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| Part 1 | General |
| 1.1 | PRECEDENCE |
| .1 | For Federal Government projects, Division 2 Sections take precedence over technical specification sections in other Divisions of these Project Specifications document. |
| 1.2 | RELATED SECTIONS |
| .1 | Section 01 35 31 – Special Procedures for Traffic Control. |
| .2 | Section 01 35 43 – Environmental Procedures. |
| .3 | Section 01 35 43 – Mobilization and Demobilization. |
| .4 | Section 01 56 00 – Temporary Barriers and Enclosures. |
| .5 | Section 01 71 00 – Examination and Preparation. |
| .6 | Section 01 74 11 – Cleaning. |
| .7 | Section 02 41 13.15 – Use of Reclaimed Asphalt Pavement (RAP). |
| .8 | Section 32 12 16 – Supply, Haul, Place and Compact Hot Mix Asphalt (EPS). |
| 1.3 | WORK DESCRIPTION |
| .1 | Work under this Item shall consist of full width milling of asphalt concrete pavement to depths indicated on Drawings D-01 and D-02. |
| .2 | Additional milling is required between km 15.800 and km 16.100 left side to address a severely deteriorated pavement surface as indicated on Drawing D-02. The width of the milling shall be established by the Departmental Representative onsite. Upon completion of the milling the Departmental Representative shall inspect the milled area for any distresses. If the milling operation did not eliminate the distresses to the satisfaction of the Departmental Representative, the Contractor shall undertake additional corrective measures as directed by the Departmental Representative prior to placing the hot mix asphalt at his own cost. |
| .3 | Milling of bridge deck at km 1.500 is not required. |
| .4 | No milling shall be performed on the intersecting roadways. |
| .5 | The Contractor shall conduct the milling operation without causing damage to existing concrete barriers shown in the table below. If the Contractor decides to move the barriers prior to milling, they shall be returned to their original location prior to leaving the work zone unattended. Contractor shall properly reinstall these barriers in accordance with BC MoTI Specifications. |

Location (km)	Direction	Estimated Length (m)
1.500	Right	80
4.600	Left	130
4.600	Right	130
8.200	Left	220
8.200	Right	210
8.900	Left	15
12.900	Left	230
16.200	Left	60
19.300	Left	140
19.300	Right	140
20.700	Left	90

- .6 In the event the barriers cannot be restored the Contractor shall provide temporary protection of the affected areas in accordance with Section 01 35 30, Section 01 35 31 and Section 01 56 00.

1.4 MEASUREMENT PROCEDURES

- .1 Payment for Asphalt Pavement Cold Milling shall be per Unit Price Table Item 3 and 4, and will be full compensation for everything furnished and done to complete the Work, including removal, hauling and cleaning of the milled pavement surface.
- .1 Should any raveling or potholing occur after the milling operation, it shall be repaired as directed by the Departmental Representative.
- .2 Milled asphalt material which are not recycled and used in the project shall be disposed of by the Contractor in accordance with Section 01 35 43 – Environmental Procedures. Hauling for recycling and hauling for disposal of Reclaimed Asphalt Pavement (RAP) outside the Park will be considered incidental to Unit Price and no separate payment will be made.
- .3 Mobilization and demobilization required for this work shall be incidental to “**Lump Sum Price Item 1 - Mobilization/Demobilization**”. No additional payment will be made.
- .4 Traffic Control required for this work shall be paid under “**Lump Sum Price Item 2 – General Traffic Accommodation**”.
- .5 Environmental mitigation required in accordance with Section 01 35 43 – Environmental Procedures, for the work in this section shall be incidental to the Contract and no separate payment will be made to the Contractor.

- .6 Costs associated with working around or moving and reinstalling concrete barriers to their original location shall be incidental to **“Unit Price Item 3 – Asphalt Pavement Cold Milling”** and no separate payment shall be made.
- .7 All other work required in order to complete the execution of this Section 02 41 13.14 shall be considered incidental to **“Item 3 - Asphalt Pavement Cold Milling”**.

Part 2 Products**2.1 EQUIPMENT**

- .1 Use cold milling equipment with automatic grade controls capable of operating from stringline, and capable of removing part of pavement surface to depths or grade indicated. The milling machine shall be self-propelled and capable of automatic longitudinal and transverse profiling. A profile ski or boom of a recommended minimum 4 m length, approved by the Departmental Representative, shall be used. No substitute equipment will be permitted. The cutting drum shall be a minimum of 1.8 m in width, totally enclosed and with replaceable cutting teeth. There shall be an effective means of removing the loosened material from the surface and for preventing dust from escaping into the air.
- .2 All pavement milling machines shall be equipped with a "kill" switch installed or approved by the manufacturer of the milling machine. This "kill" switch shall be automatically actuated whenever the operation of the machine is so impeded that a hazardous situation, such as "kick back", would result were that operation to continue. When so actuated the "kill" switch shall instantly shut down the operation of the milling machine.

