

**ERRATA SHEET FOR STANDARD SPECIFICATION BOOK FOR STATE
ROAD AND BRIDGE CONSTRUCTION, EDITION 2015**

**SECTION 101
DEFINITIONS AND TERMS**

Page 100-4, subsection 101.3. Add the following:

ELECTRONIC DESIGN FILES - One or more of the following files that KDOT furnishes to the Contractor in electronic form:

- Base file (plan view of entire project length);
- Cross Section Stack files (vertical layout of cross sections);
- Existing Ground Survey (existing ground contours in three-dimensions);
- Cross Section Sheet Files (final cross section sheets)
- Vertical Alignment description files
- Existing & Proposed Horizontal Alignment description files
- Cross Section Report files
- Superelevation description files
- Existing and Proposed Three-Dimensional Surfaces
- Three-Dimensional Line String File

These files are not considered Contract Documents or Exploratory Work Documents.

Page 100-6, subsection 101.3. Delete the definition for PART V, and replace with the following:

Part V (2016 version) of the KDOT Construction Manual which primarily refers to materials and tests for materials used in the project. Part V (2016 version) is a Contract Document.

**SECTION 102
BIDDING REQUIREMENTS AND CONDITIONS**

Page 100-9, subsection 102.2b. Delete subsections 102.2b. E., G. and H. and replace with the following:

- E. Bridge Repair: Bridge Repair, Area Prepared for Patching, Multi-Layer Polymer Overlay, Slurry Polymer Concrete Overlay, Polymer Overlay Repair, Bridge Expansion Devices.
- G. Retaining Wall Systems: MBW and MSEW Precast Panels.
- H. Retaining Walls: Cast-in-place and Landscape Retaining Wall Systems (less than 6 feet high).

Add subsection 102.2b.Z.:

- Z. Stabilized Subgrades and Base Courses: Less than 20,000 SQYD. Subgrade Modification, Lime Treated Subgrade, Cement or Fly Ash Treated Subgrade, Crushed Stone Subgrade, Aggregate Base, Cement Treated Base, Granular Base.

**SECTION 155
ASPHALT SURFACING AND ASPHALT RECYCLING EQUIPMENT**

Page 150-14, delete subsection 155.6b.(2)(b) and replace with the following:

(b) Reclaimed Asphalt Pavement (RAP) Material Conveyor. If the plant is used for recycling, a dual weighing system is required to control delivery of virgin aggregate and RAP material to the drum. Equip the system with interlocking mechanisms that shall accurately deliver virgin aggregates and RAP material in proper proportions. Belt scales for the RAP material shall comply with **subsection 155.6b.(2)**.

**SECTION 501
 PORTLAND CEMENT CONCRETE PAVEMENT**

Page 500-4, subsection 501.3, delete third line and replace with the following:

Reinforcing SteelDIV 1600/SEC 711

**SECTION 502
 PORTLAND CEMENT CONCRETE PAVEMENT**

Page 500-23, subsection 502.3, delete third line and replace with the following:

Reinforcing SteelDIV 1600/SEC 711

**SECTION 601
 ASPHALT APPLICATION TEMPERATURES**

Page 600-1, subsection 601.1, delete TABLE 601-1 and replace with the following:

TABLE 601-1: ASPHALT APPLICATION TEMPERATURES				
TYPE AND GRADE	TEMPERATURE RANGE (°F)			
	Spraying		Plant Mixing	
	Min.	Max.	Min.	Max.
Asphalt Binder	275	340	*	*
Cutback Asphalt, MC 30	88	125	88	125
Cutback Asphalt, MC & RC 70 & 250	125	200	125	200
Cutback Asphalt, MC & RC 800 & 3000	150	250	150	250
Asphalt Rejuvenating Agent, ARA	70	150	70	150
Emulsified Asphalt, CRS-1H, RS-1H, SS-1HP, CMS-1, MS-1, HFMS-1, RS-1HP, CRS-1HP	100	180	100	180
Emulsified Asphalt, SS-1H, CSS-1H	None	150	None	150
Emulsified Asphalt, CSS-1HM, CSS-Special	None	120	None	120
EBL	120	180	NA	NA

* Use the Producer's recommended mixing temperature range.

**SECTION 605
 SURFACE RECYCLED ASPHALT CONSTRUCTION**

Page 600-43, delete subsection 605.3e.(2) and replace with the following:

(2) Operation Number 2. Use an asphalt paver equipped with automatic grade control to spread and finish the amount specified of the new asphalt surface material. **SECTIONS 601 and 602** apply. If a HMA overlay is included in the contract, place the HMA and surface recycle concurrently without remixing or blending the two.

**SECTION 608
 CHIP SEALS**

Page 600-50, subsection 608.3e., delete the first paragraph and replace with the following:

Immediately following the application of the asphalt material, spread cover material with a self-propelled aggregate spreader in quantities designated in the Contract Documents. Operate the aggregate spreader and haul trucks delivering material to the spreader at a speed less than or equal to 5 miles per hour. The tires of the trucks or aggregate spreaders shall not come in contact with the fresh asphalt material at any time.

Page 600-50, subsection 608.3f., delete TABLE 608-1 and replace with the following:

TABLE 608-1: RATES OF APPLICATION FOR CHIP SEAL				
Type	Composition	Aggregate Cu. Yd./Mile 24 foot width*	Asphalt Material Gal/Sq. Yd. Residue*	Asphalt Type**
CM-A	Sand-Gravel	105	0.20	CRS-1H/CRS-1HP
CM-B	Sand-Gravel	135	0.23	CRS-1H/CRS-1HP
CM-D	Crushed Sandstone	145	0.27	CRS-1H/CRS-1HP or RS-1H/RS-1HP
CM-K	Limestone	140	0.24	RS-1H/RS-1HP
CM-L-1	Lightweight	85	0.17	CRS-1H/CRS-1HP
CM-L-2	Lightweight	115	0.26	CRS-1H/CRS-1HP
CM-L-3	Lightweight	150	0.30	CRS-1H/CRS-1HP

*Rates shown are estimated and will be adjusted to comply with actual field conditions.

