INDIANA DEPARTMENT OF TRANSPORTATION

STANDARDS COMMITTEE MEETING MINUTES

Driving Indiana's Economic Growth

May 21, 2007

MEMORANDUM

TO: Standards Committee

FROM: Tony Uremovich, Acting Secretary

RE: Minutes for the May 17, 2007 Standards Committee Meeting

The Standards Committee meeting was called to order by the Chairman at 9:00 a.m. on May 17, 2007 in the N755 Bay Window Conference Room. The meeting was adjourned at 11:25 a.m.

The following members were in attendance:

Mark Miller, Chairman	Dave Andrewski, Pvmt. Engineering
Ron Heustis, Constr. Management	Bob Cales, Contract Admin.
Ron Walker, Materials Mgmt.	Anne Rearick, Structural Services
Dennis Kuchler, State Constr. Engr.	John Wright, Roadway Services
Larry Rust, Traffic Control	

Also in attendance were the following:

Tony Uremovich, Acting Secretary	Lee Gallivan, FHWA
Mike Milligan, INDOT	Paul Berebitsky, ICA
Joe Novak, INDOT	Eric Carleton, ICPC
Deb Hood, INDOT	

New Business

Item No.	Sponsor	Page No.
Item 08-1-1	Ms. Rearick	3
621.06	Seed Mixtures	
621.06(a)	Seed Mixture R	
621.06(b)	Seed Mixture U	
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621.06(d)	Blank	
621.06(e)	Seed Mixture D	
621.06(f)	Seed Mixture T	
621.06(f)1	Spring Mix	
621.06(f)2	Fall Mix	
621.06(g)	Seed Mixture Grass	
621.06(g)1	Type 1	

621.06(g)2	Type 2	
621.06(h)	Seed Mixture Legume	
621.06(h)1	Type 1	
621.06(h)2	Type 2	
Action:	Passed as revised	
Item 08-1-2	Ms. Rearick	6
723	~~BLANK~~ *REINFORCED CONCRETE THREE-SIDED DRAINAGE STRUCTURES*	
Action:	Passed as revised	
Item 08-1-3	Mr. Heustis	15
801.02	Materials	
Action:	Passed as submitted	
Item 08-1-4	Mr. Heustis	16
801.12	Temporary Pavement Marking	
801.12(a)1	Paint	
801.12(a)2	Temporary Pavement Marking Tape	
801.12(a)2a	Type I	
801.12(a)2b	Type II	
801.12(a)3	Temporary Raised Pavement Marker	
801.12(a)4	Temporary Buzz Strips	
Action:	Passed as revised	
Item 08-1-5	Mr. Heustis	19
801.17	Method of Measurement	
Action:	Passed as revised	
Item 08-1-6	Mr. Heustis	20
801.18	Basis of Payment	
Action:	Passed as revised	
Item 08-1-7	Mr. Heustis	22
808.09	Warranty for Durable Pavement Marking Material	
Action:	Passed as submitted	
Item 08-1-8	Mr. Heustis	23
808.10	Removal of Pavement Markings	
Action:	Passed as submitted	
Item 08-1-9	Mr. Heustis	24
808.13	Basis of Payment	
Action:	Passed as submitted	
Item 08-1-10	Mr. Walker	25
904.02	Fine Aggregates	
Action:	Passed as revised	
Item 08-1-11	Mr. Walker	26
918.05(a)	Type I	
918.05(b)	Type II	
Action:	Passed as submitted	

cc: Committee Members (11)
FHWA (4)
ICA Representative (1)

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 621, BEGIN LINE 227, DELETE AND INSERT AS FOLLOWS:

621.06 Seed Mixtures

Seed mixtures ~~shall be~~ *are* classified as follows. Mixes including warm season grasses, forbs, or aquatic species will be specified in the plans.

(a) Seed Mixture R

This seed mixture shall be applied at the rate of 170 lb/acre (190 kg/ha)~~. The mixture shall~~ consist*ing* of 95 lb*/acre* (~~43~~ *106* kg*/ha*) of low endophyte Kentucky 31 Fescue or approved equal, 65 lb*/acre* (~~30~~ *73* kg*/ha*) perennial ryegrass, and 10 lb*/acre* (~~4.5~~ *11* kg*/ha*) Jasper Red Fescue or approved equal. Fertilizer and mulching material, where specified or directed, shall be applied in accordance with 621.05.

(b) Seed Mixture U

This seed mixture shall be applied at the rate of 150 lb/acre (~~165~~ *168* kg/ha)~~. The mixture shall~~ consist*ing* of 95 lb*/acre* (~~43~~ *106* kg*/ha*) of a 4-way blend of turf type tall fescues such as Tribute, Rebel II, Trailblazer~~,~~ or approve equal~~;~~, 20 lb*/acre* (~~9~~ *22* kg*/ha*) Jasper Red Fescue or approved equal~~;~~, and 35 lb*/acre* (~~16~~ *40* kg*/ha*) certified fine bladed perennial ryegrass such as Regal, Blazer, or approved equal. Fertilizer and mulching material, where specified or directed, shall be applied in accordance with 621.05.

(c) Seed Mixture P

This seed mixture shall be applied at the rate of 80 lb/acre (90 kg/ha)~~. The mixture shall~~ consist*ing* of 30 lb*/acre* (~~14~~ *34* kg*/ha*) of "Fults" Puccinella Distans, 30 lb*/acre* (~~14~~ *34* kg*/ha*) of Jasper Red Fescue, or approved equal, and 20 lb*/acre* (~~9~~ *22* kg*/ha*) of perennial ryegrass. Fertilizer shall be applied at the rate of 400 lb/acre (450 kg/ha). Fertilizer and mulching material, where specified or directed, shall be applied in accordance with 621.05.

