SECTION 425
DIAMOND GRINDING CONCRETE PAVEMENT

425.01. DESCRIPTION.

This work shall consist of grinding portland cement concrete pavement to restore drainage and riding characteristics to the pavement surface. This work shall be accomplished in accordance with these Specifications and in reasonably close conformity to the details shown on the Plans.

425.03. EQUIPMENT.

The grinding equipment shall be a power driven, self-propelled machine that is specifically designed to smooth and texture portland cement concrete pavement with diamond blades. The effective wheel base of the machine shall not be less than 12 feet (3.6 m). It shall have a set of pivoting tandem bogey wheels at the front of the machine and the rear wheels shall be arranged to travel in the track of the fresh cut pavement. The center of the grinding head shall be no further than 3 feet (0.9 m) forward from the center of the back wheels.

The equipment shall be of a size that will cut or plane at least 3 feet (0.9 m) wide. It shall also be of a shape and dimension that does not encroach on traffic movement outside of the work area. Equipment that causes excessive ravels, aggregate fractures, spalls, or disturbance of the transverse and longitudinal joints or cracks will not be permitted.

Other equipment may be considered in accordance with Subsection 108.06.

425.04. CONSTRUCTION METHODS.

(a) **Grinding Pavement.** The Plans will designate the areas of pavement surfaces to be ground. Grinding shall be performed in the longitudinal direction so that grinding begins and ends at lines normal to the pavement centerline. The entire area designated on the Plans shall be ground until the pavement surfaces of adjacent sides of transverse joints and cracks are in the same plane. Extra depth grinding to eliminate minor depressions in the pavement to obtain 100% texturing will not be required.

Schedule the construction operation in a manner that produces a uniform finished surface. Grind in a manner that eliminates joint or crack faults, and provides positive lateral drainage by maintaining a constant cross-slope between the edges of grinding operations. Auxiliary or ramp lane grinding shall transition as required from the mainline edge to provide positive drainage and an acceptable riding surface.

(1) Surface Texture and Grooving. The grinding process shall produce a pavement surface that is uniform in appearance with a longitudinal line type texture. The surface shall have grooves between 0.09 to 0.15 inches (2 to 4 mm) wide, spaced up to 1/8 inch (3 mm) apart. The peaks of the ridges shall be a minimum of 1/16 inch (1.5 mm) higher than the bottom of the grooves.

(2) Slurry Removal. Provide positive means for removal of grinding slurry or residue by vacuum or other continuous methods. In no case shall slurry be allowed to flow across lanes being used by traffic.

(3) Pavement Smoothness.

3.1 *Profiling Pavement Surface.* Profile all ground surfaces in accordance with ASTM E 1274. The profilograph shall have non-uniformly spaced wheels. Pavement so tested shall have a profile index of 5 inches (125 mm) or less using a 0.2 inch (5 mm) blanking width. Reduce by grinding individual high points in excess of 0.3 inch (8 mm), as determined by measurements of the profilograph, until they no longer exceed 0.3 inch (8 mm).

After individual high points have been reduced, perform additional grinding as necessary to reduce the profile index to values specified above in any 0.1 mile (0.16 km) section along any line parallel with the pavement edge. All ground areas shall be neat rectangular areas of uniform surface appearance.

3.2 *Straight Edge Tolerance.* At locations to be determined by the Engineer, straightedge the surface with a straightedge 10 foot (3 meters) long. When the straightedge is laid on finished pavement parallel to centerline or normal to the centerline, the maximum distance to the roadway surface from the bottom edge of the straightedge shall not exceed 1/8 inch (3 mm) at any point. Additional grinding will be required at the locations found in excess of the 1/8 inch (3 mm) tolerance.

(b) **Traffic Control.** Traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices.

NOTE: Overnight closure of traffic lanes for the sole purpose of grinding pavement will not be permitted.

425.05. METHOD OF MEASUREMENT.

Diamond grinding concrete pavement will be measured by the square yard (square meter). The square yards (square meters) measured will be the final textured surface area regardless of the number of passes required to achieve acceptable results. Minor areas of untextured pavement within the designated areas to be textured will be included in the measurement.

425.06 BASIS OF PAYMENT.

The accepted quantities, measured as provided above, will be paid for at the contract unit price as follows:

DIAMOND GRINDING
CONCRETE PAVEMENT ..... SQUARE YARD (SQUARE METER)

Such payment shall be full compensation for furnishing all materials, equipment, labor and incidentals necessary to complete the work as specified.