** The required asphalt type will be listed in the contract. Asphalt type may be changed with approval of the DME.

SECTION 615 SAW AND SEAL JOINTS (HMA OVERLAY)

Page 600-92, subsection 615.3b., delete the third paragraph and replace with the following:

Configure the joints according to FIGURE 615-1 or 615-2 within 1 inch horizontally above the existing joint.

SECTION 703 DRILLED SHAFTS

Page 700-6, subsection 703.2f. delete reference to "1900" and replace with "1600".

Page 700-11, subsection 703.3f., delete from Method C to end of 703.3f. and replace with the following:

Method C (Figure 3): Use a tremie tube, with a sealed gate separating ground water and concrete, to place concrete in the shaft. Fully charge the tremie tube and hopper, then raise the tremie tube by 1 tremie diameter and seal the discharge end of the tremie tube with the fresh concrete.

(3) For both Dry and Wet Pours. When the concrete reaches the top of the shaft, continue placing concrete (over-pump) to expel any excess water, debris or unsound concrete. If the casing extends above the planned shaft elevation the excess material must be expelled by providing an outlet in the casing above the planned elevation if the shaft. Do not bail the excess material out of the shaft. On all wet pours, regardless of the method used, the Engineer will make a set of cylinders (in addition to normal concrete cylinder sampling requirements) from the top of the shaft after completing over-pumping. This set of cylinders will be used to verify a compressive strength of 1800 psi before proceeding with subsequent substructure (i.e. columns, abutments, etc.) construction.

Prior to constructing the portion of the substructure that attaches to the drilled shaft, thoroughly clean the top of the drilled shaft to facilitate the bond at the cold joint.

SECTION 704 PILING

Page 700-20, subsection 704.4e.(1), delete the 6th bullet and replace with the following:

- Restrike for 20 blows or until the pile penetrates an additional 4 inches, whichever comes first. Record the penetration for every 5 blows. In the event the pile movement is less than ½ inch during the restrike, the restrike may be terminated after 10 blows.

Page 700-20, subsection 704.4e.(2), delete the last bullet and replace with the following:

- The Test Pile is then immediately restruck with the warmed-up hammer for 20 blows or until the pile penetrates an additional 4 inches, whichever comes first. Record the penetration for every 5 blows. In the event the pile movement is less than ½ inch during the restrike, the restrike may be terminated after 10 blows.

**SECTION 722
SIGN STRUCTURES AND BRIDGE MOUNTED SIGN ATTACHMENTS**

Page 700-100, subsection 722.3c.(2), replace "bolt" with "rod" throughout. Also, delete the last sentence.

Page 700-101, subsections 722.3c.(4) and (5), replace "hardened washer" with "hardened, plate washer" throughout. Replace "tower washer" with "plate washer" throughout.

Page 700-101, delete subsection 722.3d.

**SECTION 731
AREA PREPARED FOR PATCHING
(EXISTING CONCRETE BRIDGE DECKS)**

Page 700-119, delete subsection 731.3d. and replace with the following:

d. Bridge Decks That Receive a Multi-Layer, Single-Layer or Slurry Polymer Concrete Overlay.

(1) Polymer concrete materials may be used for patching of the concrete bridge deck.

For shallow patches, 3 inches maximum depth, polymer concrete overlay resin and FA-C aggregate, **TABLE 1102-6**, may be used.

For deep patches, greater than 3 inches polymer concrete overlay resin with an approved MA-3 or MA-4 aggregate, **TABLE 1102-3**, may be used.

The slurry polymer concrete system may be used for shallow patching and where a bar is considered bonded by the Engineer, even if less than ½ the bar depth is embedded in concrete (**subsection 731.3a.(2)(a)**).

Mix and cure all patching according to manufacturer/supplier's recommendations.

(2) A Rapid Set Concrete Patching Material, compatible with the overlay may be used for patching the concrete bridge deck.

(3) Strike off patches to a level approximately ¼ inch below the top of the original concrete deck.

**SECTION 735
PRECAST REINFORCED CONCRETE BOX**

Page 700-125, subsection 735.1, in the DESIGN subsection delete "For fill height less than or equal to 3 feet..." and associated 4 bullets.

**SECTION 802
CONTRACTOR CONSTRUCTION STAKING**

Page 800-2, subsection 802.1, add the following bid item:

Sign (Environmental Mitigation)	Each
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Page 800-2, add subsection 802.2g.:

g. Environmental Mitigation Area Signs. Other miscellaneous materials for the Environmental Mitigation area signs, detailed in the Contract Documents.

- Aluminum sign blanks, **DIVISION 1600**;
- Galvanized U-Posts, 2 lb./ft, **SECTION 1622**;
- Commercially available galvanized 2-inch x 5/16-inch bolts, with 2 flat washers, 1 lock washer and 1 nut per bolt; and

- Other miscellaneous materials for Environmental Mitigation Area Signs detailed in the Contract Documents.

Page 800-7, add subsection 802.3h.

h. Sign (Environmental Mitigation). Install environmental mitigation area signs (including posts) as shown in the Contract Documents.

Page 800-7, add the following to subsection 802.4:

The Engineer will measure each environmental mitigation sign (including post) as a unit.

Payment for "Sign (Environmental Mitigation)" at the contract unit prices is full compensation for the specified work.