(d) Blank

(e) Seed Mixture D

This seed mixture is intended for ditch situations which experience seasonal to chronic saturated soils. This seed mixture shall be used on maintenance contracts or where otherwise specified. ~~This mixture shall be applied at the rate of 14 lb 12 oz per acre (16.5 kg/ha). The mix shall be composed of 1 oz (28 g) Fowl Mana Grass, 3 oz (85 g) wetland Carex species, 2 oz (56 g) Rice Cut Grass, 2 oz (56 g) Bullrush, 2 oz (56 g) Leptochloa fasicularis, 2 oz (56 g) Barnyard Grass, 2 oz (56 g) Prairie Wild Rye, 10 lb (4.5 kg) perennial ryegrass, 2 lb (1 kg) Jasper Red Fescue, 2 oz (56 g) "Fults" Puccinella Distans, and 1 lb (0.5 kg) Redtop.~~ *This mixture shall be applied at the rate of 14 lb/acre (16 kg/ha). It shall consist of the materials and be applied at the rates shown below.*

Material	*English Units Application Rate*	*Metric Units Application Rates*
Fowl Mana Grass	*1 oz/ac*	*80 g/ha*
Wetland Carex Species	*3 oz/ac*	*220 g/ha*
Rice Cut Grass	*2 oz/ac*	*150 g/ha*
Bullrush	*2 oz/ac*	*150 g/ha*
Leptochloa Fasicularis	*2 oz/ac*	*150 g/ha*
Barnyard Grass	*2 oz/ac*	*150 g/ha*
Prairie Wild Rye	*2 oz/ac*	*150 g/ha*
Perennial Ryegrass	*10 lb/ac*	*11.2 kg/ha*
Jasper Red Fescue	*2 lb/ac*	*2.4 kg/ha*
"Fults" Puccinella Distans	*2 oz/ac*	*150 g/ha*
Redtop	*1 lb/ac*	*1.2 kg/ha*

If certain species in this mix are unavailable, substitutions may be submitted for approval. The mix shall be applied as specified per acre (hectare). The method of planting shall be by means of hydroseeding or by means of a hand method with a minimal amount of mulch applied in a separate operation. Fertilizer shall not be added to this seed mixture.

(f) Seed Mixture T

This seed mixture shall be used to establish a temporary cover for disturbed soil during the construction operations. Seed mixture T shall be used for soil stabilization and temporary ground cover. Temporary cover mixtures shall be placed as directed and be subject to seasonal limitations as defined herein. This mixture is not intended to be used as a permanent seed mixture. The mix shall be mulched in accordance with 621.05(c) when slopes exceed 3:1. From December 1 to March 14 and from June 16 to August 31, mulching alone shall be used to stabilize the soil. This mixture shall not be used to satisfy the requirements of the warranty bond.

1. Spring Mix

Spring mix shall be used from March 15 through June 15. This mixture shall be applied at the rate of 150 lb/acre (~~165~~ *168* kg/ha). The mix shall consist of oats.

2. Fall Mix

Fall mix shall be used from September 1 through November 30. This mixture shall be applied at the rate of 150 lb/acre (~~165~~ *168* kg/ha). This mix shall consist of winter wheat.

(g) Seed Mixture Grass

This seed mixture shall be placed when specified as shown below.

1. Type 1

This seed mixture shall be placed at the rate of 195 lb/acre (220 kg/ha~~). The mixture shall~~ consist*ing* of 15 lb/*acre* (~~7~~ *18* kg/*ha*) of Smooth Bromegrass, 10 lb/*acre* (~~4.5~~ *12* kg/*ha*) of Orchardgrass, and the mixture specified in 621.06(a).

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 621, CONTINUTED.

2. Type 2

This seed mixture shall be placed at the rate of 110 lb/acre (124 kg/ha)~~. The mixture shall~~ consist*ing* of 15 lb/*acre* (~~7~~ *17* kg/*ha*) of Smooth Bromegrass, 10 lb/*acre* (~~4.5~~ *11* kg/*ha*) of Orchardgrass, 40 lb/*acre* (~~18~~ *45* kg/*ha*) of Certified Common Kentucky Bluegrass, 30 lb/*acre* (~~14~~ *34* kg/*ha*) of Creeping Red Fescue, and 15 lb/*acre* (~~7~~ *17* kg/*ha*) of Perennial Rye Grass.

(h) Seed Mixture Legume

This seed mixture shall be placed when specified as shown below. Mulched seeding, when specified, shall be in accordance with 621.07.

1. Type 1

This seed mixture shall be placed at the rate of 190 lb/acre (214 kg/ha)~~. The mixture shall~~ consist*ing* of 10 lb/*acre* (~~4.5~~ *12* kg/*ha*) of Sericea Lespedeza or Korean Lespedeza, 10 lb/*acre* (~~4.5~~ *12* kg/*ha*) of medium Red Clover or Alsike Clover, and the mixture specified in 621.06(a).

2. Type 2

This seed mixture shall be placed at the rate of 100 lb/acre (112 kg/ha)~~. The mixture shall~~ consist*ing* of 10 lb/*acre* (~~4.5~~ *11* kg/*ha*) of Sericea Lespedeza or Korean Lespedeza, 10 lb/*acre* (~~4.5~~ *11* kg/*ha*) of medium Red Clover or Alsike Clover, 10 lb/*acre* (~~4.5~~ *11* kg/*ha*) of Birdsfoot Trefoil, 40 lb/*acre* (~~18~~ *45* kg/*ha*) of Certified Kentucky Bluegrass, 30 lb/*acre* (~~14~~ *34* kg/*ha*) of Creeping Red Fescue, and 10 lb/*acre* (~~4.5~~ *11* kg/*ha*) of Annual Rye Grass.

"Do Not Spray" signs shall be placed near the beginning and end of this work, at 200 ft (60 m) intervals, or as otherwise directed. The sign shall be 16 gage (1.6 mm) aluminum. The size and message arrangement shall be as shown on the plans. The sign background shall be white. The sign lettering shall be black. The sign shall not be reflectorized. Paint and primer shall be in accordance with 909.04. The sign post shall be placed as shown on the plans. The post shall otherwise be in accordance with 910.15.

