• **READ CONTRACT DOCUMENTS**
  o QC Plan
  o Contract
  o Specifications
  o Plans

• **MAINTAIN COMMUNICATION WITH:**
  o Roadway QC
  o Plant VT
  o QC Manager
  o Project Administrator (P.A.)

• **MONITOR MILLING OPERATION (327.3)**
  o Randomly record ten cross slope measurements per lane mile in tangent sections
  o Randomly record a minimum of three cross slope in super-elevations.
  o Meet the tolerances in Table 327-1.

<table>
<thead>
<tr>
<th>Roadway Failure</th>
<th>Individual Absolute Deviation</th>
<th>Average Absolute Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangent Section (including turn lanes)</td>
<td>0.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Super-elevated curve</td>
<td>0.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Shoulder</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

• **MARK DENSITY QC AND IV CORE LOCATIONS (334-5)**
  o Random numbers received from Plant VT

  **DO NOT ALLOW QC TO SEE RANDOM NUMBERS**

• **COMPLETE ASPHALT ROADWAY VERIFICATION REPORT (675-030-21)**
  o VERIFY asphalt spread rate once per layer/day (CPAM 5.10)
  o VERIFY asphalt temperature once per day (CPAM 5.10)
  o VERIFY tack spread rate once per day (CPAM 5.10)

• **VERIFY CROSS SLOPE (330-12.3.2)**
  o Randomly record a minimum ten measurements per lane mile in tangent sections and control points in transition sections
  o Randomly record a minimum of three cross-slope measurements in super-elevations.
  o Meet the tolerances in Table 330-2.
### Table 330-2
Cross Slope Acceptance Tolerance

<table>
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- **OBSERVE PAVING OPERATIONS, FOR COMPLIANCE WITH QC PLAN (SCO 08-07)**
  - If non-compliance observed - NOTIFY QC MANAGER
  - If non compliance **not corrected** - NOTIFY P.A.
  - P.A. will void that portion of QC plan if contractor is in non-compliance

- COLLECT, REVIEW AND RETURN EACH DAYS PAPERWORK, DAILY
- DENOTE ANY CORRECTIONS ON THE PAPERWORK RETURNED TO QC
ASPHALT GUIDELINES - ROADWAY QC

- **READ CONTRACT DOCUMENTS**
  - QC Plan
  - Contract
  - Specifications
  - Plans

- **MAINTAIN COMMUNICATION WITH**
  - QC Manager
  - QC Plant and VT Technicians
  - Communication between the Plant QC and Roadway QC is **IMPERATIVE**

- **MONITOR MILLING OPERATION (327-3)**
  - Record cross slope measurements in tangent sections once every 100 feet.
    - May be reduced to once/200 feet upon approval of the Engineer.
  - Record a minimum of three cross slope measurements in super-elevated sections.

- **MAINTAIN ASPHALT ROADWAY DAILY REPORT OF QUALITY CONTROL (675-030-20)**

- **MONITOR ASPHALT TEMPERATURE (330-6.3)**
  - First 5 loads
  - One out of every 5 loads thereafter

- **CONTROL TACK SPREAD RATE (300-8.4)**

- **MONITOR ASPHALT SPREAD RATE**
  - The P.A. will establish a **target spread rate** beginning of each day
  - Monitor spread rate at the beginning of each day and a **minimum of once/200 tons**
  - Maintain the spread rate within 5% of the target. (330-2.2)

- **MONITOR PAVEMENT CROSS SLOPE (330-12.3)**
  - Minimum once every 100 feet
    - May be reduced to once/200 feet upon approval of the Engineer.
  - Meet the tolerances in Table 330-2.