SECTION 805 WORK ZONE TRAFFIC CONTROL AND SAFETY

Page 800-21, subsection 805.3k., TABLE 805-4, delete row D ≤ 2 inches and replace with the following:

D ≤ 2 inches	Shoulder Drop-Off signs (W8-17 and W8-17P) are optional, not required.
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Page 800-23, subsection 805.4d., delete last paragraph and replace with the following:

No payment will be made for each per day traffic control devices while the Contractor is assessed liquidated damages for failure to comply with winter shutdown period or project completion date in other Project Special Provisions included in the Contract Documents. No payment will be made for any additional traffic control devices required due to the contract being in liquidated damages.

SECTION 806 DURABLE PAVEMENT MARKINGS

Page 800-26, subsection 806.3a.(10), delete the first paragraph and replace with the following:

(10) Acceptance of Pavement Marking. The Engineer will not examine pavement marking for final acceptance until the pavement markings complete a 180 calendar day observation period. The Contractor is responsible for the pavement marking during this period. The 180 calendar day observation period begins the day following the completion and acceptance of retroreflectivity readings. Providing all other work on the contract is complete, the Engineer will not assess working day charges during the 180 calendar day observation period.

SECTION 808 REMOVAL OF EXISTING PAVEMENT MARKINGS

Page 800-32, delete subsection 808.3a. and replace with the following:

a. Removal of Existing Stripes and Symbols. Completely remove the existing pavement markings and symbols without damaging the asphalt or concrete pavement surface or longitudinal and transverse joints. Waterblasting will be allowed for removal of markings on asphalt and concrete surfaces on a performance basis.

As the work progresses, remove all material deposited on the pavement as a result of the removal operations. Continuously remove all residue and dust, especially in areas near the traveling public.

When replacement of the removed existing markings is a part of the Contract Documents, follow the manufacturer's requirements for the new pavement markings as to the method of removal of the existing markings, or surface preparation requirements.

SECTION 809 CONCRETE SAFETY BARRIER

Page 800-34, subsection 809.4, and the following to the end of the first paragraph:

The gaps between the precast concrete safety barriers will not be included in the measurement for payment.

**SECTION 810
INERTIAL BARRIER SYSTEM**

Page 800-35, delete subsection 810.1 and replace with the following:

810.1 DESCRIPTION

Install and relocate inertial barrier systems (IBS) as shown in the Contract Documents. Stockpile the replacement modules at the project site.

<u>BID ITEMS</u>	<u>UNITS</u>
Inertial Barrier System (*)	Each
Replacement Modules (IBS) *Type TL-2 or TL-3	Each

Page 800-35, subsection 810.4, delete last paragraph and replace with the following:

Payment for "Inertial Barrier System" and "Replacement Modules (IBS)" at the contract unit prices is full compensation for the specified work.

**SECTION 811
IMPACT ATTENUATOR**

Page 800-36, subsection 811.1, delete the bid items and replace with the following:

<u>BID ITEMS</u>	<u>UNITS</u>
Impact Attenuator (*) *Type (TL-2, TL-3 or Severe Duty)	Each
Impact Attenuator (Temporary) (**) Replacement Modules (Impact Attenuator) **Type (TL-2 or TL-3)	Each Each

Page 800-37, subsection 811.4, delete the last paragraph and replace with the following:

Payment for "Impact Attenuator (Temporary)" and "Replacement Modules (Impact Attenuator)" at the contract unit price is full compensation for the specified work.

**SECTION 813
RUMBLE STRIPS (MILLED)**

Page 800-43, subsection 813.1, delete bid item Rumble Strips (Milled) (*) (Edgeline).

Page 800-43, delete subsection 813.3d.

Page 800-43, subsection 813.4, delete third paragraph.

Page 800-43, subsection 813.4, fifth paragraph, delete "Rumble Strips (Milled) (*) (Edgeline)".

**SECTION 814
ELECTRIC LIGHTING SYSTEM AND TRAFFIC SIGNALS**

Page 800-44, subsection 814.1, add the following Bid Item.

<u>BID ITEMS</u>	<u>UNITS</u>
Flashing Beacon System	Lump Sum

Page 800-47, subsection 814.3 add the following:

q. Flashing Beacon System. Install flashing beacon systems as shown in the Contract Documents.

Page 800-47, add the following to subsection 814.4:

The Engineer will measure flashing beacon system by the lump sum.
The Payment for "Flashing Beacon System" at the contract unit price is full compensation for the specified.

**SECTION 822
UNDERDRAINS**

Page 800-63, delete subsection 822.2 and replace with the following:

822.2 MATERIALS

Provide materials that comply with the applicable requirements.

Concrete and Grout	SECTIONS 401 & 402
Aggregates for Concrete Not On Grade	SECTION 1102
Aggregates for Blanket Underdrains and Backfill.....	DIVISION 1100

Underdrain Pipe

**Type
Designation**

F	Perforated Corrugated Metal Pipe	DIVISION 1900
H	Polyvinyl Chloride Pipe	DIVISION 1900
T	Polyethylene Pipe*	DIVISION 1900

Underdrain Outlet Pipe

G	Corrugated Metal Pipe	DIVISION 1900
K	Polyvinyl Chloride Pipe	DIVISION 1900

*Only to be used in locations under pavement and with a minimum 3-foot depth.

**SECTION 827
GUARDRAIL AND GUIDEPOSTS**

Page 800-76, subsection 827.3c. delete reference "subsection 827.3f." and replace with "subsection 827.3g." |

**SECTION 828
FENCING**

Page 800-80, delete subsection 828.3p. and replace with the following:

p. Erection of Single Wire Cable Fence. Construct single wire cable fence as shown in the Contract Documents. Set all required posts as shown in the Contract Documents by driving or drilling and backfilling. Use metal posts.

