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Reference Documents

Basic Impact Analysis – Repair and Replacement of Wildlife Exclusion Fencing Km 0 – Km 47 (September 2015).

Repair and Replacement of Wildlife Exclusion Fencing – TransCanada Highway Km. 0-47 – Basic Impact Analysis – Additional Conditions

Reference Drawings

201524 Wildlife Exclusion Fencing – Brushing and Clearing IFT (Rev. A 2015-12-18)

- C01 Cover Sheet
- C02 Location Plan, Drawing Index and Legend
- P01 Clearing Plan, Trans Canada Highway km 0.0 to km 2.5
- P02 Clearing Plan, Trans Canada Highway km 2.5 to km 5.0
- P03 Clearing Plan, Trans Canada Highway km 5.0 to km 7.6
- P04 Clearing Plan, Trans Canada Highway km 7.6 to km 10.2
- P05 Clearing Plan, Trans Canada Highway km 10.2 to km 12.8
- P06 Clearing Plan, Trans Canada Highway km 12.8 to km 15.2
- P07 Clearing Plan, Trans Canada Highway km 15.2 to km 17.8
- P08 Clearing Plan, Trans Canada Highway km 17.8 to km 20.4
- P09 Clearing Plan, Trans Canada Highway km 20.4 to km 22.4
- P10 Clearing Plan, Trans Canada Highway km 22.4 to km 24.7
- P11 Clearing Plan, Trans Canada Highway km 24.7 to km 26.6

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Specification.

1.2 DEFINITIONS

- .1 BC Ministry of Transportation and Infrastructure is referred to as "MOTI".
<http://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/standard-specifications-for-highway-construction>
- .2 Alberta Transportation is referred to as "AT".
http://www.transportation.alberta.ca/images/Standard_Specifications_for_Highway_Construction_2013.pdf
- .3 Changes in Definition, - The following changes in definitions have been made to the "AT Specifications":
 - .1 Consultant – The word "Consultant" shall mean Departmental Representative or his duly appointed representative.
 - .2 Department – The word "Department" shall mean Parks Canada Agency.
- .4 NP means National Park of Canada
- .5 BNP means Banff National Park of Canada

1.3 RELATED SECTIONS

- .1 Section 01 29 01 - Site Occupancy.
- .2 Section 01 33 00 - Submittal Procedures.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- .1 In preparation for and during construction of this project, the Contractor shall review the requirements of Section 01 35 43 – Environmental Procedures to ensure the desired minimal adverse effects are achieved. The Departmental Representative and Parks Canada's environmental surveillance officer (ESO) will refer to Section 01 35 43 – Environmental Procedures in determining compliance.
- .2 The project work consists of brushing for clear-zones along the Trans Canada Highway and brushing for a proposed wildlife exclusion fencing adjacent to the Trans Canada Highway in Banff National Park.
- .3 Without limiting the scope of work, the work of this Contract generally comprises the following:
 - .1 Traffic control and other construction facilities required for completion of the Work of the Project.
 - .2 Brushing within the Trans Canada Highway roadway corridor, Banff National Park
 - .3 Brushing along a proposed wildlife exclusion fencing alignment adjacent to the Trans Canada Highway, Banff National Park
 - .4 Miscellaneous Additional Work as directed by the Departmental Representative.

- .4 Where specifications for work covered under this Contract including any Change Orders are not available, AT – 2013 Standard Specifications for Highway Construction shall apply, as directed by the Departmental Representative.

1.5 PROJECT LOCATION

- .1 The project is located in Banff National Park, AB. The following are key locations relative to the project:
 - .1 East Boundary, Banff National Park: TCH km 0
 - .2 Banff Avenue / Lake Minnewanka Road Interchange (Access to Cascade Pit): TCH km 13
 - .3 Mt. Norquay Road Interchange: TCH km 17.2
 - .4 Sunshine Road Interchange: TCH km 25.4
 - .5 Castle Mountain Interchange: TCH km 47
 - .6 Access to Mannix Pit, Banff National Park: TCH km 49.9
 - .7 West Boundary, Banff National Park: TCH km 81.9

1.6 CONTRACT METHOD

- .1 Construct Work under combined price contract.

1.7 WORK BY OTHERS

- .1 The Contractor is advised that the following Work in the vicinity has been or will be contracted by Parks Canada:
 - .1 Highway 93 North Brushing, Banff and Jasper NPs. Expected completion Spring 2016.
 - .2 Highway 93 South Brushing, Kootenay and Banff NPs. Expected completion Spring 2016.
 - .3 Trans Canada Highway Electro-Mat Construction and Fencing Material Supply. Expected completion Spring 2016.
 - .4 Aggregate production and hauling, Banff NP. Expected completion Spring 2016.
 - .5 Line painting at various locations. Contractor is AAA Striping and Seal Coating Service. Anticipated contract completion Fall 2015.
 - .6 Other maintenance and project work may occur along the TCH in 2015/2016.
- .2 The Contractor shall coordinate the work of this contract with the work done by other Contractors on or near the work area as required.
- .3 No claims for any delays or inconvenience will be entertained resulting from the Contractor's failure to properly coordinate their works with other nearby Contractors.
- .4 Where it is necessary that work is to proceed in areas of this project common to both the Contractor and forces of others, the Contractor shall cooperate with the other Contractors and the Owner in reviewing their construction schedules, sharing his work space, and shall coordinate his operations with the other Contractors, including traffic management and construction staging.
- .5 Mannix and Cascade Pits are operational pits used by many Contractors and Parks Canada. If access is required the Contractor shall gain authorization from the Departmental

Representative prior to entrance and use of the pits, and shall cooperate with the other users of the pits.

1.8 WORK SEQUENCE

- .1 Schedule work progress to allow Owner/Departmental Representative unrestricted access to inspect all phases of the Work.
- .2 Maintain fire and emergency access on the roadways at all times.
- .3 The Contractor shall prepare and submit to the Departmental Representative one (1) week prior to commencement of any work a meaningful bar chart or network diagram showing the proposed schedules of major work.
 - .1 **Complete all brushing, vegetation cutting by March 31, 2016.**
 - .2 **Complete all work by June 15, 2016 (Contract Completion Date).**

1.6 CONTRACTOR USE OF PREMISES

- .1 Contractor has unrestricted use of site, subject to Section 01 14 00 and Section 01 29 01, until Contract Completion date.
- .2 Contractor shall limit use of premises for Work, for storage, and for access, to allow:
 - .1 Owner occupancy.
 - .2 Work by other Contractors.
- .3 Coordinate use of premises with the acceptance of the Departmental Representative.
- .4 Obtain additional storage or work areas needed for operations under this Contract with the acceptance of the Departmental Representative.
- .5 The Contractor and each sub-Contractor shall purchase a business license from the Parks Canada office in Lake Louise Visitor Information Centre, prior to commencement of the contract.
- .6 All Contractor's business and private vehicles are required to display a vehicle work pass from Parks Canada. These permits may be obtained free of charge from Parks Canada Environmental Surveillance Officer or as directed by the Departmental Representative.

1.7 OWNER FURNISHED ITEMS

- .1 None.

1.8 OWNER OCCUPANCY

- .1 Owner will occupy premises during entire construction period for execution of normal operations.
- .2 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.
- .3 Contractor must allow access to all active Pits for other Contractors and Parks Canada. It is up to the Contractor to plan his work accordingly.

1.9 CONSTRUCTION SIGNAGE

- .1 No signs or advertisements, other than warning signs, are permitted on site.
- .2 Signs and notices for safety and instruction shall be in both official languages. Signs shall be diamond grade and shall conform to CAN3-Z321.

- .3 Maintain approved signs and notices in good condition for duration of project, and dispose of off-site on completion of project or earlier if directed by the Departmental Representative.
- .4 All temporary traffic control signs that are used for longer than one day shall be mounted on wood posts other than portable changeable message signs that shall be secured at all times.
- .5 Signage shall be coordinated with other Contractors.

1.10 SETTING OUT OF WORK

- .1 The Departmental Representative will identify location of all work sites. The Contractor shall be responsible for all other layout of work.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Specification.

1.2 RELATED SECTIONS

- .1 Section 01 32 16.07 – Construction Progress Schedules – Bar (Gantt) Chart.
- .2 Section 01 35 00.06 – Special Procedures for Traffic Control.
- .3 Section 01 35 43 – Environmental Procedures.

1.3 EXISTING SERVICES

- .1 Provide for pedestrian and vehicular traffic for the duration of the construction.

1.4 USE OF THE WORK SITE

- .1 **The Work Site (limits shown on Drawings) will be specified by Parks Canada and shall only be used for the purposes of the Work.** The Work Site will be made available by Parks Canada to the Contractor for its non-exclusive use for the duration of the Work, unless otherwise provided in the Contract Documents. The Contractor shall include in the tender, payment to taxes properly levied by law (Federal, Provincial and Municipal) including the cost of any collection of permits and business licenses.
- .2 Office-tool trailer may be set up at Mannix Pit, Cascade Pit or as directed by the Departmental Representative. See Section 01 35 43 – Environmental Procedures.
- .3 The Contractor will be allowed up to two (2) RVs for security at Mannix Pit and/or Cascade Pit upon approval from the Departmental Representative.
- .4 Contractor shall maintain adequate drainage at the Work Site.
- .5 The Contractor shall keep the Work Site clean and free from accumulation of waste materials and rubbish regardless of source. Snow shall be removed by the Contractor as necessary and at his cost for the performance and inspection of the Work.
- .6 The Contractor shall provide sanitary facilities for work force in accordance with governing regulations and the Environmental Procedures for this project. The Contractor shall post notices and take such precautions as required by local health authorities and keep area and premises in sanitary condition.
- .7 Any damage to the Work Site caused by the Contractor shall be repaired by the Contractor at its expense.
- .8 Work in Banff National Park is permitted during daylight hours from 07:00am to 10:00pm, Monday to Saturday only. Sunday work is not permitted. Hours of Work restrictions can be relaxed if the work being performed has no impact to the travelling public or other Parks stakeholders; a variance may be granted in writing by the Departmental Representative.
- .9 The Contractor will not be permitted to work during the following Civic Holidays or long weekends unless prior written approval is granted by the Departmental Representative:

Statutory and Civic Holidays:

- .1 Christmas Day weekend: From 07:00 AM, Thursday, December 24, 2015 to 07:00 AM Monday, December 28, 2015.

- .2 New Year's Day weekend: From 07:00 AM. Thursday, December 31, 2015 to 07:00 AM Monday, January 4, 2016.
- .3 Family Day weekend: From 07:00 AM. Friday, February 5, 2016 to 07:00 AM Tuesday, February 9, 2016.
- .4 Easter long weekend: From 07:00 AM. Thursday, March 24, 2016 to 07:00 AM Monday, March 28, 2016.
- .5 Victoria Day long weekend: From 07:00 AM. Friday, May 20, 2016 to 07:00 AM Tuesday, May 24, 2016.
- .6 Canada Day long weekend: From 7:00 AM. Thursday June 30, 2016 to 7:00AM Monday

1.5 WORK CONDUCTED OVER OR ADJACENT TO WATERWAYS

- .1 All components of the Work shall be conducted in accordance with Section 01 35 43 – Environmental Procedures and the Environmental Protection Plan prepared for the project.
- .2 All components of the Work shall be conducted without equipment entering into wetlands, water bodies, or streams. Refer to Section 01 35 43 – Environmental Procedures for details.
- .3 All waste materials from the Work shall be contained and collected in a manner to prevent any contact with the river valleys and waterways. All collected waste materials shall be disposed of in accordance with Section 01 35 43 – Environmental Procedures and the Environmental Protection Plan prepared for the project. One “Bear Proof” garbage container will be provided by PCA.
- .4 The Contractor is responsible for the development and supply of construction access to the Work as approved by the Departmental Representative.

1.6 ACCESS TO ADJACENT PROPERTIES

- .1 Construction operations shall be conducted so as to cause minimal inconvenience to the public and to owners of adjoining property. Existing access to property shall be maintained as far as possible and if new access must be provided, every effort shall be taken to provide the new access before the existing access is removed.

