**Reviewers: Use this BSP for all projects with Latex Modified Concrete Wearing Surface (or Optional Concrete Wearing Surface where latex is an option).**

 DIAMOND GRINDING 7/1/21

**1.0 Description.** This work will only be performed at the discretion of the engineer and will be underrun if not required by the engineer. This work shall consist of grinding the new concrete surface to provide good riding characteristics, a surface texture and proper drainage. If the engineer determines it necessary to provide good riding characteristics, grinding shall be performed on all or part of the bridge approach slabs and sealed in accordance with Sec 703.3.8. The finished surface shall be in accordance with Sec 703.3.7 and as shown on the plans or as directed by the engineer except as modified below.

**2.0 Equipment.** The equipment shall be of a size that will grind a strip at least 3 feet wide using diamond blades and shall not cause spalls at cracks, joints or other locations.

**3.0 Construction Requirements.** The construction operation shall be scheduled and proceed in a manner that produces a uniform finished surface. Auxiliary or ramp lane grinding shall transition from the edge of the mainline as required to provide drainage and an acceptable riding surface.

**3.1** Deck repair, if required, shall be completed prior to any grinding.

**3.2** Grinding shall be accomplished in a manner that eliminates joint or crack faults and provides lateral drainage by maintaining a constant cross slope between grinding extremities in each lane. A maximum tolerance of 1/16 inch will be allowed for adjacent sides of joints and cracks, except that under no circumstances shall the grinding depth exceed 1/4 inch from the top of the original surface. When grinding across faulted joints, a minimum of a 20-foot transition onto the approach side slab shall be used.

**3.3** The cross slope of the pavement shall be as shown on the plans and shall have no depressions or misalignment of slope greater than 1/4 inch in 12 feet when measured with a 12-foot straightedge placed perpendicular to the centerline. Areas of deviation shall be reground. Straightedge requirements will not apply across longitudinal joints or outside the ground area.

**3.4** As soon as practical after grinding, the surface will be straight edged longitudinally, and all variations exceeding 1/8 inch in 10 feet will be plainly marked. Areas of deviation shall be reground.

**3.5** Substantially all of the pavement surface shall be textured. Extra depth grinding to eliminate minor depressions in order to provide texturing on 100 percent of the pavement surface will not be required. No unground surface area between passes will be permitted, except as specified otherwise in the contract documents.

**3.6** The grinding process shall produce a final pavement surface that is true to grade and uniform in appearance with a longitudinal line-type texture. The line-type texture shall contain parallel longitudinal corrugations that present a narrow ridge corduroy-type appearance. The peaks of the ridges shall be approximately 1/32 inch higher than the bottoms of the grooves. The grooves shall be evenly spaced. There shall be approximately 50-55 grooves per foot, measured perpendicular to the centerline.

**3.7** The contractor shall remove and dispose of all residue from the grinding in a manner and at a location to satisfy environmental regulations. The contractor shall have the engineer’s approval for the method of spreading and disposal of the residue prior to beginning any grinding operations.

**3.8** Solid residue shall be removed from the pavement surface before any residue is blown by traffic action or wind.

**3.9** Residue shall not be permitted to encroach on open lanes.

**3.10** The residue shall not enter into gutters or closed drainage systems.

**3.11** The contractor may disperse residue onto unpaved shoulders, adjacent roadside embankments, or median ditch areas of divided highways where the residue runoff can percolate into the soil, unless specified otherwise in the contract. The spread rate shall not generate surface runoff. If surface runoff occurs at a grinding location, the contractor shall haul the residue to an approved location at the contractor’s expense.

**3.12** Discharge of any residue runoff shall not flow into adjacent rivers, streams, lakes, ponds or other open bodies of water.

**3.13** Residue shall not be spread within 100 feet of any streams, lakes or other open bodies of water, or within 15 feet of a water filled ditch.

**3.14** The contractor shall use appropriate equipment and methods so the discharging of the residue does not cause erosion of soil or damage to established vegetation along the roadway. The contractor shall repair and reseed any areas where the discharge of grinding residue causes damage to roadway slopes or vegetated areas at the contractor’s expense.

**3.15** If the solids concentration of discharged residue at any particular area is determined to be excessive by the engineer, the contractor shall provide equipment and material to flush the areas with water as directed by the engineer, at the contractor’s expense.

**3.16** The pavement shall be cleaned prior to opening to traffic as directed by the engineer.

**4.0** **Smoothness Requirements.**

**4.1** No diamond grinding shall be performed until the pavement has attained a strength sufficient to be opened to all types of traffic. All diamond grinding shall be completed on any section prior to opening that section to other than construction traffic, unless approved by the engineer.

**4.2** The engineer will be the sole authority for determining if the driving surface is sufficiently smooth.

**4.3** The engineer will evaluate the smoothness of the concrete wearing surface after the concrete has cured and direct the contractor to diamond grind where deemed necessary.

**4.4** After initial diamond grinding operations, if any, the engineer will again evaluate the smoothness of the concrete wearing surface and approach slab, repeating as many times as necessary to achieve the desired surface smoothness.

**4.5** Any deficiencies in the final surface due to improper contractor operations or equipment shall be corrected by the contractor at the contractor’s expense.

**4.6** All areas shall be tested with a 10-foot straightedge in accordance with section 3.4 of this job special provision.

**5.0 Method of Measurement.** Measurement for diamond grinding will be made to the nearest square yard. Measurement will be based upon the area of initial diamond grinding completed as directed by the engineer. Subsequent passes of diamond grinding over a previously ground area will not be measured. No deduction will be made for gaps to avoid striping or raised pavement markers. No additional measurement will be made for diamond grinding bridge approach slabs.

**6.0 Basis of Payment.** Payment for diamond grinding will be paid for at the contract unit price per square yard. Payment for diamond grinding will be considered full compensation for all labor, equipment, material, and incidentals to complete this work, including hauling and disposal of grinding residue and cleaning the pavement prior to opening to traffic.