Page 800-80, delete the second paragraph and replace with the following:

The Engineer will measure single wire cable fence by the linear foot. Line posts are subsidiary to single wire cable fence.

**SECTION 838
GRINDING REHAB CONCRETE PAVEMENT**

Page 800-100, delete subsection 838.3c.(5) and replace with the following:

(5) The Engineer may perform profilograph testing on the surface for monitoring and comparison purposes. The Engineer may test the entire project length if determined the Contractor's test results are inaccurate. If the Engineer performs profilograph testing on the project and determines the Contractor's results are inaccurate, the Contractor will be charged \$500.00 per mile per trace (minimum charge is \$1000.00).

**SECTION 843
FLOWABLE FILL**

Page 800-107, subsection 843.2, in TABLE 843-1 change the third column from "1500 psi" to "1500 psi (min)"

**SECTION 855
SOLID INTERLOCKING PAVING UNITS (PAVING BRICKS)**

Page 800-129, subsection 855.2, delete "DIVISION 300" and replace with "DIVISION 1300".

**SECTION 860
BASEDRAINS**

Page 800-136, delete subsection 860.2 and replace with the following;

860.2 MATERIALS

Provide materials that comply with the applicable requirements.

Concrete and Grout	SECTIONS 401 & 402
Aggregates for Concrete Not On Grade	SECTION 1102
Aggregates for Backfill	DIVISION 1100

Basedrain Pipe

Type Designation		
F	Perforated Corrugated Metal Pipe	DIVISION 1900
H	Polyvinyl Chloride Pipe	DIVISION 1900
T	Polyethylene Pipe*	DIVISION 1900

**SECTION 902
TEMPORARY EROSION AND SEDIMENT CONTROL**

Page 900-7, subsection 902.1, delete the bid item "Mulching (Temporary)" and replace with "Mulching".

Page 900-10, subsection 902.4, delete the tenth paragraph and replace with the following:
The Engineer will measure mulching by the ton.

**SECTION 905
MULCHING**

Page 900-15, subsection 905.1, delete the bid item "Mulching (Permanent) (Set Price)" and replace with "Mulching".

Page 900-16, subsection 905.4a., delete the second paragraph and replace with the following:

The Engineer will measure mulching by the ton.

Page 900-16, delete subsection 905.4b, and replace with the following:

b. Payment. Payment for "Mulching Tacking Slurry", "Mulching (Hydro)" "Mulching (Hydro BFM)" and "Mulching" at the contract unit prices is full compensation for the specified work.

When the quantity of "Mulching Tacking Slurry" overruns or underruns the contract quantity by any amount, the contract unit price shall govern.

**SECTION 1103
 AGGREGATES FOR HOT MIX ASPHALT (HMA)**

Page 1100-11, subsection 1103.1 delete first paragraph and replace with the following:

This specification covers the quality, composition and gradation requirements of aggregates for hot mix asphalt (HMA).

**SECTION 1106
 AGGREGATES FOR GRANULAR BASE**

Page 1100-19, subsection 1106.2c.(1). In TABLE 1106-1 for the No. 8 sieve, change "70" to "80".

**SECTION 1107
 AGGREGATES FOR BACKFILL**

Page 1100-22, delete subsection 1107.2b.(3)(b) and replace with the following:

(b) Coefficient of Uniformity, F*. For steel reinforcing strips and tie strip systems (Reinforced Earth) and SINEstrips and Connectors (Sine Wall), use a maximum F* at a depth of 0 feet = 3.5 for course aggregate, 2.8 for fine aggregate (based on pullout tests) with a Coefficient of Uniformity greater than or equal to 4. For all fill types, $F^* = \tan \Phi$ below 20 feet. For select granular backfills consisting of fine aggregate with Coefficients of Uniformity below 4, F* will either be calculated to be equal to $F^* = 1.2 + \log C_u < 2.0$ at a depth of 0 feet or pullout tests may be conducted by the University of Kansas, Civil Engineering Department, Geotechnical Section. (Contact: Dr. Jie Han @ 785-864-3714 or Dr. Bob Parsons @ 785-864-2946.)

Page 1100-23, subsection 1107.2c., delete TABLE 1107-5 and replace with the following:

TABLE 1107-5: ELECTROCHEMICAL REQUIREMENTS (Block)		
	Requirements	Test Method
(Mesa)	pH > 3.0	AASHTO T 289
(Anchor **)	pH: 3.0 to 9.0	AASHTO T 289
	Organic Content < 1%	AASHTO T 267

** = Landmark or Vertica

**SECTION 1108
 AGGREGATES FOR COVER MATERIAL**

Page 1100-25, subsection 1108.2c.(2). In TABLE 1108-1 for Minimum Gradation Factor, change "4.00" to "3.90".

**SECTION 1114
STONE FOR RIPRAP, DITCH LINING AND OTHER MISCELLANEOUS USES**

Page 1100-37, delete subsection 1114.2f.(3) and replace with the following:

(3) Product Control.

- Deleterious Substances. Provide stone for shot rock that is free from injurious quantities of clay and soapstone.
- Size. Shot rock shall be quarry run with no more than 10 percent larger than 7 feet in circumference measured in any direction and not more than 10 percent passing the 1 inch sieve as determined by visual inspection. The maximum size of the shot rock will be limited by the thickness of the rock to be placed, as shown on the Contract Documents.