1.7 UTILITIES

- .1 The Contractor shall become familiar with all utilities and services adjacent to the Work and shall be responsible for cost of repair of any damage resulting from his operations.
- .2 The Contractor shall establish and maintain direct and continuous contact with the owners or operators of any Utilities that may interfere with the Work. The Contractor shall co-operate with them at all times and in all places of Work. The Contractor shall keep the Departmental Representative informed of all communications with the Utility companies and authorities.
- .3 The Contractor shall notify the Departmental Representative and the Utility companies at least seven days in advance of any activities that may interfere with the operation of such Utilities.
- .4 Whenever working in the vicinity of Utilities, the Contractor shall locate such Utilities and expose those that may be affected by the Work, using hand labour as required.
- .5 The Contractor shall assess the possible impact of its operations on all Utilities that may be affected by its operations, and shall, in consultation with Utility owner(s), protect, divert, temporarily support or relocate, or otherwise appropriately treat such Utilities to ensure that they are preserved.

- .6 The Contractor shall immediately report any damage to Utilities to the Departmental Representative and to the Utility company or authority affected, and shall promptly undertake such remedial measures as are necessary at no additional cost to the Owner.
- .7 Contractor to coordinate, design, permit and construct permanent underground electromat service connections to the nearest available power supply including all required coordination, design and permits for the supply and installation of the power supply components.

1.8 SURVEY OF EXISTING PROPERTY CONDITIONS

- .1 Submission of tender is deemed to be confirmation that the Contractor has inspected the site and is conversant with all conditions affecting execution and completion of work.
- .2 The Contractor shall regularly monitor the condition of the Work Site and of property on and adjoining the Work Site throughout the construction period, and shall immediately notify the Owner if any deterioration in condition is detected. Such monitoring shall cover all pertinent features and property including, but not limited to, buildings, structures, roads, walls, fences, slopes, sewers, culverts and landscaped areas.
- .3 The Departmental Representative may, but shall not be obligated to, survey and record the condition of the Work Site and of property on or adjoining the Work Site prior to the commencement of construction by the Contractor. If requested, the Departmental Representative will provide a copy of the survey records to the Contractor for reference.
- .4 Whenever supplied with survey records, the Contractor shall satisfy itself as to the accuracy and completeness of the survey records provided by the Departmental Representative for any area before commencing construction in that area. Commencement of construction in any area shall be interpreted to signify that the Contractor has accepted such survey records as being a true record of the existing conditions prior to construction.
- .5 The provision of the records of a survey of existing conditions by the Departmental Representative shall in no way limit or restrict the Contractor's responsibility to exercise proper care to prevent damage to all property within or adjacent to the Work Site, whether all such property is covered by the survey or not.

1.9 PROTECTION OF PERSONS AND PROPERTY

- .1 Comply with Occupational Health and Safety Act Alberta
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.
- .3 The Contractor shall take all necessary precautions and measures to prevent injury or damage to persons and property on or near the Work Sites.
- .4 The Contractor shall promptly take such measures as are required to repair, replace or compensate for any loss or damage caused by the Contractor to any property or, if Parks Canada so directs, shall promptly reimburse to Parks Canada the costs resulting from such loss or damage.

1.10 USE OF PUBLIC AREAS

- .1 Off-road construction equipment will not be allowed on the existing highway except at designated crossing points and loading areas. Steel tracked equipment with cleats will not be allowed on pavement designated for future use. Asphalt, granular, embankment and excavation materials may be hauled on existing highway but this shall be by standard highway trucks not exceeding legal highway load limits.
- .2 Flag persons shall be provided when vehicles are entering or exiting Work Site access points and when vehicles are entering or exiting gravel pits in the park.

- .3 The Contractor shall ensure that its vehicles and equipment do not cause nuisance in public areas. All vehicles and equipment leaving the Work Site and entering public roadways shall be cleaned of mud and dirt clinging to the body and wheels of the vehicle. All vehicles arriving at or leaving the Work Site and transporting materials shall be loaded in a manner that will prevent dropping of materials or debris on the roadways and, where contents may otherwise be blown off during transit, such loads shall be covered by tarpaulins or other suitable covers. Spills of materials in public areas shall be removed or cleaned immediately by the Contractor at no cost to the Owner. All activities shall be in accordance with Section 01 35 43 – Environmental Procedures and the Environmental Protection Plan prepared for the project.

1.11 SUPERVISORY PERSONNEL

- .1 Within five days after award notification, the Contractor shall submit to the Departmental Representative confirmation of the names of the supervisory personnel and other key staff designated for assignment on the Contract.
- .2 The following personnel shall be included in the list:
 - .1 Project Superintendent.
 - .2 Safety Representative.
- .3 The above personnel shall perform the following duties:
- .4 The Project Superintendent shall be employed full time and shall be present on the Work Site each and every workday that Work is being performed, from the commencement of Work to Total Performance of the Work.
 - .1 The Project Superintendent shall nominate a Deputy Project Superintendent who shall have the authority of the Project Superintendent during the latter's absence.
 - .2 The Safety Representative shall possess safety experience in general construction. Duties shall encompass all matters of safety activities from commencement of Work until the Total Performance of the Work.

1.12 MEETINGS

- .1 The Work includes attending meetings between the Contractor and the Departmental Representative. The meetings will be called and chaired by the Departmental Representative as required. The Contractor shall be represented at such meetings to the satisfaction of the Departmental Representative.
- .2 The Departmental Representative will schedule an initial meeting to be held on site after award notification. Senior representatives of the Owner, Departmental Representative, Contractor, major Sub-contractors, field inspectors and supervisors are to be in attendance.
- .3 The Contractor will be requested to assemble his site staff and sub-Contractors for an environmental briefing to be conducted by Parks Canada. The briefing shall be of approximately 2 hours in duration and held at initial project start-up. **The Contractor shall ensure that all his current project staff is in attendance.** The Departmental Representative and the Contractor will co-operate in setting the most appropriate time and place for the briefing. Subsequent to the initial environmental briefing, briefings will be arranged for new staff and sub-Contractors showing up on the project.
- .4 Cost of attending the above meetings shall be considered incidental to the Unit Price items and no additional payment will be made.

1.13 WASTE DISPOSAL

- .1 All surplus, unsuitable and waste materials shall be removed from the job site to approved sites outside National Parks. Refer to Section 01 35 43 – Environmental Procedures and the Environmental Protection Plan.
- .2 Deposit of any construction debris into any waterway is strictly forbidden.
- .3 Cost for Waste Disposal described above shall be considered incidental to the Unit Price items and no additional payment will be made.
- .4 Waste Disposal shall be completed in accordance with Section 01 35 43 – Environmental Procedures.

1.14 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of the environment over cost and schedule considerations for Work.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 General Conditions.

1.2 PRIME COST SUM

- .1 Included in Contract Price a total Prime Cost Sum of **\$37,000** for items and materials listed below.
- .2 Do not include in the Contract Price additional contingency allowances for products, installation, overhead or profit.
- .3 Prime Cost Sum provided for in the Lump Sum Arrangement Table is not a sum due to the Contractor. Rather, payment will be made against it for miscellaneous work not included in the unit price table under the General Conditions of the Contract.
- .4 Such work may include, but not be limited to:
- .5 Relocation or removal and disposal of existing signs, guardrail, concrete barrier, guide posts and other miscellaneous items;
 - .1 Assessment of dangerous trees;
 - .2 Removal of danger trees;
 - .3 Arrangement for sale of merchantable lumber;
 - .4 Supply and installation of fence accessories, gates;
 - .5 Mechanical seeding
 - .6 Additional cutting of trees as required and directed by Departmental representative;
 - .7 Additional survey resulting from changes made by the Departmental Representative;
 - .8 Stripping, excavation and/or disposal of waste materials as directed by the Departmental Representative;
 - .9 Remediation or removal and replacement of unsuitable or contaminated soils not described in the contract documents;
 - .10 Supply and installation of landscaping including trees;
 - .11 Transplanting of rare plant species;
 - .12 Rehabilitation work in the pits;
 - .13 Removal or excavation of rock under direction by the Departmental Representative;
 - .14 Miscellaneous work as directed by the Departmental Representative.
- .6 The Contract Price, and not Prime Cost Sum, includes Contractor's overhead and profit in connection with the Work.

1.3 MEASUREMENT PROCEDURES

- .1 Payment for Work under the **“Lump Sum Price Item 3 – Prime Cost Sum”** will be made using negotiated rates or by material, labour and equipment rates as per the following:

- .1 Rental rates will be in accordance with current Alberta Roadbuilders rate schedule, and will be all inclusive and fully operated. Hourly rental of equipment will be measured in actual working time and necessary travel time within project limits. Transportation time to and from site to be reimbursed only if equipment is used exclusively for additional work.
- .2 PST should not be added to any material invoices or Sub-contractor invoices.
- .2 Equipment paid on standby will be paid on 50% of the relevant less operator rates to a maximum of 10hrs per day.
- .3 When based upon actual costs for additional works under Prime Cost Sum, payment will be based upon supplied invoices and other work records.
- .4 The Prime Contractor may apply a 10% mark-up to subcontractor or supplier invoices only, as approved by the Departmental Representative. No mark-up will be allowed on relevant equipment and labour rates.
- .5 A claim for additional payment will not be considered submitted until all required documentation has been received by Departmental Representative.

Part 2 Products

- .1 Materials shall be in accordance with AT – 2013 Standard Specifications for Highway Construction, or as directed by the Departmental Representative.

Part 3 Execution

- .1 Work shall be in accordance with AT – 2013 Standard Specifications for Highway Construction, or as directed by the Departmental Representative.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 11 00 – Summary of Work

1.2 DESCRIPTION

- .1 Mobilization and Demobilization consists of preparatory work and operations including but not limited to, those necessary for the movement of personnel, equipment, camp, buildings, shops, offices, supplies and incidentals to and from the project sites.
- .2 Any protective measures or movement of Contractor trailers necessitated by animal interactions and required by Parks Canada will be paid by the Departmental Representative, and are not to be anticipated in the Lump Sum Contract Price for Mobilization and Demobilization.

1.3 MEASUREMENT PROCEDURES

- .1 Mobilization and Demobilization:

Payment will be made under “**Lump Sum Price Item 1 – Mobilization / Demobilization**”.

- .1 50% of Lump Sum Contract Price for Mobilization and Demobilization to be paid when mobilization to site is complete.
- .2 The remainder of the Lump Sum Price for Mobilization and Demobilization to be paid when work is complete and all materials, equipment, camp, buildings, shops, offices, and other facilities have been removed from site and site cleaned and left in condition to the satisfaction of the Departmental Representative and all other Agencies having Jurisdiction.
- .3 Payment of only 5% of the total price tendered will be scheduled as outlined above. If the amount bid for mobilization and demobilization is greater than 5% of the total price tendered, payment of the remainder of the amount will be authorized when the contract has been completed.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 RELATED SECTIONS

- .1 SACC R2850D – GC 5.10.
- .2 Section 01 11 00 – Summary of Work Clause 1.8 - WORK SEQUENCE
- .3 Section 01 14 00 – Work Restrictions Clause 1.4 - USE OF THE WORK SITE

1.3 DEFINITION OF OCCUPANCY

- .1 The Contractor shall be permitted to lease and occupy sites when working in Banff National Park, free of charge from the date of award of the contract up to and including completion date of construction.
- .2 The Contractor's occupancy of the sites identified in Contract will be deemed to have ended, when both of the following conditions are met to the satisfaction of Parks Canada:
 - .1 All the work identified under this Contract, has been completed.
 - .2 All sites clean up and any outstanding deficiencies for the work identified under this Contract have been addressed to the satisfaction of the Departmental Representative.
 - .3 Contractor has removed from the park all trailers and equipment and sites have been cleaned-up to the satisfaction of the Departmental Representative.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 11 00 – Summary of Work.
- .2 Section 01 14 00 – Work Restrictions.
- .3 Section 01 32 16.07 – Construction Progress Schedules – Bar (Gantt) Chart.
- .4 Section 01 33 00 - Submittal Procedures.
- .5 Section 01 35 43 – Environmental Procedures.
- .6 Section 01 45 00 – Quality Control.
- .7 Section 01 52 00 – Construction Facilities.
- .8 Section 01 77 00 – Close out Procedures.
- .9 Section 01 78 00 – Close out Submittals.

