

32 12 16 ASPHALT CONCRETE PAVEMENT (EPS)

Part 1 General

1.1 DESCRIPTION

- .1 Work shall consist of supplying, loading, hauling and placing AT Designation 1 Class 16mm Asphalt Concrete Pavement (EPS) as per the Contract Documents, or as directed by the Departmental Representative
- .2 For the asphalt mix, asphalt aggregate used shall consist of AT Designation 1 Class 16mm aggregate in accordance with AT Standard Specifications for Highway Construction, Specification 3.50 Asphalt Concrete Pavement - EPS (latest edition).
- .3 Production of AT Designation 1 Class 16mm asphalt aggregate. Material is available for extraction and aggregate crushing at David Thompson Pit for Contractor use on this Project only. The Contractor is responsible for verifying these quantities prior to construction. The Contractor is responsible for all testing and handling of the Owner-supplied material related to aggregate production.
- .4 Asphalt Binder used shall be 150-200A in accordance with AT Standard Specifications for Highway Construction (latest edition)
- .5 Recycled Asphalt Pavement (RAP) will be permitted in the asphalt pavement mix design in accordance with this Section.
- .6 Perform and submit mix designs for AT Designation 1 Class 16mm Asphalt Concrete Pavement using Asphalt Binder 150-200A and 16mm Asphalt Aggregate. Perform additional mix designs where RAP is included, if applicable. Mix design is subject to acceptance by the Departmental Representative.
- .7 Milled Rumble Strips are not included in this Contract.
- .8 Existing concrete barriers, if any, shall be retained and reinstated on overlaid asphalt pavement as directed by the Departmental Representative.
- .9 The edge of pavement shall have sloped paved shoulders following the existing side slope for the length of the paving limits, except where there is guardrail or concrete barrier, and shall be constructed in conjunction with all lifts of ACP, as shown on the IFC Drawings or as directed by the Departmental Representative. Payment for this Work to be incidental to asphalt Unit Price items.
- .10 Acceptance and/or rejection of all placed Asphalt Concrete Pavement shall be determined in accordance with the End Product Specifications. The Contractor shall be fully responsible for the removal and replacement of rejected materials.

1.2 REFERENCES

- .1 AT - Standard Specifications for Highway Construction (latest edition)

1.3 MEASUREMENT AND PAYMENT PROCEDURES

.1 Asphalt Concrete Pavement

- .1 Measure for payment of Asphalt Concrete Pavement will be in tonnes by scale tickets submitted to and accepted by the Departmental Representative in accordance with the Contract Documents.

- .2 Payment for accepted Asphalt Concrete Pavement will be made under **“Unit Price Item 2 - Asphalt Concrete Pavement (EPS)”** and the price(s) bid shall be full compensation for the cost of furnishing all labour, materials, equipment, tools and incidentals necessary to complete the work as specified in the Contract Documents.
 - .1 Highway overlay paving, paved letdowns, and mill infill shall be measured and paid under **“Unit Price Item 2a – Asphalt Concrete Pavement (EPS) – AT Designation 1 Class 16mm ACP (Including Milling Infill)”**
 - .2 Side road, Day Use Areas, and Full Depth Paving shall be measured and paid under **“Unit Price Item 2b – Asphalt Concrete Pavement (EPS) – AT Designation 1 Class 16mm ACP (Side Roads, DUAs & Full Depth Paving)”**
- .3 Level Course shall not be measured separately for payment but will be paid under **“Unit Price Item 2 - Asphalt Concrete Pavement (EPS)”**.
- .4 Granular Base Course grading compaction and/or proof rolling and testing shall not be measured separately for payment but will be considered incidental to **“Unit Price Item 2 - Asphalt Concrete Pavement (EPS)”**.
- .2 **Unit Price Adjustments**
 - .1 Applicable unit price payment adjustments (additions or subtractions as applicable) shall be in accordance with AT Standard Specifications for Highway Construction Specification 3.50 – Asphalt Concrete Pavement – EPS.
 - .1 With the exception of:
 - .1 Any current Special Provisions.
 - .2 Smoothness testing to be arranged by the Departmental Representative. **Testing and Evaluation of Finished Pavement Surface Smoothness using International Roughness Index (IRI) Criteria** which shall be as defined in Alberta Transportation Special Provisions SP_S301, and any current Special Provisions.
 - .3 Deleted
 - .4 Deleted
 - .2 Payments shall be under **“Lump Sum Price Item 3 – Prime Cost Sum”**.
- .3 **Reclaimed Asphalt Pavement**
 - .1 Production and usage of Reclaimed Asphalt Pavement (RAP) shall be considered incidental to **“Unit Price Item 2 - Asphalt Concrete Pavement (EPS)”** and the price(s) bid shall be full compensation for the cost of furnishing all labour, materials, equipment, tools and incidentals necessary to complete the work as specified in the Contract Documents.
- .4 Payment for sloped paved shoulders shall be incidental to **“Unit Price Item 2 - Asphalt Concrete Pavement (EPS)”**.
- .5 Items considered incidental to the Work include, but are not limited to:
 - .1 Production of asphalt aggregate.
 - .2 Removal of winter sand, grading compaction, compaction testing and proof rolling of Granular Base Course.
 - .3 The movement of equipment and crew.

