~3/4~~ 15/16 inch (~~19~~ 24 mm) O.D. x 1/8 inch (3 mm) thickness. (Neoprene washers are required when treated wood posts are used). Durometer hardness shall be 60 to 70 with a tolerance of ± 5.

5. Other Details.

Other details, including post clips on I-beams posts, etc., are shown in the contract documents.

~~Though aluminum hardware is specified, equivalent h~~ Hardware may be furnished in stainless steel or galvanized steel as approved by the Engineer. Galvanizing shall meet requirements of ASTM A 153, Class D, or ASTM B 633, Class Fe/Zn 12, Type 1.

Comments:

SPECIFICATION COMMITTEE ACTION			
Final Approved Text: Specification Section recommended language.			
Comments: The Specification Committee requested that an ASTM reference be added for the bolt strength. The Office of Traffic and Safety will notify the Specification Section of the ASTM reference for inclusion in the General Supplemental.			
Deferred:	**Not Approved:**	**Approved Date:** 3-13-03	**Effective Date:** 10-21-03

Item 8

Iowa Department of Transportation

MINUTES OF THE IOWA DOT

AND

THE ASPHALT PAVING ASSOCIATION OF IOWA (APAI)
QUARTERLY JOINT SPECIFICATION COMMITTEE MEETING

November 6, 2002

Iowa DOT Specification Committee Members Present:

Tom Reis	Specifications Section
John Adam	Statewide Operations Bureau
Jim Berger	Office of Materials
Ed Kasper	Office of Contracts
Keith Norris	District 2 Materials
John Smythe	Office of Construction
Will Stein	Office of Design

From FHWA: Max Grogg

APAI Specification Committee Members Present:

Michael Kvach	Asphalt Paving Association of Iowa
Brett Finnegan	L.L. Pelling Co.
Allen Heintz	Manatts, Inc
Ted Huisman	Cessford Construction Co.
Harold Jensen	Asphalt Paving Association of Iowa
Kevin Kueter	Mathy Construction
Gary Lemans	Western Engineering Co., Inc.
Brady Meldrem	Norris Asphalt
Robert Nady	Asphalt Paving Association of Iowa
Steve Sorenson	Fred Carlson Co.
Terry Travis	Illowa Investment Inc.
Mark Trueblood	Martin Marietta
Jim Zeigler	Pohlin Construction

Others present from Iowa DOT:

Donna Buchwald, Secretary	Specifications Section
Mark Bortle	Office of Construction
Kevin Jones	Office of Materials
Dan Redmond	Office of Materials
Jeff Schmitt	Office of Construction

The quarterly meeting of the Specification Committees of the Iowa DOT and the APAI was held on November 6, 2002, at 1:00 p.m. at the headquarters of the Iowa DOT in Ames.

Tom Reis, Specifications Engineer, opened the meeting, which followed the October 28, 2002, Agenda memo.

1. Smoothness Specification.

   The Department has asked the HMA and PCC industries to collect data on smoothness, preferably in the wheel paths. The APAI has started gathering information on Hwy 20, but stated that next year will be a better year for information gathering.

   A revised smoothness specification may be used on selected projects scheduled for letting in 2003.

2. Recycled Asphalt Pavement (RAP)
   A. On projects where milling of the existing roadway is required, historical information of the existing material needs to be included in the contract documents.
   B. Certified RAP use should not be at the discretion of the Engineer.
   C. District Engineers need to be consistent across the state with respect to RAP use.

   The APAI stated that the following characteristics/properties of RAP are necessary criteria. The criterion has been split into two groups. The first group is considered necessary for estimating the requirements of proposed mix designs. The second group is considered necessary for performing and finishing the actual design.

   1. Estimating:
      - Aggregate sources of the mineral aggregate in the RAP
      - Quality of the mineral aggregate
      - Skid type of the mineral aggregate
      - The amount of crushed particles in the RAP, or what percentage of crushed particles will be credited toward the total crushed content of the mix design
      - Quantity of RAP available
      - Average binder content when the pavement was placed
      - Average gradation when the pavement was placed
      - Can the RAP be used in the surface course mix? (Certified RAP - if the RAP qualifies, does its use have to be authorized by the Engineer?)

   2. Mix Design:
      - Binder content of the RAP
      - Gradation of the RAP
      - Bulk Dry Specific Gravity of the mineral aggregate in the RAP
      - Absorption of the mineral aggregate in the RAP
      - How the RAP was processed: screened vs. crushing
      - Consistency of the RAP
      - Percent of flat and elongated particles in the mineral aggregate

   The APAI stated that in the past the information listed above under “Estimating” was routinely provided by Special Provisions, plan notes, or a tabulation chart for specific projects. Lately, none, or little, of this information has been provided in the contract documents. They believe the only items listed under “Estimating” that is being included is crushed credit of unclassified RAP (0%) in Article 2303.02, C, of the Standard Specifications. The APAI believes that if this information listed above under “Estimating” was provided, the estimators and mix designers jobs could be performed more efficiently and precisely.

