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**Documents Incorporated by Reference:**

Drawing 1 – Clearing Locations  
Schedule A – Clearing and Brushing Inventory  
Parks Canada EIA Requirements  
Parks Canada National Best Management Practices - 2015

## **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 British Columbia Ministry of Transportation and Infrastructure is referred to as "BC MoTI".  
[http://www.th.gov.bc.ca/publications/const\\_maint/contract\\_serv/standardspecs.htm](http://www.th.gov.bc.ca/publications/const_maint/contract_serv/standardspecs.htm)

### **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 Without limiting the scope of work, the work of this Contract generally comprises the following:
  - .1 Clearing and brushing within the Highway 1 roadway corridor, Yoho National Park.
  - .2 Traffic control and other construction facilities required for completion of the Work of the Project.
  - .3 Disposal of clearing and brushing vegetation and debris.
  - .4 Miscellaneous Additional Work as directed by the Departmental Representative.
  - .5 Where specifications for work covered under this Contract including any Change Orders are not available, BC MoTI – 2012 Standard Specifications for Highway Construction shall apply unless directed by the Departmental Representative.

### **1.5 PROJECT LOCATION**

- .1 The project is located in Yoho National Park (British Columbia) along the Trans Canada Highway. The following are key locations relative to the project:
  - .1 TCH Yoho Eastern Park Boundary - km 81.9
  - .2 Yoho Pit – km 96.8
  - .3 Ottertail Pit - km 105.5
  - .4 TCH Yoho Western Park Boundary – km 127.5

### **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 TCH Rock Slope Recapitalization km 88-91 and 114-128. Expected completion Fall 2016.
  - .2 TCH Roadway Rehabilitation and Paving – km 106 to 119
  - .3 TCH Barrier Replacement – km 106 – 127.5.
  - .4 Other maintenance and project work may occur along Hwy 1 in 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 Yoho Pit and Ottertail Pit are operational facilities 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 clearing and brushing work by April 29, 2016.**
  - .2 **Complete all cleaning, chipping and removal work by June 15, 2016**
  - .3 **Complete all remedial seeding work by October 15, 2016 (Contract Completion Date).**

## **1.9 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.

#### **1.10 OWNER FURNISHED ITEMS**

- .1 None.

#### **1.11 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.

#### **1.12 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.

#### **1.13 SETTING OUT OF WORK**

- .1 The sections to be cleared and brushed along the highway shall be as indicated in **Schedule A – Clearing and Brushing Inventory**, or as subsequently amended or directed by the Departmental Representative. The Contractor shall be responsible for all field layout of work.

#### **Part 2 Products**

- .1 Not used.

#### **Part 3 Execution**

- .1 Not used.

Project No. 201548  
February 2016  
Parks Canada Agency

Trans Canada Highway  
Clearing and Brushing  
Yoho NP

Section 01 11 00  
SUMMARY OF WORK  
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**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 will be specified by the Departmental Representative 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 Ottertail 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 Ottertail 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 Yoho National Park is permitted during daylight hours from 07:00am to 10:00pm, Monday to Saturday only. Work during nighttime hours is only permitted if prior written approval is granted by the Departmental Representative.
  - .1 No hauling of material on public roads during inclement weather.
- .9 The Contractor will not be permitted to work during Civic Holidays or long weekends unless prior written approval is granted by the Departmental Representative.

## **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 British Columbia
- .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:
  - .1 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.
  - .2 The Project Superintendent shall nominate a Deputy Project Superintendent who shall have the authority of the Project Superintendent during the latter's absence.
  - .3 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 **\$45,000** 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:
  - .1 Relocation or removal and disposal of existing signs, guardrail, concrete barrier, guide posts and other miscellaneous items;
  - .2 Assessment of dangerous trees;
  - .3 Removal of danger trees;
  - .4 Arrangement for sale of merchantable timber;
  - .5 Supply and installation of fence accessories, gates;
  - .6 Mechanical or hydraulic seeding (not due to mechanical damage by Contractor);
  - .7 Additional brushing, cutting of trees and debris cleanup as required and directed by Departmental representative;
  - .8 Additional survey resulting from changes made by the Departmental Representative;
  - .9 Stripping, excavation and/or disposal of waste materials as directed by the Departmental Representative;
  - .10 Remediation or removal and replacement of unsuitable or contaminated soils not described in the contract documents;
  - .11 Supply and installation of landscaping including trees;
  - .12 Transplanting of rare plant species;
  - .13 Rehabilitation work in the pits;
  - .14 Miscellaneous work as directed by the Departmental Representative.
- .5 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
  - .1 Rental rates will be in accordance with current BC 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.

