



**TRANSPORTATION CABINET**

Frankfort, Kentucky 40622  
www.transportation.ky.gov/

**Steven L. Beshear**  
Governor

**Michael W. Hancock, P.E.**  
Secretary

November 17, 2015

CALL NO. 309  
CONTRACT ID NO. 152304  
ADDENDUM # 1

Subject: Morgan County, FD04 SPP 088 0205 004-007  
Letting November 20, 2015

- (1) Revised - Note - Pages 12-14 of 73
- (2) Revised - Bid Items - Page 73 of 73

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in cursive script that reads "Rachel Mills".

Rachel Mills, P.E.  
Director  
Division of Construction Procurement

RM:ks  
Enclosures



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## SPECIAL NOTE FOR ASPHALT SCRUB SEAL

**1. DESCRIPTION.** This work consists of placing a polymer modified asphalt emulsion which is scrubbed with a broom to fill and seal cracks and covered with a layer of aggregate.

**2. MATERIAL AND EQUIPMENT.**

**Asphalt Material.** Furnish CMS-1P or CMS-1PC polymer modified emulsion that meets requirements **Section 806.05.**

**Aggregate.** A cleaned washed aggregate cover material specified in the contract shall meet material requirements that conform to **Section 804 or 805**, as applicable.

**Equipment.** Provide, and keep on the project at all times, an accurate thermometer, hand brooms, and other small tools and equipment essential for completion of the work.

**The asphalt distributor** for the application of the emulsion shall have full circulation spray bar that is adjustable to at least 16 feet wide in 2 feet increments and capable of heating and circulating the emulsion simultaneously, conforming to subsection 406.02.05. It must have computerized rate control for adjusting and controlling the application from the cab within 0.01 gallons per square yard increments. The distributor shall also be equipped with a volume measuring device and a thermometer for measuring the emulsion temperature in the tank.

**The scrub broom** shall be rigid in frame construction and attached to and pulled by the distributor. It shall be light enough so not to squeegee the emulsion off the roadway surface. The leading and trailing broom heads angled at 10 to 15 degrees off the centerline of the supporting member with stiff bristles at minimum height of 5 inches.

**The aggregate spreader** shall be a continuous mechanical feed, self-propelled aggregate spreader with front discharge. Ensure the spreader can evenly distribute the aggregate from the transporting vehicle directly onto the fresh asphalt material in smooth, uniform layers, independent of the forward speed. Ensure that the spreader is capable of being filled and moved without discharging aggregate.

**The roller** shall be a Pneumatic tire roller weighing at least 5 tons.

**The power broom** shall be a mechanically powered kick-broom or vacuum type broom.

**3. CONSTRUCTION.**

**Weather Limitations.** Do not construct any scrub seal application when ambient temperature is not 50 degrees F and rising. CRS-2P should not be applied when the air temperature is below 60°F and falling. Do not construct when the ambient temperature within the preceding 24 hours has been 35 degrees F or lower, except with the Engineer's written permission. Do not proceed with construction if rain is expected in a minimum period of 24 hours, nor when rain is impending within 2 hours after completion of the scrub seal. If an unexpected shower arises during operations, the asphalt distributor should be shut off immediately and placement of aggregate continued until all asphalt has been covered.

**Preparation of Mixture.** Submit a complete mix design a minimum of 14 days prior to construction. Mix design shall be prepared by an approved laboratory, to verify the compatibility of the aggregate, asphalt emulsion and other additives. Perform the mix design with the same materials that will be used on the project.

**Surface Preparation.** Prior to operation, the contractor shall remove all existing thermoplastic striping, thermoplastic legends, and raised markers within application limits. All surfaces intended for application shall be thoroughly cleaned of all vegetation, loose material, dirt, or other objectionable material immediately before application of emulsion using a mechanical sweeper and wire hand brooms, when necessary. Clean the edges of the surface providing a full and uniformly clean width of roadway. Where mud or earth exists, remove it in advance and allow surface to thoroughly dry before applying emulsion. Mowing or removal of shoulder vegetation and or brush may be necessary for proper application.

If cracks cannot be adequately filled by emulsion, fill with proper asphalt material or hot pour joint sealer conforming to subsection 807.03.01. If applicable, apply cover aggregate before applying scrub seal application.