**SECTION 1203
EMULSIFIED ASPHALT**

Page 1200-7, delete TABLE 1203-1 and replace with the following:

TABLE 1203-1: SPECIFICATIONS FOR ANIONIC EMULSIFIED ASPHALT								
	RS-1H/ RS-1HP		SS-1H		MS-1		SS-1HP	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Viscosity, Saybolt Furol								
At 77°F, sec.	----	----	10	100	----	----	10	75
At 122°F, sec.	75	300	----	----	100	400	----	----
Residue by Distillation, (% by Mass).....	65	----	57	----	65	----	57	----
Oil Distillate, (% by Volume) . .	----	----	----	----	----	8	----	----
Storage Stability, % ¹	----	1	----	1	----	1	----	----
Demulsibility:								
35 ml of 0.02 N CaCl ₂ , % . .	60	----	----	----	----	----	----	----
50 ml of 0.1 N CaCl ₂ , % . .	----	----	----	----	75	----	----	----
Sieve Test, % Retained.	----	0.50	----	0.50	----	0.50	----	0.1
Tests on Distillation Residue:								
Penetration, 77°F, 100g, 5 sec.	75	150	75	125	300	----	75	150
Solubility, %	97.5 ³	----	97.5	----	97.5	----	----	----
Ductility, 77°F, mm.	800	----	800	----	----	----	----	----
Ductility, 39°F, mm	----	----	----	----	----	----	100	350
Elastic Recovery @ 50°F, 20 cm elongation, %	60 ²	----	----	----	----	----	25	----

¹ If the Contractor's storage tanks are equipped with a mechanical propeller type agitation device, and the entire contents of the tank are thoroughly mixed before each day's use, the requirement for satisfactory compliance with the storage stability test will be waived.

² RS-1HP only

³RS-1H only

Page 1200-8, delete TABLE 1203-2 and replace with the following:

TABLE 1203-2: SPECIFICATIONS FOR CATIONIC EMULSIFIED ASPHALT								
	CRS-1H/ CRS-1HP		CSS-1H/ CSS-1HM		CMS-1		CSS-Special	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Viscosity, Saybolt-Furol:								
At 77°F, sec.	-----	-----	10	60	-----	-----	----	----
At 122°F, sec.	75	300	-----	-----	100	400	----	----
Residue by Distillation, (% by Mass).....	65	-----	57	-----	65	-----	64.0 ¹	66.0 ¹
Oil Distillate, (% by Volume).	-----	3	-----	-----	-----	8	----	0.5
Storage Stability, %	-----	1	-----	1	-----	1	----	----
Sieve Test, % Retained.	-----	0.50	-----	0.50	-----	0.50	----	0.1
Tests on Distillation Residue:								
Penetration, 77°F, 100g, 5 sec	75	150	50	100	300	-----	-25% ²	+25% ²
Solubility, %	97.5 ⁴	-----	97.5	-----	97.5	-----	----	----
Ductility, 77°F, mm.	800	-----	800	-----	-----	-----	----	----
Viscosity, Saybolt-Furol, 180°F, sec.	-----	-----	-----	-----	300	700	----	----
Elastic Recovery @50°F, 20 cm elongation, %	60 ³	----	----	----	----	----	----	----

¹ Use modified AASHTO T 59 procedure – distillation temperature of 350°F with a 20 minute hold.
² Penetration will be determined by the producer and submitted to the Chief Chemist at the time of prequalification.
³ CRS-1HP only
⁴ CRS-1H/CSS-1H only

**SECTION 1206
 POLYMER MODIFIED ASPHALT CEMENT FOR CHIP SEALS**

Page 1200-12, delete this entire section.

**SECTION 1207
 WARM MIX ASPHALT ADDITIVES**

Page 1200-13, delete subsection 1207.5b. and replace with the following:

- b. WMA additives.**
 (1) Prequalification as specified in **subsection 1207.4.**
 (2) Field observation of WMA production.

**SECTION 1405
 BURLAP**

Page 1400-6, delete subsection 1405.5 and replace with the following:

1405.5 BASIS OF ACCEPTANCE

- a.** New burlap will be accepted on the basis of a visual inspection for compliance with AASHTO M 182.
- b.** Used burlap will be accepted on the basis of a visual inspection for compliance with AASHTO M 182 and **subsection 1405.2b** above.

**SECTION 1406
SHEET MATERIALS FOR CURING CONCRETE**

Replace "AASHTO M 171" with "ASTM C171" throughout the specification.

Page 1400-7, delete subsection 1406.5 and replace with the following:

1406.5 BASIS OF ACCEPTANCE

- a. New sheet materials will be accepted on the basis of a visual inspection for compliance with **ASTM C171**.
- b. Used sheet materials will be accepted on the basis of a visual inspection for compliance with **ASTM C171** and **subsection 1406.2b.** above.

**SECTION 1502
COLD APPLIED CHEMICALLY CURED JOINT SEALANT**

Page 1500-3, delete subsection 1502.4c. and replace with the following:

c. Prequalified List. The Bureau of Construction and Materials will include products complying with **subsection 1502.2** on a prequalified list. Failure of any field installation in less than the anticipated life will be cause for removal of the product from prequalified status. Products removed from prequalified status will be considered for re-qualification if the manufacturer can provide evidence that the cause of failure has been positively identified, and necessary formulation changes and quality control measures have been implemented to eliminate that cause. Even if there is no formulation change, re-prequalify every 3 years by submitting test data that is no more than 3 years old. Complete prequalification under **subsection 1502.4.** is required for products removed from the prequalified list.

**SECTION 1503
PREFORMED EXPANSION JOINT FILLER FOR CONCRETE**

Page 1500-4, delete subsection 1503.5b. and replace with the following:

b. Type B. Visual inspection at destination for condition and compliance with dimensional and other requirements.

