Florida Turnpike Materials Office
Turnpike Asphalt Plant Visit Report

Date: _______________ Review Completed By: ________________________________ Title: ____________________

Producer: ___________________________ Plant #: ___________________ Lab ID #: _________________

Project FIN: ________________________ Project Description: _____________________________

Verification Technician: ___________________________ V Tech TIN: ________________________
VT Independent Assurance Review (if conducted):
List Methods Evaluated, indicate Pass or Fail, attach checklists, and enter into MAC:

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<th>Method</th>
<th>Pass/Fail</th>
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Quality Control Technician: ___________________________ Q Tech TIN: ________________________
QC Tech Independent Assurance Review (if conducted):
List Methods Evaluated, indicate Pass or Fail, attach checklists, and enter into MAC:

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Other Technician: ___________________________ Tech TIN: ___________________ Tech’s Role: (QC or V)
Other Tech Independent Assurance Review (if conducted):
List Methods Evaluated, indicate Pass or Fail, attach checklists, and enter into MAC:

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Mix designs used on project:

<table>
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<tr>
<th>Mix Design Number</th>
<th>Mix Type</th>
<th>Binder Type</th>
<th>Produced During Visit?</th>
<th>Tons Produced to date</th>
<th>Last Date Produced</th>
<th>Current Lot #</th>
<th>Obtained IV Sample During Visit?</th>
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Circle Type of QC Review Conducted: Comprehensive Plant Follow-up VT Follow-up
(Due to Previous deficiency) (Due to Previous deficiency)

Circle Result of QA Review: Acceptable Review Plant Requires Improvement & Follow-up VT Requires Improvement & Follow-up
Plant Must Cease Remove VT from Project

Turnpike Signature: ______________________ VT Signature: ____________________ QC Signature: ____________________
1. MIX DESIGNS (SPEC 334-2 AND 334-3)
   a) All have been Verified and Approved
   b) Mixes being produced are not in cease production
   c) Maximum 20 Percent RAP for all Structural Mixes using PG 76-22 (polymer mixes)

   COMMENTS:

2. TRUCK SCALE CALIBRATION AND CHECK (SPEC 320-3)
   a) Review Truck Scale Calibrations and Verify that one has occurred within the last 6 months
   DATE OF LAST CALIBRATION: __________________________
   b) Review Truck Scale Checks and Verify that one has occurred every month since last review
   c) Truck Scale Checks must include calculation to show the deviation and the max allowable deviation for the truck’s load (Use SMO Worksheet)
   (The maximum deviation is 8 pounds per ton of load; therefore, the maximum deviation in pounds is calculated by multiplying the Net Tons by 8)

   COMMENTS:

3. TRUCKS (SPEC 320-6 AND 320-7)
   a) Trucks have Asphalt Tight Beds
   b) Trucks are Cleaned out before loading mix
   c) Drivers are using acceptable release agent (no petroleum-based product – no diesel)
   d) Loaded in three drops; recommend front, back, middle (truck moves between drops)
   e) Trucks have a Tarp that can cover the entire load
   f) Truck has a hole in middle third of truck bed (both sides) for temp checks

   COMMENTS:

4. TRUCK TEMPERATURE (320-6, 330-6.1.3 AND CPAM 5.10)
   a) Monitor Temperature Frequency
      i. Ensure QC Tech measures temperature of first five trucks for each mix each night
      ii. Ensure QC Tech measures one out of every five trucks after first five
      iii. After a temperature problems are encountered, ensure QC Tech measures every truck until temperatures meet the spec requirement to return to once the per five load frequency is met
      iv. Temperature verification must be occurring daily and recorded on verification report (check plant verification reports to ensure temperature verification is recorded)
      v. Calibrate thermometer between the Verification Technician and the QC Technician once per day
   b) Review Temperature Practices –
      i. Ensure Technicians are leaving thermometer in the truck long enough for the thermometer to stabilize
      ii. Ensure the QC Technician that is measuring the temperature of the truck is writing the temperature of the truck onto the front of the ticket (the tower operator should NOT be writing the temperature on the ticket)
      iii. The QC Technician should identify the temperature is from the plant (actually write “Plant:” next to the temperature)
      iv. No temperatures taken over the top of the trucks (only use the hole in the side of the truck)
   c) Ensure loads that are outside tolerance are rejected at the plant (rejected loads are not delivered to the project)
      i. At Plant: Reject loads with temperature more than 30° from the Mixing Temperature listed on the Mix Design
      ii. At Road: Reject loads with temperature more than 30° from the Compaction Temperature listed on the Mix Design