## **Part 2 Products**

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

## **Part 3 Execution**

- .1 Work shall be in accordance with BC 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:
  - .1 Payment will be made under **“Lump Sum Price Item 1 – Mobilization / Demobilization”**.
  - .2 50% of Lump Sum Contract Price for Mobilization and Demobilization to be paid when mobilization to site is complete.
  - .3 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.
  - .4 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 Yoho 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 Reviewed Shop Drawings and mix designs.
  - .5 Change Orders.
  - .6 Other modifications to Contract.
  - .7 Traffic Management Plan.
  - .8 Safety Plan.
  - .9 WHMIS.
  - .10 Environmental Protection Plan.
  - .11 Field test reports.
  - .12 Copy of approved Work schedule and most recent updated schedule.
  - .13 Labour conditions and wage schedules.
  - .14 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.
- .3 Agenda to include following:
  - .1 Review, approval of minutes of previous meeting.
  - .2 Review environmental issues.
  - .3 Review Traffic Control and Emergency response Protocol issues.
  - .4 Review site safety and security issues.
  - .5 Review issues with Prime Contractor and co-ordination with other Contractors.
  - .6 Review of Work progress since previous meeting.
  - .7 Discuss field observations, problems, and conflicts.
  - .8 Review off-site fabrication delivery schedules.
  - .9 Review submittal schedules: expedite as required.
  - .10 Corrective measures and procedures to regain projected schedule.
  - .11 Revisions to construction schedule.
  - .12 Review Weekly Progress schedule, during succeeding work period.
  - .13 Review of quality reports since previous meeting.
  - .14 Review construction budget: Progress payments, variances from contract.
  - .15 Other business.

#### **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.

#### **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 clearing and brushing work by April 29, 2016.**
  - .2 Complete all cleaning, chipping and removal work by June 15, 2016**
  - .3 Complete all remedial seeding work by October 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 Management of Owner supplied material Plan
- .12 Quality Control Plan
- .13 Shop Drawings
- .14 Concrete Mix Designs

.3 Mobilization

.4 Work Activities by road segments / locations:

- .1 Site Access
- .2 Brushing
- .3 Cleaning, chipping and removal
- .4 Power supply design and coordination
- .5 Permit application and approval
- .6 Additional Work as and when requested
- .7 Quality Control
- .8 Interim Inspection

.5 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.

**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 “DESIGN AND BUILD”, SHOP DRAWINGS, PRODUCT DATA AND MIX DESIGNS**

- .1 “Design and Build”: The term “Design” refers to all detailed design activities (survey, investigation, drawings, specifications) based on general requirements contained in these specifications and shown on the drawings. “Build” refers to construction of Contractor’s detailed design after design has been reviewed and accepted by the Departmental Representative. Contractor’s responsibility for error and omissions in submission is not relieved by Departmental Representative’s review or acceptance of submittals.
- .2 The term “shop drawings” means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data that are to be provided by the Contractor to illustrate details of a portion of Work.
- .3 The term “mix design” means engineered design for proportioning materials in concrete or asphalt concrete pavement including all supporting test results, materials properties and Departmental Representative’s letter of recommendation.
- .4 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of section under which adjacent items will be supplied and installed. Indicate cross-references to design drawings and specifications.
- .5 Allow fourteen (14) calendar days for Departmental Representative’s review of each submission.
- .6 Adjustments made on shop drawings by the Departmental Representative are not intended to change the Contract Price. If adjustments affect the value of Work, state such in writing to the Departmental Representative prior to proceeding with the Work.
- .7 Make changes in shop drawings as the Departmental Representative may require, consistent with the Contract Documents. When resubmitting, notify the Departmental Representative in writing of any revisions other than those requested.
- .8 Submit letter(s) of certification with all mix designs.
- .9 Accompany submissions with a transmittal letter containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor’s name and address.
  - .4 Identification and quantity of each shop drawing, mix design, product and sample.
  - .5 Other pertinent data.
- .10 Submissions shall include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Sub-contractor,
    - .2 Supplier,
    - .3 Manufacturer.



