QUALITY MANAGEMENT PROGRAM
Control of Materials

- Standard Spec 106: Control of Materials
  - All materials must be approved before they are incorporated into the work.
  - Approval of materials is based primarily on the engineers’ tests, tests the contractor performs under the QMP, or tests the manufacturer performs and certifies.
Under QMP provisions, department will base approval of materials and acceptance of the work on a combination of the following:

- Contractor QC testing
- Department QV testing
- Inspections of the materials production, storage, handling, and construction processes
Core Elements of QMP

- Contractor QC
- Department QV
- Dispute Resolution
- Qualified Laboratories
- Independent Assurance
- Personnel Certification
QMP Specifications

➢ Each QMP is independent of others.

➢ 701 Applies to all QMPs in part 7

➢ An individual contract can contain any combination of QMP provisions.
2019 Standard Specifications
Part 7: Quality Management Program

- 701 General QMP Requirements
- 710 General Concrete QMP
- 715 QMP Concrete Pavement and Structures
- 716 QMP Ancillary Concrete
- 730 QMP Base Aggregate
- 740 QMP Ride
QMP Special Provisions

- Standard Special Provisions (STSP)
  - QMP HMA Pavement Nuclear Density
  - QMP Base Aggregate Dense 1 ¼ -inch Compaction
  - Stone Matrix Asphalt (SMA) Pavements
  - QMP Mill and Relay Compaction
  - QMP Pulverize and Relay Compaction
  - HMA Pavement Percent Within Limits (PWL) QMP

- Special Provision (SPV)
  - QMP Subgrade
  - Cold-In-Place Recycling (CIR) Partial Depth
  - MSE Wall
  - Bridge Ride QMP
FDM 19-21 QMP Design Guidance

- FDM 19-21-1 Overview
- FDM 19-21-2 Use of Standard Specification and Incentives for QMP’s
  - Ride Quality
  - HMA Mixture
  - Concrete
  - Base Aggregate
- FDM 19-21-5 Use of Standard Special Provision and Incentive Item QMP’s
  - HMA Pavement Nuclear Density
  - HMA BAD 1 ¼-Inch Compaction
  - Mill & Relay Compaction
- FDM 19-21-10 Use of Special Provision and Incentive Item QMP’s
  - HMA Pavement PWL
701 General QMP Requirements

- 701.1 Description
  - 701.1.1 General
  - 701.1.2 Quality Control Program
    - 701.1.2.1 General
    - 701.1.2.3 Small Quantities
    - 701.1.2.4 Personnel Certification
    - 701.1.2.5 Laboratory Qualification
    - 701.1.2.5 Equipment
    - 701.1.2.7 Documentation

- 701.2 Materials (Vacant in 701)
Small Quantities

- **Small Quantities** – defined in individual QMP provisions
- **701 General QMP** – allows for an abbreviated quality control plan
- **710 General Concrete QMP** – Concrete testing not waived for QC or QV; aggregates may be accepted based on documented previous testing.
- **716 Ancillary Concrete QMP** – No small quantity provisions. QV testing is optional for class III concrete and for aggregates in class II
- **730 QMP Base Aggregate** – defined as \( \leq 6000 \) tons
  - QC: 1 stockpile test prior to placement and submit 2 production tests or conduct 1 loadout tests in lieu of placement tests.
  - QV Testing: The stockpile test prior to placement can be waived for contract bid item quantities \( \leq 500 \) tons.
701 General QMP Requirements Continued

- 701.3 Testing
  - 701.3.1 General
  - 701.3.2 Contractor QC Testing
  - 701.3.3 Department Testing
  - 701.3.4 Dispute Resolution
  - 701.3.5 Corrective Action

- 701.4 Measurement (Vacant)

- 701.5 Payment
Costs for sampling, testing, and documentation under part 7 are incidental to the work. If the contractor fails to perform work required under the contract QMP provisions, the department may reduce the contractor’s pay. The department will administer pay reductions under the Nonperformance of QMP administrative item.
Examples Non-Performance of QMP