1.2 MEASUREMENT PROCEDURES

- .1 This Work shall be incidental to the contract and will not be measured for payment.

1.3 COORDINATION

- .1 Perform coordination of progress schedules, submittals, use of site, temporary utilities, construction facilities, and construction Work, with progress of Work of other Contractors, and Work by Owner, under instructions of the Departmental Representative.

1.4 PROJECT MEETINGS

- .1 Attend project meetings chaired by the Departmental Representative, throughout progress of Work and provide information as determined by the Departmental Representative.
- .2 Attend pre-installation meetings, when specified in specifications and when required to coordinate related or affected Work and provide information, as determined by the Departmental Representative.
- .3 Provide physical space and make arrangements for meetings.

1.5 CONSTRUCTION ORGANIZATION AND START-UP

- .1 Within seven (7) days after award of Contract, request a meeting of Contract Representatives to discuss and resolve administrative procedures and responsibilities. Meeting will be chaired by the Departmental representative who will prepare the minutes of the meeting.
- .2 Senior representatives of the Owner, Departmental Representative, Contractor, major Sub-contractors, field inspectors and supervisors are to be in attendance.
- .3 Agenda to include following:
 - .1 Appointment of official representative of participants in Work.
 - .2 Schedule of Work, progress scheduling in accordance with Section 01 32 16.07.
 - .3 Schedule of submittals in accordance with Section 01 33 00.
 - .4 Requirements for temporary facilities, offices, storage sheds, utilities, fences in accordance with Section 01 52 00.

- .5 Site safety and security in accordance with Sections 01 14 00, 01 52 00 and 01 35 43.
- .6 Quality Control in accordance with Section 01 45 00.
- .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
- .8 Owner-furnished materials.
- .9 Monthly progress claims, administrative procedures, photographs, and holdbacks.
- .10 Close out procedures and submittals in accordance with Sections 01 77 00 and 01 78 00.
- .11 Insurances and transcript of policies.
- .12 Other business.
- .4 Comply with Departmental Representative's allocation of mobilization areas of site, for field offices and sheds, and for access, traffic, and parking facilities.
- .5 During construction, coordinate use of site and facilities through Departmental Representative's procedures for intra-project communications: submittals, reports and records, schedules, coordination of Drawings, recommendations, and resolution of ambiguities and conflicts.
- .6 Comply with instructions of the Departmental Representative for use of temporary utilities and construction facilities.
- .7 Coordinate field engineering and layout work with the Departmental Representative.

1.6 ON-SITE DOCUMENTS

- .1 Maintain at job site, one copy each of the following:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders.
 - .5 Other modifications to Contract.
 - .6 Traffic Management Plan.
 - .7 Safety Plan.
 - .8 WHMIS.
 - .9 Environmental Protection Plan.
 - .10 Copy of approved Work schedule and most recent updated schedule.
 - .11 Labour conditions and wage schedules.
 - .12 Applicable current editions of municipal regulations and by-laws.

1.7 SUBMITTAL SCHEDULE

- .1 Prepare a schedule of the required submissions and the date the submissions will be made. Include columns for Actual Date of Submission, Review Comments Received, Final Submission and Final Acceptance Received.
- .2 The Owner will not be responsible for any construction delays resulting from delays in submission acceptance if the submittal dates shown in the Submittal Schedule are not achieved.

1.8 PROJECT SCHEDULES

- .1 Submit preliminary construction progress schedule in accordance with Section 01 32 16.07 to Departmental Representative coordinated with Owner's project schedule.
- .2 After review, revise and resubmit schedule to comply with revised project schedule.
- .3 During progress of Work revise and resubmit as directed by the Departmental Representative.
- .4 In addition to the project schedule, submit weekly schedules to the Departmental Representative showing Work planned for the following week on a day by day basis.

1.9 CONSTRUCTION PROGRESS MEETINGS

- .1 During course of Work prior to project completion, schedule progress meetings weekly.
- .2 Contractor, major Sub-contractors involved in Work and Departmental Representative are to be in attendance. Meetings shall be chaired by the Departmental representative who will prepare the minutes of the meetings.

1.10 SUBMITTALS

- .1 Submit product data to Section 01 33 00 for review for compliance with Contract Documents.
- .2 Submit requests for payment for review, and for transmittal to Departmental Representative. Payment request on last day of the month.
- .3 Submit requests for interpretation of Contract Documents, and obtain instructions through Departmental Representative.
- .4 Process substitutions through Departmental Representative.
- .5 Process change orders through Departmental Representative.
- .6 Deliver closeout submittals for review and preliminary inspections, for transmittal to Departmental Representative.

1.11 CLOSEOUT PROCEDURES

- .1 Notify Departmental Representative when Work is considered ready for Substantial Performance.
- .2 Accompany Departmental Representative on preliminary inspection to determine items listed for completion or correction.
- .3 Comply with Departmental Representative's instructions for correction of items of Work listed in executed certificate of Substantial Performance.
- .4 Notify Departmental Representative of instructions for completion of items of Work determined in Departmental Representative's final inspection.

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December 2015
Parks Canada Agency

Trans Canada Highway
Brushing
Banff National Park

Section 01 31 00
PROJECT MANAGEMENT
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Part 2 Products

.1 Not used.

Part 3 Execution

.1 Not used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 11 00 – Summary of Work.
- .2 Section 01 14 00 – Work Restrictions.
- .3 Section 01 21 00 – Allowances.
- .4 Section 01 35 43 – Environmental Procedures.

1.2 MEASUREMENT PROCEDURES

- .1 This Work shall be incidental to contract and will not be measured for payment.

1.3 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.4 DEFINITIONS

- .1 Activity: An element of Work performed during course of Project. An activity normally has an expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.
- .2 Bar Chart (Gantt Chart): A graphic display of schedule-related information. In a typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.
- .3 Baseline: Original approved plan for Project, plus or minus approved scope changes.
- .4 Construction Work Week: Monday to Saturday only, will provide six day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
- .5 Duration: Number of work periods (not including holidays or other nonworking periods required to complete an activity or other Project element. Usually expressed as workdays or work weeks.
- .6 Master Plan: A summary-level schedule that identifies major activities and key milestones.
- .7 Milestone: A significant event in Project, usually completion of a major deliverable.
- .8 Project Schedule: The planned dates for performing activities and the planned dates for meeting milestones. A dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.
- .9 Project Planning, Monitoring and Control System: Overall system operated by Departmental Representative to enable monitoring of project work in relation to established milestones.

1.5 REQUIREMENTS

- .1 Ensure the Project Schedule is practical and remains within specified Contract duration.

- .2 Ensure all the Work required for the Contract is identified in the Project Schedule. Refer to Section 01 11 00 – Summary of Work for a potential list of activities.
- .3 Include an allowance in the schedule for Work performed and paid for as Prime Cost Sum. Refer to Section 01 21 00 – Allowances for a list of activities.
- .4 Plan to complete Work in accordance with prescribed Project Schedule.
- .5 Limit activity durations to maximum of approximately 14 working days, to allow for progress reporting.
- .6 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.
- .7 Include the requirements of Section 01 14 00 – Work Restrictions and Section 01 35 43 – Environmental Procedures.

1.6 SUBMITTALS

- .1 Submit to Departmental Representative within 10 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.
- .2 Submit Project Schedule to Departmental Representative within 10 working days of receipt of acceptance of Master Plan.

1.7 PROJECT MILESTONES

- .1 Project milestones form interim targets for Project Schedule. Completion of each Stage of Construction:
 - .1 **Complete all brushing, vegetation cutting by March 31, 2016.**
 - .2 **Complete all work by June 15, 2016 (Contract Completion Date).**

1.8 MASTER PLAN

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- .2 Departmental Representative will review and return revised schedules within 5 working days.
- .3 Revise impractical schedule and resubmit within 5 working days.
- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.9 PROJECT SCHEDULE

- .1 Develop detailed Project Schedule derived from Master Plan.
- .2 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:
 - .1 Award.
 - .2 Permits.
 - .3 Submittals:
 - .1 Project Schedule
 - .2 List of sub-contractors, suppliers and Departmental Representative

- .3 Contractor Chain of Command including Sub-Contractors and Departmental Representatives
- .4 Prime Contractor / co-ordination with other Contractors Plan
- .5 Work Plan
- .6 Environmental Protection Plan
- .7 Traffic Management Plan
- .8 Emergency Response Protocol
- .9 Site Specific Health and Safety Plan, incl. MSDS sheets
- .10 On site Contingency and Emergency Response Plan
- .11 Quality Control Plan
- .12 Mobilization
- .13 Work Activities by road segments / locations:
- .14 Site Access
- .15 Brushing
- .16 Cleaning, chipping and removal
- .17 Permit application and approval
- .18 Additional Work as and when requested
- .19 Quality Control
- .20 Interim Inspection
- .21 Site Clean-up / De-mobilization

1.10 PROJECT SCHEDULE REPORTING

- .1 Update Project Schedule on monthly basis reflecting activity changes and completions, as well as activities in progress. Provide weekly Progress Reports.
- .2 Include, as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

1.11 PROJECT MEETINGS

- .1 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

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Section 01 32 16.07

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CONSTRUCTION

PROGRESS SCHEDULES –

Parks Canada Agency

Banff National Park

BAR (GANTT) CHARTS

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END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 14 00 – Work Restrictions.
- .2 Section 01 32 16.07 – Construction Progress Schedules - Bar (Gantt) Chart.
- .3 Section 01 35 29.06 – Health and Safety Requirements.
- .4 Section 01 35 00.06 – Special Procedures for Traffic Control.
- .5 Section 01 35 43 – Environmental Procedures.
- .6 Section 01 45 00 – Quality Control.
- .7 Section 01 78 00 – Closeout Submittals.

1.2 MEASUREMENT PROCEDURES

- .1 This work shall be incidental to contract and will not be measured for payment.

1.3 REFERENCES

- .1 Not used.

1.4 ADMINISTRATIVE

- .1 Submit to Departmental Representative submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and shall be considered rejected.
- .6 Notify Departmental Representative in writing at time of submission, identifying any deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work is consistent.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10 Keep one reviewed copy of each submission on site.

1.5 SAMPLES

- .1 Not used.

1.6 MOCK-UPS

- .1 Not used.

