

SECTION 025407
ASPHALT RECYCLING IN PLACE (S-27)
(Hot Recycle Method)

1. DESCRIPTION

This specification shall govern all work required for recycling and repaving the existing asphalt pavement required to complete the project. The system shall include heating, scarifying, remixing with rejuvenator, and reshaping an existing asphalt surface followed by subsequent addition of virgin HMA overlay course, all done in a single multi-step process.

2. MATERIALS

HOT MIX ASPHALT CONCRETE (HMA) Unless indicated otherwise on the drawings, shall be Type 'D' in accordance with Section 025424 of the Standard Specifications

REJUVENATING AGENT shall be RA1 or as shown in the drawings and in accordance with AASHTO M14-88 "Classifying Hot-Mix Recycling Agents".

ABBREVIATED PAVEMENT MARKINGS unless indicated otherwise on the drawings, shall be in accordance with Section 025805 of the Standard Specifications.

3. EQUIPMENT

The machine that heats, scarifies, rejuvenates and levels must also lay the new hot-mix. New hot-mix must be laid within 30 seconds after scarification begins to ensure a Hot Monolithic Bond with the old pavement.

RECYCLING/REPAVING UNIT shall be a self-contained machine, specifically designed to accomplish the work as described above. Major components of the unit shall include heater, scarifier, gathering & mixing auger, mixing & spreading auger, and two vibratory screeds.

HEATER unit shall include an enclosed heating mechanism that is capable of sufficiently heating the pavement to allow scarification without braking aggregate; charring pavement; and polluting air.

SCARIFYING unit shall be equipped with automatic height adjustments and capable of uniformly scarifying the existing surface to a depth

of at least 1"

REJUVENATOR APPLICATOR shall be adjustable and capable of synchronizing application rate with machine speed.

SCREEDS shall be of the four section, heated, vibratory type.

4. CONSTRUCTION METHODS

EXISTING PAVEMENT to be recycled shall be cleaned by the Contractor as required to have surface free of deleterious material during recycling.

MANHOLE CLOVERS AND VALVE BOX for sewers, water valves and gas valves shall be cross-referenced by the Contractor for adjustment to grade upon completion of overlay

LONGITUDINAL SEAMS shall have full thickness weld of recycled material with a minimum of 2-inch lap.

HEATING of existing pavement shall be done such that the pavement is evenly heated without differential burning or charring of asphalt. The heated material shall typically have a temperature between 235 to 285 F., when measured behind the heater scarifier.

SCARIFICATION of heated pavement shall be to a minimum average depth of 3/4", except for pavements immediately adjacent to manholes & valves.

MIXING OF REJUVENATOR with the scarified material shall be as required to provide a uniformly mixed material capable of having Hveem Stability in excess of 32% with a rejuvenator application rate of approximately .05 gal/yd⁵. Rejuvenator shall be applied without dilution, unless authorized otherwise by the Engineer.

VIBRATORY SCREEDING of recycled HMA shall follow as required to reshape the mixture to proper section and compact the recycled material to a minimum of 80% of Maximum Theoretical Density.

NEW HMA shall be placed over the Recycled HMA while the temperature of the Recycled HMA is still above 235 F. Unless specified otherwise on the drawings, the new HMA shall be Type 'D' in accordance with Section 025424 of the Standard Specifications and applied at a rate indicated on the drawings but not less than 80 Lb. per Square Yard.

VIBRATORY SCREEDING of New HMAC shall follow as required to achieve proper section and compact the New HMAC to a minimum of 80% of maximum theoretical density.

ROLLING/COMPACTION shall follow as required to provide a uniformly compacted mixture with an average density of at least 92% of Maximum Theoretical Density, with no individual density less than 90% of Maximum Theoretical Density in accordance with THD Specs Tex-207-F and Tex-227-F.

TEMPORARY PAVEMENT MARKINGS shall be placed as soon as possible after paving operation, unless indicated otherwise on the Drawings. The Contractor shall remove temporary markings as required.

5. MEASUREMENT AND PAYMENT

Unless indicated otherwise in the Proposal, **ASPHALT RECYCLING** shall be measured by the square yard of pavement surface recycled. Payment shall include heating, scarifying, mixing, shaping, recompacting and all other labor materials and incidentals necessary to accomplish the work.

Unless indicated otherwise in the Proposal, **REJUVENATION AGENT** shall be measured by the gallon of Rejuvenating Agent incorporated into the recycled pavement. Payment shall include furnishing and mixing of Rejuvenating Agent complete and in place.

Unless indicated otherwise in the Proposal, **HOT-MIX ASPHALT CONCRETE (HMAC)** SHALL BE measured by the ton of HMAC provided in place.

Unless indicated otherwise in the Proposal, **MANHOLE ADJUSTMENT AND WATER VALVE ADJUSTMENT** shall be subsidiary work and not measured for pay.