- Non-random test locations
- Missed Tests
- Unqualified Samplers/Testers, Equipment, or Laboratories
- Improper Sampling / Testing Procedures
- Improper Documentation / Reporting
- Calculation Errors
NC and NP

- Project Staff must run disincentives through the regional materials engineer
- Regional consistency and statewide uniformity
The contractor must notify the department at least 24 hours before profiling pavements for acceptance.
Ride Quality

- Regions Should Oversee Contractor Profiling
  - Observe the daily equipment calibration
  - Observe profile runs
This specification may not be appropriate for some rehabilitation and maintenance projects. Projects designed to be short-term fixes may not warrant the additional costs associated with including and administering this provision.

Designers need to write a project special provision to remove the ride specification from projects or parts of projects deemed inappropriate.
Bridge Ride Pilot Projects

Reporting Issues

- Use correct equation
EQUATION
Standard Spec 740

740.5.2 Pay Adjustment

(1) The department will pay incentive for ride under the following bid item:

<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>740.0440</td>
<td>Incentive IRI Ride</td>
<td>DOL</td>
</tr>
</tbody>
</table>

(2) Incentive payment may be more or less than the amount the schedule of items shows.

(3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.

(4) The department will not assess disincentives on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be based on the category of the adjoining segments.

(5) The department will adjust pay as follows:

- For work placed under the contract: Based on the initial segment IRI for that segment. If corrective action for excessive segment IRI is required, the department will base disincentives on the segment IRI after correction is performed according to 740.3.4.3.
- For continuous diamond grinding of existing concrete: Based on the final segment IRI as specified in 420.3.5.

(6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation "ride 2.01" as follows:

For HMA I Pavement:

<table>
<thead>
<tr>
<th>Initial IRI (in/mile)</th>
<th>Pay Adjustment (dollars/500 feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30</td>
<td>250</td>
</tr>
<tr>
<td>&gt;= 30 to &lt;35</td>
<td>1750 - (50 x IRI)</td>
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<tr>
<td>&gt;= 35 to &lt;60</td>
<td>0</td>
</tr>
<tr>
<td>&gt;= 60 to &lt;75</td>
<td>1000 - (50/3 x IRI)^[1]</td>
</tr>
<tr>
<td>&gt;= 75</td>
<td>-250^[1]</td>
</tr>
</tbody>
</table>
Bridge Ride Pilot Projects

Reporting Issues

- Incorrect equations used
- Profile length too short
Bridge Encounter
Bridge Ride Pilot Projects
Reporting Issues

- Use correct ride equation
- Ensure profile length is long enough
- Provide accurate reason for areas excluded
  - Expansion joints are not excluded from localized roughness
  - 25 feet past steel armor joints, in the direction of travel, is excluded
- Incentives are provided on initial profile run
- Title profile runs appropriately so titles are clear to all (e.g. hwy, lane, direction, rerun if applicable, bridge number, etc.)
- Use correct category – QMP Bridge
**Ride Data Spec 1.03**

- **Reverse Stationing On / Off**
- **Bulk Changes**
- **Attach Source File**

**Ride ID:** TEST  
**Lane:** 1 North Bound  
**Run Date:** 02/25/19  
**Run Time:** 08:00  
**Pay Specification:** RIDE 2.01  
**Segment Length:** 500  
**Recorded Station Start:** 0+00  
**Recorded Station End:** 5+00

---

**Ride Detail Data - Spec RIDE 2.01**

---

**Reverse Stationing OFF**

---

**Category**

<table>
<thead>
<tr>
<th>Segment Type</th>
<th>Begin Segment (Station)</th>
<th>End Segment (Station)</th>
<th>Segment Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMP BRIDGE</td>
<td></td>
<td>0+00</td>
<td>500</td>
</tr>
<tr>
<td>RCDG V</td>
<td></td>
<td>5+00</td>
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</tr>
<tr>
<td>HCDG V</td>
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<td></td>
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<tr>
<td>QMP BRIDGE</td>
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</tr>
<tr>
<td>PCC II</td>
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<tr>
<td>PCC IV</td>
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Questions
thank you!