1.7 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

1.8 REQUIRED CONTRACTOR SUBMITTALS

- .1 General:
- .2 This Clause identifies the plans, programs, and documentation required prior to mobilization on site and during the construction phase.
- .3 Pre-mobilization Submittals. Submit the following plans and programs to the Departmental Representative for review a minimum of twenty (20) days prior to mobilization to the project site:
 - .1 Project schedule, detailing the schedule of the workdays required from Contractor, sub-contractors, suppliers and consultants to complete each activity of the project by road segment or location in order to meet stages specified in Section 01 11 00. In addition, for each activity critical elements that could impact on the schedule are to be identified. Submission shall include both a paper copy of the schedule and an electronic copy in Microsoft Projects format
 - .2 List of sub-contractors, suppliers and consultants, their role and their key personnel, including names and positions, addresses, telephone, cellular telephone and/or pager numbers.
 - .3 Contractor Chain of Command, listing key Contractor personnel, including for each name, position, qualification, experience, telephone, cellular telephone and/or pager numbers. The list shall include the names and telephone/cellular telephone/pager numbers for contact persons who are available on a 24-hour basis in the event of emergencies.
 - .4 Work Plan, describing in detail for each activity by location, the Contractor's intended methods of construction, and materials, equipment and manpower he will use to meet stages specified in Section 01 11 00. The Work Plan must be linked to the Project Schedule.
 - .5 Quality Control Plan in accordance with Section 01 45 00 – Quality Control.
 - .6 Traffic Management Plan, in accordance with the requirements of Section 01 35 00.06 – Special Procedures for Traffic Control.
 - .7 Environmental Protection Plans (EPP) and Environmental Construction Operations Plans (ECO Plans) that shall meet the requirements of Section 01 35 43 – Environmental Procedures.
 - .8 Contractor shall develop an "Emergency Procedures Protocol" in consultation with Parks Canada. Parks Canada will supply the Contractor with a template with contact names and numbers to be used for this purpose.
 - .9 Health and Safety Plan - The Contractor shall have a Certificate of Recognition (COR) or Registered Safety Plan (RSP) including a site specific Health and Safety Plan acceptable to the Departmental Representative. The Contractor shall

implement and maintain the Health and Safety Plan during the Work. Health and Safety Plan must include:

- .4 Contractor's safety policy.
 - .5 Identification of applicable compliance obligations.
 - .6 Definition of responsibilities for project safety/organization chart for project.
 - .7 Site specific hazard assessment.
 - .8 General safety rules for project.
 - .9 Job specific safe work procedures.
 - .10 Inspection policy and procedures.
 - .11 Incident reporting and investigation policy and procedures.
 - .12 Occupational Health and Safety meetings.
 - .13 Occupational Health and Safety communications and record keeping procedures.
 - .14 Results of safety and health risk or hazard analysis for site tasks and operation.
 - .15 Submit copies of Material Safety Data Sheets (MSDS).
 - .10 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.
 - .11 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
 - .12 The Contractor shall not begin any site Work until the Departmental Representative has authorized acceptance of the submittals in writing.
 - .13 Submit a copy of the filed Notice of Project with Provincial authorities.
 - .14 The Contractor shall not construe the Departmental Representative's authorization of the submittals to imply approval of any particular method or sequence for conducting the Work, or for addressing health and safety concerns. Authorization of the programs shall not relieve the Contractor from the responsibility to conduct the Work in strict accordance with the requirements of Federal or Provincial regulations and this specification, or to adequately protect the health and safety of all workers involved in the project and any members of the public who may be affected by the project. The Contractor shall remain solely responsible for the adequacy and completeness of the programs and work practices, and adherence to them.
- .4 Construction Phase Submittals
- .1 Monthly Progress Reports in accordance with Section 01 32 16.07.
 - .2 Weekly Progress Reports that outline the detailed Work (Contractor, sub-contractors, suppliers, consultants) completed to date as well as the anticipated Work to be performed for the following week on a day-by-day basis. Work to be linked to activities by location identified in project schedule and to provide information on materials, equipment and manpower. Also, alternate Work to be

identified if proposed Work or a portion thereof, cannot be done due to weather, equipment breakdown, delays in delivery, etc.

- .3 Quality Control Inspection Reports - The Contractor shall maintain a daily inspection report that itemizes the results of all Quality Control inspections conducted by the Contractor. The reports shall be made available for review by the Departmental Representative upon request. A summary of all Quality Control inspections conducted to date shall be submitted by the Contractor with each request for payment.
- .4 Progress Photographs:
 - .1 Formats: Electronic - jpg files, minimum three (3) mega pixels.
 - .2 Submission requirements: One (1) set of electronic files.
 - .3 Identification: Name and number of project, description of photograph and date.
 - .4 Viewpoints: viewpoints determined by Construction Manager or Departmental Representative.
 - .5 Submission Frequency: prior to commencement of Work and weekly thereafter with progress statement, or as directed by Construction Manager or Departmental Representative.
 - .6 Submit CD / memory stick with all electronic pictures as part of closeout package.
- .5 Submit an electronic copy of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative and authority having jurisdiction, weekly.
- .6 Submit copies of reports or directions issued by Federal and Provincial health and safety inspectors.
- .7 Submit copies of incident and accident reports.
- .5 Project Completion Submittals
 - .1 Record Drawings -The Contractor shall submit copies of all Contractor's Drawings revised as necessary to record all as-built changes to the Work and the Contractor shall submit a set of Contract Drawings clearly marked to record as-built changes to the Work.
 - .2 Quality Control Records – The Contractor shall submit a bound and itemized set of project quality control documentation.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 14 00 – Work Restrictions
- .2 Section 01 33 00 – Submittal Procedures
- .3 Section 01 35 43 - Environmental Procedures
- .4 Section 02 81 01 - Hazardous Materials: Submission Requirements for WHMIS MSDS.

1.2 MEASUREMENT PROCEDURES

- .1 This work shall be incidental to contract and will not be measured for payment.

1.3 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- .2 Health Canada/Workplace Hazardous Materials Information System.
- .3 (WHMIS) Material Safety Data Sheets (MSDS).
- .4 Province of Alberta
 - .1 Occupational Health and Safety Act

1.4 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within seven (7) days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Contractor's safety policy.
 - .2 Identification of applicable compliance obligations.
 - .3 Definition of responsibilities for project safety/organization chart for project.
 - .4 General safety rules for project.
 - .5 Job specific safe work procedures.
 - .6 Inspection policy and procedures.
 - .7 Incident reporting and investigation policy and procedures.
 - .8 Occupational Health and Safety meetings.
 - .9 Occupational Health and Safety communications and record keeping procedures.
 - .10 Results of site specific safety hazard assessment.
 - .11 Results of safety and health risk or hazard analysis for site tasks and operation.
- .3 Submit copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative and authority having jurisdiction, weekly.
- .4 Submit copies of reports or directions issued by Federal and Provincial health and safety inspectors.
- .5 Submit copies of incident and accident reports.

- .6 Submit copies of Material Safety Data Sheets (MSDS) to Departmental Representative.
- .7 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within ten (10) days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within five (5) days after receipt of comments from Departmental Representative.
- .8 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .9 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.
- .10 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.5 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to beginning Work.

1.6 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project and submit copies to the Departmental Representative.

1.7 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.
- .2 Parks Canada recognizes that federal Occupational Health and Safety legislation places specific responsibilities upon Parks Canada as owner of the work place. In order to meet those requirements, Parks Canada has implemented a contractor safety regime to ensure roles and responsibilities assigned under Part II of the Canada Labour Code and the Canada Occupational Health and Safety Regulations are implemented and observed when involving contractor(s) to undertake work in Parks Canada work places, including on Parks Canada property.
- .3 After contract award and prior to commencement of any work under the contract, the Project Manager will hold a health and safety meeting with the Contractor. At this meeting, the Contractor is required to complete and sign an Attestation to certify the Contractor will comply with the requirements set out in the Attestation and the terms and conditions of the contract.
- .4 A copy of the "Attestation and Proof of Compliance with Occupational Health and Safety (OHS)" form is attached as Appendix A. This form must be submitted to Parks Canada prior to commencement of works.

1.8 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with National Parks Act.

1.9 PROJECT/SITE CONDITIONS

- .1 Work at site will involve contact with Alberta Occupational Health and Safety.

1.10 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.11 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.12 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act, General Safety Regulation, Alberta and British Columbia when working in that province.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.13 UNFORESEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or conditions occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.14 HEALTH AND SAFETY COORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Coordinator. Health and Safety Co-ordinator must:
 - .1 Have minimum 2 years site-related working experience specific to activities associated with roadway construction.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
 - .5 Be on site during execution of Work and report directly to and be under direction of site supervisor.

1.15 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.

1.16 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.17 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 RELATED SECTIONS

- .1 All Division 01, 02 and 03 Sections.

1.3 MEASUREMENT PROCEDURES

- .1 Cost of Traffic Control described in this Section 01 35 00.06, shall be considered incidental to **“Lump Sum Price Item 2 – Traffic Accommodation”**, and no additional payment will be made for the duration of the Contract. The Contractor shall receive payment for traffic management on a monthly basis prorated by the number of months working on site divided by the number of months on site identified on Contractor schedule, not to exceed the total lump sum bid price for Traffic Management.
- .2 Cost of keeping existing roadway clean and free of pot holes while Contractor is on site shall be considered incidental to **“Lump Sum Price Item 2 – Traffic Accommodation”**, and no additional payment will be made for the duration of the Contract.
- .3 Cost of snow removal for Contractor to do the work identified in the Contract while Contractor is on site shall be considered incidental to **“Lump Sum Price Item 2 – Traffic Accommodation”**, and no additional payment will be made for the duration of the Contract. This excludes snow removal on Public roads.

1.4 REFERENCES

- .1 The Contractor shall provide traffic control in accordance with current edition of:
 - .1 AT – 2008 Traffic Accommodation in Work Zones
 - .2 AT – Traffic Control Standards, latest edition
 - .3 Manual of Uniform Traffic Control Devices for Canada, (MUTCD) distributed by Transportation Association of Canada.

1.5 QUALITY CONTROL

- .1 All Quality Control by the Contractor.

1.6 GENERAL

- .1 The Contractor shall develop and implement a Traffic Management Plan in accordance with the requirements of the current edition of AT – 2008 Traffic Accommodation in Work Zones, except where specified otherwise. The Traffic Management Plan will include plans specific to each detour and access point required for this project.
- .2 The Contractor shall design, supply, erect, move and maintain all traffic control devices, signs, temporary pavement marking, other safety measures, and provide staff to ensure safe passage of all traffic from commencement of site work to date of acceptance by the Departmental Representative.
- .3 All temporary signs that are used for longer than one day shall be mounted on wood posts.

- .4 All traffic and warning signs shall be either bilingual or of a symbolic or pictorial type. If bilingual signs are used, the English and French message shall be of equal letter size and at the same elevation, with English on left and French on right. Assistance in translation of construction and warning signs to French may be obtained from Parks Canada.
- .5 All speed limits, traffic control and warning signs shall have an “NPC” adhesive sticker added to bottom right-hand corner. These stickers will be supplied by Parks Canada following the acceptance by the Departmental Representative of the Contractor’s traffic management plan.
- .6 Temporary pavement marking used shall be acceptable to the Departmental Representative. These temporary pavement markings shall be in accordance with the current “AT – 2008 Traffic Accommodation in Work Zones”. All temporary pavement markings will be removed at the Contractor’s expense prior to the completion of the Contract. The Contractor will not be permitted to remove the temporary pavement marking until the final pavement markings have been installed to the satisfaction of the Contract and Departmental Representative.
- .7 Contractor shall have appropriate traffic control measures in place so that two lanes of highway traffic are maintained through the work zone at all times throughout the construction.
- .8 The Contractor shall coordinate traffic management procedures with other Contractors working in the area.

1.7 PROTECTION OF PUBLIC TRAFFIC

- .1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.
- .2 Carry out traffic regulation in accordance with AT – 2008 Traffic Accommodation in Work Zones, except where specified otherwise.
- .3 The Contractor shall develop and have in place a completed Traffic Control Plan taking into account all hazards associated with brushing operations on a busy highway and minimize risks to motorists prior to beginning Work. This plan shall be updated regularly in response to any incidents or changes in conditions, be they weather, work, traffic, or otherwise.
- .4 A minimum of one travelling lane 4 m wide shall be maintained by the Contractor at all times to provide for safe movement of traveling public through work area. The Contractor shall submit a Traffic Management Plan prior to commencement of work. Short closures may be allowed by the Departmental Representative for some activities such as asphalt removal as long as the delay to motorists does not exceed 20 minutes.
- .5 The Contractor shall not close any lanes of road without approval of Departmental Representative. Before re-routing traffic erect suitable signs and devices in accordance with the requirements of AT – 2008 Traffic Accommodation in Work Zones, except where specified otherwise.
- .6 **Regardless of type of traffic control being used, maximum period of delay to public traffic shall be 20 minutes.** Emergency vehicles (i.e., ambulance, RCMP, Park Warden) must be granted immediate passage at all times. The Departmental Representative reserves the right to reduce delay time for public traffic at times when specified delay results in excessive backup of public traffic.
- .7 The Contractor shall provide competent flag persons, properly equipped, and certified for work in Alberta.

- .8 The Contractor shall also provide competent supervision and/or contract personnel as required during non-working hours to ensure that safety flares, flashing beacons, signs, lights, etc., are in proper working order.
- .9 The Departmental Representative will monitor the traffic control measures, and may require modifications of these measures from time to time to achieve satisfactory traffic flow, safety of traveling public and coordination with adjacent contracts.
- .10 The Contractor shall maintain a dust free construction zone by means of cleaning and watering when required.