- .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with the Contract Documents.
- .5 Details of appropriate portions of the Work as applicable:
  - .1 Fabrication,
  - .2 Performance characteristics,
  - .3 Standards.
- .11 After the Departmental Representative's review, distribute copies.
- .12 Submit one (1) electronic copy of the shop drawings or mix design for each requirement requested in the Specification Sections and as requested by the Departmental Representative.
- .13 Submit one (1) electronic copy of the product data sheets or brochures for requirements requested in the Specification Sections and as requested by the Departmental Representative where shop drawings will not be prepared due to standardized manufacture of the product.
- .14 Delete information not applicable to project.
- .15 Supplement standard information to provide details applicable to project.
- .16 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .17 The review of shop drawings and mix designs by Departmental Representative is for the sole purpose of ascertaining conformance with general concept. This review shall not mean that Departmental Representative approves detail design inherent in shop drawings, responsibility for that shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting all requirements of construction and Contract Documents.
- .18 Without restricting the generality of the foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of all sub-trades.

## **1.6 SAMPLES**

- .1 Not used.

## **1.7 MOCK-UPS**

- .1 Not used.

## **1.8 CERTIFICATES AND TRANSCRIPTS**

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

## **1.9 REQUIRED CONTRACTOR SUBMITTALS**

- .1 General:

□

- .1 This Clause identifies the plans, programs, and documentation required prior to mobilization on site and during the construction phase.

.2 Pre-Mobilization Submittals:

- .1 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:
- .2 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
- .3 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.
- .4 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.
- .5 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.
- .6 Quality Control Plan in accordance with Section 01 45 00 – Quality Control.
- .7 Traffic Management Plan, in accordance with the requirements of Section 01 35 00.06 – Special Procedures for Traffic Control.
- .8 Environmental Protection Plans (EPP) and Environmental Construction Operations Plans (ECO Plans) that shall meet the requirements of Section 01 35 43 – Environmental Procedures.
- .9 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.
- .10 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.
  - .1 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. Site specific hazard assessment.

5. General safety rules for project.
  6. Job specific safe work procedures.
  7. Inspection policy and procedures.
  8. Incident reporting and investigation policy and procedures.
  9. Occupational Health and Safety meetings.
  10. Occupational Health and Safety communications and record keeping procedures.
  11. Results of safety and health risk or hazard analysis for site tasks and operation.
  12. Submit copies of Material Safety Data Sheets (MSDS).
- .11 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.
  - .12 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
  - .13 The Contractor shall not begin any site Work until the Departmental Representative has authorized acceptance of the submittals in writing.
  - .14 Submit a copy of the filed Notice of Project with Provincial authorities.
  - .15 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.
- .3 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.

.4 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 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 BC MoTI – Traffic Control Manual for Work on Roadways.
  - .2 BC MoTI – 2012 Standard Specifications for Highway Construction, Section 194 – Traffic Management for Work Zones.
  - .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 BC MoTI 2012 Standard Specifications for Highway Construction, Section 194 – Traffic Management for Work Zones, except where specified otherwise. The Traffic Management Plan will include plans specific to each roadway, 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 “BC MoTI - Traffic Control Manual for Work on Roadways”. 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 BC MoTI – 2012 Standard Specifications for Highway Construction, Section 194 – Traffic Management for 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 BC MoTI – 2012 Standard Specifications for Highway Construction, Section 194 – Traffic Management for 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 and registered as a Traffic Control Person (TCP) with the BC Construction Safety Alliance.
- .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 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in the Traffic Management Plan submitted by the Contractor and approved by the Departmental Representative. **All temporary signs that are used for longer than one day shall be mounted on wood posts other than portable changeable message boards that shall be secured at all times.**
- .3 Place signs and other devices to standards and in locations recommended in BC MoTI – Traffic Control Manual for Work on Roadways . 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 British Columbia and Alberta:
  - .1 When public traffic is required to pass working vehicles or equipment, that block all or part of travelled roadway.
  - .2 When vehicles are entering or exiting Work Site access points.
  - .3 When vehicles are entering or exiting gravel pits in the park.

