

SURFACE TREATMENTS

Scope of Work

Revised October 23, 2017

Work shall consist of, but not limited to installing preventive maintenance treatments such as chip seals, cape seals, fog seals, ultra-bonded wearing course, cold in-place recycling (CIR), hot in-place recycling (HIR) and crack seal to the State's highway system to include Interstate, NHS and State routes.

Cold planing may be accomplished by either a milling attachment on a skid steer (bob cat) or a self-propelled cold planer. It is recommended to only cold plane areas that can be paved that day. Cold planed areas may include, but not limited to, begin and end project tapers, tapers into and out of Railroad Crossings, bridges and other assets that cannot be paved over directly.

SURFACE TREATMENTS - Surface treatments are preventive maintenance measures in order to keep good roads good. Since these treatments are thin they provide no additional structure integrity except for CIR and HIR. Surface preparation consists of removing any foreign debris or deleterious material from the road surface either by mechanical broom or hand equipment. This may include the removal of shoulder berm (winter sand buildup) which may require a mechanical bucket or small mid mount tractor grader. After the road has been cleaned and is dry, the contractor may have to shim and crack seal areas to be treated prior to installing surface treatment in order to reestablish crown for proper drainage. The contractor is responsible for supplying all material, equipment, operators and employees to properly install the surface treatment to the satisfaction of the District Transportation Administrator (DTA) or VTrans authorized representative.

Emulsion is to be applied to all surfaces, if part of the surface treatment design, prior to paving over except gravel. Newly paved surfaces being paved over the same day shall require emulsion to be applied at a reduced rate between pavement layers.

CRACK SEAL - Crack seal is a hot liquid applied to clean, dry and sometimes routed cracks to prevent water damage to a highways surface and sub-surface pavement layers. Cracks are cleaned using an air compressor and/or water pressure hose. Cracks are then dried with a torch. Cracks are then filled with a hot bituminous type liquid. The contractor is responsible for supplying all material, equipment, operators and employees to properly install the surface treatment to the satisfaction of the District Transportation Administrator (DTA) or VTrans authorized representative.

COLD IN-PLACE RECYCLING – Cold in-place recycling can be performed either with a paving train on site or with a cold mill. **In-Place Recycling** – is a process that uses three independent machines working in concert, forming what is referred to as a "train." A recycle train mills the old surface, adds virgin aggregate and emulsified asphalt and then lays the new mix through a conventional paver. After the compaction the mix is ready for traffic. In-place recycling is the method of choice when you have sufficient pavement to create a base binder layer on a road of significant length.

Central Plant Recycling - This process mixes millings and virgin aggregate with emulsified asphalt. The mix can be designed to use these materials immediately on the current project or they can be stockpiled for later use. This process that is ideal for short runs such as village streets, city blocks and curb lines. It is especially effective when you need to use stockpiled millings.

HOT IN-PLACE RECYCLING – Hot in-place recycling can be performed either with a paving train on site or by plant using only existing material or adding virgin material to existing material. **The Re-HEAT train** begins with the tandem pre-heaters gradually heating the existing asphalt pavement to 300 degrees F. This will be done in stages, as the preheaters develop a heating pattern – similar to a rolling pattern – to increase the pavement temperature from ambient. After the preheaters, the next step is the processing machine, which is basically a small asphalt plant going down the road. Paddles under the unit begin to collect the heated, softened material into a windrow, which is fed into an on-board asphalt drum mixer. In the horizontal drum mixer, the rejuvenating oil is uniformly applied and mixed while the heating process is maintained within the drum. The recycled hot mix is then distributed out of the drum onto the pavement where it's augered and placed through a traditional asphalt paving screed. The paving screed ensures proper slope and grade is delivered to the final surface course.

Remixing using virgin aggregate: This method is used when additional aggregate is required to improve the strength or stability. Remixing is similar to repaving but adds new virgin aggregate or new HMA to the recycled material before it is leveled.

Traffic Control: Traffic control shall either be the responsibility of the contractor or VTrans depending on the nature and/or duration of the project. VTrans will inform the contractor **during the RFP process** who shall be responsible for providing traffic control. Part 6 (Temporary Traffic Control) of the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) (http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm) establishes the traffic control standards and guidelines for street and highway maintenance operations. Traffic control for Paving and/or Surface Treatments shall comply with Chapter 6H of MUTCD whenever possible.

Construction will be performed in such a way as to minimize conflicts with normal highway traffic. When two-way traffic cannot be maintained, a sign package that conforms to the MUTCD or VAOT Standards, and trained Flaggers shall be provided. In addition, VTrans may require the presence of Uniform Traffic Officers (UTOs). The presence of UTOs shall not excuse the contractor from its obligation to provide the sign package and Flaggers.

Temporary line striping targets **(LST)** and permanent pavement markings (in accordance with **Section 646 – Retroreflective Pavement Markings** within the current Standard Specifications for Construction) shall either be the responsibility of the contractor or of VTrans. VTrans will inform the contractors **during the RFP process** who shall be responsible.

Disposal of removed materials shall be the responsibility of the contractor. VTrans will inform the contractor prior to assignment of work regarding salvaged materials that may be required to be delivered to a designated location.

The work shall be done under the direction of the authorized representative of VTrans.

All work shall be done to the satisfaction of the State's representative, and, to the extent applicable, in accordance with the most recent version of the Vermont Agency of Transportation's Standard Specifications for Construction <http://vtrans.vermont.gov/contract-admin/construction> and all attachments as well as any other State, Federal, and Agency Standards, Policies, and Specifications.

If a Contractor performs work or services under this contract pursuant to a specific work assignment that involves work on a federal-aid project in excess of \$2,000.00, the requirements of Wage Rates for Federal-Aid Projects shall apply to the wages paid to the private sector workers.

Further, if the value of the work done or services performed under this contract pursuant to a specific work assignment is in excess of \$250,000, Workers' Compensation; State Contracts Compliance Requirements apply.