SECTION 507—EVALUATION OF CONCRETE PAVEMENT RIDE QUALITY AND PAYMENT OF INCENTIVE

507.1 DESCRIPTION—This work is evaluating a concrete pavement surface profile and determining the ride-quality incentive associated with the pavement surface profile.

(a) General Requirements. Determine the ride quality of finished pavement surfaces, including approach slabs and pavement relief joints. In the presence of the Inspector, measure the pavement surface profile according to PTM No. 428. Provide the resultant International Roughness Index IRI data to the Representative. The Representative will determine payment for each ride-quality lot based on the IRI.

Measure the pavement surface of the following excluded areas separate from the pavement surface profile of ride-quality lots. The Representative will not include measurements from excluded areas to determine lot incentive payment.

- Bridge decks.
- Ramps less than 457 m (1,500 feet) in length.
- Tapered pavements less than 3.6 m (12 feet) wide.
- Shoulders, medians, and other pavement surfaces indicated.
- Partial lots less than 30 m (100 feet).

(b) Lot Size. A full lot is 161 m (528 feet) of a single pavement lane with the same lot type. The lot types are Type 1 (posted speed limit greater than 70 km/hour (45 miles per hour)) and Type 2 (posted speed limit less than or equal to 70 km/hour (45 miles per hour)). The Representative will designate lots starting at the beginning limit of paving and continuing to the ending limit of paving for each pavement lane and ramp that is 3.6 m (12 feet) or wider. Do not include the length of excluded areas in the 161 m (528 feet). If the lot type changes, end the lot and begin a new lot.

The Representative will designate a partial lot at the ending limit of paving, at a change in the lot type, and at an excluded area, when the lot length is less than 161 m (528 feet). The Representative will evaluate a partial lot as a percentage of a full lot.

507.3 CONSTRUCTION—

(a) Equipment and Operator. Provide pavement surface profile measuring equipment that has been verified by the Department according to PTM No. 428. In the presence of the Inspector, calibrate the distance sensor and check the profile system calibration before each day's testing.

Provide an operator that is Department certified according to PTM No. 428.

(b) Testing.

1. Lots. Provide the traffic control and station marking necessary to accommodate testing. Remove objects and equipment from the surface and sweep the surface as necessary to remove debris. In the presence of the Inspector, determine the pavement surface profile for each lot according to PTM No. 428. At the completion of testing, immediately submit the lot IRI data, as defined in PTM No. 428, to the Representative.

2. Excluded Areas. Provide traffic control necessary to accommodate testing. Test the entire surface of each excluded area in stages using a 3 m (10-foot) straightedge. At each stage, hold the straightedge in contact with the surface and parallel to the road centerline and, in successive positions, test the pavement surface profile from one side of the excluded area to the other. Advance the test location to the next stage by moving the straightedge along the roadway centerline not more than 1.5 m (5 feet).

(c) Acceptance.

1. Lots. The Representative will compare the lot IRI to Table A in Section 507.4 to determine if the lot requires corrective action. Additionally, perform corrective action on any individual bump (must grind) where the irregularity is more than 6 mm (1/4 inch) when tested with a 3 m (10-foot) straightedge.

2. Excluded Areas. Perform corrective action where irregularities are more than 6 mm (1/4 inch) when tested with a 3 m (10-foot) straightedge. Correct longitudinal joints not conforming to the requirements specified in Section 501.3(o)1. To improve the ride quality and at the Department's expense, the Representative may require grinding of excluded areas that conform to the acceptable straightedge surface tolerances specified in Section 507.3(c).

(d) Corrective Action.

1. Do not produce a deviation, such as a ridge or valley with the adjacent pavement, of more than 3 mm (1/8 inch) when measured on the transverse profile. Correct a sufficient length of pavement to correct the pavement surface profile without producing additional high or low points. Retest the lots and excluded areas after completing corrective action. Perform additional measurements of the pavement surface profile, as necessary, for the Representative to determine which lots do not require additional corrective action. Correct surfaces to a uniform texture and cross section.

