



INDIANA DEPARTMENT OF TRANSPORTATION

STANDARDS COMMITTEE MEETING

Driving Indiana's Economic Growth

APPROVED MINUTES

March 18, 2010 Standards Committee Meeting

MEMORANDUM

April 22, 2010

TO: Standards Committee

FROM: Greg Broz, Secretary

RE: Minutes for the March 18, 2010 Standards Committee Meeting

The Standards Committee meeting was called to order by the Chairman at 9:06 a.m. on March 18, 2010 in the N955 Bay Window Conference Room. The meeting was adjourned at 11:20 a.m.

The following committee members were in attendance:

Mark Miller, Chairman
Greg Pankow, Constr. Mgmt.
John Wright, Roadway Services
Tony Uremovich*, Str. Services
Jim Keefer, Fort Wayne Dist.

Dave Andrews, Pvmt. Engineering
Bob Cales, Contract Admin.
Dave Boruff, Traffic Admin.
Ron Walker, Materials Mgmt.
Mike Hoy**, Crawfordsville Dist.

* Proxy for Anne Rearick
** Proxy for Tom Caplinger

Also in attendance were the following:

Bren George, FHWA
Greg Broz, Secretary
Jim Reilman, INDOT Constr. Mgmt.
Lana Podorvanova, INDOT
Joe Hile, Specialties Co.

Eric Carleton, Independent Pipe Co.
Doug McPherson, Mt. Carmel Stabil.
Brad Schneider, Specialties Co.
Paul Berebitsky, ICA

The following items were considered:

A. GENERAL BUSINESS ITEMS

OLD BUSINESS

(No items considered)

1. Approval of the January 21, 2010 Minutes

ACTION:

APPROVED AS REVISED

Motion: Mr. Andrews

Second: Mr. Cales

Ayes: 9

Nays: 0

Item 01-10/15/09 was revised such that 909.05 is to be reinstated. This allowed for miscellaneous paint items to have a specification reference and allow the Department to maintain a list of pre-approved paints.

Item 06-01/21/10 was withdrawn due to changes in design procedures. The new procedures require an evaluation on a contract by contract basis.

2. Discussions on Active Action Items

Chairman Mr. Miller

There was a brief discussion on the need to follow up on items that were passed as revised and the alternative options that the committee could use. The decision was made to try to minimize the need for action items that were required to be addressed after the meeting and before minutes were posted.

B. CONCEPTUAL PROPOSAL ITEMSOLD BUSINESS

(No items considered)

NEW BUSINESS

(No items considered)

C. STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS PROPOSED ITEMSOLD BUSINESS

(No items considered)

NEW BUSINESS

<u>Item No. 01</u>	<u>03/18/10 (2010 SS)</u>	<u>Mr. Pankow</u>	<u>5</u>
101.59		Substantial Completion	

ACTION:

PASSED AS REVISED

<u>Item No. 02</u>	<u>03/18/10 (2010 SS)</u>	<u>Mr. Walker</u>	<u>8</u>
605.02		Materials	
619.14		Drain Castings Treatment	
619.17		Method of Measurement	
619.18(b)		Prices used in Pre-Established Remedies to Changed Conditions	
702.03		Materials	
702.27		Method of Measurement	
702.28		Basis of Payment	
704.02		Materials	
704.07		Method of Payment	

704.08	Basis of Payment
705.05	Basis of Payment
714.02	Materials
714.08	Precast Reinforced-Concrete Box Section Joints
715.02	Materials
715.02(a)	Type 1 Pipe
715.02(b)	Type 2 Pipe
715.02(d)	Type 4 Pipe
715.02(e)	Type 5 Pipe
715.02(g)	Slotted Vane Drain Pipe
715.02(h)	End Bent Drain Pipe
715.02(i)	Underdrain Outlet Pipe
715.02(j)	Grated Box End Sections
715.02(k)	Pipe End Sections
715.02(l)	Roadway Drain Casting Extensions
715.02(m)	Drainage Pipe Through Concrete Masonry
715.02(n)	Bridge Deck Drain System
715.09	Backfilling
715.05	Laying Pipe
715.12.1	Scour Protection
715.13	Method of Measurement
715.14	Basis of Payment
716.02	Materials
717.02	Materials
717.07	Concrete Paved Inverts
718.02	Materials
720.02	Materials
906.03	Joint Mortar Blank
906.04	Rubber Type Gaskets Blank
906.05	Bituminous Mastic Pipe Joint Sealer Blank
906.06	Joint Membrane System for Precast Reinforced Concrete Box Sections Blank
907.07	Blank Joint Membrane System for Precast Reinforced Concrete Box Sections
907.10	Blank Drain Tile
907.11	Drain Tile Pipe Joint Sealant
907.11(a)	Preformed Flexible Joint Sealants
907.11(b)	Bituminous Mastic Sealant
907.12	Blank Joint Mortar
907.13	Blank Rubber Type Gasket
907.16	P Thermoplastic Pipe Manufacturer Requirements
907.17	Corrugated Polyethylene Drainage Tubing
907.18	Perforated Polyvinyl Chloride Semicircular Pipe
907.19	Corrugated Polyethylene Pipe
907.20	Ribbed Polyethylene Pipe
907.21	Smooth Wall Polyethylene Pipe
907.22	Profile Wall Polyvinyl Chloride Pipe
907.23	Smooth Wall Polyvinyl Chloride Pipe
907.24	Smooth Wall Pipe for Outlets
907.25(a)	Solid Wall HDPE Pipe Liner
907.25(b)	Profile Wall HDPE Pipe Liner

(Continued)

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907.25(c)	Profile Wall PVC Pipe Liner
907.26	Solvent Cements for Polyvinyl Chloride Pipe and Pipe Fittings
907.27	Elastomeric Seals
907.28	Reinforced Thermosetting Resin Pipe and Pipe Fittings
908.14	Slotted Drain or Slotted Vane Drain Pipe
910.07	Steel Drain Pipe Blank
Standard Drawings:	
E 704-BDCG-03	CASTING DETAILS ROADWAY DRAIN TYPE OS
E 704-BDCG-04	CASTING DETAILS ROADWAY DRAIN TYPE SQ
E 704-BDCG-05 715-BDGC-01	CAST IRON ROADWAY DRAIN
E 714 BCJT-01	CASTING EXTENSION PIPE PRECAST REINFORCED CONCRETE BOX SECTION JOINT
ACTION:	PASSED AS REVISED
<u>Item No. 03 03/18/10 (2010 SS)</u>	<u>Mr. Pankow</u> 49
106.01(c)	Buy America Requirement
916.02(g)	Buy America Requirement
916.03(a)	For Buy America Requirement
ACTION:	PASSED AS SUBMITTED
<u>Item No. 04 03/18/10 (2010 SS)</u>	<u>Mr. Walker</u> 52
207.03	General Requirements
207.04	Subgrade Treatments
215.01	Description
215.02	Materials
215.03	Testing and Mix Design
215.08	Mixing
215.09	Compaction
215.11	Basis of Payment
ACTION:	WITHDRAWN
<u>Item No. 04a 03/18/10 (2010 SS)</u>	<u>Mr. Walker</u> 52
914.01	Special Topsoil for Roadside Development
ACTION:	PASSED AS SUBMITTED
<u>Item No. 05 03/18/10 (2010 SS)</u>	<u>Mr. Pankow</u> 62
RSP 701-B-132	PILE DRIVING
ACTION:	PASSED AS SUBMITTED

cc: Committee Members (11)
FHWA (2)
ICA (1)

SPECIFICATION REVISIONS
REVISION TO THE STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The wording for substantial completion in section 101.59 can be considered vague and could lead to litigation issues.

PROPOSED SOLUTION: A change in the wording to make the definition of substantial completion more finite.

APPLICABLE STANDARD SPECIFICATIONS: 101.59

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

Submitted By: Greg Pankow

Title: State Construction Engineer

Organization: INDOT

Phone Number: 317-232-5502

Date: 1/22/2010

APPLICABLE SUB-COMMITTEE ENDORSEMENT? Add hoc: Ron Heustis, Greg Pankow, Greg Broz and Kevin Hetrick.

REVISION TO THE STANDARD SPECIFICATIONS
REVISION TO SECTION 101.59 SUBSTANTIAL COMPLETION

The Standard Specifications are revised as follows:

SECTION 101.59, BEGIN LINE 436, DELETE AND INSERT AS FOLLOWS:

101.59 Substantial Completion

The date, as determined by the Department, when the construction of a project is sufficiently completed in accordance with the plans and specifications, as modified by any approved change orders, so that it can be used for its intended purpose. In order for a project to be used for its intended purpose, as a minimum, all of the following criteria must be met: All lanes of the road or bridge ~~may be opened to traffic using~~ *shall be completed through* its final roadway surface, including shoulders, with all the markings, permanent safety appurtenances, permanent erosion control features, lighting, traffic signals, and signing as shown in the contract documents, ~~so that it they may be opened to unrestricted traffic.~~

COMMENTS AND ACTION

REVISION TO SECTION 101.59 SUBSTANTIAL COMPLETION

DISCUSSIONS: Mr. Pankow explained that the change was made to clarify the intent of the specification due to some internal concerns. The intent is that only punchlist items should remain and all pay items are complete for a contract to be considered substantially complete. Mr. Keefer pointed out that this addressed in IC 639.

Mr. Hoy pointed out that the last phrase seemed a little vague and may need to be reworded. Mr. Cales agreed with the change as it was written and felt it was a good idea.

Mr. Andrews suggested changing the word in the second to last line to clarify. The committee agreed.

Motion: Mr. Pankow Second: Mr. Walker Ayes: 9 Nays: 0	Action: ☐ Passed as Submitted ☒ Passed as Revised ☐ Withdrawn
Standard Specifications Sections affected: Section 101-DEFINITIONS AND TERMS Recurring Special Provision affected: None Standard Sheets affected: None Design Manual Sections affected: None GIFE Sections cross-references: Section 2.18.1 and 27.2	☒ 2012 Standard Specifications Book ☐ Create RSP (No.____) Effective ____ Letting RSP Sunset Date: ____ ☐ Revise RSP (No.____) Effective ____ Letting RSP Sunset Date: ____ Standard Drawing Effective ____ ☐ Create RPD (No.____) Effective ____ Letting ☐ Technical Advisory GIFE Update Req'd.? Y ____ N ____ By ____ Addition or ____ Revision Frequency Manual Update Req'd? Y ____ N ____ By ____ Addition or ____ Revision Received FHWA Approval? ☒

SPECIFICATION REVISIONS

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Various "clean-up" changes are needed. They consist of: moving pipe from the painting and concrete sections to the pipe section, moving the pipe joint materials to a more appropriate 900 section, correcting an error due to changing AASHTO/ASTM specifications, and allowing fiberglass drain pipe.

PROPOSED SOLUTION: Incorporate the proposed "clean-up" changes into the Standard Specifications and have them become effective for the next Standard Specification Book.

APPLICABLE STANDARD SPECIFICATIONS: 605.02, 619.14, 619.17, 619.18, 702.03, 702.27, 702.28, 704.02, 704.07, 704.08, 705.05, 714.02, 714.08, 715.02, 715.05, 715.09, 715.13, 715.14, 716.02, 717.02, 717.07, 718.02, 720.02, 906.03, 906.04, 906.05, 906.06, 907.07, 907.10, 907.11, 907.12, 907.13, 907.16, 907.17, 907.18, 907.19, 907.20, 907.21, 907.22, 907.23, 907.24, 907.25, 907.26, 907.27, 907.28, 908.14, 910.07

APPLICABLE STANDARD DRAWINGS: 704-BDCG-03, 704-BDCG-04, 704-BDCG-05
714-BCJT-01

APPLICABLE DESIGN MANUAL SECTION: 33-2.04(01) and Figure 33-2B

APPLICABLE SECTION OF GIFE: 4

APPLICABLE RECURRING SPECIAL PROVISIONS: some of the changes included herein were passed at the January 21, 2010 meeting (item no. 01 dated 11/19/09) and are scheduled to become an RSP effective with lettings on or after 9/1/10. This proposal would incorporate those changes as well as several other changes into the next Standard Specifications Book and the RSP that was authorized at the January 21, 2010 meeting can sunset.

Submitted By: Ron Walker

Title: Manager, Office of Materials Management

Organization: INDOT

Phone Number: 317-610-7251

Date: 10/16/09

APPLICABLE SUB-COMMITTEE ENDORSEMENT? INDOT Pipe Committee

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 605 - CURBING

REVISION TO 605.02 MATERIALS

The Standard Specifications are revised as follows:

SECTION 605, BEGIN LINE 10, DELETE AND INSERT AS FOLLOWS:

605.02 Materials

Materials shall be in accordance with the following:

Coarse Aggregate, Class D or Higher, Size No. 53	904
Concrete	502
Joint Materials	906
Joint Mortar	906.03907.12
Precast Concrete Curbing.....	904.04(e)
Reinforcing Bars	910.01

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 619 - PAINTING BRIDGE STEEL

REVISION TO 619.14 DRAIN CASTINGS TREATMENT

REVISION TO 619.17 METHOD OF MEASUREMENT

REVISION TO 619.18(b) PRICES USED IN PRE-ESTABLISHED REMEDIES TO
CHANGED CONDITIONS

The Standard Specifications are revised as follows:

SECTION 619, BEGIN LINE 579, DELETE AND INSERT AS FOLLOWS:

619.14 Drain Castings Treatment

~~Dr~~*Roadway drain castings located in a bridge deck shall be satisfactorily cleaned. The castings shall not be shot-blasted. If castings are sandblasted, a brush blast technique shall be used in accordance with 619.08(f).*

The *roadway* drain castings shall be painted with a black finish coat in accordance with 909.02(c).

If a roadway drain casting extension pipe is damaged or missing, it shall be replaced. The extension pipe shall be in accordance with 715.

SECTION 619, BEGIN LINE 620, INSERT AS FOLLOWS:

Cleaning *roadway* drain castings and caulking joints of lapping members will not be measured for payment.

