

- measurement from the bottom of the straightedge to the surface of the concrete. Edge slump will be tested while the concrete is still plastic;
- c. Failure of the Contractor to construct a smooth finished surface of pavement; and
 - d. Failure of the Contractor to maintain an edge of pavement within 0.15N (45 mm) of the specified horizontal alignment or to maintain any change in horizontal alignment within a rate of change of 1 in 50.

The surface variations of edge slump exceeding allowable tolerances shall be corrected by the Contractor, using approved methods.

501.31 Curing. Curing shall conform to the requirements of Subsection 501.10.

501.32 Protection Against Rain. Protection against rain shall conform to the requirements of Subsection 501.14.

501.33 Protection of Concrete. Protection of concrete shall conform to the requirements of Subsection 501.15.

501.34 Joints. Joints shall conform to the requirements of Subsection 501.16.

501.35 Surface Test. Surface testing shall conform to the requirements of Subsection 501.17.

501.36 Sealing Joints. Sealing joints shall conform to the requirements of Subsection 501.18.

501.37 pening to Traffic. The pavement shall conform to the requirements of Subsection 501.19 prior to opening to traffic.

501.38 Tolerance in Pavement Thickness. Tolerance in pavement thickness shall conform to the requirements of Subsection 501.20.

501.39 Method of Measurement. The quantity of portland cement concrete jointed pavement will be measured as the number of square yards (square meters) completed and accepted. The width for measurement will be the width of the pavement shown on the typical cross-section of the Plans, the width of the additional widening where called for, or the width as otherwise directed in writing. The length will be measured on the surface along the centerline of each roadway or ramp. The quantity of pavement subjected to surface smoothness testing will be measured as the total surface area in square yards (square meters) of all the test segments.

The test segments will be continuous, but not overlapping, throughout the Project, interrupted only by areas not subject to smoothness testing. The length of each test segment will be the actual length of the segment. The total width of the test segments will be limited by the width of the traveled way indicated by the striping plan. The width of the surface material placed during the same construction operation will not alter this limitation. Wire reinforcement, dowels, tie bars, hook bolts, load transfer devices, cleaning, sawing, tooling, and sealing of joints will not be measured.

501.40 Basis of Payment.

- a. *General.* The accepted quantity of portland cement concrete jointed pavement will be paid for at the Contract unit price per square yard (square meter). Price and payment will constitute full compensation for furnishing and placing all materials, constructing all joints, curing concrete, installing and testing seals, constructing temporary bridges for access to the work, patching and installing new dowel bars at joints where dowel bar locations are out of specification, re-scarifing hardened foundation, removing and replacing rejected concrete pavement, repairing substandard concrete pavement, and all labor, equipment, and incidentals required to complete the work.
- b. *Price Adjustments for Thickness Deficiency.* Where the average thickness of pavement

is deficient in thickness by more than 0.20 (5 mm), but not more than 1.00 (25 mm), payment will be made at an adjusted price as specified in the following table:

Table 501-A

Price Adjustments for Concrete Pavement Thickness Deficiency

<i>Deficiency in Average Pavement Thickness Determined by Cores</i>	<i>Proportional Part of Contract Unit Bid Price (%)</i>
0.00 to 0.200 (0.0 to 5.0 mm)	100
0.21 to 0.300 (5.1 to 8.0 mm)	80
0.31 to 0.400 (8.1 to 10.0 mm)	72
0.41 to 0.500 (10.1 to 13.0 mm)	68
0.51 to 0.750 (13.1 to 19.0 mm)	57
0.76 to 1.000 (19.1 to 25.0 mm)	50

- b. When the thickness of pavement is deficient by more than 1.00 (25 mm) and the judgement of the Engineer is that the area of such deficiency should not be removed and replaced, there will be no payment for the area retained.

No additional payment over the unit Contract price will be made for any pavement which has an average thickness in excess of that shown on the Plans.

- c. *Price Adjustments for Smoothness of Riding Surface.* Payment for the work containing Primary and Secondary Surfaces will be adjusted in a manner that relates to the measured smoothness of the riding surface, as described in the following paragraphs.

No payment will be made for any subject area which has not been properly evaluated. No payment will be made for any segment which contains any "must-correct" areas. No payment will be made for any segment which has an excessively high PRI as indicated by the Payment Adjustment Schedules below. No payment will be made for repairs to damaged joint sealants, striping, etc. caused by corrective work performed on the riding surface.

Values as calculated from the Payment Adjustment Schedule for a segment's Initial PRI will be used as a basis for payment adjustment only when the Contractor does not request a Final PRI determination.

