

SPECIAL NOTE FOR SLURRY SEAL

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Furnish, prepare, and apply a slurry seal to the pavement or shoulder surfaces, as specified in the Contract, that consists of emulsified asphalt, fine aggregate, portland cement, and water.

2.0 MATERIALS AND EQUIPMENT. Submit the job-mix formula (JMF) for approval according to KM 64-421 and samples of all materials to be used in the slurry seal mixture to the Department at least 2 weeks before starting the work.

2.1 Aggregates. Conform to Section 804. Test the mixture for gradation according to KM 64-433 or KM 64-620 as the Engineer directs. Ensure the combined fine aggregate (including mineral filler when needed) conforms to the gradation requirements in the following table:

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8 in.	100
No. 4	90-100
No. 8	65-90
No. 16	45-70
No. 30	30-50
No. 50	18-30
No. 100	10-21
No. 200	5.0-15.0

Use mineral filler conforming to Section 804 as needed to conform to the gradation requirements.

2.2 Asphalt Material. Provide SS-1h conforming to Section 806.

2.3 Portland Cement. Use a commercial quality, non-air-entraining cement for dispersion of the slurry seal. The Department will consider cement added as mineral filler separately in the JMF as aggregate.

2.4 Water. Conform to Section 803.

2.5 Equipment. Obtain the Engineer's approval for all equipment required for performing the work before beginning construction, and maintain the equipment in a satisfactory operating condition. In addition to the equipment described herein, furnish squeegees and other small tools that are essential to completing the work.

2.5.1 Slurry Seal Mixing Machine. Provide a continuous-flow mixing unit capable of accurately delivering and proportioning the aggregate, asphalt material, cement, and water to the mixer by calibrated controls. Equip the mixing unit with a revolution counter connected to the drive shaft so that the machine can be accurately calibrated. Use a revolution

counter that is dust-proof with maximum graduations of 0.1 revolution. Ensure that the unit is of sufficient capacity to thoroughly mix and discharge the product in a continuous flow and at a uniform rate as required for the area being covered by the spreader. Equip the unit with a fog-spray water system that is capable of applying 0.05 gallon per square yard and thoroughly dampening the surface to be sealed ahead of the slurry spreading equipment.

- 2.5.2 Spreading Equipment.** Provide spreading equipment that consists of a towed, drag-type spreader box or distributor that is equipped with flexible squeegees or strike-off blades with adjustments to set the crown and depth. Ensure that the equipment is capable of spreading the slurry uniformly without segregation to the desired alignment and thickness, without the loss of slurry on varying grades.

3.0 CONSTRUCTION.

3.1 Weather Limitations. Do not perform slurry seal work when the ambient temperature is less than 50 °F, nor when the ambient temperature has been 35 °F or less during the preceding 24 hours. Suspend slurry seal work during periods when weather conditions are otherwise unfavorable in the judgment of the Engineer.

3.2 Surface Preparation. Before applying the slurry seal, remove all dust, loose aggregate, vegetation, and dirt from the existing surface to be covered with the slurry seal mixture. Clean by brooming, washing with water under high pressure, blowing with compressed air, or other approved method. Cover oily or greasy areas with sand or other absorbent material for a minimum of one hour before cleaning the surface; then, remove the sand, and clean the area of all residue. Obtain approval of the cleaned surface before applying the slurry seal.

3.3 Mixture Composition. Blend the asphalt material with pre-wetted aggregate in the proportion of 12 to 22 percent of the dry aggregate weight. Control the mixture so that the percentage of asphalt material does not vary more than ± 3 percent from the percentage designated by the Engineer.

When necessary, obtain the Engineer's approval to add portland cement to obtain the desired dispersion and working characteristics of the slurry. Use the minimum amount of cement necessary, but do not exceed 3 percent of the weight of the aggregate. Add water as necessary to obtain a fluid, homogeneous mixture. The Department will allow the quantity of water to be varied slightly in the mixture for various surface conditions. Make all trial batches that the Engineer deems necessary to provide the best consistency and dispersion characteristics obtainable with the aggregate and asphalt material proportions.

Accurately proportion the various ingredients in the fine aggregate blend, and thoroughly mix them with approved equipment and methods. The Engineer will check and approve the quantities of each ingredient to ensure that the aggregate uniformly and continuously conforms to the specified gradation and applicable chemical properties. Maintain the gradation as near the middle of the allowable range on each sieve size as practical or as the Engineer directs.

3.4 Application. Spray the surface with 0.05 to 0.10 gallon per square yard of water directly ahead of the spreading equipment. Thoroughly mix the slurry, and ensure that the slurry is at the desired consistency when discharging it into the spreading equipment. Carry a sufficient quantity of the slurry in the spreading equipment to provide for proper spreading. Control the speed of travel to provide for proper coverage.

Give special attention to low areas and areas that are very porous or cracked. Slow the speed of travel of the spreading equipment as necessary to completely fill these areas to the desired elevation with one application of the slurry seal mixture. Where cracks and low spots cannot be completely filled and sealed in one pass of the spreading equipment, make a second machine application, where and as directed by the Engineer, after the first application has hardened sufficiently to avoid damage.

Apply the slurry seal mixture at the approximate rate of 16 pounds per square yard based on the dry aggregate weight to provide a thickness in no instance less than 1/16 inch. Use hand tools, lutes, and squeegees to spread the slurry on areas not accessible to the machine spreading equipment.

Ensure that the completed slurry seal displays a neat, uniform appearance without any ridges, bumps, or meandering edges. Do not allow the slurry seal to extend onto adjacent concrete surfaces.

3.5 Protection. Provide necessary barricades, flaggers, and warning signs according to Section 112. Keep traffic off the slurry seal until such time that it will not be damaged. Repair all areas of the slurry seal that are damaged by traffic, rain, or other causes during construction of the project.

4.0 MEASUREMENT. The Department will not measure trial batches for payment and will consider them incidental to the items of work included herein.

The Department will not measure for payment the repair of damage caused by applying the slurry seal during unfavorable conditions, improper control and maintenance of traffic, or negligence in protecting the slurry seal.

4.1 Aggregate for Slurry. The Department will weigh the aggregate in tons, including mineral filler.

4.2 Portland Cement. The Department will measure the portland cement used for dispersing the slurry seal in tons. When adding portland cement as the mineral filler, the Department will measure it as aggregate.

4.3 Asphalt Material for Slurry. The Department will weigh the asphalt material in tons according to Section 109. The Department will not measure water for wetting the existing surface or for use in the slurry seal mixture for payment and will consider it incidental to this item of work.

5.0 PAYMENT. The Department will make payment for the completed and accepted quantities according to the Lot Pay Adjustment Schedule for Specialty Mixtures in Section 402 and under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
00199	Aggregate for Slurry	Ton
02542	Portland Cement	Ton
00293	Emulsified Asphalt SS-1h	Ton

The Department will consider payment as full compensation for all work required herein.

January 1, 2008