**SECTION 1509
MEMBRANE SEALANT**

Page 1500-15, subsection 1509.2a., delete the first paragraph and replace with the following:

a. Foam Sealant. Provide a foam sealant consisting of an open-cell high density polyurethane foam impregnated with either a polymer modified bitumen or a neoprene rubber suspended in chlorinated hydrocarbons. Precompress the foam sealant prior to packaging. Use a precompressed dimension as recommended by the sealant manufacturer to provide a water tight seal throughout a joint movement range of $\pm 25\%$ (minimum) from the specified joint opening dimension. Provide a foam sealant that is slowly self expanding to permit workers ample time to install the foam before the foam exceeds the joint opening width. Supply the foam in pieces 5 feet in length or longer. Miter the ends of each piece for ease of joining to the adjacent pieces.

**SECTION 1601
STEEL BARS FOR CONCRETE REINFORCEMENT**

Page 1600-1, delete subsection 1601.4 and replace with the following:

1601.4 PREQUALIFICATION

a. General. Follow the instructions on the AASHTO National Transportation Product Evaluation Program's (NTPEP) website to participate in the audit program for reinforcing steel mill.

Forward an official copy of the latest NTPEP audit report, including split sample test results, and the plant's quality control plan to the Bureau Chief of Construction and Materials for evaluation. Producing mills that

have successfully met the requirements of the audit (including test results that comply with **subsections 1601.2b.** and **1601.5c.**) and are listed on the NTPEP website as compliant will be prequalified.

In order to maintain prequalified status, send a copy of the annual NTPEP certificate of compliance, the “Record of Specimens Tested” sheet from the audit, and the “Variation Report” as soon as it is received. Producing mills that have prequalified using the NTPEP program and are subsequently removed from “compliant” status as shown on the NTPEP website will be removed from prequalified status.

Producing mills that fail to provide the annual documents described above or fail to adhere to the requirements of **subsection 1601.6b.** may be removed from prequalified status.

b. Comparison Testing. The NTPEP’s 3rd party yield, tensile, and elongation test results will be compared to the parallel plant data from each heat for variations and differences. These variations and differences may not exceed the values shown in **TABLE 1601-1**, based on the 3rd party values as the reference where applicable.

SECTION 1602 EPOXY COATED STEEL FOR CONCRETE REINFORCEMENT

Page 1600-5, add the following subsection 1602.2a.(3):

(3) See **SECTION 711** for construction requirements and additional storage and handling requirements.

SECTION 1603 WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT

Page 1600-7, delete subsection 1603.4 and replace with the following:

a. General. Follow the instructions on the AASHTO National Transportation Product Evaluation Program’s (NTPEP) website to participate in the welded wire producing mill audit program.

Forward an official copy of the latest NTPEP audit report, including split sample test results, and the plant’s quality control plan to the Bureau Chief of Construction & Materials for evaluation. Producing mills that have successfully met the requirements of the audit (including test results that comply with **subsections 1603.2b.** and **1603.4b.**) and are listed on the NTPEP website as compliant will be prequalified.

In order to maintain prequalified status, send a copy of the annual NTPEP certificate of compliance, the “Record of Specimens Tested” sheet from the audit, and the “Variation Report” as soon as it is received. Producing mills that have been prequalified using the NTPEP program and are subsequently removed from “compliant” status as shown on the NTPEP website will be removed from prequalified status.

Producing mills that fail to provide the annual documents described above or fail to adhere to the requirements of **subsection 1603.5d.(3)** may be removed from prequalified status.

b. Comparison Testing. The NTPEP’s 3rd party tensile test results will be compared to the parallel plant data from each heat or lot for variations and differences. These variations and differences may not exceed the values shown in **TABLE 1603-1**, based on the 3rd party values as the reference where applicable.

Page 1600-8, subsection 1603.5c.(5), delete the second paragraph and replace with the following:

The KDOT results will be compared to the parallel plant data from each heat or lot for variations and differences. These variations and differences may not exceed the following (**TABLE 1603-1**), based on the KDOT values as the reference where applicable:

SECTION 1616 STEEL FASTENER

Page 1600-26, delete subsections 1616.2b.(2), (5) and (8), and replace with the following:

(2) Provide externally threaded steel fasteners for applications where high strength is a prerequisite that meet ASTM F 3125 Grade A325 Type 1, or Type 3 when the formation of a protective oxide coating is required for protection from atmospheric corrosion. Provide nuts intended for use with these fasteners and are to be of a property grade specified by ASTM F 3125 that comply with ASTM A 563 inclusive of the Appendix. Provide nuts that are also

compatible with the Grade of externally threaded fastener according to the guidelines of ASTM A 563 for the property grade and design style of the nut. Test all nuts for compliance with their respective property grade requirements of ASTM A 563 regardless of application. Provide plain, or flat, washers for use with these fastener components as specified by ASTM F 3125 and which comply with ASTM F 436. Externally threaded steel fasteners that comply with ASTM F 3125 Grade A490, magnetic particle inspection (MPI) requirement waived, and nuts that comply with ASTM A 194 may be utilized in lieu of Grade A325 bolt and A 563 nut components. When atmospheric corrosion resistant steel is required, all fastener assembly components are to be produced from weathering steel.

(5) Provide Direct Tension Indicators (DTI) for high strength applications, or when specified in the contract documents, that comply with the requirements of ASTM F 959. Use "plain" Type 325 and Type 490 DTI's with ASTM F 3125 Grade A325 Type 1 and ASTM F 3125 Grade A490 Type 1 structural bolts, respectively. Use "weathering steel" Type 325-3 and Type 490-3 DTI's with ASTM F 3125 Grade A325 Type 3 and ASTM F 3125 Grade A490 Type 3 structural bolts, respectively.

