INDIANA DEPARTMENT OF TRANSPORTATION

STANDARDS COMMITTEE MEETING MINUTES

Driving Indiana's Economic Growth

May 22, 2006

MEMORANDUM

TO: Standards Committee

FROM: Dannie L. Smith, Secretary

RE: Minutes for the May 18, 2006 Standards Committee Meeting

The Standards Committee meeting was called to order by the Chairman at 9:00 a.m. on May 18, 2006 in the N755 Executive Conference Room. The meeting was adjourned at 10:45 a.m.

The following members or their representatives were in attendance:

Mark Miller, Acting Chairman	Robert Cales, Estimating
Jim Keefer, Ft. Wayne Dist.	Dennis Kuchler, State Constr. Engr.
Larry Rust, Traffic Control	Tony Uremovich, Production Mgmt.

Also in attendance were the following:

Dave Andrewski, Planning	Ron Heustis, Const. Tech. Supp.
Dan Smith, Secretary	Richard VanCleave, Production Mgmt.
Ed Ratulowski, FHWA	Paul Berebitsky, ICI

New Business

Item 12-1	Mr. Wright	5/18/06	3
306.08	Transition Milling	300-16	
Action:	Passed as revised		
Item 12-2	Mr. Wright	5/18/06	4
Standard Drawing	402-TMPT-01		
Action:	Passed as revised		
Item 12-3	Mr. Wright	5/18/06	6
Design Manual	Figure 72-3B		
Action:	Passed as revised		

Item 12-4	Mr. Wright	5/18/06	8
Standard Drawings	AASHTO Type II, III, or IV I-Beams Indiana 54″ Bulb-Tees Indiana Bulb Tees Greater Than 54″ in Depth		
Action:	Withdrawn		
Item 12-5	Mr. Wright	5/18/06	9
707.02	Materials	700-57	
707.03	General Requirements	700-58	
707.11	Method of Measurement	700-64	
707.12	Basis of Payment	700-64	
Action:	Withdrawn		
Item 12-6	Mr. Wright	5/18/06	10
711.02	Materials	700-72	
Action:	Withdrawn		
Item 12-7	Mr. Wright	5/18/06	11
711.03	General Requirements	700-73	
Action:	Withdrawn		
Item 12-8	Mr. Wright	5/18/06	12
711.04	Certification of Fabricators	700-73	
Action:	Withdrawn		
Item 12-9	Mr. Wright	5/18/06	13
711.08	Mill Test Reports	700-74	
Action:	Withdrawn		
Item 12-10	Mr. Wright	5/18/06	14
711.11	Straightening Material	700-75	
Action:	Withdrawn		
Item 12-11	Mr. Wright	5/18/06	15
711.32*(c)*	*Welding of High Performance Steel*	700-80	
Action:	Withdrawn		
Item 12-12	Mr. Wright	5/18/06	18
711.72	Method of Measurement	700-93	
Action:	Withdrawn		
Item 12-13	Mr. Wright	5/18/06	19
711.73	Basis of Payment	700-93	
Action:	Withdrawn		
Item 12-14	Mr. Rust	5/18/06	20
Design Manual	Use of Blue Pavement Markers		
Action:	Passed as revised		

cc: Committee Members (7)
Districts (36)
FHWA (4)
ICI Representative (1)
IMAA Representative (1)
APAI Representative (1)
ACEC Representative (1)
ADS Representative (1)
Mirich Representative
ACPA Representative (1)
Contech Representative (1)
IKO Representative (1)
Bridgetek Representative (1)
INDOT Toll Road (3)
Traffic Design (3)
Estimators (3)
Specification Writers (4)

Item No. 12-1
Mr. Wright
Date: 5/18/06

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 306, BEGIN LINE 176, INSERT AS FOLLOWS:

306.08 Transition Milling

Transition milling shall consist of cutting a wedge at the beginning and ending of projects, and paving exceptions. The existing pavement shall be cut to provide a *nearly* vertical face of 1.5 in. (38 mm) for the termini of each overlay lift of ~~base,~~ intermediate, ~~or~~ *and* surface. The existing pavement shall be milled at a rate of 720:1 or as directed to achieve

Other sections containing specific cross references:

None

Recurring Special Provisions potentially affected:

None

Motion: Mr. Uremovich
Second: Mr. Kuchler
Ayes: 5
Nays: 0

General Instructions to Field Employees
Update Required? No

Frequency Manual
Update Required? No

Standard Sheets potentially affected:

See Item 12-2

Action: Passed revised
Effective – September 2006 Letting
September 2007 Specifications

Received FHWA Approval? Yes

Item No. 12-2
Mr. Wright
Date: 5/18/06

STANDARD DRAWING

402-TMPT-01, Asphalt-Pavement Wedging and Transition Milling

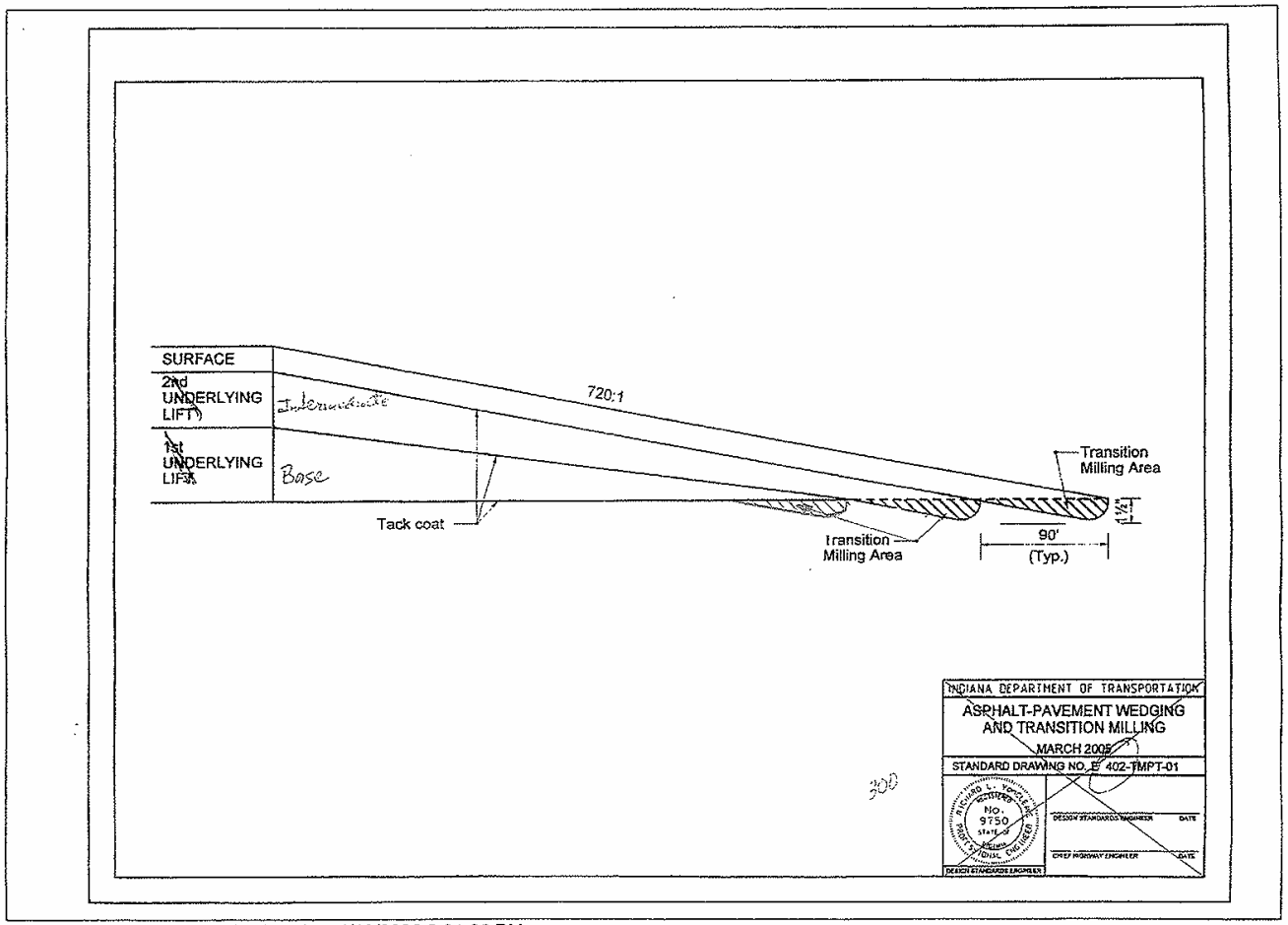
-- PLEASE NOTE –

The proposed revision to the above standard sheet has been modified from what was approved at the meeting. Industry has requested a transition milling be shown for the base course as well as for the intermediate and surface courses. Dave Andrewski has agreed to this modification.

It is being shown in the minutes. When you (committee members) submit your comment sheet back to me, please indicate whether you approve this modification or not. I have placed specific notes on the comment sheet for you to use. If the majority of you do not approve, I will present it on a future agenda for discussion.

Comments from all others will be welcome. Please address them to me at: dnsmith@indot.in.gov.

Other sections containing specific cross references:	General Instructions to Field Employees Update Required? No
None	Frequency Manual Update Required? No
Recurring Special Provisions potentially affected:	Standard Sheets potentially affected:
None	See Above
Motion: Mr. Uremovich Second: Mr. Kuchler Ayes: 5 Nays: 0	Action: Passed as revised Effective – September 2006 Letting September 2007 Standards
	Received FHWA Approval? Yes



402-TMPT-01_Rev_Mar_01_2005.dgn 4/10/2006 3:01:36 PM

306-R-524d

DESIGN MANUAL REVISION

Figure 72-3B, Pavement Transition Detail

Other sections containing specific cross references:

None

Recurring Special Provisions potentially affected:

None

Motion: Mr. Uremovich
Second: Mr. Kuchler
Ayes: 5
Nays: 0

General Instructions to Field Employees
Update Required? No

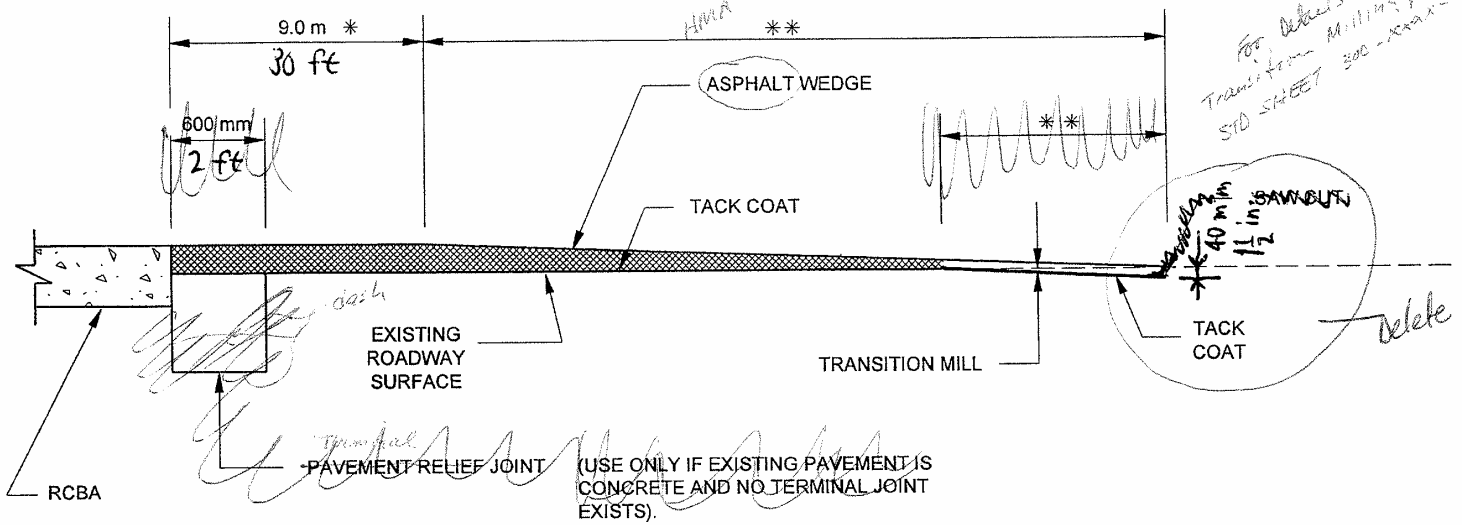
Frequency Manual
Update Required? No

Standard Sheets potentially affected:

See Item 12-2

Action: Passed as revised
Effective – September 2006 Letting
September 2007 Standards

Received FHWA Approval? Yes



* WEDGE TO BE A CONTINUATION OF BRIDGE DECK PROFILE.
** TAPER AND MILLING LIMITS PER STANDARD DRAWING ~~5402-TMPT-01~~.

~~ASPHALT WEDGE~~ PAVEMENT TRANSITION DETAIL

Figure 72-3B

722 B-170d

STANDARD DRAWINGS

707-SDPC-01, AASHTO Type II, III, or IV I-Beams
707-SDPC-02, Indiana 54” Bulb-Tees
707-SDPC-03, Indiana Bulb Tees Greater Than 54” in Depth

Other sections containing specific cross references: None	General Instructions to Field Employees Update Required? Y___ N___ By - Addition or Revision Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected: 707-B-085	Standard Sheets potentially affected: See Above
Motion: Mr. Second: Mr. Ayes: Nays:	Action: Withdrawn

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 707, AFTER LINE 22, INSERT AS FOLLOWS:

Structural steel for steel intermediate diaphragms shall be in accordance with 910.02(a) and shall be galvanized in accordance with ASTM A 123 after cutting, bending, and welding. Bolts for steel intermediate diaphragms shall be 7/8 in. (22 mm) and in accordance with 910.02(e)1, except they shall be type 1. All bolts, nuts, washers, and similar threaded fasteners shall be galvanized in accordance with ASTM A 123 or may be mechanically zinc coated in accordance with ASTM B 695, class 50.

SECTION 707, AFTER LINE 29, INSERT AS FOLLOWS:

The use of structural steel intermediate diaphragms will be allowed as an alternate to the concrete interior diaphragms shown on the plans. All structural steel shall be fabricated and erected in accordance with 711. Steel diaphragms shall include all connection angles, plates, and associated hardware required for a complete installation. The Contractor shall replace, re-galvanize, or repair all damaged galvanized material at the discretion of the Engineer.

SECTION 707, BEGIN LINE 333, INSERT AS FOLLOWS:

707.11 Method of Measurement

Precast or prestressed concrete structural members will be measured by the linear foot (meter) along the top of each member or by the square foot (square meter) of top surface of each member. Railing will be measured in accordance with 706.05 if specified as a pay item. *Structural steel for intermediate diaphragms will not be measured.*

SECTION 707, AFTER LINE 367, INSERT AS FOLLOWS:

The cost of all materials, including galvanizing, labor, and equipment for furnishing and installing steel intermediate diaphragms shall be included in the cost of structural member, concrete of the type and size specified.

Other sections containing specific cross references:

707.03
707.10 Pg 700-64

General Instructions to Field Employees
Update Required? Y___ N___
By - Addition or Revision
Frequency Manual
Update Required? Y___ N___
By - Addition or Revision

Recurring Special Provisions potentially affected:

None

Standard Sheets potentially affected:

See Item 12-4

Motion: Mr.
Second: Mr.
Ayes:
Nays:

Action: Withdrawn

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 15, INSERT AS FOLLOWS:

Where grade HPS 70W (HPS 485W) or grade HPS 50W (HPS 345W) steel is shown on the plans, the high performance steel shall be in accordance with all provisions of ASTM A 709 (A 709M) except as modified herein. In addition to the conditions listed in Section 6.7 of ASTM A 709 (A 709M), high performance steel may be furnished as hybrid/mixed design structural components using high performance steel plates in combination with high strength, low alloy steel plates and shapes, for welded or bolted applications in bridge construction.

Quenched and tempered ASTM A 709, grade HPS 70W (ASTM A 709M, grade HPS 485W) steel plates are limited to a 50 ft (15.24 m) maximum delivery length from the mills. Alternately, ASTM A 709, grade HPS 70W (ASTM A 709M, grade HPS 485W) TMCP or other manufacturing options may be available in longer lengths, but with restrictions on thickness, depending on mill capabilities.

The impact testing requirements in accordance with 10.1 and 10.2 of ASTM A 709 (A 709M) shall meet temperature zone 2.

Other sections containing specific cross references: None	General Instructions to Field Employees Update Required? Y___ N___ By - Addition or Revision Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected: None	Standard Sheets potentially affected: See Item 12-4
Motion: Mr. Second: Mr. Ayes: Nays:	Action: Withdrawn

Item No. 12-7
Mr. Wright
Date: 5/18/06

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 48,INSERT AS FOLLOWS:

Fabrication of high performance steel shall be in accordance with the AASHTO Guide Specifications for Highway Bridge Fabrication with HPS 70W Steel, an addendum to ANSI/AASHTO/AWS D1.5M/D1.5:2002, except as modified herein.

Other sections containing specific cross references:

724.03(a) Pg 700-151
724.03(c) Pg 700-151

General Instructions to Field Employees
Update Required? Y___ N___
By - Addition or Revision

Frequency Manual
Update Required? Y___ N___
By - Addition or Revision

Recurring Special Provisions potentially affected:

None

Standard Sheets potentially affected:

See Item 12-4

Motion: Mr.
Second: Mr.
Ayes:
Nays:

Action: Withdrawn

Item No. 12-8
Mr. Wright
Date: 5/18/06

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 48, INSERT AS FOLLOWS:

Only fabricators meeting the requirements of the AISC Quality Certification Program, "Major Steel Bridges (Cbr)" with "Fracture Critical Members Endorsement (F)", or approved equal, may be used to fabricate using high performance steel. Prior to approval for fabrication, the results of the latest AISC certification review shall be made available to the Engineer to determine if items critical to successful fabrication meet the needs of the specific work.

Other sections containing specific cross references: None	General Instructions to Field Employees Update Required? Y___ N___ By - Addition or Revision Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected: None	Standard Sheets potentially affected: See Item 12-4
Motion: Mr. Second: Mr. Ayes: Nays:	Action: Withdrawn

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, BEGIN LINE 91,DELETE AND INSERT AS FOLLOWS:

711.08 Mill Test Reports

Prior to, or concurrent with, the fabrication, ~~four copies~~ *a copy* of *the* mill test report~~s~~ shall be furnished. If the manufacturer's mill test reports are not available, tests shall be made

Other sections containing specific cross references: 910.02(c) Pg 900-72 910.02(d) Pg 900-73	General Instructions to Field Employees Update Required? Y___ N___ By - Addition or Revision Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected: None	Standard Sheets potentially affected: See Item 12-4
Motion: Mr. Second: Mr. Ayes: Nays:	Action: Withdrawn

Item No. 12-10
Mr. Wright
Date: 5/18/06

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 138, INSERT AS FOLLOWS:

Short term application of heat to high performance steel for purposes of heat curving, heat straightening, camber and sweep adjustment, or other reasons is limited and not to exceed 1100°F (590°C). All applications of heating shall be done by procedures approved by the Department.

Other sections containing specific cross references: 711.59 Pg 700-87	General Instructions to Field Employees Update Required? Y___ N___ By - Addition or Revision Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected: None	Standard Sheets potentially affected: See Item 12-4
Motion: Mr. Second: Mr. Ayes: Nays:	Action: Withdrawn

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 399, INSERT AS FOLLOWS:

(c) Welding of High Performance Steel

All welding on high performance steel shall be in accordance with the ANSI/AASHTO/AWS D1.5M/D1.5 Bridge Welding Code, hereinafter referred to as the Bridge Welding Code, except as modified herein and by the AASHTO Guide Specifications for Highway Bridge Fabrication with HPS 70W Steel, an addendum to the 2002 Edition of the Bridge Welding Code.

Only submerged arc welding, SAW, and shielded metal arc welding, SMAW, processes will be permitted. Consumable handling requirements shall be in accordance with the Bridge Welding Code, Section 12.6.5 and 12.6.6, when using reduced preheat as described in Table 3 of the Guide, except that SAW consumables for matching weld metal shall meet the hydrogen control level of H4 in accordance with Section 12, Article 12.6.2. Consumable handling requirements shall meet the provisions of The Bridge Welding Code, Section 4, when using the preheat requirements of Table 4.4, except that the diffusible hydrogen level must never exceed H8. SMAW consumables may meet diffusible hydrogen levels of either H4 or H8 except the higher preheat and interpass temperatures as noted in Table 3 of the AASHTO Guide Specifications for Highway Bridge Fabrication with HPS 70W Steel shall apply to H8 conditions.