The APAI stated that the information listed above under “Mix Design” is covered in Article 2303.02, C, of the Standard Specifications.

The Department did not know why the information the APAI was asking about was no longer included in the contract documents. The Department stated that the information should be currently available. Some of the information may be covered on QMA projects. The Department will review the information and try to supply the information to the contractors for them to bid and build the projects.

The APAI stated concerns on county projects. Currently the approval and usage of RAP is at the county engineer’s discretion. This has caused many problems for the contractors who do not believe that RAP is being used nearly as often as it could and should be. The Department has left this to the discretion of the county engineers because of incorrect stockpiling and unclean RAP on the local projects.

Generally speaking when the bid item used for RAP is by area the material is not intended for recycling and when the bid item is by weight the materials is suitable for recycling.

The Office of Materials has discussed this issue with the District Materials Engineers. The information under “Design Mix” is probably not available. The District Materials Engineers will provide the information under “Estimating” when asked and the information is available. The Office of Materials will inform the Assistant District Engineers at their next meeting that they need to ask the District Materials Engineers for the information on their projects. The Assistant District Engineers will be instructed on all projects with RAP to use a tab for the information under “Estimating” or a reference note that states the information is not available; so the contractors will have a confirmation one way or the other. The Department will provide the historical information that is available and the contractors must understand that this information is not always accurate.

3. Length of Construction Zones: The industry took the liberty of revising existing specification documents to reflect proposed changes.

The APAI requested to change RS-4, Note 11, to state, “For projects in rural areas the distance between flaggers shall not exceed 3 miles”; and RS-63A and B, Note 13, to replace the limit of the work area from 4 miles to 6 miles. The reason for requesting these changes is because plants are able to produce larger quantities. The APAI stated that the projects would be more economical and safer if limited work zone lengths did not hold the contractors back. They stated the projects would also be completed faster.

The Department will not make a blanket change to increase the distances of work zones at this time because not all plants have the capacity to produce at increased rates. If the motoring public thinks the work zone is too large, they often do not hesitate to call the Department and voice their opinion.

Recently the Department changed the requirements to allow the traffic control zone to be extended 2 miles provided that once the traffic control devices have been placed to extend the lane closure, the traffic control devices at the beginning of the traffic control zone are moved downstream to limit the work area to 4 miles. The APAI stated that contractors are not always being allowed to extend the traffic control zone even when they meet the criteria. There are concerns about the coring operation if the traffic control is moved up.

The Department stated that they would discuss with field personnel allowing the traffic control zone extensions as long as the criteria are met and there aren’t safety concerns. The Department also suggested that the contractors discuss this topic at the pre-construction conferences.

The Office of Construction stated that this topic was discussed at their winter training sessions.

4. Better compaction over/under culverts on Full-Depth HMA.

The APAI stated that they are experiencing settlement over new culverts, box culverts, and some pipes within a year or two of construction. They stated that this is also happening on PCC projects. This does not look good to the public. Some states require 4 to 6 inch lifts at 96% density, with testing on every lift. Some states require excavation 2 foot below the bottom of the culvert with good quality material for backfill under the culvert. Some states require granular back fill half way up the culvert. Missouri requires the use of all granular backfill. Johnson County has required flowable mortar backfill on all culverts with 1 foot of fill on top.

The Department will have the Quality Management – Embankment (QM-E) Committee review the compaction and material requirements for over/under culverts.

The Office of Construction is investigating this topic and some research is being performed, including the use of geogrid.

5. Developmental Specifications.

The APAI had several questions about the new Developmental Specifications (DS) and their usage. They stated that some things in the DSs are unrealistic, they would like the draft DSs distributed to the industry for review and comments, and they asked if the DSs are for mutual benefit.

The Department explained that the DSs are not necessarily meant for mutual benefit. They explained that Special Provisions are project specific; and Supplemental Specifications can be assigned to any project and are generic with dual units. DSs are in-between Special Provisions and Supplemental Specifications. They are assigned to specific projects, but do not contain project specific information. They can be written for many different reasons including development of new processes, for new technology, for changes to existing Specifications that do not coincide with the new April and October releases of Supplemental Specifications. Changes in DSs are indicated by using redline and strikeout as is used in Supplemental Specifications, which should help the estimators, contractors, and Engineers. Depending on the circumstances, DSs may be changed every letting, or they may be used in many lettings without changing. Two versions of a DS should not be used in a single letting. DSs may be added to a contract by Change Order with a corresponding negotiated price.