- .4 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.
- .5 Where temporary protection is required while other traffic control devices are being erected or taken down.
- .6 For emergency protection when other traffic control devices are not readily available.
- .7 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
- .2 Delays to public traffic due to Contractor's operators shall be limited to a maximum of 20 minutes.**
- .3 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.
- .4 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 Yoho 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 Parks Canada National Best Management Practices (BMP) for the Work in Yoho NP included with this tender. The Contractor's EPP is to include the BMP as a minimum.

### **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.

## **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 Yoho National Park before delivery to the work site.
- .2 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 from any streams, wetlands, water bodies or waterways shall require the authorization and oversight of the Departmental Representative.

- .3 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.
- .4 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.
- .5 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.
- .6 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 Yoho National Park.
- .7 The Contractor shall ensure that all equipment is inspected daily for fluid/fuel leaks and maintained in good working order.
- .8 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 Yoho 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 Yoho 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 Yoho 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 Yoho 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 Yoho National Park.
- .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 Yoho National Park 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 CLEARING AND 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 clearing and brushing limits shall be removed by means (e.g. winch) so as not to damage the substrate or any standing trees left outside the clearing and brushing limits. Machinery shall not go outside the clearing and 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 clearing and 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.

**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:
  - .1 All testing specified in the Contract Documents.
  - .2 Any other testing required as a condition for deviation from the specified Contract procedures.
- .2 Testing proposed shall be based on testing requirements in the current edition of the AT – 2013 Standard Specifications for Highway Construction.
- .3 The Contractor shall be fully responsible and bear all costs for all quality control testing and shall conduct such testing in the following manner:
  - .1 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.
  - .2 Notify the Departmental Representative when sampling will be conducted
  - .3 Within one Day after completion of testing, submit test results to the Departmental Representative.
  - .4 Identify test reports with the name and address of the organization performing all tests, and the date of the tests.
- .4 Approval of tested samples will be for characteristics or use named in such approval and shall not change or modify any Contract requirements.
- .5 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:
  - .1 Distribution list, providing a list of names to whom the Manual shall be distributed.
  - .2 Title page, identifying the Contract, Contractor and copy number.
  - .3 Revision page, identifying the revision number and date of the Manual.
  - .4 Table of contents.
  - .5 Revision control, tabulating the revision number, date of revision, description of revisions and authorized signature.
  - .6 Details of measuring and testing equipment including methods and frequency of calibration.
  - .7 Purchasing details of all materials and equipment including procurement documents and vendor's Quality Control Program standards.
  - .8 Procedures for inspection of incoming items, in-process inspection and final inspection and tagging of all supply items.
  - .9 Details of special processes as identified by the Departmental Representative, including qualifications of personnel and certification.
  - .10 Procedures for shipping, packaging and storage of materials.
  - .11 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.
  - .12 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.
  - .13 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.
  - .14 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.
- .4 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.

- .5 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.
- .6 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.
- .7 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 British Columbia.
- .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 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 35 00.06 - Special Procedures for Traffic Control.
- .2 Section 01 52 00 - Construction Facilities.

**1.4 INSTALLATION AND REMOVAL**

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

**1.5 HOARDING**

- .1 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

**1.6 GUARD RAILS AND BARRICADES**

- .1 Provide secure, rigid guard rails and barricades around deep excavations.

**1.7 WEATHER ENCLOSURES**

- .1 Not used.

**1.8 DUST TIGHT SCREENS**

- .1 Not used.

**1.9 ACCESS TO SITE**

- .1 Provide and maintain access roads, as may be required for access to Work.

**1.10 PUBLIC TRAFFIC FLOW**

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect the public.

**1.11 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY**

- .1 Protect surrounding public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

**1.12 PROTECTION OF BUILDING FINISHES**

- .1 Not used.

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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 45 00 - Quality Control.

### **1.2 REFERENCE STANDARDS**

- .1 Within text of each specifications section, reference may be made to reference standards.
- .2 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .3 If there is question as to whether any product or system is in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be borne by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.
- .5 Conform to latest date of issue of referenced standards in effect on date of submission of Tenders, except where specific date or issue is specifically noted.

### **1.3 QUALITY**

- .1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 Should any dispute arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.