   COMMENTS:
5. **RAP STOCKPILE (320-2, 320-3 AND 334-2)**
   
a) Free from contamination, segregation, sufficiently separated from other material, and identified as shown on the mix design by sign or map
   
i. FDOT Product Code, Plant/Pit Number, and Description
   
b) Verify the RAP Stockpile has been reviewed and approved by the district office (review district’s letter of approval – mark stockpile ID & dates below)
   
c) Unless specifically approved by the district office, no RAP shall be added to the approved RAP stockpile.
   
   If additional RAP is added to RAP stockpile without approval to add material, then RAP cannot be used: Additional approval is required and additional tests are required.
   
d) If the producer has approval to continuously add RAP to the RAP stockpile, review the letter indicating that approval (mark below).
   
e) Verify the following tests are performed as RAP is added to the stockpile:
   
i. Asphalt Content and Extracted Gradation once per 1,000 tons
   
   ii. G_{mm} once per 5,000 tons
   
   (Same requirement for each component of fractionated RAP)
   
f) Ensure Control Charts are posted in the laboratory showing trends for gradation, asphalt content and G_{mm}
   
g) Control Chart show Tonnage of RAP added to stockpile
   
h) **RAP STOCKPILE APPROVALS (As Applicable):**
   
   STOCKPILE ID: ________ DATE: ________ Adding Add’l RAP Approved: ________
   
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   STOCKPILE ID: ________ DATE: ________ Adding Add’l RAP Approved: ________
   
   STOCKPILE ID: ________ DATE: ________ Adding Add’l RAP Approved: ________
   
   **COMMENTS:**

6. **AGGREGATE STOCKPILE (320-2 AND 320-3)**
   
a) Free from contamination, segregation, and sufficiently separated from other material (330-5) and identified (as listed in Mix Design) by sign or map
   
i. FDOT Product Code, Plant/Pit Number, and Description
   
b) Verify that the incoming aggregates are from an approved FDOT source
   
c) Verify that incoming aggregates are placed in the correct location
   
d) Verify that the gradation is obtained and posted for all incoming aggregates (at least once for every 1000 tons of incoming material)
   
e) The Moisture Contents of the Aggregate Stockpiles or the combined cold feed are tested at frequency in QC Plan (Best Practice is once per day).
   
   **COMMENTS:**

7. **PLANT OPERATION**
   
a) **Loader to Bins**
   
i. Note the aggregate stockpiles being loaded into each Bin
   
   * Aggregates have a Unique Product Code and a Unique Pit/Plant Number. The description might occasionally change (even though it shouldn’t).
   
   * Verify the Stockpile’s Sign and/or Map has the same Product Code and the same Plant/Pit Number as the Mix Design being produced
   
   * If the Product Code and Plant/Pit Number have been left off the sign and/or map, then the Aggregate Description must match the Design
   
   ii. Note the RAP stockpile being loaded into the RAP Bin
   
   * RAP Stockpiles have a Unique Product Code and a Unique Pit/Plant Number. These two values must be identified on the Map and/or Sign
   
   b) **Bins to Drum**
   
i. Note the bins that are in operation, compare with material added by loader
   
   c) **RAP to Drum**
   
i. Note if RAP is being run into the mix, compare with material added by loader
   
   d) **Tanker to Binder Storage Tank**
   
i. Verify the binder type that is loaded into the tank(s)
   
   ii. By observation, determine the tank containing each Binder Grade
   
   e) **Hot Mix Storage Silo Review**
   
i. Observe the silo that mix is being placed into; monitor for silo switching while producing a particular mix
   
   ii. Observe the silo that trucks are being loaded from
   
   iii. Determine if multiple silos contain the same mix type by your visual review of the silos being loaded, silos used to load trucks, and the mix design number listed on the truck ticket
   
   iv. Ensure samples are taken from each silo during operations where multiple silos contain the same mix type
   
   f) **Check Settings in the Tower:**
   
i. RAP Settings should be very close to the RAP percentage listed on the mix design and never higher than the RAP percentage listed on the mix design
   
   ii. Aggregate percentages can vary; however, should be close to percentages listed on mix design and must include the correct aggregate types as listed on the mix design
   
   iii. Ensure the tank containing the correct binder is being used
   
   g) **Although plant setting for the binder percent can vary, that percentage should be close to the percentage of Binder to be added as listed on the mix design**
   
   (For mixes with RAP, this will be less than the optimum asphalt content used in the lab)
   
   **COMMENTS:**

Revised 02-04-19
8. **MIX STORAGE (SPEC 320-6 AND 337-7)**
   a) Superpave mix is not left in the storage silo greater than 72 hours
   b) Open Graded Friction Course is not left in the storage silo greater than 1 hour
      (If using cellulose fibers mix can be stored up to 1.5 hours).