1.8 INFORMATIONAL AND WARNING DEVICES

- .1 Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work that requires road user response.
- .2 The Contractor shall supply, install and maintain two portable Changeable Message Signs (CMS) to inform the traffic of construction delays. Exact installation locations of the CMS to be agreed on site with the Departmental Representative. All cost associated with the supply, installation, maintenance and removal of the two CMS will be incidental to "Lump Sum Price Item 2 – Traffic Accommodation". Text for the two CMS will be directed by the Departmental Representative. Removal of the two CMS will only be permitted upon completion of the Works.
- .3 Place signs and other devices to standards and in locations recommended in AT – 2008 Traffic Accommodation in Work Zones. Provide intermittent signage if work zones exceed 2.0 km in length.
- .4 Signs shall be wind resistant.
- .5 As the situation on site changes, Contractor to update his Traffic Management Plan outlining signs and other devices required for the project and submit for the approval of the Departmental Representative.
- .6 Continually inspect and maintain traffic control devices in use by:
 - .1 Checking signs daily for legibility, damage, suitability and location.
 - .2 Cleaning, repairing or replacing signs as required ensuring clarity and reflectance.
 - .3 Removing or covering signs that do not apply to conditions existing from day to day or time to time.

1.9 CONTROL OF PUBLIC TRAFFIC

- .1 Contractor shall provide competent flag persons, properly equipped and certified in work in Alberta:
- .2 When public traffic is required to pass working vehicles or equipment, that block all or part of travelled roadway.
 - .1 When vehicles are entering or exiting Work Site access points.
 - .2 When vehicles are entering or exiting gravel pits in the park.
 - .3 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.

- .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
- .5 For emergency protection when other traffic control devices are not readily available.
- .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
- .3 Delays to public traffic due to Contractor's operators shall be limited to a maximum of 20 minutes.
- .4 No stoppage of traffic will be allowed for the periods specified in Section 01 14 00, Work Restrictions, 1.5 pertaining to Statutory Holiday or long weekend.
- .5 During hours of darkness, Contractor shall determine requirements but as a minimum, flagpersons shall be additionally equipped with a red signal hand-light of sufficient brightness to be clearly visible to approaching traffic and flagging stations shall be illuminated by overhead lighting. Signs indicating hazardous conditions and signs requiring increased attention shall be marked with flashers.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 All Division 01, 02, 03, 05, 10, 31, 32, 33 and 34 Sections.

1.2 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Specification.

1.3 MEASUREMENT PROCEDURES

- .1 Preparation and implementation of an Environmental Protection Plan in accordance with this Section 01 35 43 – Environmental Procedures will not be measured separately for payment and will be considered incidental to the Work.

1.4 SUBMITTALS

- .1 The Contractor is required to prepare an Environmental Protection Plan in accordance with this Section 01 35 43 – Environmental Procedures.

1.5 NATIONAL PARK REGULATIONS

- .1 The Contractor shall ensure that all work is performed in accordance with the ordinances, laws, rules and regulations set out in the Canada National Parks Act and Regulations.
- .2 For the Work in Banff NP, the Contractor and any sub-Contractors shall obtain a business license from the Parks Canada Administration Office in Lake Louise prior to commencement of the contract.
- .3 All Contractor's vehicles are required to display a vehicle work pass from Parks Canada. These permits may be obtained free of charge from the Departmental Representative or PCA Environmental Officer (ESO).

1.6 CANADIAN ENVIRONMENTAL ASSESSMENT ACT (CEAA)

- .1 Execution of the work is subject to the provisions within the *Canadian Environmental Assessment Act* (CEAA) Guidelines Order of 2003 and subsequent amendments.
- .2 Failure to comply with or observe environmental protection measures as identified in these specifications may result in the work being suspended pending rectification of the problems.
- .3 Refer to the Best Management Practices (BMP) for the Work on Trans-Canada Highway (TCH) in Banff National Park included with this tender. The Contractor's EPP is to include these BMP's and those below as a minimum.
- .4 Prior to mobilization, the Contractor shall submit an environmental protection plan (EPP) to address specific environmental concerns as outlined in these Specifications and Reference Documents. Refer to the Reference Document "Basic Impact Analysis (BIA) Repair and Replacement of Wildlife Exclusion Fencing Km 0 – Km 47 (September 2015)" for the Work in Banff NP included with this tender.
- .5 The Contractor's EPP is to include the Reference Documents as a minimum.
- .6 **The Contractor's EPP must be approved by the Banff Field Unit (FU) Environmental Assessment Specialist prior to work commencing.**

.7 The EPP shall address the following issues in detail, as applicable:

- .1 Timing, equipment requirements, methodologies, and access routes for work proposed in sensitive areas, e.g. near water bodies, wetlands, steep slopes and archaeological sites.
- .2 Erosion and sediment control plans for work involving ground distance in sensitive areas, e.g. near water bodies, wetlands and steep slopes.
- .3 Stabilization and revegetation of disturbed areas.
- .4 Staging and storage areas for equipment and materials.
- .5 Monitoring and control of non-native vegetation.
- .6 Methodologies, equipment requirements, and locations for disposal of vegetative debris.
- .7 Measures to ensure the fence remains effective in excluding wildlife from the highway during all phases of the Work.

1.7 START-UP AND ENVIRONMENTAL BRIEFING

- .1 All staff employed at the construction site will be subject to an approximately two hour briefing regarding their individual and collective responsibilities to ensure avoidable adverse environmental impact do not arise from their activities and personal choices. **Employees must attend this briefing before beginning their work at the site.** Each employee, having received the briefing, will be issued a certification sticker to be displayed on their helmet. It is recognized that new employees may join the Contractors' work force after the initial round of "environmental briefing". In that case and as required, subsequent "environmental briefings" can be presented as numbers warrant, by arrangement with the ESO through the Departmental Representative. Also, some sub-trades may be present at the site for a short time, to perform once-only duties. In these cases, the "environmental briefing" will be replaced by the Contractor explaining the environmental sensitivity of the work location to the sub-trade worker(s), and reviewing highlights of personal conduct expected, with reference to a one-page briefing summary to be provided to the Contractor by the ESO. A copy of this summary will be provided to each sub-trade worker joining the work force at the site.
- .2 Parks Canada will have an ESO attending the site to monitor the construction activity for conformance with the EPP. The ESO or alternate designated Parks Canada staff member will present the "environmental briefing". The ESO's main duties are to monitor the progress of the construction on an on-going basis to ensure compliance with environmental protection measures, and to provide guidance through the Departmental Representative, in the event of unanticipated environmental problems. Although the ESO has authority to enforce National Parks Act violations, direction to the Contractor will be the duty of the Departmental Representative.
- .3 Prior to commencing any activity not expressly covered or allowed in the project BMPs the Contractor may be required to first obtain a Restricted Activity Permit (RAP) in consultation with the ESO and Departmental Representative.

1.8 CONSTRUCTION SITE ACCESS AND PARKING

- .1 In consultation with the Departmental Representative, the Contractor shall formulate an agreement for worker transportation to and from the work sites and where workers shall park

their private vehicles. Generally, personal vehicles shall be parked at least 10 metres distance from any watercourse.

- .2 The Contractor shall ensure that the environment beyond the work limits is not negatively impacted or damaged by workers' vehicles or construction machinery and shall instruct workers so that the "footprint" of the project is kept within defined boundaries.

1.9 PROTECTION OF WORK LIMITS

- .1 The Contractor shall ensure that workers and equipment do not trespass outside the project limits to the satisfaction of the Departmental Representative and the ESO.

1.10 EROSION CONTROL

- .1 Erosion control measures that prevent sediment from entering any waterway, water body or wetland in the vicinity of the construction site are a critical element of the project and shall be implemented by the Contractor.
- .2 If necessary, on-site sediment control measures shall be constructed and functional prior to initiating activities associated with the asphalt plant and the paving. The Contractor shall prepare an Erosion Control Plan to the satisfaction of the Departmental Representative and the ESO.
- .3 The regular monitoring and maintenance of all erosion control measures shall be the responsibility of the Contractor. If the design of the control measures is not functioning effectively they are to be repaired. The Departmental Representative and ESO also will monitor erosion control performance.
- .4 The site will be secured against erosion during any periods of construction inactivity or shutdown.

1.11 POLLUTION CONTROL

- .1 The Contractor shall prevent any deleterious and objectionable materials from entering streams, rivers, wetlands, water bodies or watercourses that would result in damage to aquatic and riparian habitat. Hazardous or toxic products shall be stored no closer than 100 metres from watercourses.
- .2 A Spill Response Plan will be prepared as part of the EPP and shall detail the containment and storage, security, handling, use and disposal of empty containers, surplus product or waste generated in the application of these products, to the satisfaction of the Departmental Representative and the ESO and in accordance with all applicable federal and provincial legislation. The EPP shall include a list of products and materials to be used or brought to the construction site that are considered or defined as hazardous or toxic to the environment. Such products include, but are not limited to, waterproofing agents, grout, cement, concrete finishing agents, hot poured rubber membrane materials, asphalt cement and sand blasting agents.
- .3 The containment, storage, security, handling, use, unique spill response requirements and disposal of empty containers, surplus product or waste generated in the use of any hazardous or toxic products shall be in accordance with all applicable federal and provincial legislation. Hazardous products shall be stored no closer than 100 metres from watercourses.
- .4 An impervious berm shall be constructed around fuel tanks and any other potential spill area. The berms shall be capable of holding 110% of tank storage volumes and shall be to the satisfaction of the Departmental Representative and the ESO before start-up. Measures such

as collection / drip trays and berms lined with occlusive material such as plastic and a layer of sand, and double-lined fuel tanks can prevent spills into the environment.

- .5 The Contractor shall prevent blowing dust and debris by covering and/or providing dust control for temporary roads and on-site work by methods that are approved by the Departmental Representative or ESO.
- .6 The Contractor shall provide spill kits at re-fuelling, lubrication, and repair locations that will be capable of dealing with 110% of the largest potential spill and shall be maintained in good working order on the construction site. The ESO and Departmental Representative prior to project start-up must approve these spill kits. The Contractor and site staff shall be informed of the location of the spill response kit(s) and be trained in its use.
- .7 In the event of a major spill, all other work shall be stopped and all personnel devoted to spill containment and clean-up.
- .8 The costs involved in a spill incident (the control, clean up, disposal of contaminants and site remediation to pre-spill conditions), shall be the responsibility of the Contractor. The site will be inspected to ensure completion to the expected standard and to the satisfaction of the Departmental Representative and ESO.

1.12 EQUIPMENT MAINTENANCE, FUELLING AND OPERATION

- .1 The Contractor shall ensure that all soil, seeds and any debris attached to construction equipment to be used on the project site shall be removed (e.g. power washing) outside Banff National Park before delivery to the work site.
- .2 Equipment is to be checked daily by the Contractor for leaks or other damage requiring repairs.
- .3 Drip trays are to be placed under equipment when parked or not in use.
- .4 Equipment fuelling sites will be identified by the Contractor and approved by the Departmental Representative and the ESO. Except for chain saws, any fuelling closer than 100 metres any streams, wetlands, water bodies or waterways shall require the authorization and oversight of the Departmental Representative.
- .5 Diesel and gasoline delivery vehicles, including bulk tankers shall be parked more than 100 metres from any streams, wetlands, water bodies or watercourses. Gravity fed fuel systems are not allowed. Manual or electric pump delivery systems shall be used. Fuelling personnel shall maintain presence at and immediate attention to the fuelling operation.
- .6 Mobile fuel containers (e.g. slip tanks, small fuel carboys) shall remain in the service vehicle at all times. Protection and containment of approved fuel storage sites is addressed in # 4 of Pollution Control above.
- .7 Equipment used on the project shall be fuelled with E10, and low sulfur diesel fuels and shall conform to local emission requirements. The Contractor is to ensure that unnecessary idling of vehicles is avoided.
- .8 Oil changes, lubricant changes, greasing and machinery repairs shall be performed at locations approved by the ESO or the Departmental Representative. Waste lubrication products (e.g. oil filters, used containers, used oil, etc.) shall be secured in spill-proof containers and properly recycled or disposed of at an approved facility. No waste petroleum, lubricant products or related materials are to be discarded, buried or disposed of in borrow pits, turnouts, picnic areas, viewpoints, etc., anywhere within Banff National Park.