### **1.4 AVAILABILITY**

- .1 Immediately after signing contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work
- .2 In the event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

### **1.5 STORAGE, HANDLING AND PROTECTION**

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.



- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials, lumber and misc. metals on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .9 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

## **1.6 TRANSPORTATION**

- .1 Contractor to pay costs of transportation of products required in performance of Work.

## **1.7 MANUFACTURER'S INSTRUCTIONS**

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative may establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

## **1.8 QUALITY OF WORK**

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative whose decision is final.

## **1.9 CO-ORDINATION**

- .1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

#### **1.10 CONCEALMENT**

- .1 The Departmental Representative will inspect all work prior to any concrete pours. The Contractor shall notify the Departmental Representative 24 hours before any pour for inspection.

#### **1.11 REMEDIAL WORK**

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

#### **1.12 FASTENINGS**

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings that cause spalling or cracking of material to which anchorage is made are not acceptable.

#### **1.13 PROTECTION OF WORK IN PROGRESS**

- .1 Do not cut, drill or sleeve any load bearing structural member without written approval of Departmental Representative, unless specifically indicated.

#### **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.
- .3 Departmental Representative's Inspection: Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.
- .4 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 (EIHWR 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. Quantities for payment for clearing and brushing will be paid under **“Unit Price Item 1a) – Clearing and Brushing”** and will be measured per kilometre of work per side of road. Limits of clearing and brushing work in a given road segment shall be defined as indicated below in Section 3.2 Clearing and Brushing. Payment under this item shall include all labour, equipment and material to satisfactorily complete the work.
2. Quantities for payment for hand clearing and brushing will be paid under **“Unit Price Item 1b) – Hand Clearing and Brushing (Environmentally Sensitive Areas)”** and will be measured per square metre. Limits of hand clearing and brushing work shall be defined as indicated below in Section 3.2 Clearing and Brushing. Areas designated for hand clearing and brushing will be excluded from the measurement and payment of Unit Price Item 1a) – Clearing and. Payment under this item shall include all labour, equipment and material to satisfactorily complete the work.
3. Quantities for payment for cleaning, chipping and removal will be paid under **“Unit Price Item 1c) – Cleaning, Chipping and Removal** and will be measured per km for the same areas defined in pay item 1a – Clearing and Brushing. Payment under this item shall include all labour, equipment and material to satisfactorily complete the work.
4. Re-seeding of mechanically disturbed areas with an approved native grass seed mix shall be incidental to the contract and no separate payment will be made to the Contractor.
5. 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.
6. Traffic Control required for this Work shall be incidental to **“Lump Sum Price Item 2 – Traffic Accommodation”** and no separate payment will be made to the Contractor.
7. 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.
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 British Columbia Standard Specifications for Highway Construction (2012).

### 1.3 DEFINITIONS

1. **Clearing and Brushing** means cutting trees, brush and 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. **Hand Clearing and Brushing** means clearing and brushing performed with hand operated equipment and laborers. Motorized wheeled and tracked equipment may not be utilized for areas designated for hand clearing and brushing.
3. **Cleaning** means gathering of cut vegetation from the area cleared and brushed. 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. **Medium woody material** is material between 3cm and 7cm in maximum dimension.
6. **Fine woody material** is material less than 3cm in maximum dimension.
7. **Removal** means loading, hauling, and removal of debris from Yoho NP by trucking or incineration or as directed by the Departmental Representative.
8. **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 Prevent damage to trees, natural features, bench marks, existing pavement, water courses and root systems of trees that are to remain.
- .2 Repair any damaged items to approval of Departmental Representative.
- .3 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 Lay out the limits of clearing and brushing with flagging or other appropriate and visible markers consistent with the limits of work as indicated in Section 3.2 below. Limits shall be marked at minimum regular intervals of 25 metres unless otherwise directed or relaxed by the departmental representative.
- .2 Lay out the limits of hand clearing and brushing with flagging or other appropriate and visible markers as directed in the field by the departmental representative.

