

ENCROACHMENT PERMIT

CURB-TO-CURB MILLING & PAVING GUIDANCE

DESCRIPTION: The work associated with the Curb-to-Curb Milling & Paving must be compliant to the Connecticut Department of Transportation Standard Specifications for Roads, Bridges, Facilities, and Incidental Construction (Standard Specifications) or as determined by the District Office. The Milling and Paving Contractors utilized must be approved by CTDOT. The paving of one lane from gutter line to center line will be required when utility work is done within the confines of that lane. Curb-to-Curb will be required when the utility work crosses the centerline and encroaches into the opposite lane of traffic. These limits may be altered if damage has resulted from the installation and all final decisions on the restoration limits will be made by the CTDOT. The CTDOT permit inspector must approve of these limits prior to beginning the mill and paving process.

This work will consist of Fine milling of bituminous concrete pavement to a depth of 2.5"- 3" inches, disposing of pavement millings, sweeping, and cleaning, application of tack coat on all surfaces within the milled and leveled area. Placement of one (1.5") inch loose of Hot-Mix Asphalt (HMA) S0.25 for leveling compacted, and the placement of two and a half (2.5") inches loose of Hot-Mix Asphalt (HMA) or Polymer Modified Asphalt (PMA) S0.5 compacted to two (2.0") inches to match the elevation of the surrounding or abutting existing pavement.

MATERIALS: HMA S0.25 leveling course and S0.5 top course and must meet the requirements of CTDOT's Standard Specifications. All HMA, must be Traffic Level 2 unless indicated otherwise by the CTDOT permit inspector. Tack coat must meet the material requirements of CTDOT's Bituminous Concrete Standards, in the Standard Specifications.

SUGGESTED GUIDANCE RELATED TO CONSTRUCTION EQUIPMENT & METHODS **(as required in CTDOT DAS contracts):**

- a. Milling machine: A milling machine designed and built for milling flexible pavements. The milling machine must be self-propelled with sufficient power, traction, and stability to maintain depth, slope, and be capable of removing the existing bituminous concrete pavement.

The milling machine must be equipped with a built-in automatic grade averaging control system that can control the longitudinal profile and the transverse cross-slope to produce the specified results. The longitudinal controls must be capable of operating from any longitudinal grade reference, including string line, contact ski (thirty (30) feet minimum), non-contact ski (twenty (20) feet minimum), or mobile string line (thirty (30) feet minimum). The transverse controls must have an automatic system for controlling cross-slope at a given rate. The Permit Inspector may waive the requirement for automatic grade or slope controls where warranted.

The fine milling rotary drum of the milling machine must use carbide tip tools spaced not more than five-sixteenths (5/16) inch apart. The forward speed of the milling machine must be a maximum of forty-five (45) feet/minute. The tools on the revolving cutting drum must be continually maintained and replaced by the Contractor as warranted to provide a uniform pavement texture.

The milling machine must be equipped with an integral pickup and conveying device to immediately remove milled material from the surface of the roadway and discharge the millings into a truck, in one operation. The milling machine must also be equipped with a means of effectively limiting the amount of dust escaping from the milling and removal operation. When milling smaller areas or areas where it is impractical to use the equipment described above, the Contractor may use a lesser equipped milling machine with a minimum milling width of at least eighteen (18) inches with CTDOT's permit inspector's prior approval.

- a. One ten (10) foot straight edge to be used in accordance with CTDOT's Standards & Specifications.
- b. Two (2) skid steers with smooth rubber tires, one (1) with heavy-duty construction bucket utilized for scraping up millings and one (1) with heavy duty broom minimum six (6) foot width.
- c. Sweeper: A mechanical sweeper, equipped with a water tank, side gutter wire brushes and a main rear heavy duty broom capable of remove millings and loose debris.
- d. Sweeper/Vacuum truck: A sweeper equipped with side gutter wire brushes and a high capacity vacuum capable of picking up heavy debris. (Vacuum sweeper is required to work in conjunction with a mechanical sweeper if the road is paved less than 48 hours of being milled)
- e. Air compressor: An air compressor capable of producing one hundred (100) psi, oil free, compressed air for cleaning the milled pavement surface.
- f. Hot air lance: A hot air lance that can deliver one hundred (100) psi, oil free heated air to clean and dry the pavement surface. The compressed air emitted from the tip of the lance must achieve a temperature of at least one thousand five hundred (1500) degrees Fahrenheit.
- g. Paving and compaction equipment: Tack coat, paving and roller compaction equipment meeting the requirements of CTDOT's Standards, Section 4.06. The Contractor shall meet the density, compaction and all other requirements specified in the Standards including the use of a wedge joint unless otherwise approved by the Inspector.
- h. Portable lighting equipment: If the work is performed at night, the Contractor shall provide a truck towed light tower for all marking, installation, and inspection.
- i. A VMS (Virtual Message Board) must be utilized on the job to alert the traveling public of the intended work.

The work performed shall include:

- j. *Demarcating*: The Contractor shall mark out areas for repair and determine the appropriate milling depth for Permit Inspector approval. Any area to be repaired must completely encompass the entire work affected pavement area and extend at least three (3) feet beyond into the surrounding pavement wherever possible or as indicated by the Encroachment Permit Inspector.
- k. *Milling*: The Contractor shall mill marked out areas to specified depths.
- l. *Sweeping, Cleaning and Drying*: Milled surfaces must be swept clean and allowed to dry.

- m. *Applying Tack Coat:* The Contractor shall apply tack coat to the entire clean and dry milled area, including the sides/walls of the area to be patched, and in accordance with the requirements of the CTDOT Standards, Section 4.06.
- n. *Placing Material:* After the tack coat has had sufficient time to cure or break, the Contractor shall apply HMA S.25 leveling or HMA S0.5 and compact the material in accordance with the CTDOT Standards. The Contractor shall confirm that the surface elevation of the finished repair matches the elevation of the surrounding pavement surface and structures to within one-quarter (1/4) inch using the ten (10) foot straightedge. The Contractor shall confirm that all bituminous material placed is uniform in appearance, smooth, dense and without segregation. All transverse and longitudinal surface joints including ones abutting to existing pavement must be sealed with a rubberized joint seal material meeting the requirements of ASTM D6690, Type 2 referred to in CTDOT's Bituminous Concrete Standards.
- o. *Finished Surface:* The Contractor shall confirm that the surface elevation of the finished pavement matches the elevation of the surrounding pavement surface and structures to within 0.25 inch using the 10-foot straightedge.
- p. *Hot Rubberized Joint & Crack Seal:* The Contractor shall apply hot rubberized joint and crack seal to the entire joint where new pavement meets existing pavement to produce a sealed bond between both.
- q. *Pavement Markings, Rumble Strips and Symbols & Legends:* The Contractor must replace in kind any of the items listed according to CTDOT "STANDARDS" or as approved by the Inspector.