Other sections containing specific cross references:

205.03(i), Pg 200-51
621.07, Pg 600-67
621.11, Pg 600-69

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: Ms. Rearick
Second: Mr. Kuchler
Ayes: 8
Nays: 0

Action: Passed as revised
Effective:
__x__ 2009 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 723, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

SECTION 723 – ~~BLANK~~ *REINFORCED CONCRETE THREE-SIDED DRAINAGE STRUCTURES*

723.01 Description

This work shall consist of constructing a precast reinforced concrete three-sided arch drainage structure with headwalls and wingwalls, a precast reinforced concrete three-sided flat-topped drainage structure with headwalls and wingwalls, or a precast reinforced concrete true arch shape drainage structure with spandrel walls and wingwalls in accordance with 105.03, 714, and ASTM C 1504. Wingwalls, headwalls, and spandrel walls may be precast or cast-in-place.

If the span is at least 12 ft (3600 mm) and not greater than 20 ft (6100 mm), the Contractor will be permitted to substitute a four-sided precast concrete box structure in accordance with 714. The four-sided precast concrete box structure shall be of equivalent hydraulic capacity to that of the three-sided structure shown on the plans.

MATERIALS

723.02 Materials

Materials shall be in accordance with the following:

Structure Backfill 904
Flowable Backfill 213
Geotextiles.....913.18
Riprap.....904
Sealer.....909.09 or 909.10

Concrete for footings and base slabs shall be class B in accordance with 702. The coarse aggregate for precast members shall be Size No. 91 in accordance with 904.

A water-reducing admixture from the Department's list of approved Water-Reducing Admixtures may be used.

Reinforcing steel in structure sections and precast wingwalls shall be welded wire fabric, welded deformed steel wire fabric, or deformed billet steel bars in accordance with 910.01, except as noted herein. Reinforcing steel in cast-in-place wingwalls, pedestals, base slabs, headwalls, and footings shall be deformed billet steel bars in accordance with 910.01. Reinforcing steel in headwalls and spandrel walls shall be epoxy coated. Reinforcing steel in structure sections shall be epoxy coated where the height of cover, including the pavement section, is less than 2 ft (600 mm) as measured at the edge of travel lane.

Wingwalls, headwalls, and spandrel walls shall be connected to the outside structure sections. Wingwalls shall be connected to the spandrel walls if the structure is a true arch shape structure. Precast wingwalls shall be connected with bolted steel plates. Steel used in bolted connections of wingwalls to structure sections or spandrel walls shall be in accordance with AASHTO M 270 grade 36 (AASHTO M 270M grade 250) and

galvanized after fabrication in accordance with AASHTO M 232 (AASHTO M 232M), Class A or B. Bolts shall be in accordance with ASTM A 307 and galvanized in accordance with AASHTO M 232 (AASHTO M 232M).

Weep holes shall be provided in all wingwalls.

CONSTRUCTION REQUIREMENTS

723.03 Shop Drawings

The Contractor shall submit, for approval, three copies of design computations and five sets of shop drawings. Each sheet shall be signed by and shall bear the seal of a professional engineer. The shop drawings shall include all details, dimensions, and quantities necessary to construct the structure, wingwalls, and headwalls or spandrel walls if applicable and shall include, but not be limited to, the following information.

(a) Structure span and rise.

(b) Structure section details showing all concrete dimensions and reinforcing steel requirements.

(c) Design computations and details for pedestals, if required.

(d) Footing design computations and details showing all concrete dimensions, elevations, and reinforcing steel with bar sizes, bar bending diagrams, lengths, and spacings indicated. Footing plan and section views shall be provided. If a pile footing is required, the pile layout shall be shown. The actual soil bearing pressure shall be noted on the footing detail sheets.

(e) Wingwall design computations and details showing all concrete dimensions, reinforcing steel, bar bending diagrams, and anchorage details. Wingwall plan, elevation, and section views shall be provided.

(f) Headwall or spandrel wall details showing all concrete dimensions, reinforcing steel, bar bending diagrams, and anchorage details. Headwall or spandrel wall elevation and section views shall be provided.

(g) Structure backfill type and limits for the structure and wingwalls.

(h) Minimum concrete strength for all precast portions of the structure.

Structure section or wingwall fabrication shall not begin until written approval of the shop drawings and design computations have been received from the Engineer.

723.04 Design

Except as modified herein, the structure sections shall be designed for the following:

(a) the live load shown on the General Plan for the structure, or

(b) HL-93 in accordance with the AASHTO LRFD Bridge Design Specifications, if no live-load design criteria are shown on the General Plan.

The minimum design concrete compressive strength for structure sections shall be 5000 psi (35 000 kPa). For wingwalls, headwalls, and spandrel walls it shall be 4,000 psi (27 600 kPa). Wingwalls, headwalls, and spandrel walls shall be designed based on a minimum equivalent fluid pressure of 40 lb/ft^3 (6.3 kN/m^3). If flowable backfill is to be used, the Contractor shall consider the effects of hydrostatic pressure on the structure. Horizontal pressures shall be increased for sloping backfill surfaces and live load surcharge. Footings shall be designed for the allowable soil bearing shown on the plans. Wingwalls and wingwall footings shall be designed in accordance with the soil parameters shown on the plans. Wingwall footings, headwall connections, and spandrel walls shall be checked for sliding and for overturning. Headwalls with bridge railing mounted on top, and the anchorage of the headwall or spandrel wall to the structure section, shall be designed for the bridge railing test level shown on the plans.

Continuity shall be established between the structure footing and the wingwall footing.

(a) Placement of Reinforcement

For three-sided arch or true arch shape structure sections, the concrete cover over the outside circumferential reinforcement shall be a minimum of 2 in. (50 mm). The cover over the inside circumferential reinforcement shall be a minimum of 1 1/2 in. (40 mm). The clear distance of the end circumferential reinforcement shall not be less than 1 in. (25 mm) nor more than 2 in.(50 mm) from the ends of the structure section. The ends of the longitudinal distribution reinforcement shall be not more than 3 in. (75 mm) from the ends of the structure section.