- .3 Limits of work shall be laid out a minimum of 24 hours prior to commencement of clearing and brushing such that the departmental representative shall have an opportunity to inspect and confirm the limits as marked in the field.
- .4 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 CLEARING AND BRUSHING

- .1 The sections to be cleared and brushed along the highway shall be as indicated in **Schedule A – Clearing and Brushing Inventory**, or as subsequently amended or directed by the Departmental Representative
- .2 At any given section along the highway, the limits of clearing and brushing shall be defined as the lesser of the following as measured with a flexible tape (along the ground):
  - .1 Ten (10) metres from the the existing edge of asphalt;
  - .2 three (3) metres up the ditch backslope from the back edge of the existing ditch invert, where an existing highway ditch is present;
  - .3 to a reduced width in specific locations where directed by the departmental representative.
- .3 The limits of hand clearing and brushing shall be defined as directed by the departmental representative and laid out by the contractor in accordance with Section 3.1.2 above
- .4 Clear and brush within limits of work by cutting trees, brush and vegetative growth.
- .4 Cut off branches and cut down trees overhanging area brushed as directed by Departmental Representative.
- .5 Cut off unsound branches on trees designated to remain as directed by Departmental Representative.
- .6 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.
- .7 Contractor is responsible for re-seeding mechanically disturbed areas with approved native grass seed mix as per Section 32 92 22 – Seeding.
- .8 Existing fencing shall not be disturbed during any and all activity.
- .9 Ground disturbance must be kept to a minimum. Off-highway mechanical equipment must have tire pressure of 7 psi or lower.

### 3.3 CLEANING, CHIPPING AND REMOVAL

- .1 Contractor shall cut all merchantable timber into 410 mm lengths (tolerance +/- 20mm), haul and stack in neat piles at Yoho Pit as directed by the departmental representative. The cut and stockpiled timber shall remain the property of the owner.
- .2 Clean the cleared and brushed areas of all debris greater than 1 metre in length to leave a neat and tidy appearance.
- .3 Contractor shall remove and dispose of vegetative material and other debris from the cleared and brushed areas in one of the following ways::

- .1 Hauling and removing it from Yoho NP for offsite disposal by the Contractor;
- .2 Hauling, stockpiling and incinerating vegetative material and debris at Ottertail Pit. Incineration must be via low emissions, high efficiency curtain burner.
- .3 Other alternative methods requested by the Contractor and deemed acceptable at the *sole discretion* of the Departmental Representative.
- .4 Maximum permitted size of incineration piles shall be within the discretion of the Departmental Representative.
- .5 Contractor may chip material within the limits of work prior to hauling but will be responsible to clean the right of way to the finished surface standard.
- .6 Ground disturbance must be kept to a minimum. Off-highway mechanical equipment must have tire pressure of 7 psi or lower.

### **3.4 FINISHED SURFACE STANDARDS**

- .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 Clean the cleared and brushed areas of all debris (stems) greater than 1 metre in length. No more than 50 stems per linear km may be left on site. All retained stems must be limbed and lie flush with the ground.
- .3 Accumulation of wood chips cannot exceed 50mm in depth to a maximum ground coverage of 5% by area.
- .4 Accumulation of medium woody material cannot exceed 200mm in depth to a maximum ground coverage of 20% by area.
- .5 Accumulation of fine woody materials cannot exceed 100mm in depth to a maximum ground coverage of 10% by area.
- .6 Mechanical distributed areas must be seeded with an approved native grass seed mix in accordance with Section 32 92 22 – Seeding.

### **END OF SECTION**

**Part 1 General**

**3.1 RELATED SECTIONS**

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 35 00.06 – Special Procedures for Traffic Control.
- .3 Section 01 35 43 – Environmental Procedures.

**3.2 DESCRIPTION OF WORK**

- .1 The work covered by this specification shall consist of seeding and fertilizing areas that were mechanically disturbed during performance of the Work.

**3.3 MEASUREMENT FOR PAYMENT**

- .1 Supply, delivery and application of seed will not be measured separately and will be considered to be incidental to **Unit Price Item 1c) – Cleaning, Chipping and Removal**.
- .2 Maintenance of the seeded areas will not form a part of the Contractor's work once seeding application is acceptable as determined by the Departmental Representative.
- .3 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.
- .4 Traffic Control required for this Work shall be incidental to **Lump Sum Price Item 2 – Traffic Accommodation** and no separate payment will be made.
- .5 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.

