

# STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION POLICY FOR RESTORING ALL PAVEMENT EXCAVATIONS UNDER ENCROACHMENT PERMIT

Work performed within the Connecticut Department of Transportation's right-of-way paved roadway should be in compliance with the Standard Specifications for Roads, Bridges, Facilities and Incidental Construction including all supplements and revisions, Encroachment Permit-Pavement Repair Drawing and other applicable standards.

<https://portal.ct.gov/DOT/IT/ConnDOT-Publications-Manuals>

It is the ConnDOT's priority that any excavation within the State Right of Way is to be performed off the paved roadway where possible. A Joint Encroachment Permit will be issued to the facility owner if more than one prime contractor will excavate the paved roadway. The Department reserves the right to require the permittee to reimburse the State for all expenses incurred in connection with this permit including but not necessarily limited to inspection, State-owned equipment, supplies, etc. as outlined under regulation 13b-17-11 of the CTDOT Permit Manual. Cost adjustments and other expenses that are related to the work within the state right of way will be borne by the permittee. Highway pavement markings disturbed during the construction activity will be replaced with epoxy resin paint. All pavement markings, center line rumble strips, grooved pavement markings and other highway appurtenances disturbed as a result of the permitted work must be replaced and approved by the inspector. If any State drainage structure is damaged or impacted due to construction activity on State roads the contractor or permittee must immediately notify the State inspector. The contractor or permittee must provide an exact location, pictures and documentation of any damage as well as the method of repair. A minimum two-year guarantee on compaction and pavement serviceability shall be required. This guarantee will allow for the time needed to expose any settlement, deterioration or unraveling due to unacceptable workmanship. It is the encroachment permittee's responsibility to continually maintain their excavation and address any issues related to that project. If the deficiencies are not addressed, then the permittee forfeits the ability to obtain another permit until the issue is resolved.

## **TYPES OF PAVEMENT REPAIR**

***Roadway Pavement Profile*** – The ConnDOT roadway profile for Encroachment Permits will consist of the following:

- 3 inches of HMA Superpave 0.5 Traffic Level 2 placed in two equal lifts.
- 6 inches HMA Superpave 1.0 Traffic Level 2 placed in two equal lifts.
- 10 inches Processed Aggregate Base Material compacted in 5" lifts.
- Compacted Granular Fill base compacted in 8" lifts.

***Temporary Pavement Repair*** – This operation will not be allowed whenever hot mix asphalt (HMA) cannot be obtained. The patch shall be smooth and consistent with the existing road surface. The

permittee shall be responsible to maintain the excavation and pavement repair until permanent pavement restoration is completed.

Temporary Pavement shall consist of the following:

- 4 inches S0.5 Level 2 (HMA) installed in two equal compacted lifts.
- 15 inches Processed Aggregate Base Material compacted in 5inch lifts or as directed by the Inspector.

***Permanent Pavement Repair Without Milling*** – Any trench that is longer than 10 linear feet will require machine laid asphalt or as directed by the Inspector. This profile will include the placement of 9 inches of HMA on 10” of Processed Aggregate as identified below:

- **Excavations less than 1500 square feet will require:**
  - 3 inches of S 0.375 Traffic Level 2 HMA compacted in two equal lifts.
  - 6 inches of S1.0 Traffic Level 2 HMA compacted in two equal lifts.
- **Excavations greater than 1500 square feet will require:**
  - 3 inches of S 0.5 Level 2 HMA compacted in two equal lifts.
  - 6 inches of S1.0 level 2 HMA compacted in two equal lifts.
- **Pavement where Portland Cement Concrete (PCC) is under a HMA overlay will require:**
  - S0.375 Level 2 HMA placed at lifts necessary to match the original surface grade.
  - S0.5 Level 2 HMA at depths necessary to match the original surface grade.
  - The PCC shall be replaced with S1.0 Level 2 HMA at a depth to match the existing PCC depth or 6 inches, whichever is greater.
- **If there is no PCC present in the pavement, the overlay will require:**
  - S0.5 or S0.375 Level 2 HMA placed at lifts necessary to match the original surface grade.
  - S1.0 Level 2 HMA shall be placed at a minimum depth of 6 inches.