For flat-topped structure sections, the cover dimension over the top mat of reinforcement shall be a minimum of 2 in. (50 mm). The cover over the lower mat of reinforcement in the structure top shall be a minimum of 1 1/2 in. (40 mm). The cover in the legs shall be a minimum of 2 in. (50 mm). The clear distance of the end circumferential reinforcement shall not be less than 1 in. (25 mm) nor more than 2 in. (50 mm) from the ends of the structure section. The ends of the longitudinal distribution reinforcement shall not be more than 2 in. (50 mm) from the ends of the structure section.

Cover for wingwall, pedestal, headwall, and sprandel wall reinforcement shall be a minimum of 2 in. (50 mm). Cover for footing and base slab reinforcement shall be 3 in. (75 mm) for the top and sides and 4 in. (100 mm) for the bottom.

(b) Splicing and Spacing of Reinforcing Steel

Except as noted herein, reinforcing steel splicing and spacing requirements shall be in accordance with the AASHTO document referenced on the General Plan for the structure or the AASHTO LRFD Bridge Design Specifications if no AASHTO document is referenced. Tension splices in circumferential reinforcement shall be made by lapping. Deformed billet steel bars used for longitudinal distribution reinforcement shall have a center to center spacing not to exceed 12 in. (300 mm) in flat-topped structure sections or 16 in. (400 mm) in arch structure sections.

The maximum spacing for wingwall reinforcing steel shall be 18 in. (450 mm) for horizontal bars and 12 in. (300 mm) for vertical bars.

Exterior corner reinforcement for flat-topped structure sections shall be fully developed beyond the point where it is no longer required to resist flexure.

723.05 Manufacture

Handling devices or holes will be permitted in each structure or wingwall section. However, not more than six holes shall be cast or drilled in each section. Cast holes shall be tapered.

The section ends shall be of such design and shall be so formed that when the structure sections are erected, they shall make a continuous line of structure with a smooth interior free of irregularities.

The structure sections, wingwalls, headwalls, and spandrel walls shall be free of fractures. The ends of the structure sections shall be normal to the walls and centerline, except where beveled ends are specified. The surface of the structure sections shall be a smooth steel form or troweled surface. Trapped air pockets causing surface defects shall be considered as part of a smooth steel form finish.

Wingwalls, headwalls, and spandrel walls shall be given a finish in accordance with 702.21.

The structure units shall not be stored in an upright position until the designated handling and storage compressive strength, as shown on the shop drawings, has been achieved.

723.06 Marking

Each structure section and wingwall shall be clearly marked with waterproof paint. The following information shall be shown on the inside face of each wingwall and on a vertical leg of each structure section.

(a) structure span and rise (structure sections only)

(b) date of manufacture

(c) name or trademark of the manufacturer

(d) design earth cover

723.07 Testing

(a) Type of Test Specimen

Concrete compressive strength shall be determined from compression tests made on cylinders or cores. For cylinder testing, a minimum of four cylinders shall be taken during each production run of structure sections or wingwalls. For core testing, one core shall be cut from a structure section selected at random from each group of 15 structure sections or less of a particular size and production run. One core shall be cut from each group of four or fewer wingwalls. For each continuous production run, each group of 15 structure sections of a single size or fraction thereof or four wingwalls shall be

considered separately for the purpose of testing and acceptance. A production run shall be considered continuous if not interrupted for more than three consecutive days.

(b) Compression Testing

Cylinders shall be made and tested in accordance with ASTM C 39. Cores shall be obtained and tested for compressive strength in accordance with ASTM C 497 (ASTM C 497M).

(c) Acceptability of Core Tests

The compressive strength of the concrete in each group of sections as defined above will be acceptable when the core test strength is equal to or greater than the design concrete strength.

If the compressive strength of the core tested is less than the design concrete strength, the structure section or wingwall from which that core was taken may be recored. If the compressive strength of the recore is equal to or greater than the design concrete strength, the compressive strength of the concrete in that group of sections will be acceptable.

If the compressive strength of a recore is less than the design concrete strength, the structure section or wingwall from which that core was taken will be rejected. Two structure sections or wingwalls from the remainder of the group shall be selected at random. One core shall be taken from each. If the compressive strength of both cores is equal to or greater than the design concrete strength, the remainder of the structure sections or wingwalls in that group will be acceptable. If the compressive strength of either of the two cores tested is less than the design concrete strength, the remainder of the structure sections or wingwalls in the group will be rejected. However, at the option of the manufacturer, each remaining structure section or wingwall in the remainder of the group may be cored and accepted individually. The sections which have cores with less than the design concrete strength will be rejected.

(d) Plugging Core Holes

The core holes shall be plugged and cured by the manufacturer such that the structure is in accordance with all test requirements of these specifications. Structure sections or wingwalls repaired accordingly will be considered satisfactory for use.

(e) Test Equipment

The manufacturer shall furnish all facilities, equipment, and personnel necessary to conduct the required testing.

723.08 Rejection

Structure sections, wingwalls, or spandrel walls will be rejected due to the following conditions.

(a) fractures or cracks pass through the wall, except for a single end crack which does not exceed one-half the thickness of the wall;

(b) defects which indicate proportioning, mixing, or molding which are not in accordance with this specification;

(c) honeycombed or open texture; or

(d) damaged section ends, where such damage prevents making a satisfactory joint.

723.09 Repairs

Structure sections, wingwalls, or spandrel walls may be repaired, if necessary, due to imperfections in manufacture, handling damage, or construction. Repairs will be acceptable if it is determined that the repairs are sound, properly finished and cured, and if the repaired structure section or wingwall is in accordance with the requirements herein.

723.10 Trench Compaction

The soils in the bottom of the excavation shall be compacted to 95% of the maximum dry density. If 95% of the maximum dry density cannot be obtained in the bottom of the excavation or in other areas, the Office of Geotechnical Engineering shall be contacted for additional recommendations. If during construction, soft soils are encountered at depths that make removal impractical, the Office of Geotechnical Engineering shall be contacted for additional recommendations.