(8) When corrosion protection coatings are specified for fastener components, provide components that are zinc coated and in compliance with ASTM F 2329 for hot dip galvanizing or by the mechanical deposition of a zinc coating in compliance with ASTM B 695, Class 55. Nut lubrication as described in ASTM A 563, Supplementary Requirement S1, S2 and S3 is required for threaded surfaces and bearings faces. Fastener components of nominal size of less than 13 mm diameter may be zinc coated by an electrodeposition process. The coating is to be uniform, comply with ASTM F 1941, and have a thickness in the range of 5 to 8 micrometers. Note that an electrodeposited zinc coating thickness in excess of 8 micrometers may result in thread fit interference. Electrodeposited cadmium coating is also permitted when in compliance with ASTM B 766 and the same thickness range constraints as for electrodeposited zinc coating. Aluminum coating is acceptable when permitted and regulated by the specification that governs the component.

**SECTION 1619
STEEL PIPE**

Page 1600-31, subsection 1619.5a. (1). Delete the 2nd sentence.

**SECTION 1620
MATERIALS FOR FENCING**

Page 1600-33, subsection 1620.2c., delete next to last bullet and replace with the following:

- Perform Methyl Ethyl Ketone (MEK) test in accordance with ASTM D 5402, and report the results; and

**SECTION 1710
GEOSYNTHETICS**

Page 1700-17, subsection 1710.2c., replace "AASHTO M 288 Appendix Section 1.6" with "AASHTO M 288 Appendix Section X1.6"

Page 1700-18, subsection 1710.2g., add the following to TABLE 1710-2:

Tensile Strength (geogrid) (at 2% strain)	ASTM D 6637	410 lb/ft MD, 620 lb/ft CD
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Page 1700-19, delete subsections 1710.4b. and c. and replace with the following:

b. Manufacturers interested in prequalifying material under this specification must provide, to the Engineer of Tests, at least a 5 foot by 5 foot sample of the material, installation instructions for the material, certification that the properties of the type of material submitted meet the requirements of this specification, and any other information requested by the Engineer of Tests. In addition, provide:

(1) Paving Fabric, Subsurface Drainage, Separation Geotextile – The latest NTPEP geotextile (GTX) testing results associated with the type of material submitted.

(2) Base Course Reinforcement and Subgrade Stabilization – The latest NTPEP geosynthetic reinforcement (REGEO) testing results plus independent lab test results, for those requirements of this specification not tested by NTPEP. For product types not tested by NTPEP, independent lab test results will be accepted.

(3) Pavement Waterproofing Membrane. Results of tests performed by an independent lab on representative samples, showing compliance with **TABLE 1710-3**.

c. KDOT reserves the right to submit samples requested in **subsection 1710.4b.** to an independent lab for testing. These test results along with those submitted by the manufacturer will be evaluated for compliance with this specification, and the manufacturer will be notified of the results.

SECTION 1717 PRECAST PANEL BEDDING MATERIALS

Page 1700-26, subsection 1717.4, change last paragraph, change subsection reference from "1716.2" to "1717.2".

SECTION 1801 INORGANIC ZINC PRIMER FOR STRUCTURAL STEEL

Page 1800-1, delete subsection 1801.3b. and replace with the following:

b. Cyclic Corrosion/UV Exposure ASTM D 5894
(1) Scribe Corrosion ASTM D 1654
(2) Unscribed Area ASTM D 1654

Page 1800-2, delete subsection 1801.4b. and replace with the following:

b. Testing by KDOT may be waived if testing has been performed on the identical product by another state within the past 12 months. Results must satisfy the requirements contained within this specification. Forward a copy of the test report to the Engineer of Tests for evaluation, along with evidence that the product referenced in the test report is identical to that submitted for prequalification.

SECTION 1802 ORGANIC ZINE PRIMER FOR STRUCTURAL STEEL

Page 1800-3, delete subsection 1802.3b. and replace with the following:

b. Cyclic Corrosion/UV Exposure ASTM D 5894
(1) Scribe Corrosion ASTM D 1654
(2) Unscribed Area ASTM D 1654

Page 1800-4, delete subsection 1802.4b. and replace with the following:

b. Testing by KDOT may be waived if testing has been performed on the identical product by another state within the past 12 months. Results must satisfy the requirements contained within this specification. Forward a copy of the test report to the Engineer of Tests for evaluation, along with evidence that the product referenced in the test report is identical to that submitted for prequalification.

**SECTION 1806
WATER-BORNE ACRYLIC FINISH COAT**

Page 1800-8, delete subsection 1806.3b. and replace with the following:

- b. Cyclic Corrosion /UV Exposure** ASTM D 5894
(1) Scribe Corrosion ASTM D 1654.
(2) Unscribed Area ASTM D 1654.

Page 1800-8, delete subsection 1806.4b. and replace with the following:

b. Testing by KDOT may be waived if testing has been performed on the identical product by another state within the past 12 months. Results must satisfy the requirements contained within this specification. Forward a copy of the test report to the Engineer of Tests for evaluation, along with evidence that the product referenced in the test report is identical to that submitted for prequalification.

**SECTION 1903
CAST IRON AND DUCTILE IRON PIPE**

Page 1900-7, delete subsection 1903.2b. and replace with the following:

b. Material Specifications. Provide components of open systems complying with ASTM A 48 when produced from gray cast iron or ASTM A 536 when produced from ductile cast iron. Accessory items may also be produced from ferritic malleable cast iron in compliance with ASTM A 47. Provide pipe, fittings, and accessory items for sanitary, storm drain, waste, and vent piping applications complying with ASTM A 74. The mechanical property requirements of ASTM A 74 determine the class or grade of cast iron required.