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</table>

- **CUT DENSITY CORES AT LOCATIONS MARKED BY VT ROADWAY (334-5)**
• PERFORM STRAIGHTEDGE (330-12)
  o Intermediate Layers
    ▪ Tolerance = ± 3/8 inch
  o Final Layer (Friction & Structural)
    ▪ Minimum 48 hour notice before testing
    ▪ Tolerance = ± 3/16 inch

➢ RECEIVE ASPHALT DELIVERY TICKETS FORM THE PLANT
➢ FORWARD QC ROADWAY REPORTS TO QC MANAGER DAILY
➢ SEND DAILY PACKAGE (COPIES OF THE QC ROADWAY REPORTS WITH ORIGINAL PLANT DELIVERY TICKETS) TO ROADWAY VT
ASPHALT GUIDELINES - PLANT VT

- **READ CONTRACT DOCUMENTS**
  - QC Plan
  - Contract
  - Specifications
  - Plans

- **MAINTAIN COMMUNICATION WITH**
  - Roadway VT
  - District Materials Office (DMO)
  - QC Personnel
  - Project Administrator (PA)

- **GENERATE RANDOM NUMBERS (334-5, SCO MEMO 08-07)**
  - Send Roadway Random Numbers to Roadway VT
    - **DO NOT ALLOW QC TO SEE RANDOM NUMBERS**

- **MONITOR ALL QC PLANT TESTING (SCO MEMO 08-07)**
  - NOTIFY ROADWAY VT, P.A., AND DMO OF ANY FAILURES IMMEDIATELY

- **REPORT ANY PAY FACTOR < 90% TO THE P.A. AND DMO IMMEDIATELY** (334-5.1.9)

- **PERFORM VERIFICATION TESTING ONCE PER LOT/RANDOM NUMBER (334-5)**

- **NON-COMPARING VT TESTING (334-5.1.5)**
  - NOTIFY ROADWAY VT, P.A., AND DMO OF ANY NON-COMPARISONS IMMEDIATELY
    - Forward non-comparing samples to resolution. (334-5.1.6)
    - Report results to contractor within 1 day of lot completion.
    - Enter VT report data into LIMS within 1 day of completion.
    - Verify all QC data has been entered into LIMS for this lot.

- **OBSERVE PLANT OPERATIONS, FOR COMPLIANCE WITH QC PLAN:**
  - Non-compliance **observed** - notify Quality Control Manager (QCM)
  - Non compliance **not corrected** - notify P.A. & DMO
  - DBE will **void** that portion of QC Plan if contractor is in non-compliance

- **COLLECT AND REVIEW EACH DAYS PLANT PAPERWORK, DAILY**

- **DOCUMENT/UPDATE THE MIX DESIGN SUMMARY SPREADSHEET (675-030-24)**
  - Monitor the trends of critical material properties

- **RETURN PAPERWORK TO PLANT QC FOR ANY CORRECTIONS**
  - NOTIFY QCM & DMO OF ONGOING PROBLEMS

- **COMPILE AND DELIVER LOT SUBMITTAL PACKAGE TO ROADWAY VT FOR REVIEW AS SOON AS LOT IS COMPLETE (PLANS PREPARATION MANUAL, CHAPTER 9.3)**
ASPHALT GUIDELINES – PLANT QC

- **READ THE CONTRACT DOCUMENTS:**
  - QC Plan
  - Contract
  - Specifications
  - Plans

- **MAINTAIN COMMUNICATION WITH**
  - QC Manager
  - QC Roadway & Both VT’s
  - Communication between QC Plant and QC Roadway is **IMPERATIVE**

- **CHECK ASPHALT TEMPERATURE (330-6.3)**
  - First 5 loads
  - Every 5th load thereafter

- **TEST HOT MIX ASPHALT**
  - Sampled Mix (334-5, SCO MEMO 08-07)
    - Asphalt binder content
    - Gradation
    - Volumetric properties
    - Minimum of once per day
    - Minimum of twice per day if > 1000 tons (330-2.2)
  - Report any results with a **Pay Factor < 90%** to VT Plant and QC Manager
  - Verify modifier addition (330-2.2)
  - Verify that all test results meet contract specs
  - Inform QC Manager, P.A., and DBE of any failures immediately

- **TEST AGGREGATE (INCLUDING R.A.P.) STOCKPILE (330-2.2)**
  - Frequency - Once every 1000 tons of incoming material.
  - Binder Content and Gradation of extracted aggregate
  - Moisture Content - stockpiles or combined cold feeds **once per day**