723.11 Footings

Footings may be cast-in-place or precast. Where a precast footing is utilized, a 4 in. (100 mm) layer of coarse aggregate No. 53 in accordance with 301 shall be placed under the full width of the footing. All footings shall be given a smooth float finish. The footing concrete shall reach a compressive strength of 2,000 psi (13 800 kPa) before placement of the structure sections or wingwalls. The surface shall not vary more than 1/4 in. in 10 ft (6 mm in 3 m) when tested with 10 ft (3 m) straightedge.

723.12 Pedestals

Where a reinforced concrete pedestal is required between the base of the structure leg and the top of the footing, the Contractor shall have the option of providing a structure with extended legs or constructing the pedestals.

723.13 Placement of Structure Sections and Wingwalls

For three-sided arch structures and three-sided flat-topped structures, the structure sections and wingwalls shall be set on masonite or steel shims. A minimum gap of 0.5 in. (13 mm) shall be provided between the footing and the bottom of each section or wingwall. The gap shall be filled with a mortar in accordance with 707.09.

True arch shape structures may have mortar leveling pads poured in the footing keyways to ensure the correct seating of the arch sections. Leveling pads shall be approximately 2 in. (50 mm) thick and 16 in. (400 mm) long to ensure that each arch section is resting on approximately 8 in. (200 mm) of pad at each joint. The leveling pads shall be poured within 1/8 in. (3 mm) of the required elevation. No loads shall be placed on the mortar leveling pads within 72 hr of their placement. Masonite shims may also be used as leveling pads. Concrete blocks of 1 1/2 in. (40 mm) thickness, hardwood wedges, and steel or plastic shims shall be placed to retain the arch sections in their proper positions until grout can be placed in the keyway. Grout shall be compacted in the keyway to ensure that the entire area around the arch section is completely filled. The mortar used to construct the leveling pads and to grout the keyways shall be in accordance with 707.09. Grouting shall not be performed if the air temperature is expected to be below 35°F (2°C) for a period of 72 hr following grout placement.

723.14 Sealing

Sealer shall be applied in accordance with 709 on the top surface of the structure section. Such sealer shall extend 5 ft (1.5 m) vertically down each vertical leg. Sealer material shall not be placed in keyway joints, if present. The sealer shall be provided for the full length of the structure. Surface preparation and application procedures shall be as recommended by the sealer manufacturer.

723.15 Joints

Joints between structure sections for three-sided arch structures and true arch shape structures, and for flat-topped structures with cover of 3 ft (0.9 m) or more, may be either butt joints or keyway joints.

The sections for flat-topped structures with less than 3 ft (0.9 m) of cover shall be produced with a minimum 4 in. (100 mm) deep by 1.5 in. (40 mm) wide keyway joint. Mortar in accordance with 707.09 shall be placed in the keyway joint.

All butt joints between structure sections shall be covered with a joint wrap in accordance with ASTM C 877 (ASTM C 877M), type II. The surface shall be free of dirt before the joint material is applied. The entire joint shall be continuously covered. Joints between structure sections and wingwalls, between spandrel walls and wingwalls, and between structure sections and headwalls or spandrel walls shall be covered with either the same wrap used between structure sections or with geotextile in accordance with 918.03.

The joint wrap shall be kept in its proper location over the joint. It shall not be damaged during the backfilling operation.

Joints in true arch shape structures shall be sealed with 1/2 in. (40 mm) diameter preformed mastic before placement of the joint wrap.

723.16 Backfilling

Tapered or drilled holes for handling shall be filled in accordance with 907.05. Prior to backfilling the structure, all holes shall be covered with joint wrap material with a minimum width of 9 in. (225 mm).

Structure backfill shall be placed and compacted in accordance with 211.

Once the level of structure backfill reaches the top of the structure, two lifts shall be spread and hand compacted over the structure without traversing the structure with heavy equipment. Compaction with heavy equipment will not be allowed until a minimum of two lifts have been placed, hand compacted, and tested.

The structure backfill shall be placed and compacted to the same elevation on both sides of the structure before proceeding to the next lift.

For three-sided arch or three-sided flat-topped structures where the height of cover as shown on the plans is 12 in. (300 mm) or less, the portion of the structure under the paved portion of the roadway and shoulders shall be backfilled with flowable backfill to the top of the vertical leg of the structure.

For true arch shape structures, the backfill shall be structure backfill with a minimum height of cover of 18 in. (450 mm) including the pavement section.

The operation of equipment over the structure shall be in accordance with the structure manufacturer's recommendations.

723.17 Scour Protection

When riprap is specified, geotextile shall first be placed on the in-situ soil in accordance with 616.11. Riprap shall then be placed in accordance with 616. For concrete base slabs, concrete shall be placed in accordance with 702.

723.18 Method of Measurement

Structures and wingwalls will not be measured. The accepted quantities for payment will be the quantities shown on the plans.

Structure backfill will be measured in accordance with 211.09. Flowable backfill will be measured in accordance with 213.08. Geotextile and riprap will be measured in accordance with 616.12.

723.19 Basis of Payment

The accepted quantities of structure will be paid for at the contract unit price per linear foot (meter) for structure, precast three-sided, of the span and rise specified. The accepted quantities of wingwalls will be paid for at the contract unit price per square foot (square meter) for wingwalls. Structure backfill will be paid for in accordance with 211.10. Flowable backfill will be paid for in accordance with 213.09. Geotextiles and riprap will be paid for in accordance with 616.13.

If a four-sided precast concrete box structure is substituted for the three-sided structure shown on the plans, it will be paid for as structure, precast, three-sided, of the span and rise shown in the Schedule of Pay Items.

Payment will be made under:

Pay Item	***Pay Unit Symbol***
Structure, Precast Three-Sided, _____ (span) in. x _____ (rise) in.	
(_____ (span) mm x _____ (rise) mm)	*LFT (m)*
Wingwall	*SFT (m2)*

The cost of designing, coring, testing, pedestals or extended legs, reinforcing steel, excavation, repairs, plugging core and handling holes, mortar, sealer, and necessary incidentals shall be included in the cost of the structure.