**Application Rates of Materials.**

Properties	Minimum	Maximum
Application rate of emulsion, gallons/sq yard*	0.22	0.35
Emulsion temperature, F	110	185
Application rate of aggregate, lb/sy*	16	22

\*Engineer may adjust application rates due to existing conditions

**4. APPLICATION.**

**Application of Emulsion.** Heat and maintain emulsion between 110 and 185 degrees F during application. Polymer modified emulsion shall be applied when air temperature is at least 50 degrees F and rising and a minimum surface temperature of 70 degrees F.

Emulsion shall be applied using a pressure distributor in a uniform, continuous quantity at specified rates. Proper brooming equipment shall follow ensuring all cracks and voids are filled.

Keep the nozzles of the spray bar clean at all times. Immediately make any streaked areas uniform by use of a hand hose equipped with a nozzle.

Do not apply the asphalt material farther in advance of the spreading of the aggregate than can be covered directly by the aggregate immediately available at the site of work.

When the scrub seal treatment is constructed in half-widths, provide complete coverage by overlapping the 2 applications approximately 4 inches along centerline.

Prevent spotting or discoloring curbs, headwalls, and other structures. When such discolorations occur, remove them at no expense to KYTC.

Make joints utilizing an approved method.

**Aggregate.** Aggregate cover material shall be cleaned and washed to remove dirt and dust, ensuring appropriate adhesion with emulsion. Due to this process, aggregate may be damp during application. Immediately following scrubbing and prior to breaking of the emulsion, aggregate shall be continuously and evenly spread with the proper equipment at the specified rates. Spreading equipment shall not contact the asphalt material before it is covered with aggregate. Precautions should be taken not to exceed the designated rate by more than 5 percent. Use hand brooms to correct any irregularities.

**Rolling.** A self-propelled pneumatic tire roller shall be used for the required rolling of the aggregate. This shall be done immediately following the spreading of aggregate. Operate the rollers parallel to the centerline in a manner preventing the dislodgment of newly applied aggregate. Rolling should proceed from the outer edge to the

center, with each pass overlapping the previous by one-half. Cover the entire surface with at least 3 passes or more when the engineer directs.

**Sweeping.** Power sweep/vacuum the completed application to remove all excess aggregate after the asphalt material has cured sufficiently. Sweeping/vacuumping must be completed prior to any striping and/or before the end of the application day. Little to no aggregate shall be remaining on entrance/exit aprons of intersecting crossroads and driveways. A second sweeping may be required following the initial application day. Prior to applying a fog seal or other of surface treatment over the scrub seal, it may be opened to traffic for an amount of time specified in the contract. This may be necessary to ensure maximum aggregate retention.

**5. MEASUREMENT.**

When an authorized adjustment is made, KYTC will measure quantities up to 5 percent in excess of the designated application rate for payment. KYTC will not measure quantities exceeding the designated application rate by more than 5 percent for payment.

**Asphalt Material.** KYTC will measure the quantity in tons according to **Section 109.**

**Aggregate.** KYTC will measure the quantity in tons according to **Section 109.**

**6. PAYMENT.**

KYTC will make payment for the completed and accepted quantities under the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Polymer Modified Emulsified Asphalt	Ton
Crushed Aggregate	Ton

KYTC will consider payment as full compensation for all work required under this section.

**PROPOSAL BID ITEMS**

Report Date 11/17/15

**Section: 0001 - PAVING**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00083		CRUSHED AGGREGATE SIZE NO 8	580.00	TON		\$	
0020	00103		ASPHALT SEAL COAT (CMS-1P OR CMS-1PC) (REVISED: 11-17-15)	85.00	TON		\$	
0030	02562		TEMPORARY SIGNS	150.00	SQFT		\$	
0040	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0050	02775		ARROW PANEL	1.00	EACH		\$	
0060	06510		PAVE STRIPING-TEMP PAINT-4 IN	58,875.00	LF		\$	
0070	06514		PAVE STRIPING-PERM PAINT-4 IN	58,875.00	LF		\$	
0080	06568		PAVE MARKING-THERMO STOP BAR-24IN	32.00	LF		\$	
0090	06574		PAVE MARKING-THERMO CURV ARROW	2.00	EACH		\$	
0100	20314ED		MILLED RUMBLE STRIPS (TRANSVERSE)	288.00	LF		\$	
0110	20814EC		MICRO SURFACING-SURFACE COURSE	57,292.00	SQYD		\$	
0120	22664EN		WATER BLASTING EXISTING STRIPE	192.00	LF		\$	
0130	23875NC		REMOVE THERMOPLASTIC ARROWS	2.00	EACH		\$	

**Section: 0002 - DEMOBILIZATION**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0140	02569		DEMOBILIZATION	1.00	LS		\$	