SECTION 619, BEGIN LINE 632, DELETE AND INSERT AS FOLLOWS:

~~Floor~~*Roadway drain casting extensions pipe will be measured per each drain extended in accordance with 715.13.*

SECTION 619, BEGIN LINE 714, DELETE AND INSERT AS FOLLOWS:

~~Dr~~*Roadway drain casting extensions pipe will be paid for at the contract unit price per each in accordance with 715.14.*

Payment will be made under:

Pay Item

Pay Unit Symbol

Clean Steel Bridge, Type ____, QP- ____, Str. No. ____SFT (m2)

Clean Steel Bridge, Partial, Type ____, QP- ____, Str. No. ____SFT (m2)

~~Drain Extension~~.....EACH

Paint Steel Bridge, Type ____, Str. No. ____SFT (m2)

Paint Steel Bridge, Partial, Type ____, Str. No. ____SFT (m2)

SECTION 619, BEGIN LINE 741, INSERT AS FOLLOWS:

The cost of furnishing all materials, equipment, and labor required for washing, solvent cleaning, scraping, steel brushing, or other acceptable methods for removing paint in the locations directed shall be included in the cost of clean steel bridge or clean steel bridge, partial. The cost of cleaning *roadway* drain castings shall be included in the cost of clean steel bridge or clean steel bridge, partial.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 619 - PAINTING BRIDGE STEEL (CONTINUED)

REVISION TO 619.14 DRAIN CASTINGS TREATMENT

REVISION TO 619.17 METHOD OF MEASUREMENT

REVISION TO 619.18(b) PRICES USED IN PRE-ESTABLISHED REMEDIES TO
CHANGED CONDITIONS

The cost of providing containment in accordance with 619.15 shall be included in the cost of the pay items of this section.

The cost of furnishing all materials including caulk, equipment, and labor to perform caulking and painting with structural steel or partial paint system shall be included in the cost of paint steel bridge or paint steel bridge, partial. The cost of furnishing all materials, equipment, and labor to perform painting of the *roadway* drain castings shall be included in the cost of paint steel bridge or paint steel bridge, partial.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 702 - STRUCTURAL CONCRETE

REVISION TO 702.03 MATERIALS

REVISION TO 702.27 METHOD OF MEASUREMENT

REVISION TO 702.28 BASIS OF PAYMENT

The Standard Specifications are revised as follows:

SECTION 702, BEGIN LINE 26, DELETE AND INSERT AS FOLLOWS:

702.03 Materials

Materials shall be in accordance with the following:

Admixture for Concrete	912.03
Castings	910.05
Cast Iron Soil Pipe	908.10
Coarse Aggregate	
For exposed concrete, Class A or Higher,	
Size No. 8	904
For non-exposed concrete, Class B or Higher,	
Size No. 8	904
Curing Materials	912.01
Curing-Sealing Materials	912.02
Elastomeric Bearings	915.04
Fabric for Waterproofing	918.01
Fine Aggregate Size No. 23	904
Fly Ash	901.02
Geotextile for Use With Underdrain	918.03
Ground Granulated Blast Furnace Slag	901.03
High Density Plastic Bearing Strips	906.08
Permanent Metal Forms	910.03
Polychloroprene Joint Membrane and Adhesive	906.02(a)5
Portland Cement	901.01(b)
Steel Drain Pipe	910.07
Utility Asphalt, UA-1	902.01(d)
Water	913.01

Drainage pipe through concrete masonry shall be in accordance with 715.

SECTION 702, BEGIN LINE 1424, DELETE AND INSERT AS FOLLOWS:

Cast iron ~~drain pipes~~, grates, basins, and fittings will be measured by the pound (kilogram) based on the theoretical weight (mass) shown on the plans. Bronze plates will be measured by the pound (kilogram) based on a theoretical weight of 536 lb/ft³ (mass of 8-540 8 586 kg/m³). The volume will be computed based on finished dimensions. ~~Steel drain pipe will not be measured for payment~~*Drainage pipe through concrete masonry will be measured in accordance with 715.* Field drilled holes will be measured by the number of holes drilled.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 702 - STRUCTURAL CONCRETE (CONTINUED)

REVISION TO 702.03 MATERIALS
REVISION TO 702.27 METHOD OF MEASUREMENT
REVISION TO 702.28 BASIS OF PAYMENT

SECTION 702, BEGIN LINE 1434, DELETE AND INSERT AS FOLLOWS:

702.28 Basis of Payment

The accepted quantities of structural concrete will be paid for at the contract unit price per cubic yard (cubic meter) of concrete, for the class and use specified. Cast iron grates, basins, and fittings will be paid for at the contract unit price per pound (kilogram). ~~Cast iron soil pipe will be paid for at the contract unit price per pound (kilogram) for the diameter specified.~~ Bronze plates will be paid for at the contract unit price per pound (kilogram). Steel drain pipe will be paid for at the contract lump sum price. Field drilled holes in concrete will be paid for at the contract unit price per each.

Concrete in railings will be paid for in accordance with 706.06. Reinforcing bars will be paid for in accordance with 703.08. *Drainage pipe through concrete masonry will be paid for in accordance with 715.*

SECTION 702, BEGIN LINE 1465, DELETE AS FOLLOWS:

Payment will be made under:

Pay Item	Pay Unit Symbol
Bronze Plates.....	LBS (kg)
Concrete, A, Substructure	CYS (m3)
Concrete, A , Superstructure	CYS (m3)
Concrete, B Above Footings.....	CYS (m3)
Concrete, B, Footings.....	CYS (m3)
Concrete, C, _____	CYS (m3)
use	
Concrete, Foundation Seal	CYS (m3)
Drain Pipe, Steel.....	LS
Field Drilled Hole in Concrete.....	EACH
Grates, Basins, and Fittings, Cast Iron.....	LBS (kg)
Soil Pipe, Cast Iron, _____ in. (mm)	LBS (kg)
diameter	

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 704 - CONCRETE FLOOR SLABS

REVISION TO 704.02 MATERIALS

REVISION TO 704.07 METHOD OF MEASUREMENT

REVISION TO 704.08 BASIS OF PAYMENT

The Standard Specifications are revised as follows:

SECTION 704, BEGIN LINE 9, DELETE AS FOLLOWS:

704.02 Materials

Materials shall be in accordance with the following:

Castings	910.05
Cast Iron Soil Pipe	908.10
Concrete, Class C	702
Joint Materials	906
Reinforcing Bars	910.01

SECTION 704, BEGIN LINE 166, DELETE AS FOLLOWS:

704.07 Method of Measurement

Concrete floor slab will be measured by the cubic yard (cubic meter) in accordance with 702.27. However, no allowance will be made for variations in beam fillet depths, coping depths, or diaphragm depths, which are deemed necessary due to the beam camber, as constructed, which varies from that shown on the plans. Reinforcing bars will be measured in accordance with 703.07. Castings and ~~cast iron pipe~~ will be measured in accordance with 702.27.

704.08 Basis of Payment

The accepted quantities of concrete floor slab will be paid for at the contract unit price per cubic yard (cubic meter) for concrete, C, superstructure. Reinforcing bars will be paid for in accordance with 703.08. Castings and ~~cast iron pipe~~ will be paid for in accordance with 702.28.

Payment will be made under:

Pay Item	Pay Unit Symbol
Concrete, C, Superstructure	CYS (m3)
Reinforcing Bars	LBS (kg)

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 705 - SIDEWALKS ON STRUCTURES

REVISION TO 705.05 BASIS OF PAYMENT

The Standard Specifications are revised as follows:

SECTION 705, BEGIN LINE 41, DELETE AS FOLLOWS:

705.05 Basis of Payment

The accepted quantities of sidewalks on structures will be paid for at the contract unit price per cubic yard (cubic meter) for concrete, C, superstructure. Reinforcing bars will be paid for at the contract unit price per pound (kilogram) in accordance with 703.08.

Payment will be made under:

Pay Item

Pay Unit Symbol

Concrete, C, Superstructure	CYS (m3)
Reinforcing Bars	LBS (kg)

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 714 - CONCRETE BOX STRUCTURES

REVISION TO 714.02 MATERIALS

REVISION TO 714.08 PRECAST REINFORCED-CONCRETE BOX SECTION JOINTS

The Standard Specifications are revised as follows:

SECTION 714, BEGIN LINE 9, DELETE AND INSERT AS FOLLOWS:

714.02 Materials

Materials shall be in accordance with the following:

Bituminous Mastic Pipe Joint Sealer Sealant	906.05 907.11
Chemical Anchor System.....	901.05
Coarse Aggregates, Class A or Higher, Size No. 91.....	904
Concrete	702
Flowable Backfill	213
Geotextile	918.02
Joint Membrane System for Precast Reinforced Concrete Box Section	906.06 907.07
Precast Reinforced Concrete Box Sections.....	907.05
Precast Reinforced Concrete Headwalls and Wingwalls.....	907.06
Reinforcing Bars	910.01
Steel Welded Wire Reinforcement, Smooth and Deformed	910.01
Sealer	909.09 or 909.10
Structure Backfill	904

SECTION 714, BEGIN LINE 231, DELETE AND INSERT AS FOLLOWS:

714.08 Precast Reinforced-Concrete Box Section Joints

Precast reinforced concrete box section joints shall be sealed as shown on the plans. A ~~bituminous mastic pipe joint sealer~~ sealant system or self-adhering joint membrane systems shall be applied once the concrete surface temperature is above 40°F (5°C) or sufficient to allow adherence. The concrete surfaces shall be cleaned and dry prior to application of the ~~mastic or membrane~~ material. Heat may be applied to the concrete surfaces until they are in accordance with the temperature and dryness requirements. The mastic or membrane material shall be centered on both sides of the joint as it is being applied. After application, the geotextile or membrane material shall be rolled to avoid wrinkling. If the roll of geotextile or membrane material does not cover the full length of the joint, an overlap of at least 2 1/2 in. (65 mm) will be required to start the next roll of material. The manufacturer's application instructions shall apply in addition to the above requirements.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 715 – PIPE CULVERTS, AND STORM AND SANITARY SEWERS

REVISION TO 715.02 MATERIALS
REVISION TO 715.05 LAYING PIPE
REVISION TO 715.09 BACKFILLING
REVISION TO 715.12 PAVEMENT REPLACEMENT
REVISION TO 715.13 METHOD OF MEASUREMENT
REVISION TO 715.14 BASIS OF PAYMENT

(Changes that are shown with the side bar line have been approved by the Standards Committee on January 21, 2010)

The Standard Specifications are revised as follows:

SECTION 715, BEGIN LINE 23, DELETE AND INSERT AS FOLLOWS:

Materials shall be in accordance with the following:

B Borrow	211
Bituminous Mast Pipe Joint SealerSealant	906.05 907.11
Concrete	702
Flowable Backfill	213
Geotextiles.....	918.02
Reinforcing Bars	910.01
Rubber Type Gaskets	906.04 907.13
Straps, Hook Bolts, and Nuts	908.12
Structure Backfill	904

The maximum particle size of backfill material for corrugated pipe shall be less than one-half the corrugation depth.

(a) Type 1 Pipe

Type 1 pipe shall be used for culverts under mainline pavement and public road approaches *and shall be in accordance with the following:-*

Clay Pipe, Extra Strength.....	907.08
Corrugated Aluminum Alloy Pipe and Pipe-Arches.....	908.04
Corrugated Polyethylene Pipe, Type S	907.19*
Corrugated Steel Pipe and Pipe-Arches	908.02
Non-Reinforced Concrete Pipe, Class 3.....	907.01
Polymer Precoated Galvanized Corrugated Steel Pipe and Pipe-Arches.....	908.08
Profile Wall Polyvinyl Chloride Pipe	907.22*
Reinforced Concrete Horizontal Elliptical Pipe.....	907.03
Reinforced Concrete Pipe	907.02
Ribbed Polyethylene Pipe	907.20*
Smooth Wall Polyethylene Pipe.....	907.21*
Smooth Wall Polyvinyl Chloride Pipe.....	907.23*
Structural Plate Pipe and Pipe-Arches	908.09

**all thermoplastic pipes shall be from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16.*

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 715 – PIPE CULVERTS, AND STORM AND SANITARY SEWERS (CONTINUED)

REVISION TO 715.02 MATERIALS
REVISION TO 715.05 LAYING PIPE
REVISION TO 715.09 BACKFILLING
REVISION TO 715.12 PAVEMENT REPLACEMENT
REVISION TO 715.13 METHOD OF MEASUREMENT
REVISION TO 715.14 BASIS OF PAYMENT

(b) Type 2 Pipe

Type 2 pipe shall be used for storm sewers *and shall be in accordance with the following:-*

Clay Pipe, Extra Strength.....	907.08
Corrugated Polyethylene Pipe, Type S	907.19*
Fully Bituminous Coated and Lined Corrugated Steel Pipe and Pipe-Arches.....	908.13
Non-Reinforced Concrete Pipe, Class 3.....	907.01
Polymer Precoated Galvanized Corrugated Steel Pipe and Pipe-Arches.....	908.08
Profile Wall Polyvinyl Chloride Pipe	907.22*
Reinforced Concrete Horizontal Elliptical Pipe.....	907.03
Reinforced Concrete Pipe	907.02
Ribbed Polyethylene Pipe	907.20*
Smooth Wall Polyethylene Pipe.....	907.21*
Smooth Wall Polyvinyl Chloride Pipe.....	907.23*

**all thermoplastic pipes shall be from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16.*

(c) Type 3 Pipe

Type 3 pipe shall be used for culverts under all drives and field entrances. All Type 1 pipe materials are acceptable.

