

Section 345 – Emulsified Asphalt Stabilization

345.1 Description

This work is the construction of a Emulsified Asphalt stabilized subbase by use of in-place equipment capable of pulverizing, blending, and mixing existing materials with asphalt emulsion and aggregate as needed.

2. Material

(a) **Reclaimed Material.** Ninety-five percent of the material is required to pass through a two-inch sieve.

(b) **Reclaimed Asphalt Pavement.** Processed paving material containing bitumen and aggregates hereinafter called RAP.

(c) **Bituminous Material.** Add to the mix the type and quantity of bituminous material as determined by the approved mix design. Use bituminous material conforming to the applicable requirements of Bulletin 25. Use one of the following:

Emulsified asphalt- MS-2, CMS-2, SS-1, CSS-1, SS-1h, CSS-1h, HFMS-2, HFMS-2s. Polymer modified versions of the above materials can be use as necessary, conforming to the requirements in Pub. 242 Chapter 5.

(d) **Aggregate.** Section 703.2 (Type A), No. 8,10,57, and 67. Add the gradation and quantity to the mix as required.

(e) **Mix Design.** Design in accordance with Department specifications as outlined in Bulletin 27, and submit to the District Materials Engineer for approval at least three weeks prior to commencement of work on the project. Remove samples of pavement and underlying to specified depth and perform the proper testing to establish the mix design.

(f) **Mixture.** Combine the reclaimed material, aggregates (if necessary), and bitumen, in such proportions that the total aggregate and bitumen in the reclaimed mix conforms to the composition and the requirements specified in the mix design. Make field adjustments as necessary to obtain satisfactory reclaimed mixture.

3. Construction

(a) **Equipment.** Use equipment that will produce the completed Emulsified Asphalt stabilized subbase as follows:

1. Use equipment

capable of automatically metering liquids with a variation of not more than plus or minus two percent by weight of liquids.

2. Maintain all equipment in a satisfactory operating condition as specified in Section 108.05(c).

(b) Mixing Maintain adequate total liquids to assure thorough mixing of the reclaimed material with the emulsified asphalt. Add water as necessary to the surface to aid in mixing and compaction.

Measure the milling depth at the time of pulverization. Make at least one measurement for each three thousand square yards of work done and record the measurements to ensure that the specified milling depth is met. Correct or satisfactorily replace and section deficient one half inch or more from the specified depth at no expense to the department.

(c) Compaction. Shape, grade, and compact to the lines, grades, and depth as shown on the plans and cross sections after the material has been processed . Roll with rollers meeting the requirements of Section 108.05(c). Commence rolling at the low side of the course: except leave three to six inches from any unsupported edge or edges unrolled initially to prevent distortion. Determine the in-place density requirements by the construction of at least one control strip under the guidance of a nuclear gauge operator. After each pass of the compaction equipment, take a nuclear density reading in accordance with PTM No. 402. Continue compaction with each piece of equipment until additional passes obtain no appreciable increase in density. Upon completion of compaction, make a minimum of ten tests at random locations to determine the average in-place density of the control strip. Compact the recycled mixture to a target density of at least ninety-six percent of the average control strip. Determine the in-place density in accordance with PTM No. 402.

(d) Finishing. Complete any portion of the base course during daylight hours, unless otherwise permitted.

(e) Protection. Protect any finished portion of the base course upon which construction equipment is required to travel to prevent marring, distortion or damage of any kind. Immediately and satisfactorily correct any such damage.

(f) Surface Tolerance. When directed by the engineer, test the completed base course for smoothness and accuracy of grade, both transversely and longitudinally using suitable templates and straightedges. Satisfactorily correct any three thousand square yard area where the average

surface irregularity exceeds one inch under a template or straightedge, based on a minimum of at least three measurements.

(g) Maintenance and Traffic.

Maintain the completed base course and control traffic as specified in Section 401.3(n).

(h) Curing.

Allow the Emulsified Asphalt stabilized subbase to cure for at least one week after final compaction has been completed. Protect the surface from drying. Apply a bituminous seal if excessive raveling is present.

4. Measurements and Payment

(a) Emulsified Asphalt stabilized subbase. Square Yard.

(b) Aggregate. Ton.

(c) Emulsified Asphalt. Gallon.

(d) Fog Seal. Gallon.