SECTION 330

ASPHALT EMULSION SLURRY SEAL

330.1 GENERAL

The slurry seal surface shall consist of a mixture of emulsified asphalt; mineral aggregate, and water, properly portioned, mixed, and spread evenly on the surface. The cured slurry shall have a homogenous appearance, fill all cracks, adhere firmly to the surface, and have a skid resistant texture.

330.2 REFERENCES

330.2.1 This publication:

SECTION 113
SECTION 115

330.3 MATERIALS

330.3.1 ASPHALT EMULSION: The emulsified asphalt shall be of the type specified by or shown on the plans and shall conform to the requirements of Section 113.

330.3.2 AGGREGATE: Mineral aggregates shall consist of natural or manufactured sand, slag, crusher fines, or a combination thereof complying to the requirements of Section 115.

330.3.3 WATER: All water used with the slurry mixture shall be potable and free from harmful soluble salts.

330.4 JOB-MIX DESIGN

A job-mix formula for the asphalt emulsion slurry seal shall be determined by an approved testing laboratory from representative samples of graded aggregate produced and stockpiled by the CONTRACTOR and meeting all of the specified requirements. The job-mix design shall specify the asphalt content, and, if required, the amount of mineral filler to be used.

330.5 EQUIPMENT

All equipment, tools, and machines used in the performance of this work will be maintained in satisfactory working order at all times.

330.5.1 SLURRY MIXING EQUIPMENT:

330.5.1.1 The slurry mixing machine will be a continuous flow mixing unit and be capable of delivering accurately a predetermined proportion of aggregate, water, and asphalt emulsion to the mixing chamber and to discharge the thoroughly mixed product on a continuous basis. The aggregate shall be prewetted immediately prior to mixing with the emulsion. The mixing unit of the mixing chamber shall be capable of thoroughly blending all ingredients together. No violent mixing shall be permitted.

330.5.1.2 The mixing machine shall be equipped with an approved fines feeder that provides an accurate metering device or method to introduce a predetermined proportion of mineral filler into the mixer at the same time and location that the aggregate is introduced.

330.5.1.3 The mixing machine shall be equipped with a water pressure system and fog type spray bar adequate for complete fogging of the surface preceding the spreading equipment with a maximum application of 0.05 gallon per square yard.

330.5.1.4 Sufficient machine storage capacity to mix properly and apply a minimum of 5 tons of the slurry shall be provided.

330.5.2 SLURRY SPREADING EQUIPMENT: Attached to the mixer machine shall be a mechanical type squeegee distributor equipped with flexible material in contact with the surface to prevent loss of slurry from the distributor. It shall be maintained so as to prevent loss of slurry on varying grades and crown by adjustments to assure uniform spread. There shall be steering device and a flexible strike-off. The spreader box shall have an adjustable width. The spreader box shall be kept clean and build up of asphalt and aggregate on the box shall not be permitted. The use of burlap drags or other drags shall be approved by the ENGINEER.

330.5.3 CLEANING EQUIPMENT: Power brooms, power blowers, air compressors, water flushing equipment, and hand brooms shall be suitable for cleaning the surface and cracks of the old surface.

330.5.4 AUXILIARY EQUIPMENT: Hand squeegees, shovels, brooms, and other equipment shall be provided as required to peform the work.

330.6 PREPARATION OF EXISTING SURFACE

330.6.1 Immediately prior to applying the slurry, the surface shall be cleaned of all loose material, silt spots, vegetation, and other objectionable material. Any standard cleaning method used to clean pavements will be accepted, except water flushing will not be permitted in areas where large cracks are present in the pavement surface. The prepared surface shall be approved by the ENGINEER prior to

application of any surface treatment.

330.6.2 If the slurry seal is being applied over a brick or concrete surface, higly absorbent asphalt surface, or a surface where the aggregate has become exposed and is polished and slick, a 1 part emulsion to 3 parts water tack coat of the same asphalt emulsion type and grade as specified for the slurry shall be applied to the existing surface after it is cleaned and approved. The tack coat shall be applied with an approved asphalt distributor. The rate of the diluted emulsion shall be between 0.05 to 0.15 gallon per square yard as directed by the ENGINEER.

330.7 COMPOSITION AND RATE OF APPLICATION OF THE SLURRY MIX

The amount of asphalt emulsion to be blended with the aggregate shall be that amount as determined by the lab mix design and any final adjustment made in the field and approved by the ENGINEER. The rate of application shall be the rate, in pounds of per square yard, as shown on the plans or as otherwise approved by the ENGINEER.

330.8 WEATHER LIMITATIONS

The slurry seal surface shall not be applied if either the pavement or air temperature is 60 degrees F or below and falling but may be applied when both the air and pavement temperature is 55 degrees F or above and rising. The mixture shall not be applied if high relative humidity prolongs the curing beyond a reasonable period of time as determined by the ENGINEER.

330.9 APPLICATION OF THE SLURRY SURFACE

330.9.1 GENERAL: The surface shall be fogged with water directly preceding the spreader. The slurry mixture shall be of the desired consistency when deposited on the surface, and no additional materials shall be applied. Total time of mixing shall not exceed 4 minutes. A sufficient amount of slurry shall be carried in all parts of the spreader at all times so that complete coverage is obtained. No lumping, balling, or unmixed aggregate shall be permitted. No segregation of the emulsion and aggregate shall be permitted. No segregation of the emulsion and aggregate fines from the coarse aggregate will be permitted. If the coarse aggregate settles to the bottom of the mix, the slurry will be removed from the pavement. Excessive breaking of the emulsion will not be allowed in the spreader box. No streaks such as caused by oversized aggregate will be left in the finished pavement.

330.9.2 JOINTS: No excessive build-up nor unsightly appearance shall be permitted on longitudinal or transverse joints.

330.9.3 HAND WORK: Approved squeegees shall be used to spread slurry in nonaccessible areas to slurry mixer. All hand work shall be done by experienced and skilled workmen.

330.9.4 CURING: Treated areas will be allowed to cure until such time as the ENGINEER permits their opening to traffic.

330.9.5 ROLLING: When rolling is specified, the paved surface will be rolled with a 5 ton roller. The paved area will be covered with a minimum of 5 passes of the roller. If a pneumatic roller is used, it will be operated at a tire pressure of 50 pounds per square inch.

330.10 MEASUREMENT AND PAYMENT

The quantity of slurry seal coat applied shall be measured by square yards of slurry seal coat placed and accepted. Payment will be as specified in the Bid Proposal.