(d) Type 4 Pipe

Type 4 pipe shall be used for drain tile and longitudinal underdrains *and shall be in accordance with the following:-*

Clay Pipe**.....	907.08
Corrugated Polyethylene Drainage Tubing.....	907.17*
Corrugated Polyethylene Pipe, Type S**	907.19*
Corrugated Polyethylene Pipe, Type SP	907.19*
Drain Tile**	907.11 907.10
Non-Reinforced Concrete Pipe	907.01
Perforated Clay Pipe**	907.09
Perforated Polyvinyl Chloride Semicircular Pipe	907.18*
Profile Wall Polyvinyl Chloride Pipe	907.22*

**all thermoplastic pipes shall be from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16.*

***These materials shall be used for drain tiles only.*

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 715 - PIPE CULVERTS, AND STORM AND SANITARY SEWERS (CONTINUED)

REVISION TO 715.02 MATERIALS
REVISION TO 715.05 LAYING PIPE
REVISION TO 715.09 BACKFILLING
REVISION TO 715.12 PAVEMENT REPLACEMENT
REVISION TO 715.13 METHOD OF MEASUREMENT
REVISION TO 715.14 BASIS OF PAYMENT

(e) Type 5 Pipe

Type 5 pipe shall be used for broken-back pipe runs where coupled or jointed pipe is desirable *and shall be in accordance with the following:-*

Corrugated Aluminum Alloy Pipe and Pipe-Arches.....	908.04
Corrugated Polyethylene Pipe, Type S	907.19*
Corrugated Steel Pipe and Pipe-Arches	908.02
Fully Bituminous Coated and Lined Corrugated Steel Pipe and Pipe-Arches	908.13
Polymer Precoated Galvanized Corrugated Steel Pipe and Pipe-Arches	908.08
Profile Wall Polyvinyl Chloride Pipe	907.22*
Ribbed Polyethylene Pipe	907.20*
Smooth Wall Polyethylene Pipe.....	907.21*
Smooth Wall Polyvinyl Chloride Pipe.....	907.23*

**all thermoplastic pipes shall be from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16.*

(f) Slotted Drain Pipe

Slotted drain pipe shall be used to drain paved median and concrete gutter areas. Slotted drain pipe shall be in accordance with 908.14.

(g) Slotted Vane Drain Pipe

Slotted vane drain pipe shall be used to drain driveway areas. Slotted vane drain pipe shall be ~~smooth wall polyvinyl chloride pipe~~ in accordance with ~~907.23~~908.14. The ~~slotted vane drain casting shall be in accordance with 910.05(b). The finish shall be standard black asphalt emulsion. Individual units shall have a minimum weight (mass) of 155 lbs (70 kg).~~

(h) End Bent Drain Pipe

End bent drain pipe shall be perforated profile wall polyvinyl chloride pipe ~~in accordance with 907.22~~ or perforated smooth wall polyvinyl chloride pipe ~~in accordance with 907.23~~from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16.

(i) Underdrain Outlet Pipe

Pipe shall be ~~in accordance with 907.22 or 907.24~~profile wall polyvinyl chloride pipe or smooth wall pipe for outlets from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 715 - PIPE CULVERTS, AND STORM AND SANITARY SEWERS (CONTINUED)

REVISION TO 715.02 MATERIALS

REVISION TO 715.05 LAYING PIPE

REVISION TO 715.09 BACKFILLING

REVISION TO 715.12 PAVEMENT REPLACEMENT

REVISION TO 715.13 METHOD OF MEASUREMENT

REVISION TO 715.14 BASIS OF PAYMENT

(j) Grated Box End Sections

Steel pipe and steel tubing *for grating* shall be in accordance with ASTM A 53, *Type E or S*, Grade B or ASTM A 501, *electric-resistance welded or seamless*. Such pipe and tubing shall be galvanized in accordance with ASTM A 123. All other related hardware shall be galvanized in accordance with ASTM A 153. Structural steel grates shall be ASTM A 36 (ASTM A 36M) for end sections having widths less than or equal to 3 ft (0.9 m) and shall be ASTM A 572 grade 50 (ASTM A 572M grade 345) for widths greater than 3 ft (0.9 m). Threaded inserts shall have a minimum pull-out capacity of 6,000 lb (27 kN). The 1/2 in. (M13) round bolts shall have hex heads, cut washers, and where necessary, shall be furnished with the grating. The aggregate leveling bed required for precast units shall be coarse aggregate No. 8 in accordance with 904.03. The hardware cloth used to cover the weep holes, may be plastic with 1/4 in. (6 mm) mesh or galvanized steel wire No. 4 mesh with a minimum wire diameter of 1/32 in. (0.8 mm). It shall be firmly anchored to the outside of the structure and shall be centered on the holes.

SECTION 715, BEGIN LINE 150, INSERT AS FOLLOWS:

Pipe furnished as an alternate as described herein shall be covered by a type B certification in accordance with 916. *The results of the wall thickness measurement, outside diameter measurement, and the yield strength test shall be provided on the type B certification.*

(k) Pipe End Sections

Metal pipe end sections shall be in accordance with 908.06. Precast concrete pipe end sections shall be in accordance with 905.06.

(l) Roadway Drain Casting Extensions

Pipe used for extending roadway drain castings located in a bridge deck shall be in accordance with 907.23, 907.28, or 908.10. Pipe support brackets and all hardware shall be galvanized in accordance with ASTM A 153, class D or AASHTO M 298, class 40, type I. A type C certification in accordance with 916 shall be provided for the pipe brackets.

(m) Drainage Pipe Through Concrete Masonry

Pipe used as drainage pipe through concrete masonry as described in 702.16 shall be either profile wall or smooth wall polyvinyl chloride from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16, or steel in accordance with 908.11.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 715 - PIPE CULVERTS, AND STORM AND SANITARY SEWERS (CONTINUED)

REVISION TO 715.02 MATERIALS

REVISION TO 715.05 LAYING PIPE

REVISION TO 715.09 BACKFILLING

REVISION TO 715.12 PAVEMENT REPLACEMENT

REVISION TO 715.13 METHOD OF MEASUREMENT

REVISION TO 715.14 BASIS OF PAYMENT

(n) Bridge Deck Drain System

Pipe and fittings used in an enclosed bridge deck drainage system shall be cast iron soil pipe in accordance with 908.10 or reinforced thermosetting resin pipe in accordance with 907.28.

SECTION 715, BEGIN LINE 218, DELETE AND INSERT AS FOLLOWS:

Except for circular concrete pipe, pipe joints designed to accommodate seals or pipe joints requiring seals shall be sealed with approved rubber type gaskets, caulking, ~~bituminous mastic pipe joint sealer~~ sealant, elastomeric material, or sealing compound. Circular concrete pipe joints shall utilize rubber type gaskets.

SECTION 715, BEGIN LINE 315, DELETE AND INSERT AS FOLLOWS:

All pipes, except underdrains, will be visually inspected for acceptance a minimum of 30 days after the completion of backfill operations. Pipes that cannot be visually inspected shall be video inspected for acceptance in accordance with 718.07. The Engineer will determine the sections of pipe to be video inspected. *A copy of the video inspection shall be provided in a format acceptable to the Engineer prior to performing the mandrel testing.*

~~After the visual or video inspection, all polyethylene and smooth wall polyvinyl chloride pipes 36 in. (900 mm) or less in pipe pay item diameter shall be mandrel tested. The mandrel shall be a go/no go mandrel with a minimum of nine arms or prongs and a diameter of 5% less than the pipe pay item diameter. If the mandrel does not pass through the pipe, when pulled by hand or the mandrel damages the pipe, the deficient pipe shall be removed, replaced, and mandrel tested a minimum of 30 days after the backfill has been replaced.~~

After the visual or video inspection, the Contractor shall check pipe deflection by performing a mandrel test for all pipes manufactured from materials listed in the following table or as otherwise directed.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 715 – PIPE CULVERTS, AND STORM AND SANITARY SEWERS (CONTINUED)

REVISION TO 715.02 MATERIALS

REVISION TO 715.05 LAYING PIPE

REVISION TO 715.09 BACKFILLING

REVISION TO 715.12 PAVEMENT REPLACEMENT

REVISION TO 715.13 METHOD OF MEASUREMENT

REVISION TO 715.14 BASIS OF PAYMENT

<i>PIPES REQUIRED TO BE MANDREL TESTED</i>			
<i>Pipe Material</i>	<i>Standard Specifications</i>	<i>AASHTO</i>	<i>ASTM</i>
<i>Corrugated Polyethylene Pipe</i>	<i>907.19</i>	<i>M 294</i>	
<i>Ribbed Polyethylene Pipe</i>	<i>907.20</i>		<i>F 894</i>
<i>Smooth Wall Polyethylene Pipe</i>	<i>907.21</i>		<i>F 714</i>
<i>Profile Wall Polyvinyl Chloride Pipe*</i>	<i>907.22</i>	<i>M 304</i>	
<i>Smooth Wall Polyvinyl Chloride Pipe</i>	<i>907.23</i>	<i>M 278</i>	<i>F 679</i>

*Mandrel testing will not be required for profile wall polyvinyl chloride pipe in accordance with 907.22 that also is in accordance with ASTM F 949.

The mandrel shall have a minimum of nine arms or prongs and a diameter that is 95% of the nominal pipe diameter. The Contractor shall provide a proving ring that is 95% of the nominal pipe diameter for each mandrel.

The Contractor shall pull the mandrel through the pipe by hand. If the mandrel does not pass through the pipe, the Contractor shall measure and report the minimum diameter of the deficient pipe to the Engineer.

If the minimum diameter of the deficient pipe is between 92.5% and 95.0% of the nominal pipe diameter, the Contractor shall provide an evaluation of the deficient pipe ~~done~~ prepared by a professional engineer. The evaluation shall consider the severity of the deflection and its effects on structural integrity, environmental conditions, and the design service life of the pipe. A report summarizing the evaluation and including the professional engineer's recommendation for acceptance, remediation, or replacement of the pipe shall be submitted to the Engineer for final determination.

If the minimum diameter of the deficient pipe is equal to or less than 92.5% of the nominal pipe diameter, the deficient pipe shall either be replaced or a remediation plan shall be prepared by a professional engineer and submitted to the Engineer for final determination.

The deficient pipe shall be replaced if the professional engineer's remediation plan recommends replacement of the pipe or if the pipe has been damaged. Deficient pipe shall at a minimum be replaced between the nearest pipe joints or to the nearest

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 715 - PIPE CULVERTS, AND STORM AND SANITARY SEWERS (CONTINUED)

REVISION TO 715.02 MATERIALS

REVISION TO 715.05 LAYING PIPE

REVISION TO 715.09 BACKFILLING

REVISION TO 715.12 PAVEMENT REPLACEMENT

REVISION TO 715.13 METHOD OF MEASUREMENT

REVISION TO 715.14 BASIS OF PAYMENT

structure. Replaced or remediated pipe sections shall be mandrel tested a minimum of 30 days after the completion of backfill operations.

Commercial and private drive pipes are excluded from the mandrel testing and video inspection requirements.

Where material other than structure backfill or flowable backfill is permitted and used for backfilling, it shall be of such nature that compacts readily. That portion around and for 6 in. (150 mm) above the top of the pipe shall be free from large stones. This material shall be placed in layers not to exceed 6 in. (150 mm), loose measurement, and each layer compacted thoroughly by means of mechanical tamps. Where coarse aggregate No. 8, No. 9, or No. 11 is used for structure backfill, geotextile shall be installed.

~~SECTION 715, AFTER LINE 399, INSERT AS FOLLOWS:~~

~~**715.12.1 Scour Protection**~~

~~*Scour protection shall be installed as shown on the plans.*~~

~~*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.*~~

SECTION 715, AFTER LINE 412, INSERT AS FOLLOWS:

Where used other than as a roadway drain extension pipe or as a bridge deck drain system, cast iron soil pipe will be measured by the pound (kilogram) based on the theoretical weight (mass) shown on the plans.

Roadway drain extension pipe will be measured per each drain extended.

Pipe used as drainage pipe through concrete masonry will not be measured for payment.

SECTION 715, BEGIN LINE 458, DELETE AND INSERT AS FOLLOWS:

~~*Mandrel testing of polyethylene and smooth wall polyvinyl chloride pipes 36 in. (900 mm) or less in pipe pay item diameter will not be measured for payment.*~~

Geotextile used to wrap backfill material will not be measured for payment.

715.14 Basis of Payment

The accepted quantities of pipe will be paid for at the contract unit price per linear foot (meter) for pipe of the type, shape, and size specified, complete in place. *Where used other than as a roadway drain casting extension pipe, cast iron soil pipe will be paid for at the contract unit price per pound (kilogram) for the diameter specified.*

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 715 - PIPE CULVERTS, AND STORM AND SANITARY SEWERS (CONTINUED)

REVISION TO 715.02 MATERIALS

REVISION TO 715.05 LAYING PIPE

REVISION TO 715.09 BACKFILLING

REVISION TO 715.12 PAVEMENT REPLACEMENT

REVISION TO 715.13 METHOD OF MEASUREMENT

REVISION TO 715.14 BASIS OF PAYMENT

Pipe end sections, concrete anchors, and safety metal end sections will be paid for at the contract unit price per each for the size specified, complete in place. A concrete anchor attached at one end of twin pipes will be paid for as two concrete anchors. A concrete anchor attached at one end of triple pipes will be paid for as three concrete anchors. *Roadway drain casting extension pipe will be paid for at the contract unit price per each.* ~~Structure backfill will be paid for in accordance with 211.10. If utilized as a substitute for structure backfill or if used to backfill thermoplastic pipes fabricated of non hydrostatic design basis resins, flowable backfill will be paid for as structure backfill. Otherwise, flowable backfill will be paid for in accordance with 213.09.~~

SECTION 715, AFTER LINE 538, INSERT AS FOLLOWS:

Pipe, Bridge Deck Drain System..... LFT (m)

Pipe, Drainage through Concrete Masonry..... LS

SECTION 715, AFTER LINE 575, INSERT AS FOLLOWS:

Pipe, Roadway Drain Casting Extension..... EACH

SECTION 715, BEGIN LINE 609, DELETE AND INSERT AS FOLLOWS:

Safety Metal End Section, _____, Min. Area _____ sq ft (sq m) or ~~Grated~~
slope

Grated Box End Section, _____, _____, Min. Area
type slope

_____ sq ft (sq m)EACH

Soil Pipe, Cast Iron, _____ in. (mm) LBS (kg)
diameter

Video Inspection for Pipe.....LFT (m)

* Mixture type

The cost of reinforcing bars, straps, and hook bolts used in anchors shall be included in the cost of the concrete anchor. The cost of the toe plate anchor and galvanized bolts required for pipe end sections and safety metal end sections shall be included in the cost of the pay items. *The cost of pipe support brackets and all hardware used to attach the roadway drain casting extension pipe to the drain casting and the pipe support bracket to the structural member and to the drain extension pipe shall be included in the cost of the pay items.* The cost of concrete backfill for slotted drain pipe and slotted vane drain pipe shall be included in the cost of the pay items.