9. **WEATHER CONDITIONS (330-3)**
   a) Mix is only shipped when all weather conditions are suitable for the paving operation
   b) Air Temperature above 40°, 45°, 50°, 60°, or 65° depending on the operation
   c) Rain such that paving would not continue
   d) Other weather not suitable for paving.

10. **REVIEW SAMPLING PROCEDURES (FM 1-T 168)**
    a) QC and IV Samples are Unannounced
       i. VT or IV technician should not tip contractor during prep for QC or IV Sample
       ii. If VT or IV wants to prep, then do it every day at the beginning of the day regardless of intent to collect a sample
       iii. When QC or IV is collected, walk outside and have the contractor pull from the truck that is already loaded or being loaded
    b) Sampling technician is CTQP Qualified
    c) Sampling from the truck properly
       i. three well separated locations in the truck
       ii. At least 12 inches below the surface
       iii. If technician will be splitting all mix in laboratory:
           - Equal amount of mix from each of three locations
           - All mix placed in buckets
           - All buckets must be combined together on table during splitting
       iv. If technician is separating mix for different samples at the truck
           - Must pay attention to ensure each sample receives equal mix from each of the three or more locations in the truck
           - One Shovel Full from each location must be placed in each sample
    d) Same technician sampling form the truck splits the sample
    e) Splitting properly
    f) Extra Mix retained after splitting and sampling should be retained in case of accident.
       i. Extra Mix left in a pan or a bucket must be identified by labeling the pan or the bucket or by placing a paper in the pan or the bucket with identification.

   ii. Extra Mix left in a pan or a bucket must be disposed of at the completion of the tests
   iii. Extra Mix can also be identified by boxing, labeling, and sealing mix.
   iv. Extra Mix placed in boxes, labeled, and sealed can be placed in storage at completion of the test

   g) Split samples for Verification and Resolution are properly handled:
      i. Boxed
      ii. Identified with the project number, lot and sublot, date, mix type, and samples type
      iii. sealed with tape (and signed by the VT when present)
      iv. properly stored in a secure location
   h) After the lot is closed and verified, the boxes and core should be discarded

11. **INSPECT STORAGE AREA**
    a) All boxes neat, labeled appropriately, sealed, and signatures noticeable
    b) All Cores stored neat, labeled correctly, all cores for a sublot stored together
    c) Mix and Cores for non-FDOT projects must be properly identified and should be sealed; although, they are not required to be sealed
    d) At no time should non-labeled boxes be in the storage area or in the testing area
    e) At no time should non-labeled cores be in the storage area or in the testing area
    f) Boxes and cores should not be stored in the testing lab
    g) All boxes and cores for each lot should be discarded after the verification/resolution process is complete for that lot
12. **TRACK VISCOSITY SAMPLES (SPEC 334-2)**
   a) Recovered Viscosity Samples from RAP mixes once in first 1,000 tons and once per 4000 tons (Material ID: 916)
   b) Liquid Viscosity Samples from Each Liquid Binder Type twice per year per project (Material ID: 916)
   c) Verify that MAC Entry is occurring at the plant during the shift that the sample is collected and the Sample Transmittal Sheet printed from MAC is sent with the sample

