Section 305. HMA BASE CRUSHING AND SHAPING

305.01. Description. This work consists of constructing new aggregate base from existing flexible pavement.

305.02. Materials. Provide material in accordance with the following:

Dense-Graded Aggregate 21A, 21AA, 22A................................. 902

305.03. Construction. Crush and shape Hot Mix Asphalt (HMA) to the depth and width shown on the plans. The plans will also show construction staging and shoulder treatment. Obtain the Engineer's approval for the initial surfacing course HMA mix design before crushing begins.

A. Equipment Requirements. Provide a self-propelled rotary reduction crushing machine capable of crushing the pavement to the size required by the contract and mixing the crushed material with the underlying aggregate base to the required depth.

Use a water sprinkling system approved by the Engineer to suppress dust generated from pavement crushing operations.

Provide final grading equipment that includes automatic cross slope and crown control and an automated grade referencing system for longitudinal control.

B. Crushing and Grading. Unless otherwise required, reference the longitudinal crushed grade from the existing pavement surface or the new HMA pavement surface.

The Contractor may blade the existing shoulder asphalt or seal coat material onto the mainline pavement before crushing.

Uniformly crush existing asphalt pavement, including 1 inch to 2 inches of the aggregate base, to the required width and depth. Ensure 95 percent of the crushed material has a maximum particle size of 1½ inches, and the remaining 5 percent contains no particles larger than 4 inches.

Uniformly spread and compact the crushed material to the dimensions shown on the plans. Use salvaged crushed material, if available, or dense-graded aggregate to add material to attain the plan grade or cross section. Spread added aggregate uniformly before crushing or place aggregate on the crushed surface and remix to the full crushed depth.

C. Compacting and Shaping. Compact the crushed material to at least 98 percent of the maximum unit weight, at no greater than optimum
moisture content, in accordance with the Michigan Modified T 180 Test in the Density Testing and Inspection Manual.

Repair base destabilized by over watering or non-uniform water application, damaged by Contractor operations, or from maintaining traffic, at no additional cost to the Department.

D. **Excess Crushed Material.** The Contractor may use excess crushed material as aggregate base or aggregate shoulder.

E. **Weather Limitations.** Do not crush HMA pavement if anticipated precipitation may destabilize the prepared base. Crush and shape HMA base in accordance with the seasonal limitations specified in section 501.

F. **Acceptance Criteria.** The Engineer will inspect crushing and shaping work and base acceptance on all of the following criteria:

1. Crushed material meets particle size requirements;  
2. After final shaping, the surface does not vary by more than ½ inch, when tested with a 10-foot straightedge;  
3. Immediately before paving, undulations or variations are corrected to meet the criteria in subsection 305.03.B and subsection 305.03.C; and  
4. Required density is maintained until the HMA surface material application.

305.04. Measurement and Payment.

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMA Base Crushing and Shaping</td>
<td>Square Yard</td>
</tr>
<tr>
<td>Material, Surplus and Unsuitable, Rem, LM</td>
<td>Cubic Yard</td>
</tr>
<tr>
<td>Salv Crushed Material, LM</td>
<td>Cubic Yard</td>
</tr>
</tbody>
</table>

A. **HMA Base Crushing and Shaping.** The Engineer will base payment for **HMA Base Crushing and Shaping** on plan quantity, in accordance with subsection 109.01.A, regardless of any variation in depth.

The unit price for **HMA Base Crushing and Shaping** includes the cost of water to obtain the required density, and scarifying, crushing, grading, shaping, rolling, and compacting existing HMA.

B. **Excess Crushed Material.** The Department will only pay for **Salv Crushed Material, LM** for use in other items of work if excess crushed material requires loading and hauling.

The Engineer will measure, and the Department will pay for excess material loaded and hauled from locations on the project to attain the plan grade or cross section, in the final location as **Salv Crushed**
305.04

**Material, LM** or as shoulder or approach material in accordance with subsection 307.04.

C. **Material, Surplus and Unsuitable, Remove, LM.** The Department will only pay for Material, Surplus and Unsuitable, Rem, LM if the Contractor removes material from the project site and disposes in accordance with subsection 205.03.P.

D. **Trenching.** The Department will pay separately for Trenching, in accordance with subsection 307.04.

E. **Aggregate.** The Department will pay separately for additional aggregate as Aggregate Base, in accordance with subsection 302.04. If Aggregate Base is not included in the contract, the Department will pay for additional aggregate as extra work.