SECTION 715, BEGIN LINE 645, DELETE AND INSERT AS FOLLOWS:

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 715 - PIPE CULVERTS, AND STORM AND SANITARY SEWERS (CONTINUED)

REVISION TO 715.02 MATERIALS

REVISION TO 715.05 LAYING PIPE

REVISION TO 715.09 BACKFILLING

REVISION TO 715.12 PAVEMENT REPLACEMENT

REVISION TO 715.13 METHOD OF MEASUREMENT

REVISION TO 715.14 BASIS OF PAYMENT

Geotextile required for coarse aggregate ~~No. 8, No. 9, or No. 11~~ structure backfill material will not be paid for separately. The cost of the geotextile shall be included in the cost of structure backfill.

The cost of providing ~~the~~ video inspection equipment, technician, ~~videotapes, or computer disks~~ and a copy of the video inspection shall be included in the cost of the video inspection for pipe. ~~No additional payment will be made for repair or removal of pipes, backfill, the video re-inspection of the repairs or replaced pipe, and all other work associated with the repair or removal of unaccepted pipes.~~

No additional payment will be made for repair, remediation, or replacement of pipes, backfill, video inspection of the repaired, remediated, or replaced pipe, and all other work associated with the repair, remediation, or replacement of unacceptable pipes.

The cost of mandrel testing shall be included in the cost of the pipe.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
SECTION 716 - TRENCHLESS PIPE INSTALLATION
REVISION TO 716.02 MATERIALS

(Changes that are shown with the side bar line have been approved by the Standards Committee on January 21, 2010)

The Standard Specifications are revised as follows:

SECTION 716, BEGIN LINE 81, DELETE AND INSERT AS FOLLOWS:

716.02 Materials

Materials shall be in accordance with the following:-

Clay Pipe, Extra Strength.....	907.08
Polyvinyl Chloride Pipe	907.23*
Reinforced Concrete Pipe	907.02
Smooth Wall Polyethylene Pipe.....	907.21*
Steel Pipe.....	908.11
Water	913.01
Cellular Grout.....	725

** all thermoplastic pipes shall be from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16.*

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
SECTION 717 - STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES
REVISION TO 717.02 MATERIALS
REVISION TO 717.07 CONCRETE PAVED INVERTS

The Standard Specifications are revised as follows:

SECTION 717, BEGIN LINE 8, DELETE AND INSERT AS FOLLOWS:

717.02 Materials

Materials shall be in accordance with the following:

Bituminous Mastic Pipe Joint Sealer Sealant	906.05 907.11
Concrete, Class A	702
Flowable Backfill	213
Grouted Riprap	904
Reinforcing Bars	910.01
Structure Backfill	904
Structural Plate Arches	908.09
Structural Plate Pipe and Pipe-Arches	908.09

Structural plate pipe and pipe-arches are part of the pipe classification system described in 715.02. The minimum material thickness and required protective treatments will be determined in accordance with 715.02.

SECTION 717, BEGIN LINE 126, DELETE AND INSERT AS FOLLOWS:

The paved inverts for these structures shall be reinforced with welded wire reinforcement and sealed with ~~bituminous mastic pipe joint sealer~~ sealant as shown on the plans. The concrete for paving the invert shall not be placed until such time as the backfilling and embankment procedures have been completed satisfactorily.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 718 - UNDERDRAINS

REVISION TO SECTION 718.02 MATERIALS

(Changes that are shown with the side bar line have been approved by the Standards Committee on January 21, 2010)

The Standard Specifications are revised as follows:

SECTION 718, BEGIN LINE 9, DELETE AND INSERT AS FOLLOWS:

718.02 Materials

Materials shall be in accordance with the following:

Coarse Aggregate, Class E or Higher, Size No. 8 or 9	904
Concrete, Class A.....	702
Geotextile for Underdrains.....	918.03
Reinforcing Bars	910.01
Sod, including Nursery Sod	621
Structure Backfill	904
Underdrain Pipe	715.02(d)
Underdrain Outlet Pipe	907.22, 907.24 *

* *all thermoplastic pipe shall be from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16.*

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 720 - MANHOLES, INLETS, AND CATCH BASINS

REVISION TO SECTION 720.02 MATERIALS

The Standard Specifications are revised as follows:

SECTION 720, BEGIN LINE 7, DELETE AND INSERT AS FOLLOWS:

720.02 Materials

Materials shall be in accordance with the following:

Castings	910.05
Clay or Shale Brick	905.01
Clay Pipe	907.08
Concrete	702
Concrete Brick	905.02
Concrete Masonry Blocks	905.03
Hydrated Lime	913.04
Joint Filler	906.01
Joint Mortar	901.08, 906.03, 907.12
Non-Reinforced Concrete Pipe	907.01
Precast Units.....	907.04
Reinforced Concrete Pipe	907.02
Reinforcing Bars	910.01
Water	913.01

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 906 - JOINT MATERIALS

REVISION TO 906.03 JOINT MORTAR

REVISION TO 906.04 RUBBER TYPE GASKETS

REVISION TO 906.05 BITUMINOUS MASTIC PIPE JOINT SEALER

REVISION TO 906.06 JOINT MEMBRANE SYSTEM FOR PRECAST REINFORCED
CONCRETE BOX SECTIONS

The Standard Specifications are revised as follows:

SECTION 906, BEGIN LINE 132, DELETE AND INSERT AS FOLLOWS:

906.03 Joint Mortar~~Blank~~

~~Pipe joint mortar shall consist of one part portland cement and two parts sand with water as necessary to obtain the required consistency. Mortar shall be used within 30 min after its preparation.~~

906.04 Rubber Type Gaskets~~Blank~~

~~Ring gaskets for pipe shall be in accordance with AASHTO M 315, Standard Gasket. Material furnished under this specification shall be covered by a type B certification in accordance with 916.~~

906.05 Bituminous Mastic Pipe Joint Sealer~~Blank~~

~~This is a cold applied, mineral filled, joint sealing compound for joints of bell and spigot or tongue and groove concrete or clay pipe. Joint sealing compound shall be in accordance with AASHTO M 198.~~

(a) General Requirements

~~This sealer shall be a smooth uniform mixture, not thickened or livered, and shall show no separation which cannot be overcome easily by stirring. The material shall be of such consistency and proportions that it can be applied readily with a trowel, putty knife, or caulking gun without pulling or drawing. It shall exhibit good adhesive and cohesive properties when applied to metal, concrete, or vitrified clay surfaces. It shall not be damaged by exposure to below freezing temperatures and shall be applicable when the temperature of the air is between 20°F and 100°F (-7°C and 38°C).~~

(b) Certification

~~Material furnished under this specification shall be covered by a type C certification in accordance with 916.~~

**906.06 Joint Membrane System for Precast Reinforced Concrete Box
Sections**~~Blank~~

~~The Contractor may elect to use an approved self-adhering membrane system in lieu of the detail shown on the plans.~~

~~Joint membrane systems shall be in accordance with the following requirements.~~

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 906 - JOINT MATERIALS

(CONTINUED)

REVISION TO 906.03 JOINT MORTAR

REVISION TO 906.04 RUBBER TYPE GASKETS

REVISION TO 906.05 BITUMINOUS MASTIC PIPE JOINT SEALER

REVISION TO 906.06 JOINT MEMBRANE SYSTEM FOR PRECAST REINFORCED
 CONCRETE BOX SECTIONS

PROPERTY	TEST METHOD	REQUIREMENTS
Thickness	ASTM D 3767 Procedure A	1.5 mm Min.
Tensile Strength	Grab Tensile Strength, ASTM D 4632	650 N Min.
Elongation	Grab Tensile Strength, ASTM D 4632	20% Min.
Bursting Strength	Mullen Burst, ASTM D 3786	2.0 MPa Min.
Peel Strength	ASTM D 903	850 N/m Min.
Permeance	ASTM E 96, Water Method	60 ng/m ² Pa Max.

The membrane system shall be supplied in roll widths of at least 12 in. (300 mm). The membrane shall be a composite sheet material composed of a non-woven fabric and a polymer membrane material. The membrane shall be protected by a release paper.

Material furnished under this specification shall be covered by a type B certification in accordance with 916.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
REVISION TO SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE
COMPONENTS

(Changes that are shown with the side bar line have been approved by the Standards Committee on January 21, 2010)

The Standard Specifications are revised as follows:

SECTION 907, BEGIN LINE 106, DELETE AND INSERT AS FOLLOWS:

907.07 ~~Blank~~ Joint Membrane System for Precast Reinforced Concrete Box Sections

The Contractor may elect to use an approved self-adhering membrane system in lieu of the detail shown on the plans.

Joint membrane systems shall be in accordance with the following requirements.

PROPERTY	TEST METHOD	REQUIREMENTS
<i>Thickness</i>	<i>ASTM D 3767 Procedure A</i>	<i>1.5 mm Min.</i>
<i>Tensile Strength</i>	<i>Grab Tensile Strength, ASTM D 4632</i>	<i>650 N Min.</i>
<i>Elongation</i>	<i>Grab Tensile Strength, ASTM D 4632</i>	<i>20% Min.</i>
<i>Bursting Strength</i>	<i>Mullen Burst, ASTM D 3786</i>	<i>2.0 MPa Min.</i>
<i>Peel Strength</i>	<i>ASTM D 903</i>	<i>850 N/m Min.</i>
<i>Permeance</i>	<i>ASTM E 96, Water Method</i>	<i>60 ng/m² Pa Max.</i>

The membrane system shall be supplied in roll widths of at least 12 in. (300 mm). The membrane shall be a composite sheet material composed of a non-woven fabric and a polymer membrane material. The membrane shall be protected by a release paper.

Material furnished under this specification shall be covered by a type B certification in accordance with 916. ~~The results of the tests listed in this section shall be shown on the type B certification.~~

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
REVISION TO SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE
COMPONENTS (CONTINUED)

SECTION 907, BEGIN LINE 120, DELETE AND INSERT AS FOLLOWS:

907.10 Blank Drain Tile

This pipe shall be in accordance with AASHTO M 178 (M 178M) for concrete or ASTM C 4 for clay for the specified material, diameters, and quality classes. Standard quality drain tile shall not be used. When specified, the pipe spigot shall have integral spacer lugs to provide for an annular opening and self centering feature. Material furnished under this specification shall be covered by a type C certification in accordance with 916.

907.11 Drain Tile Pipe Joint Sealant

This pipe shall be in accordance with AASHTO M 178 (M 178M) for concrete or ASTM C 4 for clay for the specified material, diameters, and quality classes. Standard quality drain tile shall not be used. When specified, the pipe spigot shall have integral spacer lugs to provide for an annular opening and self centering feature.

Material for sealing the joints of bell and spigot or tongue and groove concrete or clay pipe or culverts furnished under this specification shall not contain asbestos fibers, shall be covered by a type B certification in accordance with 916, and shall be in accordance with one of the following:

(a) Preformed Flexible Joint Sealants

Joint sealants shall be either bitumen or butyl rubber in accordance with ASTM C 990. The results of the following tests shall be shown on the type B certification.

<i>Property</i>	<i>Test Method</i>
<i>Hydrocarbon Blends</i>	<i>ASTM D 4 (bitumen) or D 297 (butyl)</i>
<i>Ash-Inert Mineral Matter</i>	<i>AASHTO T 111</i>
<i>Volatile Matter</i>	<i>ASTM D 6</i>
<i>Specific Gravity @ 77°F</i>	<i>ASTM D 71</i>
<i>Ductility @ 77°F</i>	<i>AASHTO T 51 or ASTM D 113</i>
<i>Flash Point</i>	<i>ASTM D 92</i>
<i>Fire Point</i>	<i>ASTM D 92</i>
<i>Softening Point</i>	<i>ASTM D 36</i>
<i>Compression Index@ 77°F & 32°F</i>	<i>ASTM C 972</i>
<i>Cone Penetration @ 77°F & 32°F, 150 g, 5 s, mm/10</i>	<i>ASTM D 217</i>
<i>Chemical Resistance</i>	<i>ASTM C 990</i>

(b) Bituminous Mastic Sealant

A cold applied, mineral filled, bituminous joint sealing compound that can be applied to the joints with a trowel when the air temperature is between 20° and 100° F (-7° and 38° C). The bituminous material shall adhere to the concrete or clay pipe so as to make a watertight seal and shall not flow, crack, or become brittle when exposed to the atmosphere.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
 REVISION TO SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE
 COMPONENTS (CONTINUED)

The mastic shall also be in accordance with the following. The results of the tests shall be shown on the type B certification.

Property	Minimum	Maximum
Grease cone penetration unworked, 77°F (25°C), 150 g, 5 sec., ASTM D 217, mm/10	125	275
Non-Volatile, 10 g., 220°-230°F (105°C-110°C), 24 hr	75%	
Loss on Heating, 325°F (163°C), 5 hr., 50 g		20%
Inorganic Content [complete burn, 1200° to 1400°F (645° to 760°C)]	15%	45%
Flash Point, ASTM D 92 or D 1310	100°F (38°C)	
Fire Point, ASTM D 92 or D 1310	150°F (66°C)	
High Temperature Resistance to Flow	No sag	
Cold Temperature Flexibility	No cracks	

The test for high temperature resistance to flow shall be as follows: trowel joint mastic approximately 1/2 in. (12.5 mm) thick on a porous concrete slab or piece of concrete block. Place in oven at 140°F (60°C) for 10 h.