Values as calculated from the Payment Adjustment Schedule for a segment's Final PRI will be used when the Contractor requests a PRI determination after an Initial PRI was determined, or when the Contractor has attempted an improvement of the segment's PRI after the initial construction of the test segment.

There may be negative adjustment values and, when the Initial PRI is used as a basis of adjustment, there may also be positive adjustment values for each of the test segments. The final total adjustment for the Project will be the addition of all the individual adjustment values calculated for all the test segments.

Table 501-B U.S. Customary Units

Payment Adjustment Schedule for Primary Surfaces

<i>Initial PRI</i> <i>(in/mi)</i>	<i>Contract Unit Price Adjustment</i> <i>(per yd⁵)</i>
Less than 5.0	\$1.50
5.0 to 15.0	(\$0.30) multiplied by (10.0 minus "Initial PRI")
Greater than 15.0 (200 mm/km)	Corrective Work Required
<i>Final PRI</i> <i>(in/mi)</i>	<i>Contract Unit Price Adjustment</i> <i>(per yd⁵)</i>
Less than 4.0	\$1.20
4.0 to 13.0	(\$0.30) multiplied by (8.0 minus "Final PRI")
Greater than 13.0	Additional Corrective Work Required

Table 501-C

Payment Adjustment Schedule for Secondary Surfaces

<i>Initial PRI</i> <i>in/mi</i>	<i>Contract Unit Price Adjustment</i> <i>(per yd²)</i>
Less than 7.0	\$1.50
7.0 to 17.0	(\$0.30) multiplied by (12.0 minus "Initial PRI")
Greater than 17.0	Corrective Work Required
<i>Final PRI</i> <i>(in/mi)</i>	<i>Contract Unit Price Adjustment</i> <i>(per yd⁵)</i>
Less than 5.0	\$1.20
5.0 to 15.0	(\$0.30) multiplied by (10.0 minus "Final PRI")
Greater than 15.0	Additional Corrective Work Required

Table 501-D

Smoothness Requirement Schedule for Shoulder Surfaces

<i>Initial PRI</i> <i>(in/mi)</i>	
Greater than 15.0	Corrective Work Required
<i>Final PRI</i> <i>(in/mi)</i>	
Greater than 13.0	Corrective Work Required

Table 501-B Metric Units

Payment Adjustment Schedule for Primary Surfaces

<i>Initial PRI</i> <i>(mm/km)</i>	<i>Contract Unit Price Adjustment</i> <i>(per m⁵)</i>
Less than 50	\$1.50
50 to 200	(\$0.02) multiplied by (125 minus "Initial PRI")
Greater than 200	Corrective Work Required
<i>Final PRI</i> <i>(mm/km)</i>	<i>Contract Unit Price Adjustment</i> <i>(per m⁵)</i>
Less than 40	\$1.20
40 to 175	(\$0.02) multiplied by (100 minus "Final PRI")
Greater than 175	Additional Corrective Work Required

Table 501-C

Payment Adjustment Schedule for Secondary Surfaces

<i>Initial PRI</i> <i>mm/km</i>	<i>Contract Unit Price Adjustment</i> <i>(per m²)</i>
Less than 100	\$1.50

100 to 250	(\$0.02) multiplied by (175 minus "Initial PRI")
Greater than 250	Corrective Work Required
<i>Final PRI</i> (mm/km)	<i>Contract Unit Price Adjustment</i> (per m ⁵)
Less than 90	\$1.20
90 to 225	(\$0.02) multiplied by (150 minus "Final PRI")
Greater than 225	Additional Corrective Work Required

Table 501-D

Smoothness Requirement Schedule for Shoulder Surfaces

<i>Initial PRI</i> (mm/km)	
Greater than 200	Corrective Work Required
<i>Final PRI</i> (mm/km)	
Greater than 175	Corrective Work Required

Other than through the above described payment adjustment, there will be no additional payment for the work involved for any "must-correct" area, or for the attempted PRI improvement work, for any areas or segments.

- d. *Profilograph Costs.* All profilograph testing work by the Contractor shall be performed at no additional cost to the Department.

The Engineer will perform profilograph testing work, at no cost to the Contractor, to determine the Initial PRI, to determine one Final PRI, and, at the option of the Engineer, to validate (for each test segment) one set of the Contractor's profilograph traces which showed acceptable correction of "must-correct" areas.

The Engineer reserves the right to perform other profilograph work, at no cost to the Contractor, for research purposes. The results of this research work will have no impact on the acceptability of, or the pay adjustments for, the Contractor's work.

The Contractor may request extra work to be performed by the Engineer; there will be a cost for this work. The cost for determining the PRI shall be \$500.00 per test segment. The cost for validating acceptable correction of "must-correct" areas shall be \$250.00 per test segment. These costs will be deducted from the Contract payments to the Contractor.