**3.4 SUBMITTALS**

- .1 Product Data
  - .1 Submit product data in accordance with Section 01 33 00 – Submittal Procedures.
  - .2 Provide product data for:
    - .1 Seed
    - .2 Mulch
    - .3 Tackifier/Soil Stabilizer
    - .4 Fertilizer
  - .3 Submit in writing to Departmental Representative 14 days prior to commencing work:
    - .1 Volume capacity of hydraulic seeder in litres.
    - .2 Amount of material to be used per tank based on volume.
    - .3 Number of tank loads required per hectare to apply specified slurry mixture per hectare.

**3.5 QUALITY ASSURANCE**

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

### **3.6 MATERIAL DELIVERY, HANDLING AND STORAGE**

- .1 Use all means necessary to protect all materials before, during and after installation. Provide adequate protection to materials that may deteriorate if exposed to weather.
- .2 Fertilizer shall be packaged in waterproof bags labelled clearly, indicating net mass, analysis and manufacturer. Store on pallets and protect from weather.
- .3 Seed to be stored in dry weatherproof place and shall be protected from damage by heat, rodents and other causes. Deliver and store grass seed in original packages with label indicating:
  - .1 analysis of seed mixture;
  - .2 percentage of pure seed by weight;
  - .3 year of production;
  - .4 net mass, and
  - .5 date tagged and location.

## **Part 2 Products**

### **2.1 SEED**

- .1 Seed shall be Certified Canada No. 1 Grade quality seed varieties, in accordance with the Canadian Seeds Act and Regulations, and having a minimum purity of 97% and germination of 75%. Seed shall be free of impurities and disease.
- .2 Seed mix for all applications to be the following, by weight:
  - 15% Adanac Slender Wheatgrass
  - 15% Fringed Bromegrass
  - 15% Nortran Tufted Hairgrass
  - 15% Fowl Bluegrass
  - 10% ARC Plateau Rocky Mountain Fescue
  - 5% ARC Mountain Junegrass
  - 10% ARC Glacier Alpine Bluegrass
  - 10% ARC Sentinel Spike Trisetum
  - 5% Citation III Perennial Ryegrass
- .3 Seeding rate to be 35 kg/ha for mechanical seeding and 100 kg/ha for hydraulic seeding.
- .4 Seed tags to be retained and given to the Departmental Representative.
- .5 Seed mix shall be free of Scentless Chamomile, Downy Brome, Smooth Brome and Canada Thistle.

### **2.2 FERTILIZER**

- .1 Fertilizer 1 shall be a 45-25-20 mixture. This fertilizer shall be applied at the time of seeding at a rate of 125kg/ha.
- .2 Contractor to verify fertilizer blend and application rate following testing of topsoil.

### **2.3 WATER**

- .3 Water shall be free of impurities that would inhibit germination and growth.



## **2.4 SOIL STABILIZER/TACKIFIER**

- .4 Soil stabilizer/tackifier shall be a nontoxic, colourless copolymer emulsion with no less than 52.6% solids. Acceptable product is: Soil Master WR or approved alternate. Supplier: Target Products, Phone: 1-800-575-7700.

## **2.5 MULCH**

- .5 Wood fibre mulch shall be manufactured from virgin wood fibres and contain not less than 3% of an organic tackifier by volume. Cellulose type products are not acceptable. Acceptable product is: Eco Fibre Plus or approved alternate. Supplier: Professional Gardener, Phone: (403) 263-4200.

## **Part 3 Execution**

### **3.1 GENERAL SEEDING**

- .1 Contractor shall advise Departmental Representative prior to the start of seeding operations.
- .2 Contractor shall mechanically remove any weeds prior to seeding. Weed removal method to be approved by Departmental Representative prior to commencement. This will be incidental to the work.
- .3 Contractor shall ensure that equipment is steam cleaned, free of soil and seed from previous project to prevent site contamination.
- .4 Seeding shall be done upon completion of stripped soil material/chip compost placement.
- .5 Contractor shall not perform work under adverse field conditions such as frozen soil, excessively wet or dry soil, or soil covered with snow, ice or standing water.
- .6 Contractor shall hydraulic seed only during dry weather conditions with no rain forecasted for the next 24 hours and ensuring a seasonably dry seedbed to provide for proper curing of soil stabilizers/tackifier. Contractor shall check weather conditions to ensure soil stabilizer has sufficient time to cure prior to heavy rainfall.
- .7 Contractor shall carry out seeding in locations as shown on Drawings or, as directed by Departmental Representative.