The test for cold temperature flexibility shall be as follows: trowel joint mastic approximately 1/4 in. (6 mm) on heavy kraft paper or very light gage sheet metal. Condition in a freezer at 10°F (-12°C) for 3 h. Bend the sample over a 1 in. (25 mm) diameter pin or mandrel.

907.12 BlankJoint Mortar

Pipe joint mortar shall consist of one part portland cement and two parts sand with water as necessary to obtain the required consistency. Mortar shall be used within 30 min after its preparation.

907.13 BlankRubber Type Gaskets

Ring gaskets for pipe shall be in accordance with ASTM C 1619, class C. Material furnished under this specification shall be covered by a type B certification in accordance with 916. The results of the following tests shall be provided on the type B certification.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
 REVISION TO SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE
 COMPONENTS (CONTINUED)

<i>Property</i>	<i>Test Method</i>
<i>Tensile Strength and Elongation</i>	<i>ASTM D 412</i>
<i>Hardness</i>	<i>ASTM D 2240</i>
<i>Oven-age tensile reduction, of original</i>	<i>ASTM D 573 and D 412</i>
<i>Oven-age elongation reduction, of original</i>	<i>ASTM D 573 and D 412</i>
<i>Compression Set</i>	<i>ASTM D 395</i>
<i>Water Absorption</i>	<i>ASTM D 471</i>
<i>Ozone resistance</i>	<i>ASTM D 1149</i>
<i>Splice Strength Classification</i>	<i>ASTM D 2527</i>

907.14 Blank

907.15 Blank

907.16 ~~P~~Thermoplastic Pipe Manufacturer Requirements

A list of approved ~~P~~thermoplastic ~~P~~pipe and pipe liner, ~~Fittings, Solvent Cement, and Elastomeric Seals~~ will be maintained by the Department. The list will specify the manufacturer, ~~and thermoplastic pipe, solvent cement, or elastomeric seals~~ designation. All of these materials shall comply with the applicable AASHTO or ASTM requirements *listed in the following table* and will only be accepted from qualified manufacturers. ~~The maximum allowable nominal diameter of thermoplastic pipe provided in accordance with 907.19, 907.20, 907.21, 907.22, or 907.23 shall be 36 in. (900 mm) unless otherwise noted.~~ The manufacturer is defined as the plant which produces the *thermoplastic pipe, fittings, solvent cements, or elastomeric seals*. The manufacturer shall become qualified by establishing a history of satisfactory quality control of these materials as evidenced by the test results performed by the manufacturer's testing laboratory.

~~Manufacturers requesting to be qualified to supply plastic pipe, fittings, solvent cements, or elastomeric seals shall submit the following to the Materials and Tests Division:~~

- ~~(a) a quality control plan which encompasses all aspects of the production process starting with the raw materials and concluding with the shipment of the finished product. The quality control plan shall provide for a 95% or greater statistical assurance that the materials will be in accordance with the specifications, and include type and frequency of sampling and testing;~~
- ~~(b) documentation indicating that the manufacturer's testing laboratory is in accordance with the provisions of AASHTO R 18;~~
- ~~(c) a monthly summary of all test results for the previous 12 months production for each type of plastic pipe, fittings, solvent cements and elastomeric seals;~~

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
REVISION TO SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE
COMPONENTS (CONTINUED)

~~(d) a material safety data sheet for each material produced; and~~

~~(e) to maintain qualification, the manufacturer shall submit to the Materials and Tests Division a monthly summary of all tests for each type of pipe, pipe fittings, solvent cements, and elastomeric seals produced. If a specific type of pipe, pipe fitting, solvent cement, or elastomeric seals is not manufactured in a given month, the monthly submittal shall state: "No type _____ pipe, pipe fitting, solvent cement, or elastomeric seals was manufactured during the month of _____, 20__".~~

~~The manufacturer shall provide the type of certification specified in the Frequency Manual and in accordance with 916 which designates that hydrostatic design basis, HDB, rated resins or non HDB rated resins were used in the manufacture of the pipe and fittings.~~

<i>SUMMARY OF THERMOPLASTIC PIPE SPECIFICATION REQUIREMENTS</i>				
<i>Pipe Material</i>	<i>Standard Specifications</i>	<i>AASHTO</i>	<i>ASTM</i>	<i>Manufacturer Requirements</i>
<i>Corrugated Polyethylene Drainage Tubing</i>	<i>907.17</i>	<i>M 252</i>		<i>ITM 806, Procedure A</i>
<i>Perforated Polyvinyl Chloride Semicircular Pipe</i>	<i>907.18</i>		<i>D 3034</i>	<i>ITM 806, Procedure A</i>
<i>Corrugated Polyethylene Pipe</i>	<i>907.19</i>	<i>M 294</i>		<i>ITM 806, Procedure O</i>
<i>Ribbed Polyethylene Pipe</i>	<i>907.20</i>		<i>F 894</i>	<i>ITM 806, Procedure A</i>
<i>Smooth Wall Polyethylene Pipe</i>	<i>907.21</i>		<i>F 714</i>	<i>ITM 806, Procedure A</i>
<i>Profile Wall Polyvinyl Chloride Pipe</i>	<i>907.22</i>	<i>M 304</i>	<i>F 949</i>	<i>ITM 806, Procedure A</i>
<i>Smooth Wall Polyvinyl Chloride Pipe</i>	<i>907.23</i>	<i>M 278</i>	<i>F 679</i>	<i>ITM 806, Procedure A</i>
<i>Type PSM Polyvinyl Chloride Pipe and Fittings</i>	<i>907.24(a)</i>		<i>D 3034</i>	<i>ITM 806, Procedure A</i>
<i>Schedule 40 Polyvinyl Chloride Pipe</i>	<i>907.24(b)</i>		<i>D 1785</i>	<i>916, Type C Cert.</i>

907.17 Corrugated Polyethylene Drainage Tubing

Tubing and fittings shall be in accordance with AASHTO M 252. Perforations shall be required for tubing used as a longitudinal underdrain. Qualification requirements for the manufacturers shall be in accordance with ~~907.16~~ *ITM 806, Procedure A*.

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
REVISION TO SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE
COMPONENTS (CONTINUED)

SECTION 907, BEGIN LINE 195, DELETE AND INSERT AS FOLLOWS:

side. Qualification requirements for the manufacturers shall be in accordance with ~~907.16~~
ITM 806, Procedure A.

907.19 Corrugated Polyethylene Pipe

Pipe and fittings shall be in accordance with AASHTO M 294. ~~The compound used in manufacturing this pipe shall have a minimum cell class in accordance with 335420C as shown in ASTM D 3350.~~ Qualification requirements for the manufacturers shall be in accordance with ~~907.16~~ *ITM 806, Procedure O.*

907.20 Ribbed Polyethylene Pipe

Pipe and fittings shall be in accordance with ASTM F 894 ~~for the specified sizes.~~ Qualification requirements for the manufacturers shall be in accordance with ~~907.16~~ *ITM 806, Procedure A.*

907.21 Smooth Wall Polyethylene Pipe

Pipe shall be in accordance with ASTM F 714 for nominal diameters of 39 in. (1000 mm) or less. Fittings shall be in accordance with ASTM F 1055. The pipe sizes shall be in accordance with ISO sizing system. The pipe dimension ratio shall be 26 or less. ~~The compound used in manufacturing this type of pipe shall have a minimum cell class in accordance with 335434C as shown in ASTM D 3350.~~ Qualification requirements for the manufacturers shall be in accordance with ~~907.16~~ *ITM 806, Procedure A.*

907.22 Profile Wall Polyvinyl Chloride Pipe

Pipe and fittings shall be in accordance with AASHTO M 304 ~~or ASTM F 949 for nominal diameters of 36 in. (900 mm) or less.~~ Perforations shall be required when used as a longitudinal underdrain or end bent drain pipe. Qualification requirements for the manufacturers shall be in accordance with ~~907.16~~ *ITM 806, Procedure A.*

907.23 Smooth Wall Polyvinyl Chloride Pipe

Pipe and fittings shall be in accordance with AASHTO M 278 for pipe sizes 4 in. through 15 in. (100 mm through 375 mm), and ASTM F 679 for pipe sizes 18 in. through 27 in. (450 mm through 675 mm). ~~The compound used in manufacturing pipe shall have a minimum cell class in accordance with 12454C as shown in ASTM D 1784.~~ Qualification requirements for the manufacturers shall be in accordance with ~~907.16~~ *ITM 806, Procedure A.*

907.24 Smooth Wall Pipe for Outlets

Pipe and pipe fittings shall be smooth wall, non-perforated plastic pipe. Qualification requirements for the manufacturers shall be in accordance with ~~907.16~~ *ITM 806, Procedure A.*

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
REVISION TO SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE
COMPONENTS (CONTINUED)

(a) Type PSM Polyvinyl Chloride Pipe and Fittings

Pipe and fittings shall be in accordance with ASTM D 3034, SDR 23.5.

(b) Schedule 40 Polyvinyl Chloride Pipe

Pipe shall be in accordance with ASTM D 1785 and shall have a minimum pipe stiffness of 150 psi (1030 kPa) at 5% deflection when determined in accordance with ASTM D 2412. *Material furnished under this specification shall be covered by a Type C Certification in accordance with 916 and shall reference ASTM D 1785 in the product printline.*

SECTION 907, BEGIN LINE 251, DELETE AND INSERT AS FOLLOWS:

(a) Solid Wall HDPE Pipe Liner

Solid wall HDPE pipe liner shall be in accordance with ASTM F 714. The maximum standard dimension ratio, SDR, for the liner as defined in ASTM F 412 shall be 32.5. ~~The resin used in the fabrication of the liner shall have a minimum cell classification of 345464C as shown in ASTM D 3350.~~

A 12 in. (300 mm) section of the liner shall show no evidence of splitting, cracking, or breaking when compressed between parallel plates to 40% of its outside diameter within 2 to 5 min.

(b) Profile Wall HDPE Pipe Liner

Profile wall HDPE pipe liner shall be in accordance with ASTM F 894. The minimum liner ring stiffness constant, RSC, shall be 100. ~~The resin used in the fabrication of the liner shall have a minimum cell classification of 345434C as shown in ASTM D 3350.~~

(c) Profile Wall PVC Pipe Liner

Profile wall PVC pipe liner shall be in accordance with ASTM F 949, ~~with the exception that PVC material with a minimum cell classification of 12454B as shown in ASTM D 1784 is added to the list of acceptable PVC materials.~~

907.26 Solvent Cements for Polyvinyl Chloride Pipe and Pipe Fittings

Solvent cement for polyvinyl chloride pipe and fittings shall be in accordance with ASTM D 2564. ~~Qualification requirements for the manufacturers of this material shall be in accordance with 907.16~~ *Material furnished under this specification shall be covered by a Type C Certification in accordance with 916.*

907.27 Elastomeric Seals

Elastomeric seals for joining plastic pipe shall be in accordance with ASTM F 477. ~~Qualification requirements for the manufacturers of this material shall be in accordance with 907.16~~ *Material furnished under this specification shall be covered by a type B Certification in accordance with 916. The results of the following tests shall be provided on the type B certification.*

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
 REVISION TO SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE
 COMPONENTS (CONTINUED)

<i>Test</i>	<i>ASTM</i>
<i>Tensile Strength</i>	<i>D 412 or D 1414</i>
<i>Ultimate Elongation</i>	<i>D 412 or D 1414</i>
<i>100% Modulus</i>	<i>D 412 or D 1414</i>
<i>Hardness (Durometer)</i>	<i>D 2240 or D 1414</i>
<i>Low-Temperature Hardness</i>	<i>D 2240 or D 1414</i>
<i>Compression Set</i>	<i>D 395 Method B, or D 1414</i>
<i>Accelerated Aging</i>	<i>D 573</i>
<i>Water Immersion</i>	<i>D 471</i>
<i>Ozone Resistance</i>	<i>D 1149</i>
<i>Elastomer Compound Effect on Pipe</i>	<i>F 477</i>
<i>Force Decay (Stress Relaxation)</i>	<i>F 913</i>

907.28 Reinforced Thermosetting Resin Pipe and Pipe Fittings

Reinforced thermosetting resin pipe and accompanying fittings shall be in accordance with ASTM D 2996 for the specified sizes. The short-term rupture strength hoop tensile stress shall be a minimum of 30,000 psi (207 MPa). All pipes shall be pigmented resin throughout the wall thickness. The color of the pipe shall be gray. Painting, gel-coating, or exterior coating of the pipe to obtain the specified color shall not be done. Material furnished shall be covered by a type A certification in accordance with 916. The results of the following tests shall be provided on the type A certification.

<i>Test</i>	<i>ASTM</i>
<i>Wall Thickness & Diameter</i>	<i>D 3567</i>
<i>Short-Term Hydrostatic Failure Strength</i>	<i>D 1599</i>
<i>Longitudinal Tensile Properties</i>	<i>D 2105 or D 638</i>
<i>Stiffness Factor</i>	<i>D 2412, based on 5% deflection</i>

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 908 - METAL PIPE

REVISION TO SECTION 908.14 SLOTTED DRAIN OR SLOTTED VANE DRAIN PIPE

The Standard Specifications are revised as follows:

SECTION 908, BEGIN LINE 216, DELETE AND INSERT AS FOLLOWS:

Slotted vane drain pipe shall be *smooth wall* polyvinyl chloride in accordance with 907.23 ~~from the Department's list of approved thermoplastic pipe and pipe liner in accordance with 907.16~~, and shall be of the diameter specified. The casting shall be in accordance with 910.05(b). The finish shall be standard black asphalt emulsion. Individual units shall have a minimum weight (mass) of 155 lb (70 kg).