- .1 A move is defined as the Contractor moving equipment and crew to the next section to pave after having completed, in its totality, the previous section.
- .4 Cleaning of existing pavement prior to paving, whether via sweeping or other methods.
- .5 Survey and layout for asphalt concrete paving and milled rumble strips.
- .6 Preparing asphalt mix designs (including anti-stripping test), in accordance with Section 01 45 00 Quality Control and Section 01 33 00 Submittal Procedures.
- .7 Supply, delivery and incorporation of asphalt cement.
- .8 Anti-stripping agent(s) and other additives, if required and accepted by the Departmental Representative.
- .9 Supply, installation, maintenance, calibration of weight scales and a scale house, or alternately electronic calibrated silo scales, at the plant by the Contractor.
- .1 Contractor shall provide a scale person, as required, at their cost.
- .10 Asphalt Concrete Pavement placing at milled tie-in locations
- .11 Cleaning of existing pavement shoulder, whether via sweeping or other methods
- .12 Adjustment of existing manhole lids as accepted by the Departmental Representative
- .13 Sloped paved shoulders as described in this Section.
- .14 Environmental mitigations required in accordance with Section 01 35 43 – Environmental Procedures
- .15 Collection, storage, removal and disposal of asphalt plant dust outside of the National Parks.
- .16 Overhaul.
- .6 Traffic Control required for this Work shall be incidental to **“Lump Sum Price Item 2 - Traffic Accommodation”** and no separate payment will be made to the Contractor.
- .7 Mobilization and demobilization required for this Work shall be incidental to **“Lump Sum Price Item 1 – Mobilization / Demobilization”** and no additional payment will be made.

1.4 SUBMITTALS

- .1 In accordance with Section 01 33 00 Submittal Procedures.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .2 In accordance with Section 01 35 43 - Environmental Procedures.

Part 2 Products

2.1 MATERIALS

- .1 150-200A Asphalt Binder shall be used.
- .2 AT Designation 1 Asphalt Aggregate (16mm):
 - .1 Materials used shall be in accordance with AT Standard Specifications for Highway Construction Specification 3.50 Asphalt Concrete Pavement -EPS (latest edition)).

- .2 AT Designation 1 Class 16mm Asphalt Aggregate may be supplied from outside the Park or produced, in whole or in part, from suitable material stockpiled in David Thompson Pit. Pit-run aggregate is available for extraction and aggregate crushing at David Thompson Pit for Contractor use on this Project only. The Contractor is responsible for verifying these quantities prior to construction. The Contractor is responsible for all testing and handling of the Owner-supplied material related to aggregate production.
- .3 Reclaimed Asphalt Pavement (RAP):
 - .1 RAP to be processed by crushing and/or screening into a consistent material with uniform gradation, AC content and other properties prior to being utilized in accordance with the AT Standard Specifications for Highway Construction (latest edition).
 - .2 Use of processed Reclaimed Asphalt Pavement (RAP) material in hot mix asphalt construction is permitted to maximum 10% in accordance with AT Standard Specifications for Highway Construction (latest edition) and as approved by the Departmental Representative.
 - .3 Only RAP sourced from Highway 93N shall be considered. Only Classified RAP will be permitted.
 - .4 The Contractor shall fulfill or exceed the requirements of the AT Standard Specifications for Highway Construction for the management of RAP materials from the time of collection through processing, mix design, and quality control practices during the production of asphalt mixtures containing RAP as confirmed through the Contractor's Quality Control documentation.
 - .5 RAP testing is required in accordance AT Standard Specifications for Highway Construction.
 - .6 The Contractor shall process and crush the RAP so as to ensure compliance with all gradation requirements of their approved Job Mix Formula.
- .4 All additives (including anti-stripping agents) to be in accordance with the Approved Products List as published by AT.