**COMMENTS:**

13. **MIX PROPERTIES (SPEC 320-2 AND 105-8)**
   a) Asphalt Content, Mix Gradation, and Volumetric Properties of superpave mixes are determined every day (by Process Control OR Quality Control)
      i. All PC samples are sampled according to Sampling Method and tested according to Test Methods (Gmm, Gmb, Pb, Gradation, Va, density)
      ii. This sampling and testing must be completed daily
   b) QC and PC handwritten results are recorded correctly
      i. Either directly from scale into department database or onto a form using colored ink
      ii. No scratch paper; No transferring handwritten from page to page
      iii. If entry is directly into MAC, data should be saved often: as soon as measurements are made (before walking away from a test for a period of time), as soon as a test is complete, and before computer is taken from the testing area or taken out of the VT’s sight.
   c) Errors on the handwritten page are corrected by striking through the error with one line and writing the correct value above the incorrect value and Initializing the correction. Never Erase. Weight corrections must be made when the measurement can still be made or the reading is still on the scale.
   d) Never Back Calculate a Missed Weight.
   e) QC results are documented on the FDOT Forms
   f) **QC AND PC Results** are entered into the Department’s Database daily
      i. All Cores must include Stations
   g) Contractor takes steps to correct problems that result in a QC or PC failure where the spec does not require the contractor to stop producing the material
   h) Verification Technician Identifies Low Pay Factors and informs the Contractor
   i) Contractor takes corrective steps (or stops production, if required by specification) when Low Pay Factor material is produced
   j) Contractor stops Production as required for QC Failures (such as a single Air Voids failure, or two consecutive Asphalt Content Failures, a single FC-5 Asphalt Content Failure, etc.)
   k) Contractor Startup Conducted Properly:
      i. If Project Specs Allow (and Engineer has not revoked option), contractor should resume production only after taking necessary action. The contractor must summarize the details of the failure, actions taken, and the test results from immediately after production resumes and send the summary to the DBE before the end of the shift that included resuming the mix production
      ii. For projects that require Engineer approval to resume, contractor obtains approval from Engineer prior to resuming production, tests the mix immediately after resuming production, and sends the results to the Engineer
   l) Contractor addresses Low Pay Factor or Failing Material according to the Defective Material Section of 334 when required

**COMMENTS:**

14. **VERIFICATION TESTS**
   a) Verification Technician reviews Lot Package Paperwork
   b) Prior to running the verification test, the Verification Technician visually inspects ALL verification and resolution samples and ALL cores to ensure the samples are available for testing (Verification is NOT performed if missing samples exist and Turnpike Office is immediately notified).
   c) VT tests the random Verification Sample within a reasonable time (as approved by the Turnpike Office) unless samples are missing or required QC paperwork has not been submitted to the Turnpike Materials Office or entries have not been entered into the Department’s Database
   d) In the event that paperwork, test results, or database entries are missing, VT sends an email to the contractor requesting necessary action.
   e) Verification Technician completes the test within a reasonable time of receiving the necessary QC paperwork and database entries
   f) VT entered Verification Test Data to Department’s database

**COMMENTS:**
15. **NUMBER OF MIX DESIGNS USED (334-3)**
   NOTE: (This item can be reviewed from Office or Plant.)
   a) Verify that no more than Four (4) mix Designs have been used on the contract per nominal maximum aggregate size (NMAS), per traffic level (TL), per binder grade, per contract year.
   b) If this has occurred, verify that all CPF’s after the contractor used more than Four (4) mix designs for a specific NMAS, TL, and Binder Grade within one contract year have a maximum CPF of 1.00

   **COMMENTS:**

16. **MIX DESIGN SUMMARY**
   a) VT is obtaining a Mix Summary from the Department’s Database. VT uses summary to ensure all samples are entered and that the data for each sample compares with handwritten data (if applicable). VT should also use the summary to find trends or variations of critical characteristics.
   b) Contractor entered all data into Department’s Database for all QC and PC samples (including contractor IV slit samples).
   c) Core Stations are included in Department’s Database.
   d) VT ensured all data entered into the Department’s Database is correct by comparing data in Mix Summary to the handwritten data (if applicable).
   e) VT double checks the CPF and reviews each Lot Package for completeness and organization prior to delivering to the Turnpike Office.

   **COMMENTS:**

17. **PROPER COMMUNICATION BETWEEN THE FOLLOWING:**
   a) Turnpike Bituminous Engineer (DBE)
   b) Turnpike Asphalt Managers
   c) Project Administrator (CEI office)
   d) Plant Personnel
   e) Road Personnel

   **COMMENTS:**

18. **INDEPENDENT VERIFICATION SAMPLES**
   a) Unannounced IV samples collected once every 4000 tons of mix (randomize – not same truck of the night every time; not same sublot every time)
   b) Mix is left for the contractor to run an IV-Split
   c) Enough mix is taken to the IV lab to run two complete tests
   d) Cores are NOT being taken to the Asphalt Plant’s Lab (Road VT takes possession of the IV cores).