APPROVED MINUTES

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

SECTION 910 - METAL MATERIALS

REVISION TO SECTION 910.07 STEEL DRAIN PIPE

The Standard Specifications are revised as follows:

SECTION 910, BEGIN LINE 459, DELETE AND INSERT AS FOLLOWS:

910.07 Steel Drain Pipe Blank

~~Steel drain pipe may be welded or seamless, black or galvanized, and shall be in accordance with ASTM A 53 except as follows:~~

Chemical	Furnace Butt Welded	Seamless or Electric Resistance Welded
Carbon, % Max.	0.20	0.20
Manganese, % Max.	1.00	1.06
Phosphorous, % Max.	0.08	0.05
Sulphur, % Max.	0.05	0.05
Copper, %	0.75-1.25	0.75-1.25
Nickel, %	1.60-2.20	1.60-2.20
Tensile Strength, min. psi (MPa)	55,000 (379)	65,000 (448)
Yield Point, Min., psi (MPa)	40,000 (276)	46,000 (317)

~~The minimum elongation for furnace butt welded pipe shall be 30% in 2 in. (50 mm) for seamless pipe, in accordance with ASTM A 53, grade A, and for electric resistance welded pipe, in accordance with ASTM A 53, grade B. Material furnished under this specification shall be covered by a type C certification in accordance with 916.~~

Item No. 02 03/18/10 (2010 SS) (contd.)
Mr. Walker
Date: 03/18/10

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

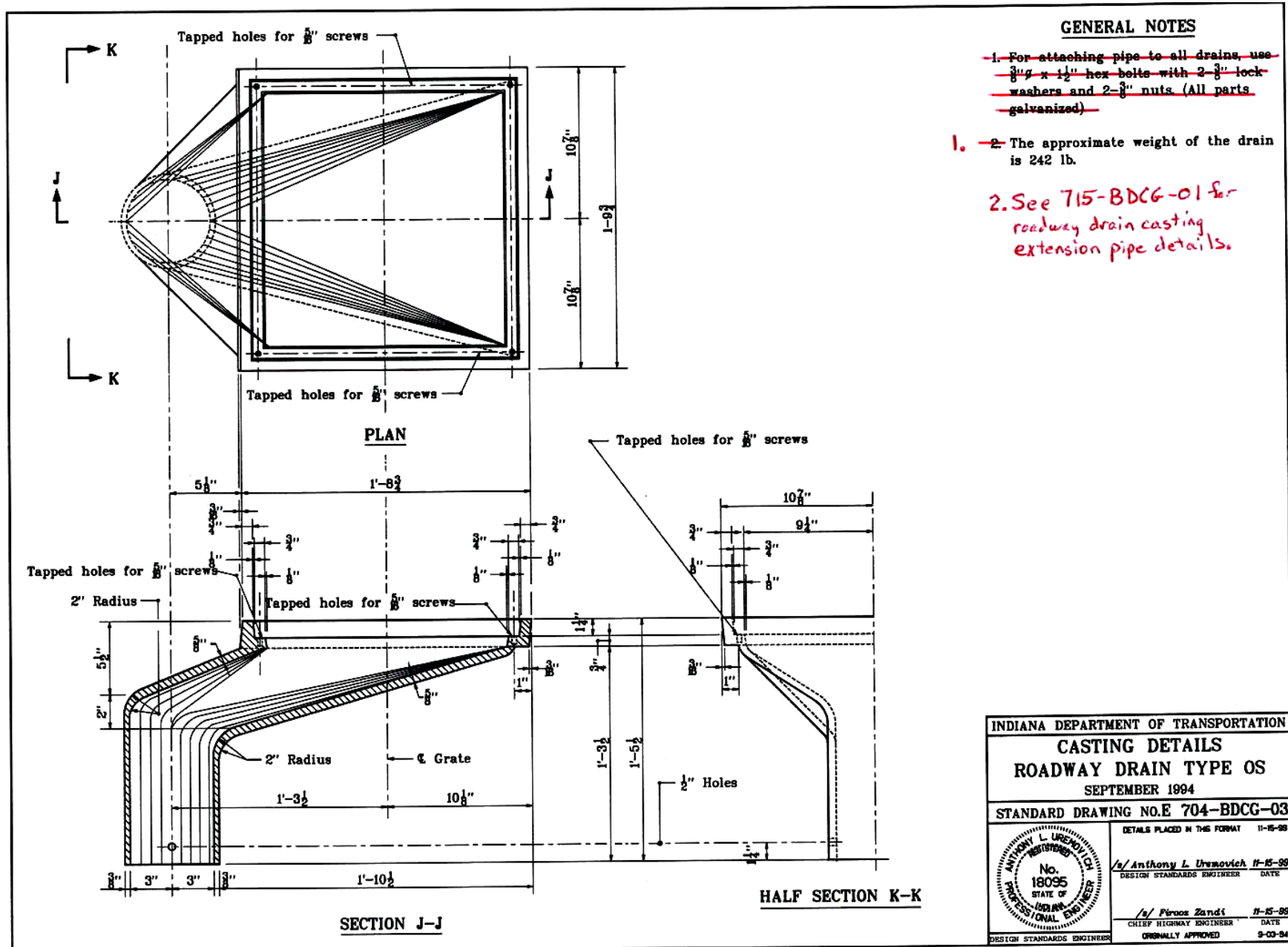
SECTION 910 - METAL MATERIALS

REVISION TO SECTION 910.07 STEEL DRAIN PIPE

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APPROVED MINUTES

REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS
 REVISION TO E 704-BDCG-03 CASTING DETAILS ROADWAY DRAIN TYPE OS

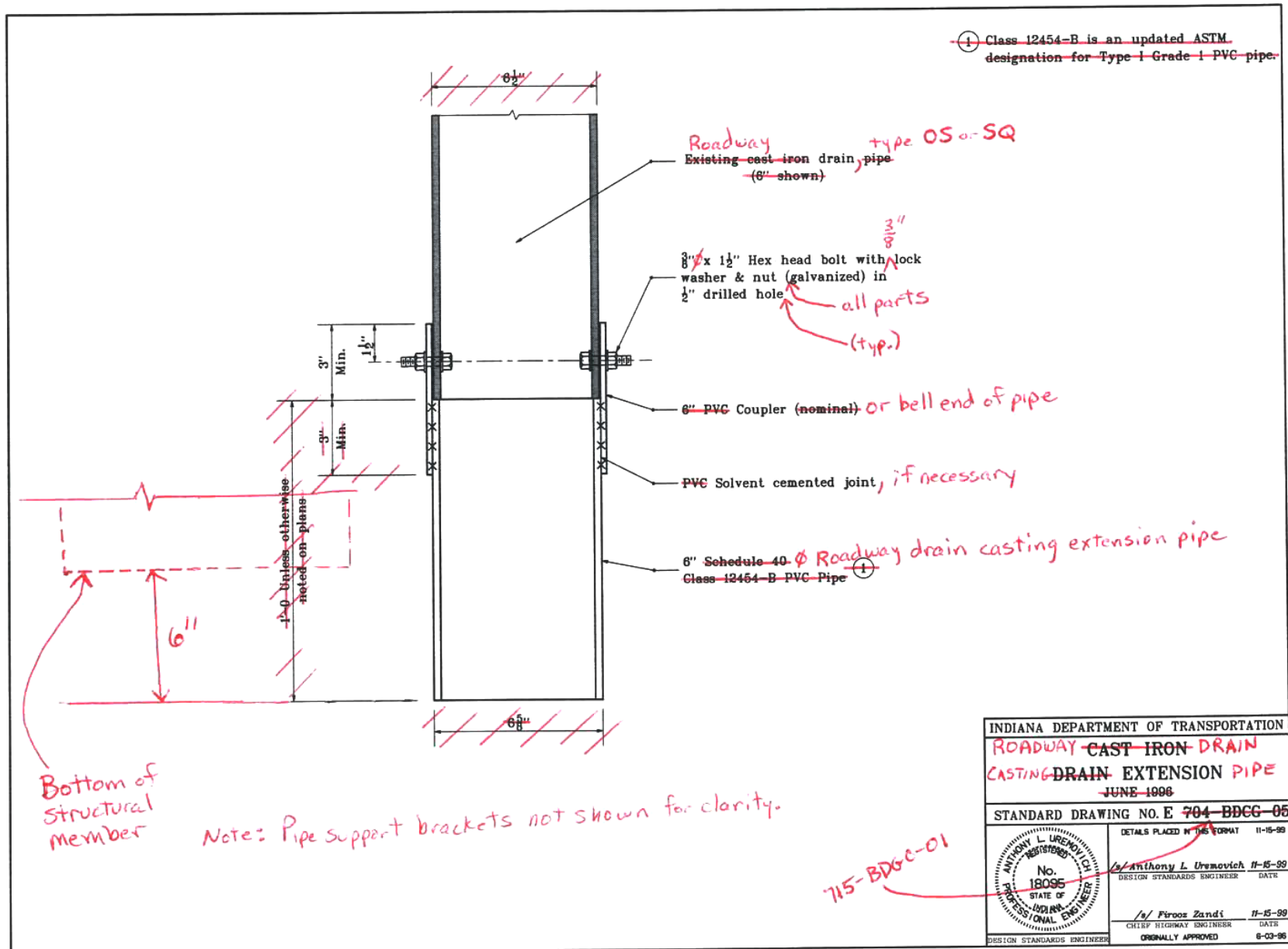


REVISION TO E 704-BDCG-04 CASTING DETAILS ROADWAY DRAIN TYPE SQ



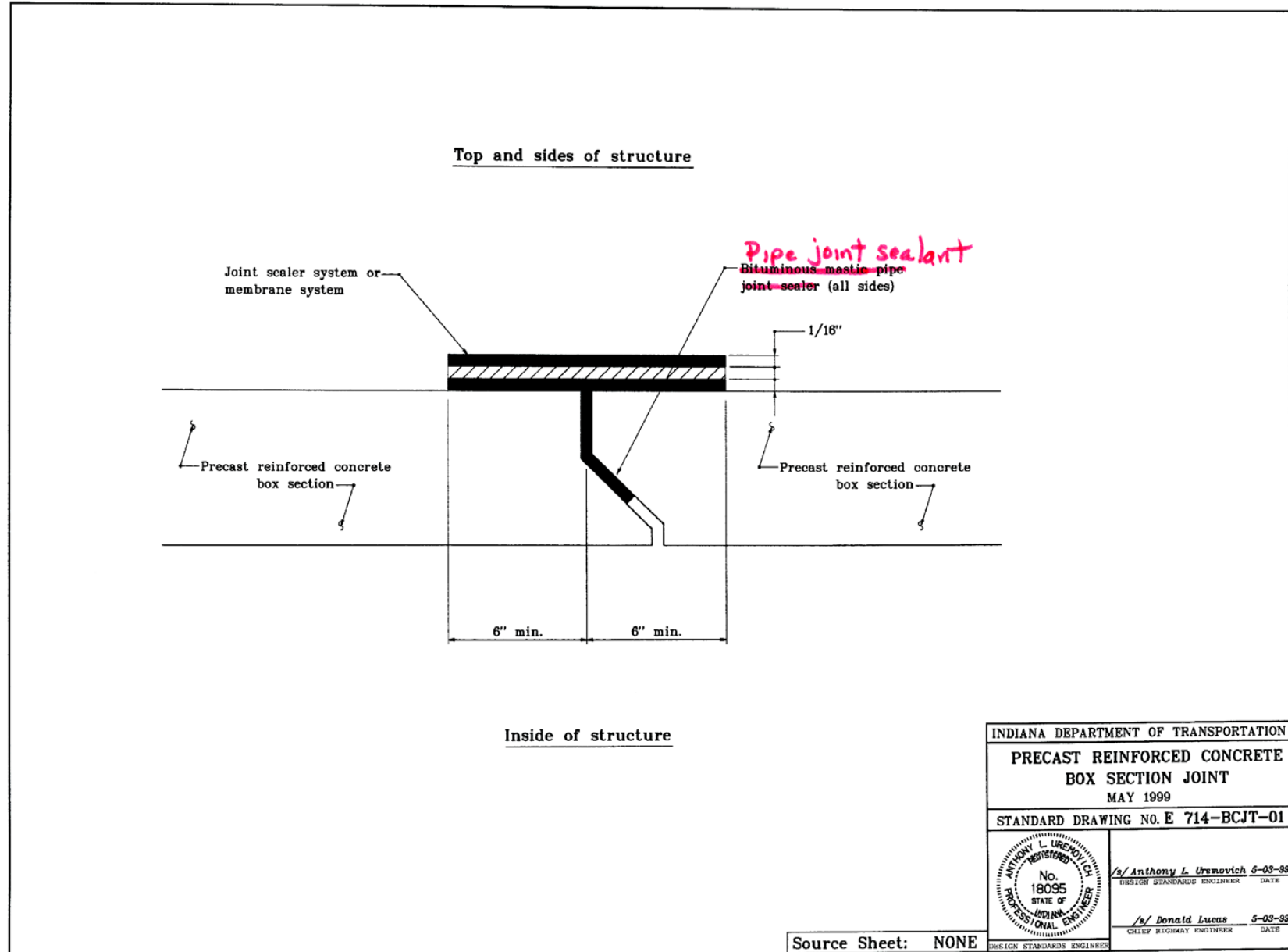
REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

PROPOSED NEW DRAWING E 715-BDGC-01 ROADWAY DRAIN CASTING PIPE (AS A REPLACEMENT TO AN EXISTING DRAWING E 704-DDCC-05 CAST IRON DRAIN EXTENSION)



REVISION TO THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

REVISION TO E 714-BCJT-01 PRECAST REINFORCED CONCRETE BOX SECTION JOINT



COMMENTS AND ACTION

REVISIONS TO VARIOUS SECTIONS OF STANDARD SPECIFICATIONS AND STANDARD DRAWINGS:

605.02, 619.14, 619.17, 619.18, 702.03, 702.27, 702.28, 704.02, 704.07, 704.08, 705.05, 714.02, 714.08, 715.02, 715.05, 715.09, 715.13, 715.14, 716.02, 717.02, 717.07, 718.02, 720.02, 906.03, 906.04, 906.05, 906.06, 907.07, 907.10, 907.11, 907.12, 907.13, 907.16 THRU 907.28, 908.14, 910.07;
E704-BDCG-03, E704-BDCG-04, E 704-BDCG-05, E 714-BCJT-01.