Part 3 Execution**3.1 PREPARATION**

- .1 Prior to beginning milling operation, inspect and verify with Departmental Representative areas, depths and lines of asphalt pavement to be removed.
- .2 Carry out a survey and stake the project section.
- .3 No milling shall be permitted until the paving plant is on site and able to produce hot mix asphalt.

3.2 TRAFFIC CONTROL PERSON

- .1 Have appropriate Traffic Control measures in place for this work.
- .2 A haul vehicle traffic control person shall be provided during cold milling operations. This individual's sole duty shall be to signal and direct hauling vehicles to exit, back into and pull away from the milling machine, and to re-enter the traffic stream in a safe manner in accordance with existing requirements.

- .3 The section(s) of the roadway that are milled must be open to traffic at the end of the shift.

3.3 PROTECTION

- .1 Protect existing pavement not designated for removal, light units and structures from damage. In event of damage, immediately replace or make repairs to approval of Departmental Representative at no additional cost.

3.4 PAVEMENT REMOVAL

- .1 The existing asphalt concrete pavement shall be removed to the depth and width as specified on the drawings to provide a surface that is free of longitudinal and transverse irregularities.
- .2 Use equipment and methods of removal and hauling which do not damage or disturb underlying roadway structure. The use of a heating device to soften the pavement will not be permitted.
- .3 No more than one milling shift shall be carried out in any one lane to minimize the length of the grade difference between the lanes. At no time, at the end of a shift, shall there be a grade difference that is not at lane dividing lines, centerline or at locations indicated by the Departmental Representative.
- .4 When the milling operation traverses intersecting roads the transition from the milled surface to the existing pavement shall be at a maximum slope of 25:1 or as directed by the Departmental Representative. This transition can be done with the milling machine or by using tar paper letdowns as approved by the Departmental Representative.
- .5 Prevent milling to the underlying gravel or granular material while performing milling.
- .6 Should any raveling or potholing occur after the milling operation, it shall be replaced using hot mix asphalt as directed by the Departmental Representative and payment will be incidental to **"Item 3 - Asphalt Pavement Cold Milling"**.
- .7 Due to the high usage of the road for recreation purpose, the Contractor shall schedule his operation so that the milled areas are paved within three days of the milling.
- .8 At no time shall there be a grade difference between lanes of more than 50 mm at the end of a shift. If the milling is carried out to a depth greater than 50 mm, the full width of the driving surface shall be milled or a lift of leveling course shall be constructed to maintain a maximum depth of 50 mm.
- .9 In the event of rain or other inclement weather, the Contractor shall suspend cold milling operations. The Contractor shall continuously maintain the Work Site free of potholes and standing water and in a

condition providing for the safe and efficient flow of traffic, from the time of removal, until such time as the new asphalt concrete is placed.

- .10 If washouts occur at any time during the milling operations, they shall be immediately repaired by the Contractor, at the Contractor's own expense, with approved materials and as directed by the Departmental Representative.
- .11 The Contractor shall provide for suppression of dust generated by removal process.

3.5 FINISHED SURFACE

- .1 The milled surface shall have a uniform textured appearance, free from longitudinal and transverse irregularities and capable of allowing smooth passage of traffic.
- .2 Finished surfaces in areas where asphalt pavement has been removed to be within +/-5 mm of grade specified but not uniformly high or low.

3.6 SWEEPING

- .1 At all times, during the milling operation, the traveled roadway shall be kept clean of all loose materials.
- .2 At the end of the milling shift or at the end of each section to be milled, prior to reopening the road to traffic, the pavement shall be cleaned and swept so that all loose material is removed.
- .3 Sweep remaining asphalt pavement surfaces clean of debris resulting from milling operations using rotary power brooms and hand brooming as required.

3.7 DISPOSAL OF MATERIALS

- .1 The disposal of materials removed under this section which are not recycled and used in this project shall become the property of the Contractor at the point of removal, unless otherwise specified. Materials shall be disposed of outside the Park in a manner satisfactory to the Departmental Representative and shall meet all environmental requirements. The procurement of a disposal site, if required, shall be the Contractor's responsibility.