**SECTION 2110
MULCH**

Page 2100-16, add the following to the end of subsection 2100.2e.:

Other products not meeting the requirements of this subsection may be approved provided it meets the following criteria:

- (1) Contain non-toxic tackifiers that, upon drying, become insoluble and non-dispersible to eliminate direct raindrop impact on soil according to ASTM D 7101 and EPA 2021.0-1.
- (2) Contain no germination or growth inhibiting factors and do not form a water-resistant crust that can inhibit plant growth.
- (3) Contain a minimum 90% organic material (ASTM D 2974).
- (4) Have a rainfall event (R-factor) greater than 140 (ASTM D 6459).
- (5) Have a cover factor no greater than 0.03 (ASTM D 6459).
- (6) Have a minimum Vegetation Establishment of 400% (ASTM D 7322).
- (7) Have a minimum Water Holding Capacity of 600% (ASTM D 7367).

**SECTION 2114
 TEMPORARY SEDIMENT BARRIERS**

Page 2100-12, delete subsection 2114.2f. and replace with the following:

f. Filter Sock. Provide burlap or synthetic mesh bags or tubes, coarse aggregate, wood chips, compost or other permeable filler material to slow and filter stormwater runoff. Mesh bags or tubes shall have openings between 1/8” and 3/8” in size. Use only coarse aggregate filler for curb inlet protection unless approved by the Area Engineer. Compost filler shall comply with **TABLE 2114-1**.

TABLE 2114-1: COMPOST FOR FILTER SOCK REQUIREMENTS	
Parameter	Range
pH	5.0-8.5
Moisture Content	<60%
Organic Matter Content	>25% of dry weight
Particle Size	99% < 2”
	30%-50% < 3/8”

**SECTION 2201
 REFLECTORIZED SHEETING**

Page 2200-2, subsection 2201.4. Delete the third paragraph and replace with the following:

If the prequalification samples of retroreflective sheeting comply with this specification, the product will be placed on a list of prequalified products maintained by the Bureau of Construction and Materials. No retroreflective sheeting will be used on KDOT projects unless it has been prequalified. Testing and evaluation by KDOT may be waived if complete testing has been performed on the identical product by AASHTO National Transportation Product Evaluation Program (NTPEP) within ten years of the KDOT submittal date. Forward an official copy of the test report along with evidence that the product referenced is identical to that submitted for prequalification, to the Engineer of Tests for evaluation.

**SECTION 2202
 IMAGE SYSTEMS FOR RETROREFLECTIVE SHEETING**

Page 2200-4, subsection 2202.4. Delete the fifth paragraph and replace with the following:

Testing and evaluation by KDOT may be waived if complete testing has been performed on the identical product by AASHTO National Transportation Product Evaluation Program (NTPEP) within ten years of the KDOT submittal date. Forward an official copy of the test report along with evidence that the product referenced is identical to that submitted for prequalification, to the Engineer of Tests for evaluation.

**SECTION 2203
 ROLL-UP SIGNS**

Page 2200-5, subsection 2203.4. Delete the third paragraph and replace with the following:

Testing and evaluation by KDOT may be waived if complete testing has been performed on the identical product by AASHTO National Transportation Product Evaluation Program (NTPEP) within ten years of the KDOT submittal date. Forward an official copy of the test report along with evidence that the product referenced is identical to that submitted for prequalification, to the Engineer of Tests for evaluation.

**SECTION 2209
HIGH DURABILITY PAVEMENT MARKING MATERIAL**

Page 2200-12, delete subsection 2209.2d. and replace with the following:
d. Adhesion. 22 N, minimum.

**SECTION 2210
TEMPORARY PAVEMENT MARKING TAPE**

Page 2200-14, subsection 2210.1. First paragraph, delete the second sentence and replace with the following:
This includes both Type I and Type II materials for use on both portland cement concrete and asphalt surfaces.

INDEXING / FORMATTING (Non-Content) CORRECTIONS

INDEX

Page I-1, Biodegradable Log, change page number from "900-27" to "900-7".

Page I-5, Landscape Retaining Wall, change page number from "800-104" to "800-125".

Page I-6, delete Liner Pipe from the Index. Handle by a project special provision.

Page I-6, delete Mobilization (Emergency Erosion Control) (Set Price) from the Index. No longer applicable to 2015 specifications.

Page I-7, Precast Arch Culvert and Precast Rigid Frame Culvert, change page number from "800-57" to "700-129".

Page I-8, Rubblized Concrete, change page number from "800-1001" to "800-101".

Page I-8, delete Shot-crete. No longer a bid item, replaced with Concrete Surface Repair.

Page I-12, BRIDGE CURB REPAIR, change page number from "700-103" to "700-108".

Page I-16, EROSION PIPE, change page number from "800-43" to "800-51".

Page I-22, POLYMER MODIFIED ASPHALT CEMENT FOR CHIP SEALS (Materials), change page number from "700-143" to "1200-12".

Page I-27, UNKNOWN HAZARDOUS MATERIALS, change page number from "100-59" to "100-63".

**DIVISION 200
EARTHWORK**

Page i, delete Table of Contents title "Stabilized Subgrade, Base and Shoulders" and replace with "Earthwork".

Page i, add "200-" before page numbers.

**DIVISION 300
STABILIZED SUBGRADE, BASE AND SHOULDERS**

Page i, add "300-" before page numbers.

SECTION 502

PORTLAND CEMENT CONCRETE PAVEMENT (NON-QC/QA)

Page 500-30, subsection 502.3g.(10), change all references with subsection 502.4 to subsection 502.3.

DIVISION 600

FLEXIBLE PAVEMENT

Page i, add "600-" before page numbers.

DIVISION 700

STRUCTURES

Page i, add "700-" before page numbers.

SECTION 737

FIELD ERECTION

Pages 700-132 TO 700-135, delete header "737 – CONTROLLED DEMOLITION" and replace with "737-FIELD ERECTION".

SECTION 850

SEPARATION GEOTEXTILE

Pages 800-116, delete header "850 – GEOMEMBRANE" and replace with "850 – SEPARATION GEOTEXTILE".

06-21-17 (C&M) (LAL)
Oct-17 Letting