TA-44104-9 (8/2004)

New York State Thruway Authority • New York State Canal Corporation

PROJECT # H161.1 PSE MADE BY JAM DATE 2/15/2024

CHECKED BY JL DATE 2/15/2024

SUBJECT WORKUPS SHEET # 1 OF 3

ITEM 653.1010 Level 1 Ride Quality for Asphalt (QU)

REFER TO THE COMPREHENSIVE PAVEMENT DESIGN MANUAL, Chapter 6 – Materials,

Revision 10, October 1, 2022, (PG 6-21)

6.7.1.2 Calculating Ride Quality Units for Asphalt

To calculate the maximum number of quality units and the fixed price for the Ride Quality Item, the following steps should be taken:

1. Calculate the total number of lane-miles receiving Ride Quality.
2. Subtract the length of each bridge plus 50 feet. (25 feet lead in, 25 feet lead out.)
3. Exclude the following sections:
    a. Sections less than 1,320 feet in length,
    b. Sections within 200 feet of any traffic control device or intersection,
    c. Tapered sections less than a full lane-width,
    d. Roadways or ramps with posted speed less than 45 mph,
    e. Shoulders, gore areas, turn-outs, turn-arounds, driveways, parking areas and other similar miscellaneous paving.
4. Divide the total from the sum of steps 1 and 2 by 528 feet. The result is the total number of pavement ride quality (PRQ) lots.
5. Multiply the result of Step 4 by the appropriate maximum available Quality Units as determined from Tables 653-01 and 653-02 – (see Standard Specification 653). The result is the maximum number of quality units available.
6. Multiply the result of Step 5 by the Index Price for the Region in which the project resides. The index price for each Region is updated annually and is found in the Engineering Bulletin entitled, Index Prices for Use with Quality Adjustment Items. The result is the maximum incentive for the project.

If a project contains areas with multiple pavement types or ride quality levels, add the appropriate incentives for all the areas to determine maximum potential incentive for the project.

6.7.1.1 Item Selection for Ride Quality of Asphalt Pavements			
Road Type	Mill?	Pavement Thickness*	RQ Type
Interstate	Yes	Greater than 1"	Level 1
		Less than or equal to 1"	Level 2
	No	Greater than 2.5"	Level 1
		Less than or equal to 2.5"	Level 2
Arterial	Yes	Greater than 3"	Level 1
		Less than or equal to 3"	Level 2
	No	Greater than 4"	Level 1
		2.5" to 4"	Level 2
		Less than 2.5"	N.A.

*True and Level courses should only be included in the pavement thickness if it has a nominal design thickness over 1"

FROM TABLE 6.7.1.1, FOR 2" THICKNESSS INLAY, THE RQ TYPE IS LEVEL 1.

REFER TO ITEM 490.15:

TRAVEL LANES ONLY MP 47.6 TO 60.1:

STEP 1: LENGTH= (60.1-48.0) MILES x 2 DIRECTIONS x 2 LANES/DIR = 48.4 LANE MILES ✓

LESS BRIDGE LENGTHS= 111' (MP 49.78) + 50'+ 200' (MP 52.83) + 50' + 52' (MP 54.74) + 50' + 75' (MP 55.94) + 50' + 111' (MP 58.43) + 50' = 799 LF ✓

= 799 LF/5280 FT/MI = 0.151 x 4 LANES PER BRIDGE= 0.604 → 0.605 LANE MILES

STEP 2: # OF LANE MILES LESS BRIDGE LENGTHS IS 48.4 - 0.604 → 0.605 = 47.796 → 5 LANE MILES

STEP 3: LENGTHS IN ITEMS a to e HAVE BEEN EXCLUDED.

STEP 4: 47.796 → 5 LANE MILES x (5280 FT/MI)/528 FT= 477.96 → 5 PAVEMENT RIDE QUALITY (PRQ) LOTS, USE 478 ✓ SEGMENTS

FROM STANDARD SPECIFICATION ITEM 653.

Table 653-01 Determination of IRI Quality Units (IRIQU) for Asphalt Pavements			
Level 1		Level 2	
PRQ lot IRI (in/mile)	Quality Units	PRQ lot IRI (in/mile)	Quality Units
≤45	8	≤50	4
46-59	(60-IRI)*0.5	51-64	(65-IRI)*0.25
60-74	0	65-79	0
75-90	(74-IRI)	80-95	(79-IRI)*0.5
≥90	Corrective action	≥95	Corrective action

STEP 5: 478 > 45 THEREFORE, 478 x 8 = 3,824 MAX. # OF QUALITY UNITS AVAILABLE.

MAX. INCENTIVE FOR PROJECT = 3,824 QU.