Item 9

9. Rewrite of Standard Specification Manual

The Specifications Engineer requested a discussion concerning the rewrite of the Standard Specification Manual that will entail the timing, training, resources necessary, format, and language used for this task.

The Specifications Engineer distributed handouts of his presentation along with examples of the difference between indicative mood, which the Department is currently using, and imperative mood, which is being proposed.

In imperative mood, the information is written to the Contractor such that the phrase "The Contractor shall" is understood and not written. If the Engineer is to do something it must be stated as "The Engineer will . . . ". The imperative mood is list oriented, easier to understand and find information, and should reduce the overall size of the book.

The Specification Section is also proposing using the AASHTO format that is currently being used by many other states. Moving to the AASHTO format will also help in maintaining the National Specification Database that was recently developed. Utilizing the AASHTO format will also help contractors that work in other states.

The Specification Committee was shown four options (see slide in attachment), the first option being the Specifications Section's recommended option. As the options continue down the list there is a concern about being ready to merge with the Urban Standard Specifications in the next 5 to 10 years.

The Specification Committee discussed the status of the Statewide Urban Design and Specifications (SUDAS) merger with the Department's Specifications and Design Standards. The SUDAS group is moving toward rewriting their manual since they have received complaints about the size of their book and would like to change the format. The SUDAS book is in somewhat of an imperative mood type of language, but the formatting is more similar to the American Institute of Architects (AIA) specifications. In discussion between the Department and the SUDAS group, they agree that they both need to rewrite to a common format and then move toward merging the books. The Office of Contracts is not supportive of this if it means two changes in bid items. The few other states that have state DOT and urban type specifications in one book have tiered everything with one exception; one state has a DOT Division 11 and an Urban Division 11.

The Specifications Section is recommending Task Forces from different offices to recommend, review, and comment on the changes that are made. Not all offices would be represented on every Task Force, but some offices may have representatives on most of the Task Forces. The Task Force representatives will be responsible for communicating changes to their offices.

A proposed timeline was included in the flowchart in the presentation. This is a proposed timeline and may need to be altered as the process proceeds depending on training, resources, and other unexpected impacts on workload.

The Specification Committee asked about training the contractors. They believe it will be important to train the contractors so that they will not be expected to bid or build projects with a completely rewritten Specification Book without training. The training may only take 2 to 4 hours. Three options were discussed:

- the Specification Section provides training,
- utilize the Associated General Contractors of Iowa's training sessions that are held throughout the year around the state, or
- utilize the fiber optics communications network.

In conclusion, the Specification Committee is supportive of rewriting the Specification Book in imperative mood without utilizing a consultant, but instead using a graduate student for the technical writing review. The Specifications Engineer will make the Specifications Committee's proposal, including using the

AASTHO format, to the SUDAS Executive Committee at their March 25, 2003, meeting, and ask for a joint SUDAS Executive Committee and Department Specification Committee meeting.

Specification Committee Meeting Presentation

REWRITE OF STANDARD SPECIFICATION MANUAL

2003.03.13
Thomas L. Reis, P.E.

Imperative Mood vs. Indicative Mood

- **Imperative Mood**
  - List orientated
  - Easier to understand
  - Easier to find information
- **Indicative Mood**
  - Text oriented
  - Lengthy
  - Hard to find data
- **Other states**
  - 31 % of states are imperative mood

Examples of Imperative Mood vs. Indicative Mood

- **Placing Concrete**
- **Spreading, Compacting, and Shaping**
- **Guardrail**

In-house Development

- **Pros**
  - Less cost
  - Familiarity with product
  - Increased consistency
  - Better timeline control
  - Additional training of Specification Staff
- **Cons**
  - Impact on workload
  - Additional training
  - Slower development
- **Resources**
  - Technical editor
  - Staff resources
  - Training

Consultant Development

- **Pros**
  - Speed?
  - Less training of Specifications Staff
  - Specifications Workload
- **Cons**
  - Less training of Specifications Staff
  - Increased cost (contract changes, etc.)
  - Less familiar with documents
  - Increased need for careful review

Options

- **Imperative Mood Total Rewrite**
  - New Sections, Movement of Articles, etc.
  - AASHTO Guide Specification format
  - 5-part format
    - Description, Materials, Construction, MOM, BOP
    - Geographical adjustments
- **Imperative Mood Semi-rewrite**
  - Language change only with no improvements
- **Down and Dirty**
  - Publish new manual with GS/some SS &DS
- **Do nothing**
  - Maintain current manual w/GS

Proposed flow chart for rewrite of Specification Book (February 2003)