Part 3 Execution

3.1 QUALITY CONTROL

- .1 In accordance with Section 01 45 00 - Quality Control.
- .2 Contractor is responsible for all Quality Control required in accordance with AT Standard Specifications for Highway Construction Section 3.50 (latest edition) and Section 01 45 00 – Quality Control.
- .3 Contractor is to provide a full time Road Checker during all times of asphalt placement that shall be responsible for providing a daily Road Checker's Summary in accordance with AT Standard Specifications for Highway Construction Section 3.50 (latest edition).
- .4 The Road Checker's Summary shall be provided to the Departmental Representative no less than 24 hrs after the relevant shift end.
- .5 To assist in the Road Checker's role, the Contractor shall layout and stake stations at the appropriate intervals to achieve the desire accuracy throughout the Work Site. All survey and marking stakes shall be removed prior to completion of the Works.

- .6 The method of tests for asphalt appeal samples shall be the same method of tests conducted as during Quality Control / Quality Assurance testing.

3.2 METHODOLOGY

- .1 ACP placement:
 - .1 Asphalt concrete mix shall not be placed when the air temperature is below 4°C, or when rain is forecasted.
 - .2 Asphalt concrete mix shall be placed only on clean, dry, and unfrozen surfaces.
 - .3 Unless otherwise shown on the plans, the asphalt concrete mix shall be placed in the following lift thicknesses:
 - .1 in a single lift when the design compacted total thickness is 75 mm or less.
 - .2 in two or more lifts when the design compacted total thickness is greater than 75 mm. The lift thickness selection shall be determined by the Contractor except that:
 - .1 the maximum thickness of any lift shall be 75 mm.
 - .2 the minimum thickness of a final lift shall be 50 mm.
 - .3 On widenings, the thickness of asphalt concrete mix up to 75 mm may be placed in one lift. Over 75 mm thickness, the asphalt concrete shall be placed in two or more lifts.
 - .4 A pickup machine shall be used for all mainline highway lane paving.
- .2 The edge of pavement shall have sloped paved shoulders following the existing side slope for the length of the paving limits, except where there is guardrail or concrete barrier, and shall be constructed in conjunction with all lifts of ACP, as shown in the Contract Documents or as directed by the Departmental Representative.

3.3 EQUIPMENT, PLANT AND MIXING REQUIREMENTS

- .1 Execution of the Work shall be in accordance with AT Standard Specifications for Highway Construction (latest edition), Specification 3.50 – Asphalt Concrete Pavement – EPS.
- .2 The Contractor shall be permitted to setup a Mobile Asphalt Plant or use a Stationary Asphalt Plant for this Project. If used, mobile asphalt plant shall be set up at David Thompson Pit at the direction of the Departmental Representative.
- .3 Asphalt plant to be used on this project, regardless of location, shall be a minimum of 200 tonne per hour production plant, equipped with a dry bag system for pollution control, in addition to, or in replacement of standard cyclone dust collectors, to effectively eliminate emissions of dust and smoke pollutants into the atmosphere. Use of secondary dust collection systems, requiring discharge of dust polluted water into settling ponds or drainage system will not be permitted. In addition, Asphalt plant must comply with all environmental pollution control regulations applicable in the asphalt plant area. The plant operator must make daily inspections of the emission control components, to ensure proper working order and provide the most recent stack monitoring results for viewing by the Departmental Representative or their designate.

END OF SECTION