### **3.5 MECHANICAL SEEDING**

- .1 The following application rates are the minimum required for mechanical seeding:
  - .1 Canada Parks Blend Seed: 35 kg/hectare
  - .2 Fertilizer 1: 45-25-20 125 kg/hectare
- .2 The Contractor shall apply fertilizer at the time of seeding onto prepared seedbeds ensuring even coverage at specified rates.
- .3 The Contractor shall mechanically sow seed during calm weather using a drill seeder.
- .4 The Contractor shall clean all structures, appurtenances and natural features not designated to be seeded, to the satisfaction of the Departmental Representative.
- .5 The Contractor shall ensure that at all times during the seeding, that no vehicles are parked within the path of public travel and the Contractor shall provide warning devices as directed by the Departmental Representative to ensure safe operations.

### 3.2 HYDRAULIC SEEDING

- .1 The following application rates are the minimum required for hydraulic seeding:
  - .1 Canada Parks Blend Seed: 100 kg/hectare
  - .2 Fertilizer 1: 45-25-20 125 kg/hectare
  - .3 Mulch: 500 kg/hectare
  - .4 Soil Stabilizer/tackifier: Soil Master WR 1300 L/hectare
  - .5 Water: 30,000 L minimum
- .2 The Contractor shall measure quantities of materials by weight, or weight calibrated Contractor to calculate and submit applicable area of coverage per tank load of slurry in accordance with Section 01 33 00 – Submittal Procedures
- .3 Contractor shall physically stake and identify limits of tank coverage prior to seeding to the satisfaction of Departmental Representative.
- .4 Each tank load of slurry shall be fully applied within the designated boundaries for each load as staked volume measurement, to the satisfaction of the Departmental Representative.
- .5 The Contractor shall fill the tank half full with required water and add mulch while continuing to fill with water. Seed mix and fertilizer is to be added. All material is to be added into the hydraulic seeder under agitation. The Contractor shall pulverize mulch with tackifier and charge slowly into seeder.
- .6 The Contractor shall charge soil stabilizer/tackifier into seeder after all other material is well mixed in seeder. Contractor shall mix slowly to avoid foaming but thoroughly to complete slurry. Entrance
- .7 The Contractor shall use hydraulic seeding equipment with a minimum slurry tank capacity of 4,500 litres.
- .8 The Contractor's equipment shall have an agitation system for slurry capable of operating during charging of tank and during seeding, consisting of recirculation of slurry and mechanical method:
  - .1 pumps shall be capable of maintaining a continuous non-fluctuating flow of solution.
  - .2 equipment shall be capable of seeding up to 150m distance from hydraulic seeder using hand operated hoses and appropriate nozzles.
- .9 The Contractor shall apply slurry when wind velocities will not affect the application and cause the mixture to be blown.
- .10 The Contractor shall apply slurry uniformly, at optimum angle of application for adherence to surfaces and germination of seed. Ensure good contact of slurry with soil with minimal air pockets.
- .11 The Contractor shall use the correct nozzle(s) for application and use hoses to access difficult to reach surfaces and to control application.
- .12 The Contractor shall ensure that the application is uniform and the surface is evenly covered. Contractor shall blend into retained landscape for approximately 1 metre.

- .13 The Contractor shall clean all structures, appurtenances and natural features not designated to be seeded of any overspray, to the satisfaction of the Departmental Representative.
- .14 The Contractor shall ensure that at all times during the seeding, that no vehicles are parked within the path of public travel and the Contractor shall provide warning devices as directed by the Departmental Representative to ensure safe operations.

### **3.3 MAINTENANCE DURING ESTABLISHMENT PERIOD**

- .1 Contractor shall not be responsible for maintenance of seeded areas during establishment period.

### **3.4 CONSTRUCTION COMPLETION ACCEPTANCE**

- .1 Seeded areas will be accepted by the Departmental Representative provided that all coverage rates are confirmed and seed is uniformly distributed.

### **3.5 MAINTENANCE DURING WARRANTY PERIOD**

- .1 Contractor shall not be responsible for maintenance of seeded areas during warranty period.

**END OF SECTION**