

This specification outlines the requirements for full depth asphalt reclamation, often referred to as pulverizing. It is a recycling technique in which existing asphalt pavement is crushed in place and mixed with a portion of the underlying granular base to form a homogeneous, blended mixture. The recycled mixture is then shaped and compacted for use as granular base in the new road structure.

## PART 1 REFERENCES

This specification refers to the following standards, specifications, or publications:

Other

Ministry of Transportation, Ontario, LS 621      Method of Test for Determination of Amount of Asphalt Coated Particles in Coarse Aggregate.

## PART 2 GENERAL

2.1 NOT APPLICABLE

## PART 3 PRODUCTS

3.1 EQUIPMENT NOT APPLICABLE.

.1 The pulverizing process shall be performed using a self-propelled machine specifically manufactured for full depth recycling work and capable of reducing the material to the specified size. It shall pulverize to a specified depth with standard depth control (as shown on a working gauge) and must maintain a consistent cutting depth and width.

3.1.2 This process shall be performed using a Caterpillar Reclaimer RR-250 or equivalent.

## PART 4 EXECUTION

### 4.1 SCOPE

.1 Full depth asphalt reclamation, often referred to as Pulverizing, is a process by which the existing asphalt pavement is crushed in place into small size particles and mixed with part of the existing granular base to total depth equivalent to twice the old asphalt thickness. This is accomplished in one operation with a pulvi-mixer type of equipment.

- .2 If underlying granular layers have insufficient thickness, the Owner's Representative must be notified immediately.
- .3 The pulverized mixture is re-levelled and re-profiled prior to compaction for use as granular base in the new road structure.

#### 4.2 PROCEDURE

- .1 The Contractor shall pulverize the existing asphalt pavement (asphalt and granulars) to a total maximum depth of 160 mm unless noted otherwise in the Contract Documents.
- .2 The pulverized material shall have 100 % passing a 40 mm sieve and shall be blended uniformly. Any material larger than 40 millimetre in dimension shall be removed from the surface of the Work. This process shall be performed using a Caterpillar Reclaimer RR-250 or equivalent.
- .3 Any material larger than 40 millimetre in dimension shall be removed from the surface of the Work. Pulverized material shall contain no more than 50 % asphalt coated particles when tested in accordance with the latest version of MTO LS-621.
- .4 After the pulverizing operation has been completed the Contractor shall prepare the roadway for Hot Mix Asphalt Paving. This shall include saw cutting the asphalt, rough grading, and addition of new Granular Class "A" as directed by the Owner, fine grading and compaction.
- .5 The grading and compaction shall be in accordance with Section 02233 – Selected Granular Base & Sub-Base Materials.
- .6 If the Owner requires the gradation of the pulverized material to be adjusted, thorough mixing of new Granular Class "A" with the pulverized material will be required. The new profile and cross section shall be restored to the satisfaction of the Owner. Work under this item shall also include the excavation and removal of pulverized materials from the transitions areas to permit a suitable transition to match into the existing asphalt as directed by the Owner's Representative
- .7 The grading and compaction shall be in accordance with Section 02233. The Contractor shall be responsible for maintaining the gravel surface in a condition acceptable to the Owner throughout the entirety of the project.
- .1 This includes the requirements for Dust Control within Section 01560 – Environmental Requirements.
- .8 Prior to termination of daily operations, all open pulverized sections shall be graded, shaped and compacted leaving it suitable for a driving surface.
- .9 The Contractor shall be responsible for scarifying and reshaping any areas where Granular "A" material, placed in preparation for paving

operations, has deteriorated due to prolonged exposure and wear. The Contractor shall ensure that the affected areas are properly prepared to meet the specified requirements for paving. The cost associated with this scarifying and reshaping operation shall be considered incidental to the overall work, and no additional compensation will be provided.

.3.10 until the Hot Mix Asphalt Paving is complete. The roadway shall not be left unpaved more than seven (7) calendar days after pulverization of the old asphalt and the pulverized or unpaved Work Area shall not be greater than 4 km in road length.

.4 Contractors are reminded that the Dust Control subsection of Section 01560, applies.

## PART 5 PAYMENT

### 5.1 MEASUREMENT FOR PAYMENT

.1 Measurement for payment shall be in square meters of actual area of roadway pulverized. The measurement calculations shall be based on actual existing asphalt width determined from field measurements and the length of the actual horizontal distance covered as determined by the Owner.

.2 Unless indicated otherwise in the contract documents, any area pulverized at a depth greater than 160 mm and verified by the Owner's Representative at the request of the Contractor prior to completing the work, will be measured separately for payment at a prorated amount as defined in subsection Basis of Payment of this section.

### 5.2 BASIS OF PAYMENT

.1 Payment at the contract price for Pulverization of Existing Asphalt will be considered compensation in full for all plant, labour and material use to: saw cut asphalt at the limits of pulverizing, pulverize the existing asphalt and granulars to a total depth of 160 mm or as specified in the MERX Schedule of Quantities and Prices, rough grading, fine grading including blending of new Granular Class "A" and compaction, and dust control as deemed necessary by the Owner.

.2 Should the actual depth of pulverization be in excess of 160 mm or the thickness noted in the unit price table, the unit price bid per square meter will be prorated as follows:

$$\text{Prorating Factor (PRF)} = 1 + \frac{0.75(A - B)}{B}$$

Where:

A = actual depth

B = stipulated contract depth

PRF > 1.0

**Example of Prorated Unit Price for area with depth greater than 220 mm:**

A = 250 mm (this would indicate existing asphalt at 125 mm and underlying granulars at 125 mm)

B = 220 mm (stipulated contract depth)

$$\text{Prorating Factor (PRF)} = 1 + \frac{0.75(250 - 220)}{220}$$

Prorating Factor (PRF) = 1.1023

.3 Payment for the new Granular Class "A" will be made according to Section 02233 - Selected Granular Base & Sub-Base Materials.