

**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 31 05 16 – Aggregate Materials
- .2 Section 31 23 33.01 – Excavating Trenching and Backfilling

**1.2 PRODUCTS SUPPLIED BUT NOT INSTALLED UNDER THIS SECTION**

- .1 Notify Departmental Representative of proposed date for use of materials; order and schedule shipments to coincide with construction schedule.
- .2 Where reclaimed asphalt pavement (RAP) is to be incorporated into mix, use only material obtained from this contract.

**1.3 MEASUREMENT AND PAYMENT**

- .1 Measure asphalt concrete paving in tonnes of asphalt concrete actually incorporated into Work.
- .2 Measure supply of asphalt cement in litres at 15 degrees C.
- .3 Measure supply of hydrated lime in tonnes.

**1.4 REFERENCES**

- .1 American Association of State Highway and Transportation Officials (AASHTO)
  - .1 AASHTO M320-10, Standard Specification for Performance Graded Asphalt Binder.
  - .2 AASHTO R29-08, Standard Specification for Grading or Verifying the Performance Graded of an Asphalt Binder.
  - .3 AASHTO T245-97(2008), Standard Method of Test for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus.
- .2 Asphalt Institute (AI)
  - .1 AI MS-2-1994, Mix Design Methods for Asphalt Concrete and Other Hot-Mixes.
- .3 ASTM International
  - .1 ASTM C88-05, Standard Test Method for Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulphate.
  - .2 ASTM D698-12, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
- .4 The Master Painters Institute (MPI)
  - .1 Architectural Painting Specification Manual - [current edition].
    - .1 MPI #32, Traffic Marking Paint, Alkyd.

- .5 Nova Scotia Transportation and Infrastructure Renewal (formerly Transportation and Public Works) Standard Specifications for Highway Construction and Maintenance (with latest revisions).

## **1.5 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for asphalt mixes and aggregate and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2 Submit viscosity-temperature chart for asphalt cement to be supplied showing either Saybolt Furol viscosity in seconds or Kinematic Viscosity in centistokes, temperature range 105 to 175 degrees C 4 weeks prior to beginning Work.
- .3 Samples:
  - .1 Inform Departmental Representative of proposed source of aggregates and provide access for sampling 4 weeks prior to beginning Work.
- .4 Sustainable Design Submittals:
  - .1 Erosion and Sedimentation Control: submit copy of erosion and sedimentation control plan in accordance with authorities having jurisdiction.
  - .2 Construction Waste Management:
    - .1 Submit project Waste Reduction Workplan highlighting recycling and salvage requirements.
    - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates.
  - .3 Regional Materials: submit evidence that project incorporates regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.

## **1.6 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Deliver and stockpile aggregates in accordance with Section 31 05 16 - Aggregate Materials and erosion and sedimentation control plan. Stockpile minimum 50% of total amount of aggregate required before beginning asphalt mixing operation.
- .3 When necessary to blend aggregates from one or more sources to produce required gradation, do not blend in stockpiles.
- .4 Stockpile fine aggregate separately from coarse aggregate, although separate stockpiles for more than two mix components are permitted.
- .5 Provide approved storage, heating tanks and pumping facilities for asphalt cement.
- .6 Submit to Departmental Representative copies of freight and waybills for asphalt cement as shipments are received.

- .1 Departmental Representative reserves right to check weights as material is received.
- .7 Stockpile crushed RAP separately in accordance with Section 31 05 16 - Aggregate Materials where directed by Departmental Representative.
- .8 Protect and cover stockpiles of crushed RAP from rain to approval of Departmental Representative in accordance with erosion and sedimentation control plan.
- .9 Develop Waste Reduction Workplan related to Work of this Section.
- .10 Packaging Waste Management: remove for reuse by manufacturer of pallets, crates, padding, packaging materials as specified in Waste Reduction Workplan.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Asphalt concrete: Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specifications for Highway Construction and Maintenance, Type C Asphalt as per Division 4, Section 4.
- .2 Granular subbase: Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specifications for Highway Construction and Maintenance, Type 2 Gravel as per Division 3, Section 2.
- .3 Granular base: Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specifications for Highway Construction and Maintenance, Type 1 Gravel as per Division 3, Section 2.
- .4 Prime coat: Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specifications for Highway Construction and Maintenance, Liquid Asphalt Primer as per Division 4, Section 5.
- .5 Traffic paint: white to MPI # 32.

## **Part 3 Execution**

### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for asphalt paving in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Departmental Representative.
  - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

### **3.2 FOUNDATIONS**

- .1 Foundations for roadways and parking areas comprise:
  - .1 300 mm compacted thickness of Type 2 granular subbase.
  - .2 100 mm compacted thickness of Type 1 granular base.
- .2 Compaction: compact each lift of granular material to 100% maximum density to ASTM D698. Maximum lift thickness: 150 mm.

### **3.3 PAVEMENT THICKNESS**

- .1 Pavements for roadways and parking areas parking areas:
  - .1 Wear course: 100 mm Type C asphalt.

### **3.4 PAVEMENT CONSTRUCTION**

- .1 Application of prime coat: NSTIR Standard Specifications, Division 4, Section 5.
- .2 Construction of asphalt concrete: NSTIR Standard Specifications, Division 4, Section 4.

### **3.5 TRAFFIC MARKINGS**

- .1 Paint parking space divisions and other pavement markings in accordance with manufacturers recommendations and as indicated.
- .2 Use paint thinner in accordance with manufacturer's requirements.

### **3.6 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse or recycling in accordance with the Waste Reduction Workplan.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**END OF SECTION**