

**ITEM - BITUMINOUS PAVEMENT REMOVAL BY MILLING
(WHEN AN ASPHALTIC CONCRETE FRICTION COURSE IS TO BE PLACED ON THE MILLED SURFACE)**

The work under this Item consists of removing the existing bituminous pavement as specified in Section 202-3.03 of the Standard Specifications, with the following exception:

202-3.03(D) Bituminous Pavement Removal By Milling (When as Asphaltic Concrete Friction Course is to be Placed on the Milled Surface): is hereby added to the Standard Specifications:

Existing asphaltic concrete shall be removed by milling in accordance with the details shown on the project plans and as specified herein. The milling equipment shall be specifically designed to remove material to a controlled line and grade by means of grinding or chipping. The equipment used shall be capable of removing the existing asphaltic concrete uniformly throughout the milled area at the required cross-slope and within 1/8 inch of the specified removal depth. The specified removal depth of the existing bituminous pavement shall be * inches. The removal shall be accomplished in a manner which does not destroy the integrity of any pavement that remains. During production milling, the contractor shall verify the actual depth of milling required to remove the ** to the desired underlying pavement surface. If it is determined that the required milling depth is greater than the specified milling depth, the additional material shall be completely removed to the desired underlying pavement surface, as approved by the Engineer, at no additional cost to the Department. The milled material shall be removed and disposed of as specified by the Department.

The milled surface shall have a maximum mean macrotexture depth of 4.50 millimeters, as determined in accordance with Arizona Test Method 742 - Mean Macrotexture Depth of Milled Pavement.

At the start of the milling operation, the contractor shall mill a 500-foot test section. The milled surface of the test section shall be evaluated by the Engineer for compliance with the maximum mean macrotexture depth requirement. If the milled surface is in compliance with the macrotexture requirement, the contractor may begin production milling. If the milled surface is not in compliance with the macrotexture requirement, the contractor shall make adjustments to the milling operation and then mill another test section.

During production milling, the mean macrotexture depth shall be determined at a minimum frequency of one test per one-half mile per lane. If, at any time, during the milling operation the Engineer determines that the macrotexture requirement is not being achieved, the contractor shall stop milling. Milling shall not resume until the Engineer is satisfied that the macrotexture requirement can be met or until successful completion of another test section. The forward speed of the milling machine during production milling shall not exceed the speed used for the test section. The forward speed of the milling machine shall be checked throughout each production day, or at the discretion of the engineer.

The profile of the milled surface, in both the longitudinal and transverse directions, shall not vary by more than 1/8 inch over a distance of ten feet.

Under no circumstances shall the removal of existing asphaltic concrete begin until the mix design for replacement asphaltic concrete has been approved by the Engineer.

The extent of removal of existing asphaltic concrete must be in keeping with the contractor's ability to produce, haul, place and compact replacement asphaltic concrete so that at all times the length of milled surface is at a minimum. If the contractor's production of replacement asphaltic concrete is stopped for any reason, the removal of asphaltic concrete shall either cease or shall be reduced. The Engineer will be the sole judge as to whether the removal shall cease or be reduced. The Engineer's decision will be based on the reason for the stoppage in asphaltic concrete production, the expected length of the stoppage, the type and depth of the material being removed, and the time of day.

Asphaltic concrete shall be placed as soon as possible after the milling. The surface on which the material is to be placed shall be uniform and free of loose material.

The length of milled surface at any one time shall not exceed two miles, or one-half the length of the work, whichever is less. Asphaltic concrete shall be placed on the milled surface before the end of each day's work. The lane shall be opened to traffic at the end of each day's work.

In the event of circumstances beyond the control of the contractor, such as equipment breakdown, or if the production of the replacement asphaltic concrete has been stopped by the Engineer and the contractor is unable to comply with the requirements in the preceding paragraph, the contractor shall provide and maintain such traffic control devices that the Engineer deems necessary under the circumstances in order to provide safe and efficient passage through the work zone.

If the Engineer deems it to be warranted, the Engineer will require that the contractor provide for the surface drainage of areas where the pavement surface has temporarily been removed.

Pavement, to be removed by milling, adjacent to manholes, valve boxes, small radius curbs and other fixed objects that produce confined areas shall be removed with milling equipment specifically designed to operate in restricted areas and capable of removing asphaltic concrete of the specified thickness without damage or displacement of the adjacent object. At the discretion of the Engineer, such areas may be excluded from macrotexture testing.

On projects with existing curb and gutter, any asphaltic concrete buildup in the gutter designated to be removed, shall be removed prior to the pavement removal operation by equipment and methods approved by the Engineer. The equipment and methods used shall be capable of removing the asphaltic concrete buildup without causing damage to the curb and gutter.

DESIGNER:

- * The specified removal depth shall be supplied by the Pavement Designer.
- ** The type of material being removed shall be determined by the Pavement Designer.
(This will normally be ACFC, AR-ACFC, or a Chip Seal Coat.)