   **COMMENTS:**
19. **PRODUCER’S QC PLAN** (review every six months)

   DATE REVIEWED: _____________
   a) Ensure the Producer QC Plan is approved (check in Department Database)
   b) Ensure the Most Recent Producer QC Plan is available for review upon request
   c) Check to see if the Most Recent Producer QC Plan is included in a Quality Systems Manual (best practice)
   d) Ensure the Producer QC Plan available for review matches the plan on the Department’s Database

   **COMMENTS:**

20. **QUALIFIED TECHNICIANS** (Can be reviewed from Office or Plant.)

   a) Review all QC and V technicians CTQP qualifications for Asphalt Plant Level 1 and 2 and identify the expiration date of each technician performing the tests.
   b) Ensure copies of the QC Technician’s CTQP qualifications are available for review (as a best practice, suggest moving to the Quality Systems Manual (QSM))

   **COMMENTS:**

21. **TESTING LABORATORY** (review every six months)

   DATE REVIEWED: _____________
   a) Ensure the Producer’s Testing Laboratory is qualified under the Department’s Laboratory Qualification Program for each method performed
      i. FM 1-T 168 (Sampling Bituminous Mixes)
      ii. FM 5-563 (Asphalt Content by Ignition)
      iii. AASHTO T 312 (Gyratory Compaction)
      iv. FM 1-T 030 (Mechanical Analysis of Extracted Aggregate)
      v. FM 1-T 166 (Bulk Specific Gravity of Compacted Bituminous Mixtures)
      vi. FM 1-T 209 (Maximum Specific Gravity of Asphalt Paving Mixtures)
   b) Laboratory scales and other applicable equipment includes certified calibration within last year
   c) $G_{mm}$ Flask calibrations must be posted in the laboratory
   d) Area of Lab is at least 180 square feet
   e) The lighting, temperature control, ventilation, equipment and supplies, personal computer, Fax Machine, Internet, etc. must be equipped in accordance with the Spec Requirements (Specs 320-2)
   f) Lab is furnished with needed sampling and testing equipment and supplies for performing QC, Acceptance and verification sampling and testing

   **COMMENTS:**

22. **SUPERPAVE GYRATORY COMPACTOR**

   a) Calibration is performed regularly and documented (best practice to document calibrations in QSM)
   b) Verify that the Calibration Checks are being performed as required by the manufacture and QC Plan
      i. Ram Pressure (600 +/- 18 kPa)
      ii. Angle (1.25 +/- 0.02° external angle OR 1.16 +/- 0.02° internal angle)
      iii. Speed (30 +/- 0.5 gyrations per minute)
      iv. Height
   c) Verify that the calibrations are being performed correctly against the tolerance above or the tolerance listed in the machine’s manual (see manual if the tolerances above are not directly used)
   d) Ensure the tolerance of each item is listed on the Documentation of Calibration Checks
   e) Ensure Documentation of Calibration Checks is posted near the compactor
   f) Verify that the Molds are Uniquely Identified
   g) Verify that the Molds inside diameter is within tolerance using an internal measuring device specifically able to reach into the wear zone of the mold

   **COMMENTS:**
23. **QC PAPERWORK**
   a) The Contractor should keep copies of the Road Reports and Original Handwritten paperwork
      i. When the Density Cores are run, the original Handwritten Data Sheet should be used to record the weights.
      ii. The VT should NEVER collect the Contractor’s original handwritten data
   b) The project documentation should be available to review at anytime, organized, and easy to review

COMMENTS:

24. **FLORIDA TEST METHODS** (review every six months)

   DATE REVIEWED: ____________
   a) Test Methods should be available for technicians use while performing tests (Best Practice).

COMMENTS:

25. **REVIEW THE QSM** (review every six months)

   DATE REVIEWED: ____________
   a) The Asphalt Producer’s Calibration Records for all the equipment must be available for review at any time.
   b) Verify that the Calibrations for all equipment are current (within last year)
   c) The CTQP Qualification should be available for review at any time
   d) The CMEC Certification for the laboratory must be available for review at any time
   e) Review the CMEC Certification for the laboratory to ensure it is not expired. If it is nearing expiration, then inform the contractor. If it is expired then inform the contractor and contact the TAM immediately.

   CMEC CERTIFICATION EXPIRATION DATE: ____________
   f) The Asphalt Producer’s Calibration/Certification/Qualification paperwork should be included in the QSM (best practice)

COMMENTS: