

Section 11.7

ASPHALT CONSTRUCTION INFORMATION FOR CONTRACTOR QUALITY CONTROL

11.7.1 Purpose

The purpose of this procedure is to describe the Department's role when reviewing and verifying Contractor Quality Control (QC) documentation, establishing waste asphalt quantities, and processing Resolution Reports for Asphalt Concrete (AC), Gradation, and Density Cores.

11.7.2 Authority

Sections 20.23(3)(a) and 334.048(3), Florida Statutes (F.S.)

11.7.3 ~~Department's~~ Verification of Quality Control Documentation

Each Contractor is required to record the placement of asphalt on the Contractor's Quality Control-Roadway Report (QCRR), Form 675-030-20A – Automated Version as the pavement operation progresses.

~~The Resident Office (RO) is responsible for ensuring the information submitted in the Asphalt Roadway – Daily Report of Quality Control (QCRR) is accurate. The Engineer will receive obtain Form 675-030-20A, the QCRR – Automated Version – from the Contractor and collect all the asphalt tickets associated with the report. The Resident Office (RO) is responsible for ensuring all the information submitted in the Asphalt Roadway – Daily Report of Quality Control (QCRR) is accurate, including but not limited to, The Engineer is responsible for verifying the G_{mm}/G_{sb} entered for the LOT, reviewing and randomly checking the quantities submitted by the QC Technician (also see CPAM 11.6), and The Engineer will receive Form 675-030-20A, the QCRR – Automated Version – from the Contractor. In addition, the Engineer will collect all asphalt tickets associated with the report. The Engineer is to ensureing that the information on the tickets for each day's production match the report.~~

~~Each Contractor is required to record the placement of asphalt on the Contractor's Quality Control-Roadway Report (QCRR), Form 675-030-20A – Automated Version as the pavement operation progresses.~~

~~Projects let July 2015 or after must use the latest version of Form 675-030-20A-- Automated Version. The contractor's QC personnel is responsible for making all necessary corrections will be made by the contractor's QC personnel within the spreadsheet QCRR if once an error or failure is detected. The RO will Mm make a notation of the correction in the "Comments" section in PrC. See Attachment 11-7-3.~~

NOTE 1: Mix Design information is available in the "Asphalt Mix Design Short Report" in **MAC**.

NOTE 2: See **QCRR Corrections** on the State Construction Office Website for instructions on corrections due to Materials Failure and Workmanship Issues.

11.7.4 Contractor and Department – Waste Asphalt Quantity Determination

It is not necessary for the Contractor's truck driver to return to the plant to determine the quantity of "Waste" asphalt remaining in the truck. The Contractor's QC Technician and the Department's Verification Technician (VT) should concur on the estimated amount left in the truck based on one of the following methods:

(A) Spread Rate

Example:

Determine the waste tonnage with the following information:

- Last load of Asphalt = 21.35 Tons (from Ticket)
- Spread rate on the project = 75 Lbs/SY
- The paved area = 430 SY

$$\begin{aligned}\text{Tonnage Used} &= \frac{(\text{Spread Rate (Lbs/SY)}) (\text{Area Paved (SY)})}{2,000 \text{ Lbs/Ton}} \\ &= \frac{(75 \text{ Lbs/SY})(430 \text{ SY})}{2,000 \text{ Lbs/Ton}} \\ &= 16.125 \text{ Tons}\end{aligned}$$

$$\begin{aligned}\text{Waste Tonnage} &= \text{Original Quantity} - \text{Quantity Used} \\ &= 21.35 - 16.125 = 5.2 \text{ Tons}\end{aligned}$$

(B) Visual Inspection

A visual inspection of the remaining asphalt in the truck estimated to the nearest ¼ of a truck load.

Example:

¼ of a truck load was remaining, which is approximately 5.3 Tons

$$\text{Waste Tonnage} = \frac{\text{Ticket Tonnage}}{4} = \frac{21.35}{4} = 5.3 \text{ Tons}$$

11.7.5 Resolution Reports for AC Content, Gradation, and Density Cores

When the QC Technician's test results and the Department's VT's test results do not compare for a specified test, the QC test results are not verified. Therefore, Resolution Tests (RT) for all sublots in the LOT must be run for each property that does not compare. These RT results are then compared to the QC test results.

If the RT results compare to the QC test results, accept and pay on QC Test results.