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 723, CONTINUED.

The cost of headwalls or spandrel walls, concrete base slab, footings, and aggregate base under precast footings shall be included in the cost of the structure. The cost of footings for wingwalls and aggregate base under the wingwall footings shall be included in the cost of wingwall.

The quantities for payment shall remain as shown on the plans whether the Contractor installs the three-sided arch structure, the three-sided flat-topped structure, or the true arch shape structure.

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:

723-R-282
723-R-282f

Standard Sheets potentially affected:

None

Motion: Ms. Rearick
Second: Mr. Cales
Ayes: 8
Nays: 0

Action: Passed as revised
Recurring Special Provision 723-R-282 revised per this item. Recurring Special Provision 723-R-282f to be discontinued.

Effective: September 5, 2007 Letting
__x__ 2009 Standard Specifications Book

Received FHWA Approval? Yes

Item No. 08-1-3
Mr. Heustis
Date: 5/17/07

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 801, AFTER LINE 25, INSERT AS FOLLOWS:

Temporary Pavement Marking Tape 923.01
Temporary Raised Pavement Markers.....923.02

Other sections containing specific cross references:

None

Recurring Special Provisions potentially affected:

None

General Instructions to Field Employees
Update Required? No

Frequency Manual
Update Required? No

Standard Sheets potentially affected:

None

Motion: Mr. Heustis
Second: Mr. Andrewski
Ayes: 8
Nays: 0

Action: Passed as submitted
Effective:
__x_ 2009 Standard Specifications Book

RSP required for Items 08-1-3 thru 08-1-9

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 801, BEGIN LINE 547, DELETE AND INSERT AS FOLLOWS:

801.12 Temporary Pavement Marking

Temporary pavement markings shall be *new materials* in accordance with 808.04 and 808.05. *No-passing zones on all undivided two-way roadways shall be identified with signs and centerline markings.* However, *when temporary markings are to be in place for 14 calendar days or less* the dashed line pattern used on center line and lane lines may be 4 ft (1.2 m) line segments on 40 ft (12 m) centers~~.~~ *and gore* ~~Gore~~ areas shall be marked by outline only and may be 5 in. (125 mm) wide lines. All temporary markings shall be maintained and replaced until they are no longer applicable.

~~Temporary markings placed on the final surface course shall be temporary marking tape type 1.~~ *Where possible, when non-removable temporary markings are used on a final surface, such markings shall be placed at the same location where permanent markings will later be affixed or parallel to and within 12 in. (300 mm) of the permanent marking pattern.*

Temporary markings placed for use beginning April 1 through the following November 30 shall be temporary marking tape type 1. However, non-removable markings may be placed on HMA courses other than the final course or on PCCP. Temporary markings placed for use beginning December 1 through the following March 31 shall be non-removable material. Adjustments to these dates to accommodate the actual seasonal suspension of work are subject to approval by the Engineer upon written request.

Temporary markings placed on shoulders may be non-removable material.

Where temporary pavement markings are to be placed on a pavement which has existing markings, the existing markings which conflict with the temporary markings shall be removed in accordance with 808.10.

When working under traffic, the temporary pavement markings shall be placed before opening the lane to traffic. This shall include, but not be limited to, the marking patterns of gore areas, outside edge line of deceleration and acceleration lanes, narrow bridge markings, lane reduction transitions, lane lines, centerlines, and transverse markings as appropriate.

~~If a pavement course is to be in place for a period greater than 14 calendar days, all temporary pavement markings shall be placed in accordance with 808.04 and stop lines shall be placed in accordance with 808.05. No-passing zones on all undivided two-way roadways shall be identified with signs and centerline markings.~~

SECTION 801, BEGIN LINE 589, DELETE AND INSERT AS FOLLOWS:

1. Paint

Painted ~~lines~~ *markings* ~~on new HMA courses~~ shall require a second application of paint *and beads* as soon as practical after the first application is dry.

2. Temporary Pavement Marking Tape

Temporary pavement marking tape shall be applied in accordance with the manufacturer's recommendations. Temporary marking tape shall be new type I or type II material.

All temporary pavement marking tape shall be removed prior ~~to placement of an HMA overlay or final pavement markings~~ *to placing the next pavement course, prior to placing an overlay, prior to recycling the pavement, or prior to placing the final pavement markings, except as otherwise described herein*.

a. Type I

Type I tape is a removable material. It may be used for longitudinal and transverse markings. ~~It shall be used for longitudinal and transverse markings on the final surface.~~

Type I tape shall be removed without the use of solvents, grinding, abrasive blasting, or other methods which may damage the pavement. All visible adhesive residue shall be removed without use of solvents or grinding.

b. Type II

Type II tape is a non-removable material. It may be used on PCCP to be removed or *on PCCP to be* overlaid with an HMA course greater than ~~110~~ *165* lb/sq yd (~~60~~ *90* kg/m^2). ~~If it is~~ *Type II tape* placed on HMA pavement~~, the tape~~ shall be removed prior to ~~the recycling of the HMA material~~ *placing the next pavement course*.

If it is necessary to remove type II tape, it shall be removed without the use of solvents. All damage to the pavement shall be repaired.

3. Temporary Raised Pavement Marker

The temporary raised pavement marker shall be grade 1 or grade 2. When used, it shall be a supplement to other temporary pavement markings. The color of the reflector shall be in accordance with the other temporary pavement marking. The color of the shell of the grade 1 marker shall be in accordance with the color of the other temporary pavement marking.

Temporary raised pavement markers shall be removed before the next layer of pavement is placed and before the final pavement markings are applied. All damage to the pavement shall be repaired.

4. Temporary Buzz Strips

Temporary buzz strips shall be a set of transverse markings *constructed of removable or durable marking material.* Durable marking material shall be used in accordance with 808.07(b). ~~Temporary buzz strips shall be removed in accordance with 808.10 when no longer required or as directed.~~

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 801, CONTINUED.