- **TEST ROADWAY DENSITY CORES**
  - Process Control Cores (informational cores only) (330-2.2)
  - Quality Control Density Cores as identified by the Plant VT (334-5.1.3.2)
  - **INSURE DENSITY CORES AND INFORMATION CORES ARE NOT MIXED**

- **NOTIFY THE VT TECHNICIAN WHEN ALL TEST RESULTS ARE UPLOADED INTO LIMS**
- **FORWARD QC PLANT TICKETS TO VERIFICATION TECHNICIAN DAILY FOR PLACEMENT IN LOT PACKAGE**
- **QC MANAGER TO CHECK AND ENTER REPORTS INTO LIMS WITHIN 24 HOURS**
- **MAINTAIN SAMPLE AND ROADWAY CORES UNTIL NEXT LOT IS COMPLETED**
ASPHALT GUIDELINES – PROJECT ADMINISTRATOR

• QUALITY CONTROL PLAN
  o Review and Recommend approval
  o Review at 30%, 60%, 90%

• READ THE CONTRACT DOCUMENTS
  o QC Plan
  o Contract
  o Specifications
  o Review at 100%

• SETUP AND CONDUCT PRECON AND ASPHALT PREPAVING MEETINGS
  o Establish Target Spread Rate
  o Distribute Pre-Paving Minutes to all attendees

• PERIODICALLY MONITOR MILLING AND PAVING OPERATIONS

• MAINTAIN COMMUNICATION WITH
  o Contractor
  o QC Manager
  o Verification Technicians

• RECEIVE AND REVIEW LOT SUBMITTAL PACKAGE FROM ROADWAY VT, WHEN LOT COMPLETE

• VERIFY QC/VT DATA ENTRY INTO LIMS, DAILY

• REVIEW CPF
  o Make pay adjustments as necessary

• INSURE ANY TYPE OF CONTRACT CHANGES VIA SA DWLS, DLS, STOP WORK ORDERS

➢ AT COMPLETION OF THE PROJECT, THE P.A. IS TO SUBMIT THE LOT SUBMITTAL PACKAGES TO FINAL ESTIMATES
- PREPARE AND SUBMIT QUALITY CONTROL PLAN

- READ THE CONTRACT DOCUMENTS
  - QC Plan
  - Contract
  - Specifications
  - Plans

- MAINTAIN COMMUNICATIONS WITH
  - Contractor
  - PA
  - QC Techs & VT Techs

- MONITOR QC PROCESS
  - Administer, Adjust and Resubmit QC Plan as needed

- ATTEND PRECON AND ASPHALT PREPAVING MEETINGS

- MONITOR MILLING AND PAVING OPERATIONS TO ENSURE THAT ALL OPERATIONS ARE IN COMPLIANCE WITH CONTRACT DOCUMENTS

- RECEIVE AND REVIEW QC ROADWAY REPORTS DAILY
  - Maintain original documentation for three years

- ENSURE THAT QC DATA IS ENTERED INTO LIMS, DAILY
  - Check results for status
  - Review the mix design summary spreadsheet to monitor the trends of critical material properties

- FORWARD COPIES OF REPORTS TO PA WITHIN 48 HOURS OF THE END OF THE DAYS PRODUCTION (IF REQUESTED)

QC MANAGER MUST SPEND WHATEVER TIME IS REQUIRED ON THE PROJECT TO ENSURE QUALITY CONTROL.

QC MANAGER IS RESPONSIBLE FOR ENSURING THAT LIMS DATA ENTRY OCCURS ON TIME AND IS ACCURATE.
**DAY 0**
End of Days Paving

**DAY 1**
10:00 a.m. Complete all previous days QC reports

**DAY 2**
Reports entered into QRM LIMS with copies to P.A.

**DAY X**
QC LOT complete all QC daily reports submitted

**DAY X+2**
VT LOT verification complete, data entry & LOT submittal package to P.A.

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DAILY REPORT TIMELINE

VT Plant or VT roadway to review prior to data entry

WHEN QC LOT COMPLETE REPORT TIMELINE

VARIES
Resolution, if required must be complete to determine CPF, prior to LOT submittal package to P.A.