Filler metals used to make single pass fillet welds for web to flange applications which join HPS 70W steel plates, HPS 70W to grade 50W plates and for attaching stiffeners and connection plates to grade HPS 70W (HPS 485W) webs and flanges, shall be in accordance with the Bridge Welding Code, Table 4.1 for ASTM A 709, grade 50W (ASTM A 709M, grade 345W) base metal. Filler metals for single pass 5/16" fillet welds need not meet the requirements for exposed bare applications.

Filler metals used for all complete penetration groove welds joining grade HPS 70W (grade HPS 485W) plate to ASTM A 709, grade HPS 50W (A 709M, grade HPS 345W) or grade 50W (grade 345W) plate shall conform to the requirements for welding Grade 50W base metal.

Filler metals used for all complete penetration groove welds joining grade HPS 70W (grade HPS 485W) plates to grade HPS 70W (grade HPS 485W) plates shall conform to the requirements for HPS 70W (HPS 485W) base metal as follows:

1. *Submerged Arc Welding process:*

   Wire - LA85 by Lincoln Electric Company
   Flux - MIL800HPNi by Lincoln Electric Company

2. *Shielded Metal Arc Welding process*

   *Matching - E9018MR**
   *Undermatching - E7018MR**

* *The designator 'MR', for moisture resistant coating, is required for all SMAW electrodes used for welding HPS 70W [HPS 485W] steels.*

The Contractor may request approval of alternate consumables for matching strength welds in lieu of the above filler metals for SAW. The request for approval shall include documentation of successful welding and shall also include diffusible hydrogen tests, both in accordance with the Bridge Welding Code.

All welding procedures shall be qualified in accordance with the Bridge Welding Code Section 5, Qualification. In general, the provisions of Article 5.12 shall apply. Qualification tests shall measure strength, toughness and ductility, with results evaluated in accordance with Article 5.19. If specified on the plans, additional tests shall measure the Charpy V-notch toughness of the coarse grained area of the heat affected zone, HAZ. The notch in the specimens shall be carefully located in the coarse grained area of the HAZ, as determined by macro-etching the specimens prior to machining and testing. The toughness requirement for the HAZ shall be the same as the weld metal.

All procedure qualification tests shall be ultrasonically tested in accordance with the requirements of the Bridge Welding Code, Section 6, Part C. Evaluation shall be in accordance with Table 6.3, UT Acceptance – Rejection Criteria – Tensile Stress. Indications found at the interface of the backing bar may be disregarded regardless of the defect rating.

A representative of the Department must witness all welding procedure specification qualification tests.

Results of the welding procedure specification qualification tests and final welding procedure specifications shall be submitted to the Engineer for review and approval.

In general, post weld heat treatment will not be required. The use of such post weld heat treatment will require additional qualification testing.

Wherever magnetic particle testing is done, only the yoke technique will be allowed, as described in Section 6.7.6.2 of the Bridge Welding Code, modified to test using alternating current only.

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, CONTINUED.

Other sections containing specific cross references: None	General Instructions to Field Employees Update Required? Y___ N___ By - Addition or Revision Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected: None	Standard Sheets potentially affected: See Item 12-4
Motion: Mr. Second: Mr. Ayes: Nays:	Action: Withdrawn

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, BEGIN LINE 978,DELETE AND INSERT AS FOLLOWS:

711.72 Method of Measurement

~~Plain~~ *High performance steel, plain* structural steel shapes, fabricated steel, steel castings, iron castings, bolts, pins, rollers, rockers, anchor bolts, and threaded rods will be measured by the pound (kilogram). If the Schedule of Pay Items includes a lump sum item for structural steel, all

Other sections containing specific cross references: None	General Instructions to Field Employees Update Required? Y___ N___ By - Addition or Revision Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected: None	Standard Sheets potentially affected: See Item 12-4
Motion: Mr. Second: Mr. Ayes: Nays:	Action: Withdrawn

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, BEGIN LINE 1000, INSERT AS FOLLOWS:

711.73 Basis of Payment

The accepted quantities of *high performance steel*, plain structural steel shapes, fabricated steel, steel castings, iron castings, bolts, pins, rollers, rockers, anchor bolts, and threaded rods will be paid for at a contract lump sum price if the Schedule of Pay Items includes a lump sum pay item for structural steel. Changes from the estimated quantities shall be in accordance

Other sections containing specific cross references: None	General Instructions to Field Employees Update Required? Y___ N___ By - Addition or Revision Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected: None	Standard Sheets potentially affected: See Item 12-4
Motion: Mr. Second: Mr. Ayes: Nays:	Action: Withdrawn

Item No. 12-14
Mr. Rust
Date: 5/18/06

DESIGN POLICY

Policy for Use of Blue Reflective Lenses for Raised Pavement Markers

At the March 16, 2006 Standards Committee meeting, the material specifications for blue prismatic reflectors was approved for inclusion into the Specifications Book. This item will establish the guidelines for their use.

