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## **PLANT-MIXED ASPHALT PAVEMENT (OAKDALE 2360)**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Section Includes:
  - 1. Construction of pavement courses from hot plant-mixed bituminous – aggregate mixture.
  - 2. Demonstration of quality control through quality control testing.
- B. Method of Measurement:
  - 1. Bituminous Mixture:
    - a. Measure each mixture type by weight in tons acceptably placed.
    - b. Weight shall be based on the sum of individual load tickets provided within 24 hours of the time of delivery to the site.
    - c. No deduction for bituminous materials in the mixture.
  - 2. Bituminous Material: Incidental to the bituminous mixture.
  - 3. Contractor Testing and Quality Control: Incidental to bituminous mixture.
- C. Basis of Payment:
  - 1. Mixture cost includes additives as required.
  - 2. Payment for acceptable quantities of bituminous pavement shall be at the Contract Unit Price as listed on the Bid Form. All associated Work items shall be considered incidental.
  - 3. No incentive payment factors shall apply to the Contract price for this project.

#### **1.02 REFERENCES**

- A. MnDOT 2360 – Plant Mixed Asphalt Pavement, Gyratory Design Specification

#### **1.03 SUBMITTALS**

- A. Job Mix Formula:
  - 1. Submit 1 Job Mix Formula (JMF) for each mix to be used on the project.
  - 2. Each JMF as a minimum shall contain the information listed in MnDOT 2360.2.E.9.
  - 3. The JMF shall be signed by a Level II Quality Management mix designer, and submitted on MnDOT approved forms.
  - 4. Submit the JMF to Engineer at least 7 working days prior to the start of asphalt production for Laboratory Mixture Design or 2 working days prior to the start of asphalt production for Modified Mixture Design.
- B. Asphalt Plant Inspection Report:
  - 1. Prior to beginning asphalt production, submit an Asphalt Plant Inspection Report (TP 02142-02, TP 02143-02) to E/A.

2. This report must have been performed during the current construction season.
3. If the asphalt plant has been moved since the most recent Asphalt Plant Inspection Report was written:
  - a. Request that the plant be re-certified by MnDOT according to MnDOT 2360.2.G.1.a.
  - b. Submit the new Asphalt Plant Inspection Report to Engineer.

#### **1.04 PROJECT CONDITIONS**

- A. Do not place mixtures when weather or roadbed conditions are determined to be unfavorable.
- B. Obtain written permission from E/A to place mixture after October.

### **PART 2 PRODUCTS**

#### **2.01 MATERIALS**

- A. Aggregate: MnDOT 2360.2.A. **Class B Aggregate is excluded and shall not be allowed in the top lift of wear course.**
- B. Additives: MnDOT 2360.2.C: Add anti-foaming agent at the manufacturer's recommended dosage rate.
- C. Asphalt Binder Material: MnDOT 2360.2.B. Shall be in conformance with AASHTO M332 (MSCR).
- D. Bituminous Mixture: MnDOT 2360.2.E.

#### **2.02 EQUIPMENT**

- A. All equipment used in production and placement shall be in accordance with MnDOT 2360.3.B.
- B. Produce all bituminous mixtures at a Contractor-certified HMA plant in accordance with MnDOT 2360.2.G.1.a.

#### **2.03 MIXTURE PROPORTIONS**

- A. Submit a trial mix design for each mixture in accordance with MnDOT 2360.2.E.
- B. All mixtures shall be in accordance with MnDOT 2360.2.

#### **2.04 SOURCE QUALITY CONTROL**

- A. Provide and maintain a quality control program for HMA production.
  1. The quality control program shall meet the requirements of MnDOT 2360.2.G, Sections G.1.a, G.1.b, and G.4 through G.14.

- B. Quality Assurance – Plant: The project owner will retain Minnesota Department of Transportation Materials Personnel to conduct quality assurance observations and testing. The Quality Assurance program will comply with MnDOT 2360.2, Sections G.2, and G.3.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Treatment of the Surface: Apply bituminous tack coat to existing bituminous or concrete surfaces and to surface of each course except final surface.

### **3.02 PLACEMENT**

- A. Spreading Operations:
1. Spread each mixture to the required cross section with an approved paver.
  2. Spread by hand or motor grader only in areas not accessible to a paver.
  3. Coordinate paver speed with rate of delivery of mix to provide a uniform rate of placement.
  4. Complete placement of each course over full width of the section each day.
- B. Compacting Operations:
1. Conduct initial and final rolling with a steel-wheeled roller.
  2. Conduct secondary rolling with a pneumatic-tired roller.
  3. Commence compaction as soon as possible after mixture has been spread, without causing undue displacement of mixture.
  4. Operate rollers continuously until all areas are compacted, there is no further evidence of consolidation, and all roller marks are eliminated.
  5. Compact each course uniformly by the Ordinary Compaction Method.
- C. Thickness and Surface Requirements:
1. After compaction, each course shall be within 1/4 inch of the required thickness.
  2. Remove and replace any areas that are not within tolerance.
  3. After rolling, each surface shall be free of open and torn sections.
  4. Each course shall be smooth and true to the planned grade and cross-section within the following tolerances:
    - a. Wearing course surfaces shall not vary more than 1/8 inch from the edge of a 10-foot straightedge placed parallel or perpendicular to centerline.
    - b. Transverse slopes of each surface shall not vary from the proposed slope by more than 1/2 inch in 12 feet.
    - c. The distance from centerline to edge of each course shall not be less than the proposed distance nor greater than 3 inches more than the proposed distance.
  5. Remove and reconstruct all portions of any course not in compliance with the above tolerances.
  6. Perform acceptance in accordance with MnDOT 2360.
- D. Construction Joints:
1. Compact to produce a tightly bonded joint meeting surface tolerances.
  2. Transverse Joints:
    - a. Place at right angles to centerline whenever placement operations are suspended. Suspension of Work will be allowed only at specified transverse joint locations as shown on Drawings.
    - b. Upon resumption of work, cut vertically for full depth of the course.

3. Longitudinal Joints:
  - a. Place parallel to centerline.
  - b. Place joints between strips not less than 6 inches measured transversely from like joints placed in underlying course.
  - c. Place all surface courses to not greater than 1/4 inch above adjacent gutters, manhole frames, valve boxes, or other fixed structures.

### **3.03 FIELD QUALITY CONTROL**

- A. Contractor is responsible for all field quality control.
- B. All field quality control testing personnel, facilities, and requirements shall be in accordance with MnDOT 2360.

**END OF SECTION**