- .9 The Contractor shall ensure that all equipment is inspected daily for fluid/fuel leaks and maintained in good working order.
- .10 Fuel containers and lubricant products shall be stored only in secure locations specified by the Departmental Representative. Fuel tanks or other potentially deleterious substance containers shall be secured to ensure they are tamperproof and cannot be drained by vandals when left overnight in Banff National Park. Alternatively, the Contractor may hire a security person employed to prevent vandalism.

1.13 OPERATION OF EQUIPMENT

- .1 Equipment movements shall be restricted to the 'footprint' of the construction area. The work limits shall be identified by stake and ribbon or other methods approved by the Departmental Representative. Unless authorized by the Departmental Representative, activities beyond the work limits are not permitted. No machinery will enter, work in or cross over streams, rivers, wetlands, water bodies or watercourses, nor damage aquatic and riparian habitat or trees and plant communities. Some of the construction shall require working close to watercourses or water bodies. In these instances, the Contractor is to describe measures to be employed to ensure fugitive materials (e.g. rocks, soil, branches) and especially deleterious substances (e.g. chemicals) do not enter any watercourses, to the satisfaction of the Departmental Representative and ESO.
- .2 The Contractor shall instruct workers to prevent pushing, placement, raveling, storage or stockpiling of any materials (e.g. slash, rock, fill or topsoil) in the trees bordering the right-of-way or into watercourses or water bodies.
- .3 When, in the opinion of Parks Canada, negligence on the part of the Contractor results in damage or destruction of vegetation, or other environmental or aesthetic features beyond the designated work area, the Contractor shall be responsible, at his or her expense, for complete restoration including the replacement of trees, shrubs, topsoil, grass, etc., to the satisfaction of the Departmental Representative and ESO.
- .4 Restrict vehicle movements to work limits.
- .5 Workers private vehicles are to remain within the construction footprint.

1.14 FIRE PREVENTION AND CONTROL

- .1 A fire extinguisher shall be carried and available for use on each machine and at locations within the plant in the event of fire. Basic firefighting equipment recommended (e.g. a water truck; minimum 500 Imperial gallons with 500 feet of fire hose and a pump capable of producing 45 psi water pressure at the nozzle, three shovels, two pulaskis, and two five gallon backpack pumps) shall be maintained at the construction site at a location known and easily accessible to all the Contractors' staff. Contractor's staff shall receive basic training in early response to wildfire events during the "environmental briefing".
- .2 A water truck may be necessary and will depend on the timing of the contract (e.g. – not required during winter or snow covered conditions).
- .3 Construction equipment shall be operated in a manner and with all original manufacturers' safety devices to prevent ignition of flammable materials in the area.
- .4 Care shall be taken while smoking on the construction site to ensure that the accidental ignition of any flammable material is prevented.

- .5 In case of fire, the Contractor or worker shall take immediate action to extinguish the fire provided it is safe to do so. The ESO and the Departmental Representative shall be notified of any fire immediately. Fires or burning of waste materials is not permitted.

1.15 WILDLIFE

- .1 During the Environmental Briefing all personnel shall be instructed by the ESO on procedures to follow in the event of wildlife appearance near or within the work site and any other wildlife concerns.
- .2 Avoid or terminate activities on site that attract or disturb wildlife and vacate the area and stay away from the immediate location if bears, cougars, wolves, elk or moose display aggressive behaviour or persistent intrusion. Extra care to control materials that might attract wildlife (e.g. lunches and food scraps) must be exercised at all times.
- .3 Notify the ESO and Departmental Representative immediately about dens, litters, nests, carcasses (road kills), bear activity or encounters on or around the site or crew accommodation. Other wildlife-related encounters are to be reported within 24 hours.

1.16 RELICS AND ANTIQUITIES

- .1 Artifacts, relics, antiquities and items of historical interest such as cornerstones, commemorative plaques, inscribed tablets and similar objects found on the work site shall be reported to the ESO or the Departmental Representative immediately. The Contractor and workers shall wait for instructions before proceeding with their work.
- .2 All historical or archaeological objects found in Banff National Park are protected under the National Parks Act and Regulations and are the property of Parks Canada. The Contractor and workers shall protect any articles found and request direction from the ESO or the Departmental Representative.

1.17 WASTE MATERIALS STORAGE AND REMOVAL

- .1 The Contractor and workers shall dispose of hazardous wastes in conformance with the Environmental Contaminants Act and applicable provincial regulations while observing the Code of Good Practice for Management of Hazardous and Toxic Wastes at Federal Establishments.
- .2 All wastes originating from construction, trade, hazardous and domestic sources, shall not be mixed, but will be kept separate.
- .3 Construction, trade, hazardous waste and domestic waste materials shall not be burned, buried or discarded at the construction site or elsewhere in Banff National Park. These wastes shall be contained and removed in a timely and approved manner by the Contractor and workers, and disposed of at an appropriate waste landfill site located outside the park. Construction waste storage containers, provided by the Contractor, shall be emptied by the Contractor when 90% full. Waste containers will have lids, and waste loads shall be covered while being transported.
- .4 A concerted effort shall be made by the Contractor and workers to reduce, reuse and recycle materials.
- .5 All efforts to prevent wildlife from obtaining food, garbage or other domestic wastes shall be made by the Contractor and contract staff while undertaking their work in Banff National Park. Such wildlife attractants shall not be stored at the work site overnight. Lunches, coolers and food products, including waste food products, shall be securely stored away from

access by animals. Daily removal of food scraps, food wrappers, pop cans or other attractive products to bear proof containers is mandatory. It is incumbent on the Contractor to notify Parks Canada and make specific arrangements to have garbage collected by Parks Canada when using existing Parks Canada receptacles.

- .6 The Contractor and workers shall immediately report any circumstances related to food/garbage (e.g. overflowing container or strong smell) and wildlife to the ESO or the Departmental Representative.
- .7 Sanitary facilities, such as a portable container toilet, shall be provided by the Contractor and maintained in a clean condition.

1.18 MISCELLANEOUS SITE MANAGEMENT CONTINGENCIES

- .1 The Contractor shall prepare an EPP that details how the work limits will be marked and what procedures will be employed to ensure trespass outside these limits does not occur, to the satisfaction of the Departmental Representative and the ESO.
- .2 A Contractor's office, work headquarters, material laydown, equipment parking and storage area will be permitted at Cascade Pit or as directed by the Departmental Representative.
- .3 No Camp will be allowed within the National Parks.
- .4 The Contractor shall provide toilets and maintain them in a clean and sanitary condition at the work sites. These facilities shall not be used for the disposal of anything but human wastes.
- .5 The National Park Act regulations prohibit anyone working within the National Parks from using public campground facilities.
- .6 Removal and storage of snow shall be arranged with the ESO and the Departmental Representative.
- .7 The Contractor shall control blowing dust and debris generated from the construction site by means such as covering or wetting down dry materials and rubbish. Dust control measures for temporary access roads may also have to be initiated.
- .8 Security services at the construction site may be desirable or necessary during the contract, especially during quiet times. Fuel tanks or other potentially deleterious substance containers must be secured by the Contractor to ensure they are tamperproof and cannot be drained by vandals at his own cost.
- .9 Pets shall not be brought to or maintained at the construction site or worker's camp.
- .10 Should the Contractor require/request a water source the Departmental Representative, in consultation with the ESO, may give direction as to an acceptable location to be used. Specific intake measures are required when water is approved to be withdrawn from open watercourses.

Part 2 Products

- .1 Not used.

Part 3 Execution

3.1 BRUSHING

- .1 The Contractor shall ensure that the substrate or riparian area of streams, rivers or watercourses, whether open water or frozen over shall not be disturbed by tracked, wheeled

or self-propelled equipment, (e.g. a skidder or truck). The ESO or Departmental Representative will provide direction in the case of work occurring near any wetland area or watercourses.

- .2 The Contractor shall take all measures to ensure that trees do not fall into streams, rivers, wetlands or water bodies or outside the brushing limits as marked by colored flagging. Generally, work within a 30 metre buffer of watercourses, water bodies or wetlands requires the close oversight of the ESO or the Departmental Representative.
- .3 Trees inadvertently felled into streams, rivers, watercourses or outside the brushing limits shall be removed by means (e.g. winch) so as not to damage the substrate or any standing trees left outside the brushing limits. Machinery shall not go outside the brushing limits, or into streams, rivers, watercourses or water bodies to remove felled trees.
- .4 Logs and other salvage materials are to be conveyed to and placed at the storage site without spread of debris or damage to other standing trees or landscape resources outside the marked brushing or storage limits. They shall not be skidded through wetlands, waterways or water bodies.
- .5 Existing areas of vegetation disturbed as a result of this contract shall be rehabilitated using approved topsoil from the park and a native grass seed mix as specified in Section 32 92 22 – Seeding.

3.2 SPECIAL NOTES FOR ACCESS AND OPERATIONS AT WILDLIFE UNDERPASS SITES

- .1 The approaches to and from wildlife crossings are important for the successful functioning of these structures. Ensure minimal tree removal and vegetation disturbance occur at these locations during construction activity.
- .2 The landscapes and forest cover at both ends of the wildlife crossing structures are important to the proper functioning of structures for wildlife passage. The Contractor is alerted that disturbance or damage to terrain or vegetation outside of the defined construction footprint at this location is unacceptable.

3.3 SPECIFIC CONCERNS RELATIVE TO WILDLIFE FENCING CONSTRUCTION

- .1 The Contractor must maintain a closed fencing system during and after work shifts to prevent wildlife from breaching the fence and entering the highway. The existing fencing shall remain undisturbed during all activities.

3.4 SPECIFIC CONCERNS RELATIVE TO EROSION CONTROL AND SEDIMENTATION

- .1 The Contractor shall prepare an Erosion and Sedimentation Management Plan for the components of this contract that are undertaken in proximity to watercourses, wetlands or riparian environments. This plan shall be to the satisfaction of the Departmental Representative and ESO. If sediment ponds are required, they shall be designed to settle all sediment particles 0.02 mm or larger. The ponds shall also be designed to handle 1:5 year storm events, with overflow spill capacity for 1:10 year storm events and emergency spillway capacity for 1:100 year storm events.
- .2 An important desired end result is to allow no release into watercourses of sediments in levels that are deleterious to fish or that would harmfully alter, disrupt, or destroy fish habitat. Similarly there is to be no sediment release into areas of vegetation growth or sensitive areas of sediments in levels that would adversely alter growing or hydraulic conditions. The target

is 0 mg/L of TSS over background levels. The threshold is a maximum instantaneous increase of 25 mg/L over background levels when background levels are <250 mg/L, or a maximum instantaneous increase of 10% over background levels when background levels are >250 mg/L. This threshold shall not be exceeded.

3.5 STRIPPING

- .1 A contingency plan for control of dust generated from the construction site shall be prepared, with materials availability arranged in the event of their need. In the event of a work program shutdown during inclement weather (e.g. winter conditions unfavourable for construction) erosion control of bared soils or excavated materials stockpiles will be required.
- .2 Stripping close to the any watercourse, water body or wetland shall employ methods to ensure materials are not pushed, fall or are eroded into the water or wetlands. Generally, work within a 30 metre buffer of waterways or wetlands requires the close oversight of the ESO and the Departmental Representative.
- .3 No stripping shall occur outside of the designated area or within 1 metre of the drip line of existing forest.
- .4 Stripped soil (including fine forest litter) materials shall be placed and stored at locations and in amounts and form as instructed by the Departmental Representative, for later reclamation use on graded slopes. Stripping piles may require erosion control, sedimentation protection or stabilization, depending on the location and anticipated duration of storage. At the Departmental Representatives direction, the Contractor shall prepare a plan for management of each stripping pile.