Other sections containing specific cross references:

None

General Instructions to Field Employees
Update Required? No

Frequency Manual
Update Required? No

Recurring Special Provisions potentially affected:

None

Standard Sheets potentially affected:

None

Motion: Mr. Rust
Second: Mr. Keefer
Ayes: 5
Nays: 0

Action: Passed as revised
Effective – September 2007 Design Policy

Received FHWA Approval? Yes

INDIANA DEPARTMENT OF TRANSPORTATION

INTER-DEPARTMENT COMMUNICATION

Standards/Roadway Engineering – Room N642

Writer's Direct Line
317-233-2273

April 18, 2006

DESIGN MEMORANDUM No. 06-XX
POLICY CHANGE

TO: **All Design, Operations, and District Personnel, and Consultants**

FROM: **Richard L. VanCleave**
Design Policy Engineer
Office of Roadway Engineering Services

SUBJECT: **Use of Blue Retroreflectors for Snowplowable Raised Pavement Markers to Denote the Locations of Fire Hydrants along Roadways or Streets.**

EFFECTIVE:

A new policy relating to the use of blue retroreflectors for snowplowable raised pavement markers (RPMs) to denote the location of fire hydrants within the right of way along roadways or streets has been developed. The new policy is as follows:

> If RPMs are being installed on a contract, blue RPMs should be installed at fire hydrant locations. The Department's guidelines should be followed unless an LPA has an established policy for their jurisdiction.

Technical advisory 06-XX relating to the use of blue retroreflectors for snowplowable raised pavement markers indicating the location of fire hydrants along roadways or streets has been developed also. This Technical Advisory will remain in effect until superseded by an official Design Manual revision or another Design Memorandum/Policy Change document. Designers are instructed to follow the Technical Advisory guidelines for locating and placing the blue snowplowable pavement markers.

INDIANA DEPARTMENT OF TRANSPORTATION

INTER-DEPARTMENT COMMUNICATION

Standards/Roadway Engineering – Room N642

Writer's Direct Line
317-233-2273

April 18, 2006

DESIGN MEMORANDUM No. 06-XX
TECHNICAL ADVISORY

TO: **All Design, Operations, and District Personnel, and Consultants**

FROM: **Richard L. VanCleave**
Design Policy Engineer
Office of Roadway Engineering Services

SUBJECT: **Use of Blue Retroreflectors for Snowplowable Raised Pavement Markers to Denote the Locations of Fire Hydrants along Roadways or Streets.**

EFFECTIVE:

The following design guidelines are developed for use of blue retroreflectors for snowplowable raised pavement markers (RPMs) for roadways or streets.

1. The blue retroreflectors should be used where fire hydrants are located within the roadway or street right-of-way. Blue retroreflectors will not be installed on roadways where standard lane marking RPMs are not installed.

2. When used, blue retroreflectors should be placed at approximately right angles to fire hydrant locations.

3. All RPMs with blue retroreflectors should be two-way markers visible in both directions of travel.

4. When used, blue retroreflectors should be placed in addition to the normal raised pavement markers.

5. For multiple lane roadways or streets the blue retroreflectors should be placed in the lane line marking nearest the fire hydrant but should not be placed on the pavement edge line.

6. The blue retroreflectors should be placed in the centerline marking where lane lines are not present. On roadways within bidirectional left turn lanes and lane lines are not present (3-lane section), the blue retroreflectors should be placed adjacent to the yellow markings on the hydrant side of the bidirectional left turn lane.

Local standards, if any, should be applied on local roads under local jurisdiction.

The District Traffic Engineer will determine if the LPA standard, if such exists, or this standard will apply on state routes within the LPA jurisdiction.

Designers are instructed to follow this interim procedure. The Technical Advisory will remain in effect until superseded by an official Design Manual revision or another Design Procedure, Memorandum/Technical Advisory document or the policy changes.