Other sections containing specific cross references:

107.12 Pg 70
108.05 Pg 83
713.05 Pg 540

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. Heustis
Second: Mr. Andrewski
Ayes: 8
Nays: 0

Action: Passed as revised
Effective:
__x_ 2009 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 801, BEGIN LINE 860, INSERT AS FOLLOWS:

with 621.13. Removal and subsequent replacement of permanent pavement markings and snowplowable raised pavement markers *for temporary crossovers* will be measured in accordance with 808.12. Removal and resetting of guardrail, if required for temporary crossovers, will be measured in accordance with 601.13.

SECTION 801, BEGIN LINE 872, INSERT AS FOLLOWS:

Temporary *pavement message markings will be measured by the number of each type placed. Longitudinal and transverse temporary* pavement markings will be measured by the linear foot (meter) of material actually placed. Temporary buzz strips will be measured by the linear foot (meter) for each *8 in. (200 mm)* strip *placed*, without regard to the number of passes required to attain the specified height.

Removal, when necessary, of any type of non-removable temporary pavement markings will be measured in accordance with 808.12. Removal of removable temporary pavement markings will not be measured for payment.

Where temporary pavement markings are to be placed on a pavement which has existing markings, removal of existing markings which conflict with the temporary markings will be measured in accordance with 808.12.

~~If, due to a Department initiated change or an approved expedited construction schedule, it is necessary to remove temporary non-removable pavement markings, such removal will be measured in accordance with 808.12. The removal of existing pavement markings which are in conflict with temporary markings, will be measured in accordance with 808.11.~~

The removal and replacement of *prismatic* reflectors on existing snowplowable raised pavement markers will be measured in accordance with 808.12.

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. Heustis
Second: Mr. Andrewski
Ayes: 8
Nays: 0

Action: Passed as revised
Effective:
__x_ 2009 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 801, BEGIN LINE 896, INSERT AS FOLLOWS:

801.18 Basis of Payment

The accepted quantities of construction signs, detour route marker assemblies, detour route marker assemblies-multiple routes, temporary worksite speed limit sign assemblies, road closure sign assemblies, *permanent road closure sign assemblies* and temporary raised pavement markers will be paid for at the contract unit price per each. Payment for temporary worksite speed limit assemblies and temporary changeable message signs will be made for the maximum number of such assemblies in place at any one time during the life of the contract. Type III-A, type III-B, and permanent type III barricades will be paid for at the contract unit price per linear foot (meter).

SECTION 801, BEGIN LINE 933, INSERT AS FOLLOWS:

Removal and subsequent replacement of permanent pavement markings and snowplowable raised pavement markers *for temporary crossovers* will be paid for in accordance with 808.13. Removal and resetting of guardrail, if required for temporary crossovers, will be paid for in accordance with 601.14.

SECTION 801, BEGIN LINE 950, DELETE AND INSERT AS FOLLOWS:

Temporary pavement message markings placed will be paid for at the contract unit price per each, for the message specified. Longitudinal and transverse temporary ~~Temporary~~ pavement markings and temporary buzz strips, will be paid for at the contract unit price per linear foot (meter) of material, complete in place~~, except as set out below~~.

Removal, when necessary, of non-removable temporary pavement lines and message markings will be paid for in accordance with 808.13. The cost of removal of removable temporary pavement markings shall be included in the cost of the pay item for placement of the markings.

Where temporary pavement markings are to be placed on a pavement which has existing markings, removal of the existing markings which conflict with the temporary markings will be paid for in accordance with 808.13.

Permanent tubular markers *and permanent drums* will be paid for at the contract unit price per each.

~~The removal of temporary non-removable pavement markings caused by a Department initiated change or an approved expedited construction schedule, and the removal of existing pavement markings which are in conflict with temporary markings will be paid for in accordance with 808.13.~~

SECTION 801, BEGIN LINE 1056, INSERT AS FOLLOWS:

The cost of furnishing, installing, maintaining, and subsequent removal *of temporary raised pavement marker* shall be included in the cost of temporary raised pavement marker.

The cost of placement, maintenance and replacement of temporary pavement markings shall be included in the cost of the markings.

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 801, BEGIN LINE 1071, DELETE AND INSERT AS FOLLOWS:

The cost of the second application of *paint and beads for painted* temporary *markings* ~~painted lines on new HMA courses~~ shall be included in the cost of *the first application of painted* temporary pavement markings.

SECTION 801, BEGIN LINE 1103, DELETE AS FOLLOWS:

The cost of necessary flaggers; protection of traffic at structure foundations; and furnishing, erecting, placing, maintaining, relocating, and removing lights, cones, flexible channelizers, tubular markers, drums, delineators, ~~temporary pavement markings,~~ or other devices as directed shall be included in the cost of maintaining traffic.

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. Heustis
Second: Mr. Andrewski
Ayes: 8
Nays: 0

Action: Passed as revised
Effective:
__x_ 2009 Standard Specifications Book

Received FHWA Approval? Yes

Item No. 08-1-7
Mr. Heustis
Date: 5/17/07

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 808, BEGIN LINE 348, DELETE AS FOLLOWS:

~~On Federal aid contracts, the 180 day warranty shall apply only to thermoplastic pavement marking material.~~

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. Heustis
Second: Mr. Andrewski
Ayes: 8
Nays: 0

Action: Passed as submitted
Effective:
__x_ 2009 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 808, BEGIN LINE 351, DELETE AND INSERT AS FOLLOWS:

808.10 Removal of Pavement Markings

Pavement markings which conflict with revised traffic patterns and may confuse motorists shall be removed immediately before, or immediately following, any change in traffic patterns as directed or approved.