3.6 EXCAVATING AND PLACEMENT

- .1 Excavation will be undertaken according to the approved Grading Plan for the ROW, and approved Development Plans for the designated pits.
- .2 Materials shall be placed at storage sites or on the grade without spillage outside the working limits. Any material inadvertently falling outside the work limits is to be removed promptly in a manner that does not damage trees or vegetation at that location.
- .3 All sediment control measures shall be implemented by the Contractor prior to the commencement of the work in the vicinity of rivers, water bodies, watercourses, and wetlands.
- .4 Special precautions may have to be taken during excavation in the vicinity of intermittent or active drainage channels.
- .5 If sediments enter a river / stream during any excavation nearby or at its banks, the Contractor shall ensure that sediment levels in the waters of the river or creeks do not exceed specified limits and meet the “desired end result” limits outlined.
- .6 Placement of rip rap and backfill at creeks shall be undertaken without contacting the watercourse or wetted margins of the stream, unless approved by the Departmental Representative.
- .7 Fisheries protection windows shall be observed for the fish creeks, and any other watercourse in this contract and will guide the timing of the work so that stream disturbance is prevented.
- .8 If a pump-out sump to dewater excavation sites will be required, the Contractor shall detail how the dewatering shall be undertaken, to the satisfaction of the Departmental Representative and the ESO. Special attention is to be given to the environmental sensitivity of the discharge area, freezing conditions operation, overflow avoidance, decanting and

settlement pond reclamation. Water containing suspended materials shall not be pumped into watercourses, drainage systems or on to land, except with the permission of the Departmental Representative and the ESO.

3.7 CULVERT INSTALLATION

- .1 All culverts shall be installed using best management practices for working in or near water that will result in a minimum amount of sedimentation and damage to the riparian area of the watercourse. The Contractor shall prepare a plan for the installation of each culvert, a minimum one (1) week prior to doing the work for approval by the Departmental Representative and ESO.
- .2 The culverts shall be installed using best management practices for placement, including consideration of aquatic ecology.
- .3 It is preferable to install the culvert during periods of low discharge (e.g. during the fall). The use of sediment control measures may be necessary to ensure that excessive amounts of sediments do not enter creeks.
- .4 It may be necessary to exclude fish from the immediate construction site while the culvert is being installed. If this practice is necessary, fish shall be salvaged from within the exclusion area, and construction should be carried out expediently to minimize the time spent working in the drainage.

3.8 FINE GRADING, TOPSOIL PLACEMENT, AND SEEDING

- .1 This contract may involve some final shaping of cut slopes, fills and landscapes disturbed in the construction of the Works. These slopes will be covered by stripped soil and chip compost materials and seeded. Environmental concerns related to these activities largely focus on erosion prevention and sediment control. The Contractor is to present a plan for placement, spreading, and stabilization of reclamation materials that controls erosion and prevents sedimentation, to the satisfaction of the Departmental Representative and ESO

3.9 SPECIFIC CONCERNS RELATIVE TO SENSITIVE SITES AND ACTIVITIES

- .1 Grade construction and paving activity near streams, rivers, wetlands, water bodies or watercourses must be undertaken with care to prevent damage to aquatic and riparian habitat or associated tree and plant communities. A large and mobile spill kit shall be kept at hand during construction at these sensitive sites in proximity to watercourses.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Specification.

1.2 RELATED SECTIONS

- .1 All Division 01, 02 and 03 Sections.

1.3 MEASUREMENT PROCEDURES

- .1 This work shall be incidental to contract and will not be measured for payment.

1.4 REFERENCES

- .1 Canadian Standards Association (CSA)
- .2 CAN/CSA-A23.2-04, Methods of Test and Standard Practices for Concrete
- .3 AT – 2013 Standard Specifications for Highway Construction

1.5 TESTING BY THE CONTRACTOR

- .1 Testing required to provide quality control to assure that the Work strictly complies with the Contract requirements shall include, but not be limited to:
 - .2 All testing specified in the Contract Documents.
 - .1 Any other testing required as a condition for deviation from the specified Contract procedures.
 - .3 Testing proposed shall be based on testing requirements in the current edition of the AT – 2013 Standard Specifications for Highway Construction.
 - .4 The Contractor shall be fully responsible and bear all costs for all quality control testing and shall conduct such testing in the following manner:
 - .5 Provide testing facilities and personnel for the tests and inform the Departmental Representative in advance to enable the Departmental Representative to witness the tests if it so desired.
 - .1 Notify the Departmental Representative when sampling will be conducted
 - .2 Within one Day after completion of testing, submit test results to the Departmental Representative.
 - .3 Identify test reports with the name and address of the organization performing all tests, and the date of the tests.
 - .6 Approval of tested samples will be for characteristics or use named in such approval and shall not change or modify any Contract requirements.
 - .7 Testing agencies, their inspectors, and their representatives are not authorized to revoke, alter, relax, enlarge or release any requirement of the Contract Documents, nor to approve or accept any part of the Work

1.6 CONTRACTOR'S QUALITY CONTROL PROGRAM

- .1 The Contractor shall prepare a Quality Control Program. The purpose of the program shall be to ensure the performance of the Work in accordance with Contract requirements.

- .2 The Quality Control Program shall be described in a Quality Control Manual. The Contractor shall submit the Manual to the Departmental Representative for review in accordance with Section 01 33 00, Submittal Procedures. The Manual shall develop a logical system for tracking and documenting the Quality Control of the Work. A systematic format and a set of procedures patterned on a recognized Quality Control Standard will be acceptable, subject to review by the Departmental Representative.
- .3 The Quality Control Manual shall include the following information:
- .4 Distribution list, providing a list of names to whom the Manual shall be distributed.
 - .1 Title page, identifying the Contract, Contractor and copy number.
 - .2 Revision page, identifying the revision number and date of the Manual.
 - .3 Table of contents.
 - .4 Revision control, tabulating the revision number, date of revision, description of revisions and authorized signature.
 - .5 Details of measuring and testing equipment including methods and frequency of calibration.
 - .6 Purchasing details of all materials and equipment including procurement documents and vendor's Quality Control Program standards.
 - .7 Procedures for inspection of incoming items, in-process inspection and final inspection and tagging of all supply items.
 - .8 Details of special processes as identified by the Departmental Representative, including qualifications of personnel and certification.
 - .9 Procedures for shipping, packaging and storage of materials.
 - .10 Procedures for maintaining quality records and Statements of Compliance, including filing and storage of documents for a period of one year after Completion of the Works.
 - .11 Details of any non-conformance, including identification and recording of deficiencies, tagging procedures for "HOLD" or "REJECT" items, and final disposition of non-conformance forms by the Quality Control Manager.
 - .12 Inspection and test checklists, including tabulated checklists describing all manufacturing and delivery activities such as Inspection or Test, frequency of tests, description of tests, acceptance criteria of tests, such as verification, witnessing or holding tests and sign-off by the Quality Control Manager and the Departmental Representative, if the Departmental Representative witnesses the tests.
 - .13 Forms used to ensure the application of the inspection and test checklist requirements. These forms shall be identified in the checklists and describe all testing requirements for Specification compliance.
- .5 The Contractor shall appoint a qualified and experienced Quality Control Manager, 100% of his time dedicated to quality matters and who will report regularly to the Contractor's management at a level that shall ensure that Quality Control requirements are not subordinated to manufacturing, construction or delivery. The Quality Control Manager shall be empowered by the Contractor to resolve quality matters.
- .6 The Quality Control Manual shall include samples of all forms to be filled in by the Quality Control Inspectors. All forms shall be signed by the Quality Control Manager and submitted promptly to the Departmental Representative who will add its review signature.

- .7 An independent check of all Work shall be performed by the Contractor. The Contractor shall appoint Quality Control Inspectors to ensure compliance of products and workmanship with Contract requirements. The same personnel may not be used to perform a given task and to check the quality and accuracy of the task.
- .8 At completion of the Work a bound and itemized copy of all Quality Control documents and reports shall be prepared by the Contractor's Quality Manager and submitted to the Departmental Representative.

1.7 INSPECTION

- .1 Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or as required by law of Alberta.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .4 Departmental Representative will order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.8 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will be engaged by the Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Departmental Representative.
- .2 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .3 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by the Departmental Representative at no cost to the Departmental Representative.

1.9 ACCESS TO WORK

- .1 Allow inspection / testing agencies access to Work, off-site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.10 PROCEDURES

- .1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Provide labour and facilities to obtain and handle samples and materials on site.

1.11 REJECTED WORK

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, that has been rejected by Departmental

- Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
 - .3 If in opinion of Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner may deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount will be determined by Departmental Representative.

1.12 REPORTS

- .1 Submit one (1) electronic copy of all inspection and test reports to Departmental Representative in accordance with Section 01 33 00 Submittals Procedures.

1.13 TESTS AND MIX DESIGNS

- .1 Furnish test results and designs as may be requested.

1.14 MILL TESTS

- .1 Submit mill test certificates as required of specification sections.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General**1.1 PRECEDENCE**

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Specification.

1.2 RELATED SECTIONS

- .1 Section 01 35 00.06 - Special Procedures for Traffic Control.

1.3 MEASUREMENT PROCEDURES

- .1 All work of this section shall be incidental to contract and will not be measured for payment.

1.4 INSTALLATION AND REMOVAL

- .1 Provide construction facilities in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.5 SITE STORAGE / LOADING

- .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.

1.6 CONSTRUCTION PARKING

- .1 Provide and maintain adequate access and parking at the project site in areas approved by the Departmental Representative.
- .2 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.

1.7 SECURITY

- .1 If required by the Contractor, provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays. For extended shut-downs, the Contractor shall provide the level of security as required to protect the Work. The Contractor is advised that some random acts of vandalism to equipment have occurred within the Parks.

1.8 EQUIPMENT, TOOL AND MATERIALS STORAGE

- .1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials if required.
- .2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.

1.9 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations, ordinances and these specifications.

- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.10 CONSTRUCTION SIGNAGE

- .1 No other signs or advertisements, other than warning and traffic control signs, are permitted on site.
- .2 Signs and notices for safety and instruction shall be in both official languages Graphic symbols shall conform to CAN3-Z321.
- .3 Maintain approved signs and notices in good condition for duration of project, and dispose of off-site on completion of project or earlier if directed by Departmental Representative.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Specification.

1.2 MEASUREMENT PROCEDURES

- .1 This work shall be incidental to contract and will not be measured for payment.

1.3 RELATED SECTIONS

- .1 Section 01 32 16.07 - Construction Progress Schedules – Bar (GANTT) Chart.

1.4 REFERENCES

- .1 Owner's identification of existing survey control points and property limits.

1.5 LAYOUT REQUIREMENTS

- .1 The Departmental Representative will identify location of all work sites, and will approve the layout of the brushing limits.

1.6 RECORDS

- .1 Maintain a complete, accurate log of control and survey work as it progresses.
- .2 Record locations of maintained, re-routed and abandoned service lines.

1.7 SUBMITTALS

- .1 Submit name and address of Surveyor to Departmental Representative.
- .2 On request of Departmental Representative, submit documentation to verify accuracy of field engineering work.
- .3 Submit certificate signed by surveyor certifying those elevations and locations of completed Work that conform to Contract Documents.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 MEASUREMENT PROCEDURES

- .1 This work shall be incidental to contract and will not be measured for payment.

1.3 RELATED SECTION

- .1 Section 01 35 00.06 – Special Procedures for Traffic Control.
- .2 Section 01 35 43 – Environmental Procedures.
- .3 Section 01 77 00 - Closeout Procedures.

