SECTION 404 - SLURRY SEAL

404.01 Description. This section describes furnishing and applying slurry seal on an existing asphalt surface.

404.02 Materials.

Emulsified Asphalt (Type SS-1h, CSS-1h)	702.04
Aggregate for Slurry Seal	703.11
Filler	703.15
Water	712.01

(A) General. Slurry seal shall include uniform blend of emulsified asphalt, aggregate, water, and if required by job-mix formula, filler.

(B) Job-Mix Formula and Tests. Unless otherwise specified, design and test job-mix formula in accordance with ASTM D 3910, for Type I, Type II, and Type III slurry seal, as indicated in the contract documents.

Tolerance of plus or minus 1 percent will be allowed in residual asphalt content from that specified in job-mix formula accepted by the Engineer.

(C) Submittals. Submit slurry seal job-mix formula for each type of slurry seal mix indicated in the contract documents as follows:

(1) Design percent of aggregate passing each required sieve size.

(2) Design percent of residual asphalt added to aggregate, based on dry weight of aggregate.

(3) Source of aggregate.

(4) Grade of emulsified asphalt.

(5) Test data used to develop job-mix formula.

If design requirements are modified after the Engineer accepts job-mix formula, submit new job-mix formula before using slurry seal produced from modified mix design.

404.03 Construction.

(A) Test Section. Before production and after calibration as specified in Subsection 404.03(C)(6) - Equipment Calibration, apply slurry seal onto test section using same mixture, equipment, and method proposed for use in the work. Test section shall be at least 10 feet by 50 feet. The Engineer will determine location of test section. Slurry seal samples will be taken to verify mix consistency, proportioning, and application rate.

(B) Weather Limitation. Application of slurry seal will not be allowed under the following conditions:

(1) On wet surfaces as determined by the Engineer.

(2) When air temperature is below 60 degrees F and falling. Slurry seal may be applied when air temperature is above 50 degrees F and rising. Air temperature will be measured in shade and away from artificial heat.

(3) When weather conditions prevent proper method of construction.

(C) Equipment.

(1) General. Keep equipment, tools, and machinery clean and maintained in satisfactory condition.

(2) Mixing Equipment. Use self-propelled machine specifically designed and manufactured to lay slurry seal. Mixing machine shall be either truck-mounted or continuous-run design. A continuous-run machine is defined as one that is equipped to self-load while continuing to lay slurry seal. Either type machine shall be able to accurately deliver and proportion aggregate, emulsified asphalt, water, and if specified by job-mix formula, filler to maintain adequate supply to the proportioning controls.

If continuous-run machine is used, equip to allow operator to have full control of forward and reverse speeds during slurry seal application; and to include opposite-side driver stations and forward and reverse speed controls.

(3) Proportioning Devices. Provide and label individual volume or weight controls for proportioning each material to be added to mix.

(4) Spreading Equipment. Spread mixture uniformly by means of conventional surfacing spreader box attached to mixer and equipped

to agitate and spread material evenly throughout box. Provide front seal that prevents loss of mixture at road contact point and adjustable rear seal that functions as final strike-off. Design and operate spreader box and rear strike-off such that uniform consistency is achieved to produce free flow of material to rear strike-off. Equip spreader box with means to side shift box to compensate for variations in pavement geometry. Burlap drag or other accepted screed may be attached to rear of spreader box to provide uniform, highly textured mat.

(5) Auxiliary Equipment. Provide other tools or equipment, such as brushes, hose equipment, tank trucks, water distributors and flushers, power sweepers, and power blowers.

(6) Equipment Calibration. Calibrate in the Engineer's presence mixing equipment to be used in performance of the work. Submittal of previous calibration documents may be used in lieu of calibration in the Engineer's presence if documented calibration were made within one calendar year of submittal. Include individual calibration of each material at various settings, which can be related to machine's metering devices. No machine will be allowed to be used on project until calibration has been completed or accepted, or both.

After calibration and prior to production, make test strips for each machine. Test strips shall be part of test section specified in Subsection 404.03(A) - Test Section. Upon failure of test for mix consistency, proportioning, or rate of application, or combination thereof, additional test strips at no increase in contract price or contract time will be required until each machine is accepted for work. Machine failing to pass specified tests after three trials will not be allowed to be used on project.

(D) Preparation of Surfaces. Immediately before applying slurry seal, clean existing pavement in accordance with Section 310 - Brooming Off.

Clean cracks and joints with compressed air. Seal cracks and joints 3/8-inch to 3/4-inch wide with sand slurry consisting of 20 percent emulsified asphalt, approximately 2 percent portland cement, and water.

Clean potholes and other surface defects and fill with HMA Mix V.

Do not apply tack coat.

(E) Application of Slurry Seal. Pour slurry seal into spreader box in sufficient quantity to completely cover full width of spreader. Do not allow slurry seal to flow out sides of box.

Apply slurry seal in one uniformly blended coat not exceeding 1/4 inch in thickness. Use hand spreaders only in areas where spreader box cannot be used. Remove excess slurry seal build-up on longitudinal and transverse joints.

(F) Protection of Slurry Seal. Except for construction equipment used for slurry seal operations, keep traffic off slurry seal until such time that mixture has cured sufficiently so that slurry seal will not adhere to and be picked up by vehicle tires. Ensure that cured slurry seal adheres firmly to existing surface.

404.04 Measurement. Slurry seal will be paid on a lump sum basis. Measurement for payment will not apply.

404.05 Payment. The Engineer will pay for the accepted slurry seal on a contract lump sum basis. Payment will be full compensation for the work prescribed in this section and the contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

Pay Item	**Pay Unit**
Slurry Seal, Type _____	Lump Sum

END OF SECTION 404