DISCUSSIONS: Mr. Reilman presented the need for the changes and how they relate to the changes that were approved in the January 2010 meeting. The January meeting contained items that were urgently needed for a RSP and the changes presented here are changes that can wait until the next spec book is printed. Many of the changes are just for organizational purposes, such as moving joint sealant out of structural concrete into the section of the spec book that deals with concrete pipe.

Mr. Miller asked why there was a need for all the calculations on bronze plates when we use weight to pay for cast iron items. There seems to be a great deal of effort for the results. It was pointed out that the plates were probably in the bearings and they were not used very often anymore. The decision was made to leave the calculations alone for now.

Mr. Reilman then explained that the pipe joint sealant was changed because preformed or "trowelable" options were possible as well as butyl. Mr. Miller then has some editorial comments.

Mr. Reilman then presented the addition of scour protection to 715.12.1. He then asked that that become part of a RSP with similar scour protection in 714 and 723. This was to complete a request that was requested in October 2009. Mr. Miller had questions on the type of certification being requested. IT was decided to keep the type B certification and remove the last sentence of 907.07. A question was asked about what was meant by "standard quality drain tile", and if it need to be revised. It was explained that there are 2 classes of drain tile, extra strength and standard. The decision was made to leave the wording as proposed.

Mr. Reilman next explained that INDOT approved a pipe for use, but has not been able to include it in the specifications book. 907.28 was created to address this pipe. Lastly 910.07 was removed because the requirements in the table appear to be from the 1950's and there is no pipe today that can meet the requirements.

Mr. Keefer had a question about steel drain pipe and if it was being completely removed from the book with this proposal. It was explained that since this item was mostly for weep holes and that PVC pipe could do the same thing, it had been moved to the item pipe, drainage through concrete masonry.

Mr. Andrews had a question about the scour protection being in 715.12.1. He did not feel that it was a subsection of 715.12, and would be better as 715.04.1. It was explained that the numbering system was not meant to be a subsection, but rather an addition. However, it was felt that it too closely resembled a subsection and moving to 715.04 was considered.

Mr. Pankow noted that he did not feel comfortable calling this proposed 715 work the same thing as the 723 scour protection. An alternate name was suggested, but the decision was made to eliminate the scour protection from this proposal so that it could be discussed further.

Mr. Miller noted that in 907.16, the maximum diameter was listed as 36 inches. He felt this more of a design issue and did not need to be in the book. Mr. Hoy also pointed out that the software program would exclude this type of pipe if was determined that a pipe larger than 36 in. was required. The decision was made to remove the statement about pipe diameter.

COMMENTS AND ACTION

(CONTINUED)

REVISIONS TO VARIOUS SECTIONS OF STANDARD SPECIFICATIONS AND STANDARD DRAWINGS:

605.02, 619.14, 619.17, 619.18, 702.03, 702.27, 702.28, 704.02, 704.07, 704.08, 705.05, 714.02, 714.08, 715.02, 715.05, 715.09, 715.13, 715.14, 716.02, 717.02, 717.07, 718.02, 720.02, 906.03, 906.04, 906.05, 906.06, 907.07, 907.10, 907.11, 907.12, 907.13, 907.16 THRU 907.28, 908.14, 910.07;
E704-BDCG-03, E704-BDCG-04, E 704-BDCG-05, E 714-BCJT-01.

Mr. Reilman then presented the revisions to the standard drawings. There was some concern about stay-in-place metal deck forms, but it was decided that there is generally no stay-in-place forms on the overhangs, and if there were to be, there could be cut-outs for the drain. Mr. Uremovich asked if the drawings should be in the 704 or 715 sections. The answer was that roadway drain drawings would remain in the 704 section while the drain extension would move to 715. Mr. Uremovich also asked what the deadline was for standard drawings to be ready for the September update. The answer was that it would have to be on a case-by-case basis. Revisions that do not change or add pay items are not as involved as new drawings and a design memo can always be issued.

Motion: Mr. Walker Second: Mr. Keefer Ayes: 9 Nays: 0	Action: ☐ Passed as Submitted ☒ Passed as Revised ☐ Withdrawn
Standard Specifications Sections affected:	☒ 2012 Standard Specifications Book
All affected sections are listed as proposed revisions.	☐ Create RSP (No.) Effective Letting
Recurring Special Provision affected:	RSP Sunset Date:
211-R-570 620-R-483 725-R-541 730-B-157 734-R-566 720-M-021	☐ Revise RSP (No.) Effective Letting RSP Sunset Date:
Standard Sheets affected:	Standard Drawing Effective <u>Sep. 01, 2011</u>
E 704-BDCG-03; E 704-BDCG-04; E 704-BDCG-05; E 714-BCJT-01.	☐ Create RPD (No.) Effective Letting ☐ Technical Advisory
Design Manual Sections affected:	GIFE Update Req'd.? Y ☐ N ☐
33-2.04(01) and Figure 33-2B	By Addition or Revision
GIFE Sections cross-references:	Frequency Manual Update Req'd? Y ☐ N ☐
Section 4	By Addition or Revision
	Received FHWA Approval? ☒

SPECIFICATION REVISIONS
REVISION TO THE STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: FHWA has concerns about our current Buy America Requirement spec

PROPOSED SOLUTION: Add wording to sections 106.01(c), 916.02(g), and 916.03(a) to include cast iron.

APPLICABLE STANDARD SPECIFICATIONS: 106.01 (c), 916.02(g), 916.03(a)

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

Submitted By: Greg Pankow

Title: State Construction Engineer

Organization: Indiana Department of Transportation, Construction Division

Phone Number: 317-232-5502

Date: 1/22/2010

APPLICABLE SUB-COMMITTEE ENDORSEMENT? none

REVISION TO THE STANDARD SPECIFICATIONS

REVISION TO SECTION 106.02(c) BUY AMERICA REQUIREMENT

REVISION TO SECTION 916.02(g) BUY AMERICA REQUIREMENT

REVISION TO SECTION 916.03(a) FOR BUY AMERICA REQUIREMENT

The Standard Specifications are revised as follows:

SECTION 106, BEGIN LINE 82, INSERT AS FOLLOWS:

(c) Buy America Requirement

All contracts, whether financed entirely or partially with State or Federal funds, shall comply with IC 5-16-8 and the 23CFR 635.410.

Except for pig iron and processed, pelletized, and reduced iron ore, steel shall be made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer, or other steel making process. Except for pig iron and processed, pelletized, and reduced iron ore, all steel *and cast iron* materials and products permanently incorporated in the contract shall be manufactured in the United States. Manufactured products include those which are rolled, formed, shaped, drawn extruded, forged, cast, or fabricated. The United States includes all territories, continental and insular, subject to the jurisdiction of the United States of America.

Except for pig iron and processed, pelletized, and reduced iron ore, no steel *or cast iron* products produced in the United States may be modified in a foreign country and still comply with the Buy America Requirement.

A Buy America Certification shall be submitted in accordance with 916.02(g) and 916.03(a).

SECTION 916, BEGIN LINE 68, INSERT AS FOLLOWS:

(g) Buy America Requirement

All steel *and cast iron materials and* products used in the contract shall be certified to be in accordance with 106.01(c).

916.03 Sample Forms

(a) For Buy America Requirement

BUY AMERICA CERTIFICATION

In accordance with Indiana Department of Transportation Specification 106.01(c), I hereby certify that all steel *and cast iron materials and* products incorporated in Contract No. _____ were produced and manufactured in the United States of America or territories subject to its jurisdiction.

COMMENTS AND ACTION

REVISION TO SECTION 106.02(c) BUY AMERICA REQUIREMENT
REVISION TO SECTION 916.02(g) BUY AMERICA REQUIREMENT
REVISION TO SECTION 916.03(a) FOR BUY AMERICA REQUIREMENT

DISCUSSIONS: Mr. Pankow stated that FHWA was concerned about the wording of our Buy America specification and how it did not call out cast iron. Mr. Keefer felt that this was already covered based on the wording in the existing specification. Mr. Miller agreed, but stated this will eliminate all doubt and will satisfy FHWA's request.

Motion: Mr. Pankow Second: Mr. Keefer Ayes: 9 Nays: 0	Action: ☒ Passed as Submitted ☐ Passed as Revised ☐ Withdrawn
Standard Specifications Sections affected: 106.02(C) BUY AMERICA REQUIREMENT 916.02(g) BUY AMERICA REQUIREMENT 916.03(a) FOR BUY AMERICA REQUIREMENT Recurring Special Provision affected: NONE Standard Sheets affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	☒ 2012 Standard Specifications Book ☒ Create RSP (No. 106-C-126 BUY AMERICA REQUIREMENT) Effective May 01, 2010 Letting RSP Sunset Date: Sept. 01, 2011 ☐ Revise RSP (No. _____) Effective _____ Letting RSP Sunset Date: _____ ☐ Standard Drawing Effective _____ ☐ Create RPD (No. _____) ☐ Effective _____ Letting ☐ Technical Advisory GIFE Update Req'd.? Y ☐ N ☐ By _____ Addition or _____ Revision Frequency Manual Update Req'd? Y ☐ N ☐ By _____ Addition or _____ Revision Received FHWA Approval? ☒

SPECIFICATION REVISIONS

REVISION TO THE STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The following items require revisions to sections 207, 215, and 914:

1. Subgrade General Requirements (207.03) - The design transverse limits of the Subgrade Treatment has been revised as a cost savings measure and this specification revision will make section 207 consistent with the design revision.
2. Subgrade Treatments (207.04) - When chemicals are mixed in a 16 in. lift, the bottom 2 inches are disturbed and weakened and compaction is not obtained in these 2 inches. This revision to reduce the lift to 14 inches of chemical modified soil will assure uniform compaction throughout the lift of soil. Also, Type IB was added to require chemical soil modification.
3. Chemical Modification of Soils (215) - Several revisions are being proposed to this section as follows:
 - a) Cement Kiln Dust is being added as an alternate material to lime, flyash and cement.
 - b) A separate section was added to define the materials that will not be allowed in the subgrade when chemical modification of the soil is done.
 - c) The Office of Engineering will be responsible for approval of the recommendation from the geotechnical consultant.
 - d) The compaction requirements of the chemically modified soil were revised to include requirements on the moisture content, compaction when using CKD, and the use of the Dynamic Cone Penetrometer (DCP) for acceptance testing of compaction of the chemically modified soil.
4. Special Topsoil for Roadside Development (914.01) - The current procedure specified for determination of the topsoil pH value is no longer available and should be replaced with AASHTO T 289. Also, the addition of agriculture limestone is required to be determined by a laboratory approved by the Office of Geotechnical Engineering.

PROPOSED SOLUTION: The following revisions are recommended to be authorized and made effective by a Recurring Special Provision.

1. Remove the requirements for placing chemically modified soil 2 ft outside the edge of the shoulders
2. Reduce the lift depth of soil modification from 16 in. to 14 in. and add Type IB to require chemical soil modification
3. Allow Cement Kiln Dust to be used for soil chemical modification
4. Define the materials that will not be allowed for soil chemical modification
5. Designate the Office of Geotechnical Engineering to approve the geotechnical consultant recommendations for soil chemical modification

SPECIFICATION REVISIONS

REVISION TO THE STANDARD SPECIFICATIONS

6. Require the DCP to be used for acceptance testing of the compaction of chemically modified soils
7. Revise the test procedure used to determine the pH of Special Topsoil
8. Require that the laboratory used to determine the addition of agriculture limestone in Special Topsoil be approved by the Office of Geotechnical Engineering.

APPLICABLE STANDARD SPECIFICATIONS: 207, 215, and 914

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: 3

APPLICABLE RECURRING SPECIAL PROVISIONS: None

Submitted By: Ron Walker

Title: Manager, Office of Materials Management

Organization: INDOT

Phone Number: 317-610-7251x204

Date: February 26, 2010

APPLICABLE SUB-COMMITTEE ENDORSEMENT?

Revisions recommended by the Office of Geotechnical Engineering

REVISION TO THE STANDARD SPECIFICATIONS

REVISION TO SECTION 207.03 GENERAL REQUIREMENTS

REVISION TO SECTION 207.04 SUBGRADE TREATMENTS

The Standard Specifications are revised as follows:

SECTION 207, BEGIN LINE 26, DELETE AS FOLLOWS:

207.03 General Requirements

The subgrade shall be constructed uniformly transversely across the width of the pavement including ~~2 ft (0.6 m) outside the edge of~~ shoulders or curbs unless shown otherwise on the plans, by one of the following methods:

SECTION 207, BEGIN LINE 82, DELETE AND INSERT AS FOLLOWS:

Type I. ~~16~~ 14 in., (~~400~~ 350 mm) chemical soil modification, 12 in. (300 mm) of the subgrade, excavated and replaced with coarse aggregate No. 53, or by 24 in. (600 mm) of soil compacted to density and moisture requirements.

Type IA. ~~16~~ 14 in. (~~400~~ 350 mm) chemical soil modification or 12 in. (300 mm) of the subgrade excavated and replaced with coarse aggregate No. 53.

Type IB. 14 in. (350 mm) chemical soil modification

REVISION TO THE STANDARD SPECIFICATIONS

REVISION TO SECTION 215 – CHEMICAL MODIFICATION OF SOILS

The Standard Specifications are revised as follows:

SECTION 215, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

SECTION 215 – CHEMICAL MODIFICATION OF SOILS

215.01 Description

This work shall consist of the modification of soils by uniformly mixing ~~dry~~ portland cement, fly ash, lime, *cement kiln dust (CKD)* or a combination of the materials with soil to aid in achieving the workability of soils having excessive moisture content.

MATERIALS

215.02 Materials

Materials shall be in accordance with the following:

Fly Ash	901.02
Lime	913.04(b)
Portland Cement, Type I	901.01(b)
Water	913.01

An approved CKD may be used.