1.4 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Owner or other Contractors.
- .2 Clear snow and ice from access to work areas during active construction periods and when access to environmental protection facilities required outside active construction times.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Remove waste material and debris from site at end of each working day and dispose of waste materials and debris off site as directed by Departmental Representative.
- .5 Do not burn waste materials on site.
- .6 Keep highway dust and rock free daily by sweeping areas that mud and dirt is brought up to the road by equipment and vehicles.
- .7 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .8 Provide adequate ventilation during use of volatile or noxious substances.
- .9 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

1.5 FINAL CLEANING

- .1 When Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Prior to final review, remove surplus products, tools, construction machinery and equipment.
- .3 Remove waste products and debris including that caused by Owner or other Contractors.
- .4 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .5 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .6 Inspect finishes, and ensure specified workmanship and operation.

- .7 Remove dirt and other disfiguration from exterior surfaces.
- .8 Sweep and wash clean paved areas.
- .9 Clean drainage systems.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 MEASUREMENT PROCEDURES

- .1 This work shall be incidental to contract and will not be measured for payment.

1.3 RELATED SECTIONS

- .1 Section 01 74 11 – Cleaning.
- .2 Section 01 78 00 – Closeout Submittals.

1.4 INSPECTION AND DECLARATION

- .1 Contractor's Inspection: Contractor and all Sub-contractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
 - .2 Request Departmental Representative's Inspection.
- .2 Departmental Representative's Inspection: Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.
- .3 Completion: submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Work is complete and ready for Final Inspection.
 - .4 Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative, and Contractor. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 MEASUREMENT PROCEDURES

- .1 This work shall be incidental to contract and will not be measured for payment.

1.3 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 71 00 - Examination and Preparation.
- .4 Section 01 77 00 - Closeout Procedures.

1.4 AS-BUILTS AND SAMPLES

- .1 In addition to requirements in General Conditions, maintain at the site for Departmental Representative one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to the Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.

1.5 RECORDING ACTUAL SITE CONDITIONS

- .1 Record information on set of black line opaque Drawings and in copy of the Project Manual.
- .2 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.

- .3 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:
 - .1 Field changes of dimension and detail.
 - .2 Changes made by change orders.
 - .3 Details not on original Contract Drawings.
 - .4 References to related shop drawings and modifications.
 - .5 Specifications: legibly mark each item to record actual construction, including:
 - .1 Changes made by Addenda and change orders.

1.6 FINAL SURVEY

- .1 Submit final site survey certificate in accordance with Section 01 71 00 - Examination and Preparation, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

1.7 WARRANTIES AND BONDS

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- .2 List sub-contractors, suppliers, and manufacturers, with name, address, and telephone number of responsible principal.
- .3 Obtain warranties and bonds, executed in duplicate by sub-contractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work.
- .4 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
- .5 Verify that documents are in proper form, contain full information, and are notarized.
- .6 Co-execute submittals when required.
- .7 Retain warranties and bonds until time specified for submittal.

Part 2 Products

- .1 Not used.

Part 3 Execution

- .1 Not used.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 MEASUREMENT PROCEDURES

- .1 This work shall be incidental to contract and will not be measured for payment.

1.3 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 43 – Environmental Procedures.

1.4 REFERENCES

- .1 Export and Import of Hazardous Waste Regulations (EIHW Regulations), SOR/92-637.
- .2 National Fire Code of Canada 1995.
- .3 Transportation of Dangerous Goods Act, 1992 (TDG Act) [1992], (c. 34).
- .4 Transportation of Dangerous Goods Regulations (T-19.01-SOR/2001-286).

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 Coordinate 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 current 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 Observe smoking regulations at all times. Smoking is prohibited in any area where hazardous materials are stored, used, or handled.
- .6 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 that 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 that 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.
- .7 Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements.
- .8 Report spills or accidents immediately to Departmental Representative. Submit a written spill report to Departmental Representative within 24 hours of incident.

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 MSDSs 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.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 35 00.06 – Special Procedures for Traffic Control.
- .2 Section 01 35 43 – Environmental Procedures.

1.2 MEASUREMENT PROCEDURES

- .1 Brushing will be paid for at the unit price bid per hectare of brushing and will, unless otherwise specified, comprise the full length and breadth of the right-of-way as shown on the Drawings or as directed by the Departmental Representative.
- .2 Quantities for payment for brushing including flush cutting will be paid under “**Unit Price Item 1a) – Brushing**” and will be measured based on measurements in hectares of land acceptably brushed and flush cut according to these specifications, and shall include all labour, equipment and material to satisfactorily complete this item of work.
- .3 Quantities for payment for cleaning, chipping, loading, hauling and stockpiling chippings, or removing chippings from BNP, or removing chippings by incineration or other methods as directed by the Departmental Representative, will be paid under “**Unit Price Item 1b) – Cleaning, Chipping & Removal**” and will be measured based on measurements in hectares of land acceptably cleaned and processed according to these specifications, and shall include all labour, equipment and material to satisfactorily complete this item of work.
- .4 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.
- .5 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.
- .6 Environmental mitigations 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.
- .7 Contractor to arrange for sale of merchantable timber. Any cost / credit for the sale of merchantable timber will be made under “**Lump Sum Price Item 3 – Prime Cost Sum**”
- .8 Contractor shall have the work area assessed for dangerous trees by a certified assessor. Payment for danger tree assessment will be made under “**Lump Sum Price Item 3 – Prime Cost Sum**”.
- .9 Removal of dangerous trees identified in the assessment and authorized for removal by the Departmental Representative shall be safely removed by a qualified faller prior to other work. Payment for the removal of danger trees will be made under “**Lump Sum Price Item 3 – Prime Cost Sum**”. Payment will be in accordance with Section 200.05 Payment for Danger Trees of the current edition of the BC MOTI 2012 Standard Specifications for Highway Construction.

1.3 DEFINITIONS

- .1 Brushing means cutting trees and brush vegetative growth to within 75 mm of the ground. and disposing of felled trees, previously uprooted trees, stumps, and clearing wood debris as specified.
- .2 Flush cutting means cutting trees, stumps or vegetative growth to within 75 mm of the ground, leaving the root structure undisturbed.

- .3 Cleaning means gathering of cut vegetation from the area brushed for chipping. The surface must be cleaned of all loose debris greater than 1 m in length.
- .4 Chipping consists of mechanically chipping wood debris, except merchantable timber, into wood chips. Finished wood chip material shall be able to pass through a 75 mm by 75 mm screen.
- .5 Removal means loading, hauling and removal of debris from BNP by trucking or incineration or as directed by the Departmental Representative. Stockpile size and locations shall be as directed by the Departmental Representative.
- .6 Merchantable timber is all timber with butt diameter in excess of 150 mm and top down to 100 mm.

1.4 QUALITY CONTROL

- .1 All Quality Control testing by the Contractor.

1.5 PROTECTION

- .1 **Prior to construction, the Contractor shall submit an environmental protection plan (EPP) to address specific environmental concerns as outlined in these Specifications and Reference Documents. Construction activities shall not begin until this EPP has been reviewed and approved by the Banff Field Unit and the Departmental Representative.**
- .2 Prevent damage to trees, natural features, bench marks, existing pavement, water courses and root systems of trees that are to remain.
- .3 Repair any damaged items to approval of Departmental Representative.
- .4 Replace any trees designated to remain, if damaged, as directed by Departmental Representative.

Part 2 Products

- .1 Not used.

Part 3 Execution

3.1 PREPARATION

- .1 Inspect site and verify with Departmental Representative, items designated to remain.
- .2 Prior to any tree-falling, the Contractor shall have the area assessed for dangerous trees by a certified assessor. Dangerous trees identified in the assessment shall be safely removed prior to work.

3.2 BRUSHING

- .1 Brush as directed by Departmental Representative by removing trees and vegetative growth. Brushing limits shall typically extend 10 m beyond the existing edge of pavement on both sides of the Trans Canada Highway, or to 2 metres beyond the back of ditch, or to dimensions as indicated by these Reference Drawings and as approved by the Departmental Representative. Brushing limits for the proposed wildlife exclusion fencing alignment shall typically extend 3 m on both sides of the proposed alignment. Brushing limits will be reduced in steep terrain or inaccessible areas as directed by Departmental Representative.

- .2 Cut off branches and cut down trees overhanging area brushed as directed by Departmental Representative.
- .3 Cut off unsound branches on trees designated to remain as directed by Departmental Representative.
- .4 All brushing shall be removed in such a manner that surrounding vegetation is preserved along the construction limits. Stumps remaining within the perimeter are to be cut flush with ground and vegetative mat left undisturbed.
- .5 Existing fencing shall not be disturbed during any and all activity.

3.3 REMOVAL AND DISPOSAL

- .1 Clean the area brushed of all debris greater than 1 metre in length to leave a neat and tidy appearance.
- .2 Removal and disposal of vegetative material and debris will be as directed by the Departmental Representative, including;
 - .1 Chipping all vegetative material and hauling and removing it from BNP.
 - .2 Hauling, stockpiling and incinerating vegetative material and debris at a location directed by the Departmental Representative.
 - .3 Other methods for removal and disposal of vegetative materials and debris as directed by the Departmental Representative.
- .3 Cut timber greater than 150 mm diameter at the base to suitable lengths and stockpile as directed by the Departmental Representative. Stockpiled timber becomes property of the owner.
- .4 All vegetation debris must be removed as soon as possible from the right-of-way, either by transporting off-site for disposal or piling and burning on-site.
- .5 All vegetation containing non-native species will be piled and burnt or bagged and removed off site to a disposal facility.
- .6 Piles will be made where trees are felled, piles will be 1.2-1.8 m (4 to 6 feet) in diameter and no more than 1.2 m (4 feet) high (approximately 1 to 3 trees per piles) or as instructed by local fire and vegetation specialists.
- .7 Piles are to be located so that they do not scorch surrounding live trees and measures must be in place to ensure that fires do not spread (i.e., conduct burning on snow or on mineral soil).
- .8 Piles will be left until fall for burning to allow for curing of green fuels.
- .9 Provincial regulations for air quality must be met.
- .10 Where fire fuel loading is not a concern vegetation debris of limited amounts will be dragged in the forest to mimic natural tree fall.
- .11 If removal or burning are not feasible a chipper may be used for less than 50 boles per hectare. Chip depth is to be a maximum of 5 cm (2 inches), spread over area no greater of 5m x 5m per hectare so as to not cover underlying vegetation, prevent new native seedlings from sprouting, and cause soil/seed bank sterilization. Spreading of chips may extend beyond these parameters with permission from the Departmental Representative.
- .12 To facilitate chipping of woody debris, all trees/shrubs/vines can be left temporarily along the road shoulders and laid facing the same directions.
- .13 In some cases, logs from newly cut trees may be set aside for use elsewhere as directed by the ESO and the Departmental Representative.

- .14 Store removed vegetation on already disturbed areas to minimize disturbance area.
- .15 In appropriate areas re-establish native vegetation where it has been completely removed/damaged.

3.4 FINISHED SURFACE

- .1 In areas of flush cutting, leave stumps cut flush with ground elevation and root structure undisturbed unless otherwise directed by the Departmental Representative.
- .2 Where possible, vegetative debris should not be left to accumulate on site and must either be burned or chipped.
- .3 Chips cannot exceed 50 millimeters in depth to a maximum coverage of 5% ground cover.
- .4 Where accessible, all stems suitable for firewood should be removed from site, hauled and stockpiled at a location designated by the Departmental Representative.
- .5 At inaccessible sites for trees with little firewood value, no more than 50 stems per lineal kilometer may be left on site. A stem is defined as any tree with a DBH greater than 15 centimeters.
- .6 All retain stems must be limbed and lie flush to the ground.
- .7 Accumulation of fine woody fuels is of greatest concern from both a fire management and vegetation re-growth perspective. Fine fuel accumulation cannot exceed 10% ground cover and must be less than 10 centimeters in depth. Fine woody fuels have a diameter less than 3 centimeters.
- .8 Medium fuels may accumulate to a maximum of 20% ground cover and shall not exceed 20 centimeters in depth. Medium fuels have a diameter ranging from 3 centimeters to 7 centimeters.
- .9 Mechanically distributed areas and burn piles must be seeded with an approved native grass seed mix within 6 months of project completion.
- .10 Ground disturbance must be kept to a minimum. Off-highway mechanical equipment must have a tire pressure of 7 psi or lower.

END OF SECTION