***Permanent Pavement Repair With Milling.***

Depending on the location of the proposed excavations, milling and HMA resurfacing shall be required for the affected area. The limits of resurfacing will be determined by ConnDOT and will generally extend from the nearest longitudinal pavement joint to the gutter line or nearest adjacent joint which parallels the excavation. The milled area and all saw cut edges shall be mechanically swept and tack coated with an approved tack material. The material must be applied by a non-gravity pressurized spray system that results in uniform overlapping coverage with an application rate that is in accordance with the Standard and Specifications. The milled area will be paved with S0.5 or S0.375 Level 2 HMA compacted to a 2 inches depth in accordance with the Standard and Specifications Sections 4.06 & M.04. All milled material must be disposed of at the permittee’s expense.

***Backfill*** - The excavation shall be filled with the appropriated suitable sub-base and base material. The sub-base and base shall be compacted in lifts in accordance with the Standard and Specifications.

***Compaction*** – The permittee shall be required to have a consultant inspector on site at all times during any and all construction within the State Right of Way to perform inspections and to verify required materials testing in accordance with Standard Specifications Section 2.14. All compaction and density

testing shall be performed by certified Northeast Transportation Training and Certification Program (NETTCP) testing personnel using a nuclear density gauge that has been received its annual certification from CTDOT. Compaction tests on soils and density tests on asphalt shall be performed once per lift of material installed once every 25 l.f. of the excavation or as directed by the permit inspector to assure that a rate of 95% is achieved on granular fill, process, and a minimal of 92% on asphalt. Daily inspection reports which have been reviewed and stamped by a licensed Connecticut Professional Engineer shall be submitted to the District Permit Office on a weekly basis.

**Saw Cutting** – The contractor shall be required to saw cut the pavement edges in a vertical, neat, straight line to a depth necessary to remove the pavement and PCC to the subbase. The saw cutting slurry must not be allowed to enter the State’s drainage system. All edges must be tack coated and the surface joints sealed by an approved asphaltic material applied in accordance with Standard and Specifications Section 4.06.03.

**Fine Milling** – All work performed under Milling of Bituminous Concrete, Removal of existing Wearing Service shall be in accordance with Standards and Specifications Section 4.09. The equipment used to mill must come equipped with automatic grade or slope controls in order to provide a uniform textured appearance. The milled surface shall be free from gouges, longitudinal grooves and ridges, oil film, and other imperfections that are a result of defective equipment, improper use of equipment, or poor workmanship. Any milled area that will not be exposed to live traffic for a minimum of 48 hours prior to paving shall require a vacuum sweeper truck in addition to, or in lieu of mechanical sweeping. The vacuum sweeper truck shall have sufficient power and capacity to completely remove all millings from the roadway surface including any fine particles within the texture of the milled surface. Vacuum sweeper truck hose attachments must be used to clean around pavement structures or areas that cannot be reached effectively by the main vacuum. Compressed air may be used in lieu of vacuum attachments upon prior approval from the inspector. The pavement surrounding and including the excavation shall be milled to a depth of 2 inches from shoulder to center line or shoulder to shoulder, depending on the length of the excavation. The milled area shall extend a minimum of 10 feet beyond the outermost edge of the original trench line. When determining the overall width and the starting and ending points for the milling, consideration must be given to existing pavement joints, at-grade rail crossings and intersecting streets. The milled edges shall be vertically faced and not tapered. The entire milled area including the vertical edges shall be swept and tack coated with approved material at the appropriate rate.

**Overlay** – The area shall be overlaid with S0.50 or S0.375 Level 2 HMA, compacted by a roller with a vibratory system that achieves compaction through vertical amplitude forces that will meet a minimal compaction of 92% to a depth of 2 inches. A 10-foot straightedge shall be used to ensure that the final grade of the pavement replacement consistently matches the existing surface grade.