3.8 EXISTING STRUCTURES

- .1 Care shall be taken not to disturb or damage any structures or devices such as bridges, manholes, catch basins, valves, geotechnical monitoring devices, boxes and other utilities. Damage to visible, referenced, or plan-indicated manholes, catch basins, valves, valve covers and concrete/asphalt curb, or any other infrastructure shall be repaired at the Contractor's expense. All metal and concrete faces must be cleaned of old pavement and painted with tack coat, at the Contractor's expense, prior to repaving.

END OF SECTION

- Part 1** **General**
- 1.1** **PRECEDENCE**
- .1 For Federal Government projects, Division 2 Sections take precedence over technical specification sections in other Divisions of this Project Specifications document.
- 1.2** **RELATED SECTIONS**
- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 43 – Environmental Procedure.
- .3 Section 01 45 00 – Quality Control.
- .4 Section 01 74 11 – Cleaning.
- .5 Section 01 41 13.14 – Asphalt Pavement Cold Milling.
- .6 Section 31 05 17 – Supply of Asphalt Mix Aggregates.
- .7 Section 32 12 16 – Supply, Haul, Place and Compact Hot Mix Asphalt (EPS).
- 1.3** **REFERENCES**
- .1 BC MoTI Specifications.
- 1.4** **WORK DESCRIPTION**
- .1 The Work covered by this section covers the use of Reclaimed Asphalt Pavement (RAP) material in hot mix asphalt construction.
- .2 The Contractor may elect to use suitable RAP in the hot mix asphalt as per these provisions and in accordance with BC MoTI Specifications, Section 502 and Section 505.
- .3 RAP material shall be available under “**Item 3 and Item 4, Section 02 41 13.14 – Asphalt Pavement Cold Milling**”. RAP obtained from other sources will not be acceptable.
- 1.5** **MEASUREMENT FOR PAYMENT**
- .1 For the purpose of payment RAP is considered as Asphalt Mix Aggregates and shall be paid in accordance with “**Unit Price Item 5 – Supply of Asphalt Mix Aggregates**”. Payment shall be compensation in full for processing, loading, hauling, and mixing to produce Hot Mix Asphalt. No separate payment shall be made.
- Part 2** **Products**
- 2.1** **MATERIAL**
- .1 Material used shall be in accordance with Section 02 41 13.14 and BC MoTI Specifications, Section 505. A copy of MoTI Specifications RAP Management Best Practices is attached to this specifications.

- .2 RAP material shall be a “Classified RAP” as per the BC MoTI Specifications.
- .3 For the purpose of this specification, Road Classification shall be “Category A”.
- .4 Replace Table 505-A of the BC MoTI Specifications, Section 505 with the Table below for maximum percent RAP AC replacement allowed in asphalt mix.

Road Classification	Top Lift	Lower Lifts
Category A	10%	10%

- .5 Replace Table 505-B of the BC MoTI Specifications, Section 505 with the Table below for quality control testing requirements.

Classified RAP	% AC Replacement	Required Tests
	≤10%	<ul style="list-style-type: none"> • Basic Tests
>10%		<ul style="list-style-type: none"> • Basic Tests
		<ul style="list-style-type: none"> • Consensus Tests • AC Rheology Testing

Part 3

Execution

3.1

EQUIPMENT, PLANT AND MIXING REQUIREMENTS

- .1 Execution of the Work shall be in accordance with Section 02 41 13.14, Section 32 12 16 and BC MoTI Specifications, Section 505.

END OF SECTION

- Part 1 General**
- 1.1 PRECEDENCE**
- .1 For Federal Government projects, Division 2 Sections take precedence over technical specification sections in other Divisions of this Project Specifications document.
- 1.2 RELATED SECTIONS**
- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 43 – Environmental Procedures.
- .3 Section 32 12 15 – Supply and Apply Emulsified Tack Coat.
- .4 Section 32 12 16 – Supply, Haul, Place and Compact Hot Mix Asphalt (EPS).
- 1.3 REFERENCES**
- .1 BC MoTI Specifications.
- .2 Export and Import of Hazardous Waste Regulations (EIHW Regulations), SOR/92-637.
- .3 National Fire Code of Canada 1995.
- .4 Transportation of Dangerous Goods Act (TDG Act) 1992, (T-19.01).
- .5 Transportation of Dangerous Goods Regulations (TDGR), (SOR/85-77, SOR/85-585, SOR/85-609, SOR/86-526).
- 1.4 MEASUREMENT PROCEDURES**
- .1 This work shall be considered incidental to contract and will not be measured for payment.
- 1.5 DEFINITIONS**
- .1 Dangerous Goods: Product, substance, or organism that is specifically listed or meets the hazard criteria established in Transportation of Dangerous Goods Regulations.
- .2 Hazardous Material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .3 Hazardous Waste: Any hazardous material that is no longer used for its original purpose and that is intended for recycling, treatment or disposal.
- .4 Workplace Hazardous Materials Information System (WHMIS): A Canada-wide system designed to give employers and workers information about hazardous materials used in the workplace. Under WHMIS, information on hazardous materials is to be provided on container labels, material safety data sheets (MSDS), and worker

education programs. WHMIS is put into effect by a combination of federal and provincial laws.

