

1 **CHAPTER 10**  
2 **BITUMINOUS MATERIAL ITEMS REVIEW**

3 **OBSOLETE 11/22/06**

3 **10.1 PURPOSE**

4 The intent of this procedure is to set forth the reviewing standards for the District Final  
5 Estimates Office (DFEO) by which bituminous material items may be verified and/or  
6 corrected for final payment.

7 **10.2 PROCEDURE**

8 The project personnel should have both manually computed the bituminous material  
9 quantities and checked them on the Engineering Quantities Program. The reviewing  
10 procedure addressed here assumes the above manual and computer checks have been  
11 made.

12 **10.2.1 BITUMINOUS ITEMS**

13 (A) When reviewing is required on Prime, Tack Coat, and Asphalt Rubber  
14 Binder bituminous material quantities, the quantity to be paid for shall  
15 be the volume, in gallons or liters, of bituminous material actually  
16 applied and accepted.

17 (1) Review the testing records from the Office of Materials and  
18 Research for any failing or deficient materials and the  
19 disposition relative to final pay.

20 (2) All failing material shall be noted on the final estimate.

21 (3) The Record of Bituminous Materials section on the Daily  
22 Report of Asphalt Paving Inspector (Form 675-030-07) shall be  
23 given a mathematical check if the calculations were done  
24 manually.

25 On Form 675-030-07 be sure to check:

26 (a) Dates

27 (b) Distributor numbers

- 1 (c) Beginning and ending measurements
- 2 (d) Gross, tare, and net weights
- 3 (e) Gallons at 60°F/liters at 15°C
- 4 (f) Distributor calibrations
- 5 (4) Compare the grade of asphalt and the table from which the  
6 temperature correction factor was taken.
- 7 (5) When the net weight is converted into volume, formula (a) or  
8 (b) shall be used as follows:
- 9 (English)
- 10 (a) Gallons =  $\frac{\text{Weight of Bitumen (lbs)}}{8.58 \text{ lbs/gal}}$
- 11
- 12 (Metric)
- 13 Liters =  $\frac{\text{Weight of Bitumen (kg)}}{1.0280 \text{ kg/l}}$
- 14
- 15 (English)
- 16 (b) Gallons =  $\frac{\text{Weight of Bitumen (lbs)}}{\text{Specific Gravity} \times 8.3282}$
- 17
- 18 (Metric)
- 19 Liters =  $\frac{\text{Weight of Bitumen (kg)}}{\text{Specific Gravity} \times 1.000}$
- 20
- 21 Where: 8.3282 lb is the weight of one gallon of water at  
22 60° F. and 1.000 kg is the weight of one liter of water at  
23 15°C.
- 24 (c) 8.58 lbs/gal is the accepted weight of one gallon of  
25 bituminous material at 60° F, when a Department  
26 determined specific gravity is not available. Note that for  
27 friction course mixes a factor other than 8.58 lb/gal may  
28 be used and this must be checked in the contract  
29 Special Provisions.

- 1 (6) No separate payment will be made for cover material for prime  
2 coat.
- 3 (7) No additional pay is allowed for areas re-primed due to  
4 weather and/or other damage.
- 5 (8) Reconcile daily theoretical gallons with the daily tonnages  
6 placed on the road using the percent bitumen shown in the  
7 actual design mix used.
- 8 (B) Bituminous Surface Treatment: The pay quantities to be reviewed  
9 under this item will be the gallons or liters of bituminous material and  
10 the cubic yards or cubic meters of cover materials, usually stone or  
11 slag, covered in **Section 310 of the Standard Specifications**.
- 12 (1) Check the volume of bituminous material in accordance with  
13 the above outlined procedures.
- 14 (2) Verify that all deductions for deficiency in viscosity have been  
15 made, depending upon specification requirements.
- 16 (3) When the surface treatment is placed in conjunction with  
17 asphaltic concrete, compensation for surface treatment shall  
18 be included in the payment for the asphaltic concrete course  
19 (**See 1996 Standard Specifications Subarticle 310-14.4 and**  
20 **Subarticle 310-14.3 of the 1999 and 2000 Specifications**).
- 21 (4) Final pay shall be reduced by 10% if emulsified asphalt is  
22 substituted for asphalt cement and the Contractor's bid was  
23 based on the use of asphalt cement (**See Subarticle 310-3.4**  
24 **of the applicable edition of the Standard Specifications**).
- 25 (C) For Plant Mixed Hot Bituminous Mixture pay items, the final pay  
26 quantities are the area of the pavement in square yards or square  
27 meters, or the weight of the mixture, in tons or metric tons.
- 28
- 29 (1) Check the Daily Asphalt Plant Record (Form  
30 675-030-06) to determine the quantities used.
- 31 (2) Verify tonnage for all private, waste, and other off-project  
32 material. Automatic printer tickets should document quantities.

- 1 (3) If the Department's construction quantities summary program  
2 was used, review keypunch errors by comparing output with  
3 plant records and calculations
- 4 (4) Verify all automatic weight tickets, tapes, and digital records,  
5 when payment is on a tonnage basis. A good cross-check on  
6 total quantity is the last Daily Plant and Roadway Asphalt  
7 report.
- 8 (5) If summarized on the computer, check each ticket, each book,  
9 or each set of preprinted tickets. Check for errors and missing  
10 or void tickets, and check that waste, off-project material, and  
11 the pay quantity were properly punched.
- 12 (6) When substitution of different mix designs is allowed, be sure it  
13 is done at no additional cost to the Department in excess of the  
14 cost of the originally specified mix.
- 15 (D) **Standard Specifications Article 285-9:** When the plans include a  
16 typical cross-section that requires the construction of an asphalt base  
17 only, price adjustments for bituminous material provided for in  
18 Subarticle 9-2.1.2 will apply. Payment on Monthly Progress Estimates  
19 will be adjusted based on the criteria specified in this subarticle to  
20 reflect adjustments in the price for bituminous materials. All  
21 information on how these adjustments were determined shall be  
22 submitted with the estimate package so the reviewer can verify the  
23 amount paid. For typical cross-sections that permit the use of asphalt  
24 or other materials for construction of an optional base, price  
25 adjustments for bituminous material provided for in Subarticle 9-2.1.2  
26 will not apply. (For additional information see Chapter 13)

27

### 28 10.3 LIST OF FIGURES FOLLOWING THIS CHAPTER

29 There are no Figures following this Chapter.