Soils containing greater than 6% by dry weight calcium, magnesium carbonate or organic material, or having a maximum dry density of less than 95 pcf (1520 kg/m³), or with a soluble sulfate content greater than 1000 ppm will not be permitted in the subgrade. The density shall be determined in accordance with AASHTO T 99, the loss on ignition shall be determined in accordance with AASHTO T 267, and the sulfate content shall be determined in accordance with AASHTO T 289.

SECTION 215, BEGIN LINE 34, DELETE AND INSERT AS FOLLOWS:

If hydrated lime, quick lime, or cement are used, test results *and the geotechnical consultant recommendations, and a type A certification for the chemical modifiers, except for cement,* shall be submitted to the Engineer prior to use. If fly ash, lime, lime by-products, *cement by-products* or any combination of chemical modifiers are used, *the test results; and the geotechnical consultant recommendations, and type A certifications for the chemical modifiers* shall be submitted to the Engineer and to the ~~Engineer and to the Materials and Test Division Office of Geotechnical Engineering~~ for approval at least five business days prior to use. Cement, fly ash, and lime, ~~if used~~, shall be from the Department's list of approved ~~Cement~~ Sources.

An approved CKD may be substituted for cement, fly ash and lime. The Contactor shall be responsible for the tests to determine the optimum CKD content and any other construction considerations. These tests shall be performed and approved by the Office of Geotechnical Engineering prior to use.

REVISION TO THE STANDARD SPECIFICATIONS

REVISION TO SECTION 215 – CHEMICAL MODIFICATION OF SOILS (CONTINUED)

The quantity of chemical modifier may be adjusted for different soil types. However, the source or type of chemical modifier shall not be changed during the progress of the work without approval. A change in source or type shall require a new mix design.

SECTION 215, BEGIN LINE 62, DELETE AND INSERT AS FOLLOWS:

215.08 Mixing

The chemical modifier, soil, and water when necessary, shall be thoroughly mixed by rotary speed mixers or a disc harrow. The mixing shall continue until a homogenous layer of the required thickness has been obtained. One hundred percent of the material, exclusive of rock particles, shall pass a 1 in. (25 mm) sieve and at least 60% shall pass a No. 4 (4.75 mm) sieve. The mixing depth shall be ~~4~~14 in. (~~400~~ 350 mm).

Compactive efforts shall be in accordance with 203 or 207.03 as applicable.

215.09 Compaction

The moisture content of the mixture shall be at the optimum moisture or above the optimum moisture content as determined by the mix design in accordance with 215.03. Moisture content will be determined in accordance with ITM 506. Aeration or drying by further mixing, or the addition of water and further mixing, may be done to obtain the required moisture content.

Compaction of the mixture shall begin as soon as practicable after mixing. Compaction after mixing shall be as follows:

- (a) For cement modified soils, mixing shall be completed within 30 min of cement placement and compaction shall be completed within 3 h after mixing.
- (b) Fly ash or CKD modified soils shall be compacted within 4 h.
- (c) Lime modified soils shall be compacted within 24 h.

Compactive efforts shall be in accordance with 203 or 207.03 as applicable.

~~Maximum dry densities will be determined in accordance with AASHTO T 272 at the same time and location as each in-place density test is performed when in-place densities do not meet AASHTO T 99. The field in-place dry density will be determined in accordance with AASHTO T 191 or AASHTO T 310.~~

~~The moisture content of the mixture shall be between the optimum moisture and the optimum moisture plus 2.0%. Aeration or drying by further mixing, or the addition of water and further mixing, may be required to obtain the optimum moisture content.~~

REVISION TO THE STANDARD SPECIFICATIONS

REVISION TO SECTION 215 – CHEMICAL MODIFICATION OF SOILS (CONTINUED)

Acceptance testing for compaction of chemically modified soils will be performed on the finished grade with a Dynamic Cone Penetrometer (DCP) in accordance with ASTM D 6951. The chemically modified soil lift shall meet the following requirements for compaction:

- (a) A minimum DCP blow count of 17 for the top 6 in. (150 mm) of a 14 in. (350 mm) lift*
- (b) A minimum DCP blow count of 16 for the bottom 8 in. (200 mm) of a 14 in. (350 mm) lift*
- (c) A minimum DCP blow count of 20 for an 8 in. (200 mm) lift*
- (d) A minimum of 1 passing test for each 1500 lft (450 m) of chemically modified soil for each two-lane pavement*

Construction traffic or equipment shall not be on the treated soils within 72 h after compaction.

SECTION 215, BEGIN LINE 215, DELETE AND INSERT AS FOLLOWS:

215. 11 Basis of Payment

The accepted quantity of chemically modified soils will be paid for by the square yard (square meter), complete in place. All excavation required to modify the soils below the specified depth will be paid for in accordance with 203.28.

Adjustment of materials for chemical modification that exceeds the limits of 215.03 will be included in a change order for materials only and paid for as chemical modifier adjustments. If mix design test results show that ~~hydrated lime, quicklime, lime by-products, or fly ash~~ are is not appropriate and moisture density compaction can not be achieved, a price adjustment will be made for the use of cement. The price adjustment will be calculated at a cost equal to the difference in the invoice cost of the cement and the invoice cost of the hydrated lime. This adjustment will be included in a change order and will be paid for as chemical modifier adjustments. Payment for chemical modifier adjustments will be made for direct material costs incurred by the Contractor and shall not include any other markups. *There is no price adjustment for the use of CKD.*

REVISION TO THE STANDARD SPECIFICATIONS

~~REVISION TO SECTION 914.01 SPECIAL TOPSOIL FOR ROADSIDE DEVELOPMENT
(SEE COMMENTS AND ACTION)~~

~~The Standard Specifications are revised as follows:~~

~~SECTION 914, BEGIN LINE 11, DELETE AS FOLLOWS:~~

~~Topsoil shall have a pH value of 6.2 to 7.4. Testing for pH value shall be performed in the field in accordance with AASHTO T 289 the procedure set out in the Purdue University Agricultural Experiment Station Bulletin No. 635 or in a qualified laboratory in accordance with the procedure set out in the Cornell Experiment Station Bulletin 960, using a one to one Soil Water Suspension. Agricultural limestone may be added to topsoil in order to raise the pH to meet specification requirements. The addition of agriculture limestone shall be determined based on tests performed by a laboratory approved by the Office of Geotechnical Engineering. Topsoil shall not be incorporated into the work until it is approved.~~

COMMENTS AND ACTION

REVISION TO SECTION 207.03 GENERAL REQUIREMENTS
 REVISION TO SECTION 207.04 SUBGRADE TREATMENTS
 REVISION TO SECTION 215 - CHEMICAL MODIFICATION OF SOILS
~~REVISION TO SECTION 914.01 SPECIAL TOPSOIL FOR ROADSIDE DEVELOPMENT~~

DISCUSSIONS: Mr. Walker stated that the Geotechnical section received some comments from industry and was withdrawing this item. A comment was made that the note about extending 2 ft outside the edge of shoulder should not be in the book in the first place as it is design related. Mr. Hoy asked what would happen if the limits were not shown on the plans. Mr. Andrews stated that it should be noted in the geotechnical report and in the pavement design. Mr. Hoy stated that more guidance was needed in the design manual then.

Mr. Walker then addressed the issue of the change in the chemical modification depth from 16 in. to 14 in. A JTRP study showed that even with the reduction in depth, 14 in. of soil was compacted as opposed to 14 in. of 16 in. The next issue was the cement kiln dust, CKD. It is meant to be an alternate to the different lime products. Mr. Miller had a concern with the paragraph detailing the soil composition. Mr. Berebitsky asked if this would pertain in a fill area. Mr. Walker stated that is a concern.

The next item was the use of DCP for density. Mr. Walker stated this came directly from the DCP RSP.

Next was the price adjustment for CKD and if the cost should be delivered cost or invoice cost. Mr. Pankow stated that it should be quoted cost because an invoice would not be in hand at that time. Also, the differentiation between the different lime products should probably just be covered by "lime", and delivery cost should be considered.

The final portion dealt with topsoil and the committee was in agreement that it could be pulled out of this proposal and treated as a separate item as it dealt with a completely different topic.

Motion:	Action:
Second:	☐ Passed as Submitted
Ayes:	☐ Passed as Revised
Nays:	☒ Withdrawn
Standard Specifications Sections affected:	☐ 20__ Standard Specifications Book
Sections: 207; 215 and 914	☐ Create RSP (No.____) Effective ____ Letting RSP Sunset Date: ____
Recurring Special Provision affected:	☐ Revise RSP (No.____) Effective ____ Letting RSP Sunset Date: ____
215-R-543 DYNAMIC CONE PENETROMETER TEST FOR COMPACTION OF CHEMICALLY MODIFIED SOILS	☐ Standard Drawing Effective ____ ☐ Create RPD (No.____) Effective ____ Letting ☐ Technical Advisory
Standard Sheets affected:	
NONE	
Design Manual Sections affected:	GIFE Update Req'd.? Y ____ N ____ By ____ Addition or ____ Revision
NONE	
GIFE Sections cross-references:	Frequency Manual Update Req'd? Y ____ N ____ By ____ Addition or ____ Revision
Section 3	Received FHWA Approval? ____

REVISION TO THE STANDARD SPECIFICATIONS

REVISION TO SECTION 914.01 SPECIAL TOPSOIL FOR ROADSIDE DEVELOPMENT

The Standard Specifications are revised as follows:

SECTION 914, BEGIN LINE 11, DELETE AS FOLLOWS:

Topsoil shall have a pH value of 6.2 to 7.4. Testing for pH value shall be performed ~~in the field in accordance with AASHTO T 289 the procedure set out in the Purdue University Agricultural Experiment Station Bulletin No. 635 or in a qualified laboratory in accordance with the procedure set out in the Cornell Experiment Station Bulletin 960, using a one to one Soil Water Suspension.~~ Agricultural limestone may be added to topsoil in order to raise the pH to meet specification requirements. *The addition of agriculture limestone shall be determined based on tests performed by a laboratory approved by the Office of Geotechnical Engineering.* Topsoil shall not be incorporated into the work until it is approved.

COMMENTS AND ACTION

REVISION TO SECTION 914.01 SPECIAL TOPSOIL FOR ROADSIDE DEVELOPMENT

DISCUSSIONS: Mr. Walker stated that the Purdue test method no longer exists, and there is now an AASHTO test method that was created since this specification was created.

Motion: Mr. Walker Second: Mr. Pankow Ayes: 9 Nays: 0	Action: ☒ Passed as Submitted ☐ Passed as Revised ☐ Withdrawn
Standard Specifications Sections affected: Sections: 914	☒ 2012 Standard Specifications Book ☒ Create RSP (No. _____) Effective Sep. 01, 2010 Letting RSP Sunset Date: _____
Recurring Special Provision affected: NONE	☐ Revise RSP (No. _____) Effective _____ Letting RSP Sunset Date: _____
Standard Sheets affected: NONE	Standard Drawing Effective _____ ☐ Create RPD (No. _____) Effective _____ Letting ☐ Technical Advisory
Design Manual Sections affected: NONE	GIFE Update Req'd.? Y ___ N ___ By _____ Addition or _____ Revision
GIFE Sections cross-references: NONE	Frequency Manual Update Req'd? Y ___ N ___ By _____ Addition or _____ Revision Received FHWA Approval? ☒

PROVISION REVISIONS
REVISION TO THE RECURRING SPECIAL PROVISION

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: There are some occasions when restriking the pile is not required. These occasions are project or even bridge specific and are decided by INDOT Geotech.

PROPOSED SOLUTION: The current RSP, 701-B-132, provides a fill-in blank for the minimum number of hours the contractor must wait prior to restriking the pile. For the occasions when restriking is not required, a sentence is proposed to be added to the RSP to identify that restriking is not required.

APPLICABLE STANDARD SPECIFICATIONS: None

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: 701-B-132

Submitted By: Greg Pankow

Title: State Construction Engineer

Organization: INDOT

Phone Number: 232-5502

Date: 3/1/10

APPLICABLE SUB-COMMITTEE ENDORSEMENT?

Item No. 05 03/18/10 (2010 SS)
Mr. Pankow
Date: 03/18/10

REVISION TO THE RECURRING SPECIAL PROVISION
PROPOSED REVISION TO THE 701-B-132 PILE DRIVING

701-B-132 PILE DRIVING

(Revised 03-18-10)

The method for driving the piles will be by the formula specified in ____.

The pile and driving equipment form to be submitted by the Contractor is available on the Department's website.

The Contractor shall allow a minimum of ____ hours prior to restriking the pile.
If the minimum number of hours shown is 0, restrike is not required.

APPROVED MINUTES

COMMENTS AND ACTION

PROPOSED REVISION TO THE 701-B-132 PILE DRIVING

DISCUSSIONS: Mr. Pankow explained that there are times when restriking of piles is not required and rather than creating additional boxes on the form, it was felt that addressing this in the RSP was a better alternative.

Motion: Mr. Pankow Second: Mr. Keefer Ayes: 9 Nays: 0	Action: ☒ Passed as Submitted ☐ Passed as Revised ☐ Withdrawn
Standard Specifications Sections affected: 701.05(b)3	☐ 20__ Standard Specifications Book ☐ Create RSP (No.____) Effective ____ Letting RSP Sunset Date: ____
Recurring Special Provision affected: 701-B-132 PILE DRIVING	☒ Revise RSP (No. 701-B-132) Effective May 01, 2010 Letting RSP Sunset Date: ____
Standard Sheets affected: NONE	☐ Standard Drawing Effective ____ ☐ Create RPD (No.____) Effective ____ Letting ☐ Technical Advisory
Design Manual Sections affected: NONE	GIFE Update Req'd.? Y ____ N ____ By ____ Addition or ____ Revision
GIFE Sections cross-references: Section 5.7	Frequency Manual Update Req'd? Y ____ N ____ By ____ Addition or ____ Revision Received FHWA Approval? ____