1.6 SUBMITTALS

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Departmental Representative current Material Safety Data Sheet (MSDS) for each hazardous material required prior to bringing hazardous material on site.
- .3 Submit hazardous materials management plan to Departmental Representative that identifies all hazardous materials, their use, their location, personal protective equipment requirements, and disposal arrangements.

1.7 STORAGE AND HANDLING

- .1 Observe smoking regulations at all times. Smoking is prohibited in any area where hazardous materials are stored, used, or handled.
- .2 Abide by the following storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 litres for liquids:
 - .1 Store hazardous materials and wastes in closed and sealed containers which are in good condition.
 - .2 Label containers of hazardous materials and wastes in accordance with WHMIS.
 - .3 Store hazardous materials and wastes in containers compatible with that material or waste.
 - .4 Segregate incompatible materials and wastes.
 - .5 Ensure that different hazardous materials or hazardous wastes are not mixed.
 - .6 Store hazardous materials and wastes in a secure storage area with controlled access.
 - .7 Maintain a clear egress from storage area.
 - .8 Store hazardous materials and wastes in a manner and location which will prevent them from spilling into the environment.
 - .9 Have appropriate emergency spill response equipment available near the storage area, including personal protective equipment.
 - .10 Maintain an inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.
- .3 Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements.

- .4 Report spills or accidents immediately to Departmental Representative. Submit a written spill report to Departmental Representative within 24 hours of incident.
- .5 Storage and Handling Requirements:
 - .1 Co-ordinate storage of hazardous materials with Departmental Representative and abide by internal requirements for labelling and storage of materials and wastes.
 - .2 Store and handle hazardous materials and wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.
 - .3 Store and handle flammable and combustible materials in accordance with National Fire Code of Canada requirements.
 - .4 All explosives must be mixed outside of the Park and delivered to the site. No storage of explosives shall be allowed within the National Parks.
 - .5 Keep no more than 45 litres of flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use.
 - .6 Store flammable and combustible liquids in approved safety cans bearing the Underwriters' Laboratory of Canada or Factory Mutual seal of approval.
 - .7 Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires the written approval of the Departmental representative.
 - .8 Transfer of flammable and combustible liquids is prohibited within buildings.
 - .9 Transfer flammable and combustible liquids away from open flames or heat-producing devices.

1.8 TRANSPORTATION

- .1 Transport hazardous materials and wastes in accordance with federal Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable provincial regulations.
- .2 If exporting hazardous waste to another country, ensure compliance with federal Export and Import of Hazardous Waste Regulations.
- .3 If hazardous waste is generated on site:
 - .1 Coordinate transportation and disposal with Departmental Representative.
 - .2 Ensure compliance with applicable provincial laws and regulations for generators of hazardous waste.
 - .3 Use only a licensed carrier authorized by provincial authorities to accept subject material.

- .4 Prior to shipping material, obtain written notice from intended hazardous waste treatment or disposal facility that it will accept material and that it is licensed to accept this material.
- .5 Label containers with legible, visible safety marks as prescribed by federal and provincial regulations.
- .6 Ensure that only trained personnel handle, offer for transport, or transport dangerous goods.
- .7 Provide a photocopy of all shipping documents and waste manifests to Departmental Representative.
- .8 Track receipt of completed manifest from consignee after shipping dangerous goods. Provide a photocopy of completed manifest to Departmental Representative.
- .9 Report any discharge, emission, or escape of hazardous materials immediately to Departmental Representative and appropriate provincial authority. Take reasonable measures to control release.

Part 2 Products**2.1 MATERIALS**

- .1 Only bring on site the quantity of hazardous materials required to perform work.
- .2 Maintain MSDS's in proximity to where the materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

Part 3 Execution**3.1 DISPOSAL**

- .1 Dispose of hazardous waste materials in accordance with applicable federal and provincial acts, regulations, and guidelines.
- .2 Recycle hazardous wastes for which there is an approved, cost effective recycling process available.
- .3 Send hazardous wastes only to authorized hazardous waste disposal or treatment facilities.
- .4 Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited.
- .5 Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.
- .6 Dispose of hazardous wastes in a timely fashion in accordance with applicable provincial regulations.

END OF SECTION