Removal of pavement markings shall be to the fullest extent possible without materially damaging the pavement surface. Pavement marking removal methods shall be sandblasting, steel shot blasting, waterblasting, grinding or other approved mechanical means. Grooving will not be permitted. Grinding will only be permitted ~~when removing thermoplastic or epoxy pavement markings.~~ *under the following conditions:*

(a) when removing durable pavement markings, or

(b) when removing non-durable markings where another course of material is to be placed on the existing course.

Painting over existing pavement markings to obliterate them will not be permitted.

Other sections containing specific cross references:

801.12 Pg 617
808.03 Pg 674

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. Heustis
Second: Mr. Andrewski
Ayes: 8
Nays: 0

Action: Passed as submitted
Effective:
__x_ 2009 Standard Specifications Book

Received FHWA Approval? Yes

Item No. 08-1-9
Mr. Heustis
Date: 5/17/07

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 808, BEGIN LINE 544, INSERT AS FOLLOWS:

No additional payment will be made for the second application of traffic paint and glass beads as required in 808.07(a)1.

No additional payment will be made for the replacement of markings that fail to meet the warranty conditions of 808.09.

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. Heustis
Second: Mr. Andrewski
Ayes: 8
Nays: 0

Action: Passed as submitted
Effective:
__x_ 2009 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 904, BEGIN LINE 93, DELETE AND INSERT AS FOLLOWS

904.02 Fine Aggregates

Fine aggregates are defined as 100% passing the 3/8 in. (9.5 mm) sieve and a minimum of 80% passing the No. 4 (4.75 mm) sieve. Characteristics of fine aggregates are as follows:

Characteristic	PCC	HMA	SMA
Physical			
Organic Impurities, AASHTO T 21 lighter than or equal to, Color Standard (Note 1)	3		
Acid Insoluble, ITM 202 ~~(Note 2)~~.....		~~40~~ *(Note 2)*	
Soundness			
Freeze and Thaw, AASHTO T 103, Method A, % Max. (Note 3).....	10.0%	10.0%	10.0%
Brine Freeze and Thaw, ITM 209, % Max. (Note 3).....	12.0%	12.0%	12.0%
Sodium Sulfate Soundness, AASHTO T 104, % Max. (Note 3)	10.0%	10.0%	10.0%

Notes:
1. When subjected to the colormetric test for organic impurities and a color darker than the standard is produced, it shall be tested for effect of organic impurities on strength of mortar in accordance with AASHTO T 71. If the relative strength at seven days is less than 95% it shall be rejected.
2. ~~For ABCF~~ *The fine aggregate, including blended fine aggregate, used in HMA Surface 4.75 mm mixtures shall have a minimum acid-insoluble content of 40%, except when using ACBF* or GBF slag sands, the minimum acid-insoluble content shall be 25%. Acid-insoluble requirements shall not apply to crushed *gravel,* limestone, or dolomite sands.
3. AASHTO T 104 and ITM 209 may be run at the option of the Engineer, in-lieu of AASHTO T 103.

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. Walker
Second: Mr. Heustis
Ayes: 8
Nays: 0

Action: Passed as revised
Effective:
__x_ 2009 Standard Specifications Book

Received FHWA Approval? Yes

Item No. 08-1-11
Mr. Walker
Date: 5/17/07

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 918, BEGIN LINE 120, DELETE AND INSERT AS FOLLOWS:

(a) Type I

PROPERTY	TEST METHOD	UNIT	VALUE, Min.
Aperture	Calibered	in. (mm)	0.5 x 0.5 (13 x 13)
Open Area	COE, CWO2215	percent	> 50.0, ≤ 80.0
Tensile Modulus, machine direction cross machine direction	~~GRI, GG1~~[~~1,3,4~~] ~~GRI, GG1~~[~~1,3,4~~] *ASTM D 6637*[1,2,3]	lb/ft (N/m) lb/ft (N/m)	10,000 (146 000) 10,000 (146 000)
Ultimate Strength, machine direction cross machine direction	~~GRI, GG1~~[~~2,3,4~~] ~~GRI, GG1~~[~~2,3,4~~] *ASTM D 6637*[2,3]	lb/ft (N/m) lb/ft (N/m)	800 (11 670) 800 (11 670)

1. Secant modulus at 5% ~~elongation measured by Geosynthetic Research Institute Test Method GG1, Geogrid Tensile Strength. No offset allowance shall be made in calculating secant modulus~~.
~~2. Ultimate strength measured by Geosynthetic Research Institute Test Method GG1, Geogrid Tensile Strength.~~
~~3~~*2*. Results for machine direction, MD, and cross machine direction, CMD, are required.
~~4~~*3*. Minimum average roll values shall be in accordance with ASTM D 4759.

(b) Type II

PROPERTY	TEST METHOD	UNIT	VALUE, Min.
Open Area	COE, CWO2215	percent	> 50.0, ≤ 80.0
Tensile Modulus, machine direction	~~GRI, GG1~~[~~1,4~~] *ASTM D 6637*[1,2]	lb/ft (N/m)	49,300 (720 000)
Creep Limited Strength, machine direction at 5% strain	~~GRI, GG3~~[~~2,3~~] ~~87~~ ~~or~~ ASTM D 5262	lb/ft (N/m)	1090 (16 000)

1. Secant modulus at 2% elongation ~~measured by Geosynthetic Research Institute Test Method GG1, Geogrid Tensile Strength. No offset allowance shall be made in calculating secant modulus~~.
~~2. Long term load capacity measured by through the junction tensile creep testing to 10,000 hours in accordance with Geosynthetic Research Institute Test Method GG3, Creep Behavior and Long Term.~~
~~3. The Long Term allowable design strength, LTADS, is determined in accordance with GR1 GG4, Determination of the Long Term Design Strength of Stiff Geogrids.~~
~~4~~*2*. Minimum average roll values shall be in accordance with ASTM D 4759.

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 918, CONTINUED.

Other sections containing specific cross references:

207.02 Pg 200-63

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. Walker
Second: Mr. Heustis
Ayes: 8
Nays: 0

Action: Passed as submitted
Effective:
__x_ 2009 Standard Specifications Book

Received FHWA Approval? Yes