2. Perform all corrective action before testing for pavement depth. If protective coating was applied before grinding, reapply to ground area. Use one or more of the following methods:

2.a. Carbide Grinding. Use carbide grinding for correcting areas 4.5 m (15 feet) in length or less. Use grinders of the walk-behind type that have cutting heads of carbide tipped shackles, stars, or blades and have a locking depth control to produce a uniform pavement surface texture.

Provide a pavement surface texture consisting of parallel grooves between 2 mm and 6 mm (3/32 inch and 1/4 inch) wide width a "land area" between grooves 2 mm and 5 mm (1/16 inch and 3/16 inch). Operate the grinder by making multiple passes if necessary, with a maximum depth of any single pass of 3 mm (1/8 inch). Grind longitudinally or transversely across the pavement surface.

2.b. Diamond Grinding. As specified in Section 514.3 and modified as follows:

(d) Tolerance. Delete this section.

Unless otherwise approved, grind the entire lane width.

2.c. Removal and Replacement. Remove and replace a minimum of 3 m (10 feet) of pavement between transverse joints of reinforced cement concrete pavements or an entire panel of plain cement concrete pavement. Where replacement extends to an existing transverse joint, replace the joint in kind as directed. Construct transverse joints at other locations resulting from removal of defective pavement using the methods for joining pavements shown on the Standard Drawings.

(e) Defective Work. A ride-quality pavement lot is defective if:

- The IRI of the lot exceeds the maximum acceptable IRI specified in Table A of Section 507.4.
- Any individual bump (must grind) exists in the lot where the irregularity is more than 6.5 mm (1/4 inch) when tested with a 3 m (10-foot) straightedge.

- The surface adjacent to another ride-quality lot contains a ridge or valley of more than 3 mm (1/8 inch).

- The specifications for pavement construction require removal and replacement of pavement within the ride-quality lot.

Unless the Department and Contractor agree to leave a defective lot in place as specified in Section 507.4, remove and replace defective areas and retest the ride-quality lot.

507.4 MEASUREMENT AND PAYMENT—Dollar

The proposal will include an item and a predetermined amount of money for Evaluation Of Bituminous Concrete Pavement Ride Quality And Payment Of Incentive. The contract item will have a unit of measure of DOLLAR, a unit price of $1.00, and a quantity equal to the predetermined amount.

Due to the incentive or bonus status of the payment being made, the provisions of Section 110.02(d) are not applicable to this item.

Measured and paid for, under the Evaluation Of Bituminous Pavement Ride Quality And Payment Of Incentive item as follows:

If the lot is not defective, Table A and the IRI for each lot will be used to determine the incentive payment for ride quality.

The incentive payment for a lot subjected to corrective action will be determined using Table A and the IRI for the lot after the Contractor completes corrective action.

The incentive payment for a partial lot will be determined as a percentage of a full lot.

After corrective action, the Contractor may leave a defective lot in place if the District Executive provides written approval and the Contractor accepts a $4,000 downward adjustment (rebate) of the amount paid for the lot.

Costs associated with evaluating pavement ride quality will not be paid for separately.

TABLE A
Payment Schedule for Ride Quality Incentive

Type 1 Lots	
IRI mm/km/lot (inches/mile/lot)	**Amount**
≤ 553 (35)	$1,500
≤ 790 (50)	$1,000
≤ 948 (60)	$500
≤ 1105 (70)*	$0
> 1105 (70)	Corrective Action Required
* Maximum acceptable IRI	

Type 2 Lots	
IRI mm/km/lot (inches/mile/lot)	**Amount**
≤ 710 (45)	$1,500
≤ 868 (55)	$1,000
≤ 1105 (70)	$500
≤ 1420 (90)*	$0
> 1420 (90)	Corrective Action Required
* Maximum acceptable IRI	