If the QC Test Results do not compare (even if only one subplot QC and RT do not compare), accept and pay on RT report results. The cost of the Resolution Testing performed by the Department, that do not favor the QC test results, will be deducted from the Contractor's next progress estimate. The District Materials Office will provide the resolution results to the Project Administrator (PA) via email. Submit this email as backup documentation to support the deduction. See [Attachment 11-7-1](#), for an example of an e-mail from the District Materials Office to the PA with the number of resolution tests and costs.

See [Attachment 11-7-2](#), for an example of Resolution Testing Costs and [Attachment 11-7-3](#) for an example of reporting the cost of resolution testing in AASHTOware Project Construction (PrC).

Note 3: For FC 5 (Open Graded Friction Course), only AC Content and Gradation tests are subject to resolution testing.

~~See the State Materials Office Website under "[Documents and Publications](#)" for the latest resolution testing costs. These testing costs can be found under "Resolution Testing Costs for Contracts Let..." See [Attachment 11-7-2](#), for an example of~~

~~Resolution Testing Costs and **Attachment 11-7-3** for an example of reporting the cost of resolution testing in AASHTOware Project Construction (PrC).~~

Attachment 11-7-1

E-Mail from District Material's Office to the PA with No. of Tests and Costs

Daniel Day

From: Daniel Day
Sent: Thursday, May 21, 2015 @ 2:49 PM
To: Howard Jump (howard.jump@dot.state.fl.us)
Cc: J. Corley; Bill Blass; etc., etc.
Subject: FIN # 41109815201 LOT 6 Resolution Results

Howard,

Attached are the Resolution results for LOT 6 on the above-mentioned project. The Resolution results **DO NOT** compare with QC results. Therefore, acceptance and payment for the LOT with respect to density will be based on Resolution results.

Cost for the Resolution testing should be deducted from the monthly estimate (see below).

For each subplot, the Resolution results for average Roadway Gmb should replace the QC results for average Roadway Gmb, and most likely change the density value, Individual Pay Factor, and the Composite Pay Factor. Any new values should be compared to the Master Production Range as well as the criteria of 334-5.9.5 to determine acceptance.

- Please do not approve the QC or RT samples for this LOT. The resolution lab will approve these samples.
- Resolution cost (- \$31.60 per core x 9 cores = - \$~~2~~84.40)

Thanks
Daniel Day
Assistant District Bituminous Manager
Florida Department of Transportation
100 N. Day Road (MS 20)
Deland, Florida 33333
380-555-5550 (Office)

Attachment 11-7-2

Resolution Testing Costs on Website

The cost of resolution testing, if performed by the Department and favors the VT results, will be deducted from the Contractor's next progress estimate.

The resolution testing fees are based on the year the Contract was let. For example, if a Contract was let in January 2010 and a resolution test was done in January 2011, the January 2010 year pricing index would be used.

~~The cost of the testing can be found at the following URL within the 'Resolution Testing Costs for Contracts Let Between...' link.~~ Resolution Testing Costs can be found on the State Materials Office Website under Documents and Publications.

<https://www.fdot.gov/materials/navigation/documents.shtm>

[Resolution Testing Costs for Contracts Let Between 2024/2025 \(PDF-187KB\)](#)

... Previous Years: [23/24](#) [22/23](#), [21/22](#), [20/21](#), [19/20](#), [18/19](#), [17/18](#), [16/17](#), [15/16](#), [14/15](#), [13/14](#)

(Note: Please use the resolution testing cost sheet for the Fiscal Year the Contract was let. If a specific test is not in the list on the subjected Fiscal Year cost sheet, then use the next FY list or until you see the test.)

Florida Department of Transportation		
Resolution Testing Costs		
Year 2021-2022 Rates		
Bituminous Lab		
Test Name	Quantity	Test Cost
Bulk specific gravity of Compacted Bituminous Mixtures (FM 1-T166)	Per roadway core or gyratory pill	\$52.62
Ignition Oven Method (FM5-563)	Per asphalt content	\$137.09
Max specific gravity (FM1-T209)	Per average of two flasks	\$152.94
Superpave Gyratory Compaction (AASHTO T312-04)	Per pair of gyratory pills	\$170.47
Ignition Oven (FM 5-563) and Mechanical Analysis (FM1-T030)	Per gradation	\$206.00
Soil Lab		
Test Name	Quantity	Test Cost
Consolidation (AASHTO T 216)	Per sample	\$349.74
Direct Shear (AASHTO T 236)	Per sample	\$263.30
Dry Gradation (AASHTO T 27)	Per sample	\$65.50
Hydrometer (AASHTO T 88)	Per sample	\$133.97
LBR (FM 5-515)	Per sample	\$348.63
Liquid Limit (AASHTO T 89)	Per sample	\$55.47
Modified Proctor (AASHTO T 180)	Per sample	\$121.60
Moisture Content (AASHTO T 265)	Per sample	\$16.21
Organic (AASHTO T267)	Per sample	\$42.53
Permeability (AASHTO T 215, ASTM 5084, FM 5-513)	Per sample	\$292.22
Plastic Index (AASHTO T 90)	Per sample	\$52.77
Specific Gravity (AASHTO T 100)	Per sample	\$76.05
Split Tensile (ASTM D 3967)	Per sample	\$131.15
Standard Proctor (AASHTO T 99)	Per sample	\$115.12
Triaxial (AASHTO T 297)	Per sample	\$421.57

Florida Department of Transportation		
Resolution Testing Costs		
Year 2023-2024 Rates		
Bituminous Lab		
Test Name	Quantity	Test Cost
Bulk specific gravity of Compacted Bituminous Mixtures (FM 1-T166)	Per roadway core or gyratory pill	\$57.37
Ignition Oven Method (FM5-563)	Per asphalt content	\$137.09
Max specific gravity (FM1-T209)	Per average of two flasks	\$139.19
Superpave Gyratory Compaction (AASHTO T312-04)	Per pair of gyratory pills	\$107.00
Ignition Oven (FM 5-563) and Mechanical Analysis (FM1-T030)	Per gradation	\$207.50
Soil Lab		
Test Name	Quantity	Test Cost
Consolidation (AASHTO T 216)	Per sample	\$353.90
Direct Shear (AASHTO T 236)	Per sample	\$301.11
Dry Gradation (AASHTO T 27)	Per sample	\$71.39
Hydrometer (AASHTO T 88)	Per sample	\$132.98
LBR (FM 5-515)	Per sample	\$349.84
Liquid Limit (AASHTO T 89)	Per sample	\$57.01
Modified Proctor (AASHTO T 180)	Per sample	\$132.70
Moisture Content (AASHTO T 265)	Per sample	\$16.37
Organic (AASHTO T267)	Per sample	\$42.95

Attachment 11-7-3 Reporting Cost of Resolution Testing in PrC

The screenshot shows a web-based form titled "User-Generated Dollar-Based Item Adjustments". At the top, there is a search bar with the text "Type search criteria or press Enter" and a button labeled "Advanced". Below this, a "Select Project Items..." button is visible. The main table displays a list of items with columns: "Proj Item Num - Proj/Category", "Item Description", and "Amount". The first item is "0085 - TR1E6915201/0200" with the description "ASPHALT CONCRETE FRICTION COURSE, TRAFFIC B, FC-9.5, PG" and an amount of "-284.40". Below this, a detailed view of an adjustment is shown with columns: "Adj ID", "Type", "Other Item Adjustment Type", "Comments", and "WO Disco...". The "Adj ID" is "0002", "Type" is "Other Item Adjustment", "Other Item Adjustment Type" is "RTC - Resolution Testing Costs", and "Comments" is "Course aggregate gradation resolution test for". A red arrow points to the "Comments" field. Below the table, there are sections for "Type", "Other Item Adjustment Type", "Amount", "Work Order Discovery Date", and "Additional Item Information". The "Additional Item Information" section includes fields for "Reference Item Code", "Unit of Measure", "Contract Item Line Number", "Unit Price", and "Supplemental Description".

Proj Item Num - Proj/Category	Item Description	Amount
0085 - TR1E6915201/0200	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC B, FC-9.5, PG	-284.40

Adj ID	Type	Other Item Adjustment Type	Comments	WO Disco...
0002	Other Item Adjustment	RTC - Resolution Testing Costs	Course aggregate gradation resolution test for Lot 6	

Additional Item Information

Reference Item Code	Unit of Measure
0337 7 80	TN

Contract Item Line Number	Unit Price
0120	130.00000

Supplemental Description

Note the purpose of the test and the associated LOT number in the Comments field. In this case, it is 'Coarse Aggregate Gradation Resolution Test for Lot 6'. The cost of the Resolution Testing will be determined by the Materials Office as shown in the email in **Attachment 11-7-1**.