Public Works and Government Services Canada

Requisition No. EZ 899- 171514

SPECIFICATIONS
For:

Pacific Traverse Trail Clearing and Grubbing, Pacific Rim National Park Reserve, British Columbia

Project No.
R.081570.001

APPROVED BY:

Program Manager, PWGSC — Date: Sept 09, 2016

Construction Safety Coordinator — Date: 16-09-09

TENDER:

Project Manager — Date: 16/09/09

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Sept 8, 2016

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DIVISION 33 – Utilities

DIVISION 35 – Waterway and Marine Construction

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Appendix A: **Pacific Traverse Trail - Timber Cruise and Valuation Assessment**
Strategic Natural Resource Consultants, August 22, 2016.

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 Specifications document.

1.2 Definitions .1 "Department" shall mean Public Works and Government Services Canada and is abbreviated as "PWGSC".

.2 "Departmental Representative" shall mean a representative appointed by PWGSC for the purpose of execution of this Contract.

.3 "Owner" shall mean Parks Canada.

1.3 Hierarchy of Documents .1 In the event of discrepancies, the hierarchy of documents shall be as follows, in descending order:

.1 These Specifications

.2 If conflict arises between an item in these specifications and an item found in one of the Reference Documents (Appendices) the specification shall govern.

.3 Any technical and manufacturer's standard, Government Act, Regulation or Code of practice referred to in the contract documents shall be the version current at the time the contract is awarded.

.2 In the event of a difference between scaled dimensions on Plans and the figures written thereon, the figures shall govern. In the event that two or more plans show conflicting information, the information on the most recently dated plan shall govern.

.3 Any technical and manufacturer's standard, Government Act, Regulation or Code of Practice referred to in the Contract documents shall be the version current at the time the Contract is awarded.

1.4 Codes, Bylaws, Standards .4 In the event of discrepancies or conflicts when interpreting the drawings and specifications, the specifications govern.

.1 Perform work to CURRENT Codes, Construction Standards and Bylaws, including Amendments.

.2 Perform work in accordance with the Canadian Standards Association, the American Society for Testing of Materials, Master Municipal Construction Documents MMCD, Construction Standards and/or any other Code or Bylaw of local application.

.3 Comply with applicable local bylaws, rules and regulations enforced at the location concerned.

.4 Meet or exceed requirements of Contract documents, specified standards,

codes, and referenced documents.

.5 In any case of conflict or discrepancy, the most stringent requirements shall apply.

1.5 Contract Documents

.1 The Contract Documents, drawings and specifications, are intended to complement each other, and to provide for and include everything necessary for the completion of the Work.

.2 Drawings are, in general, diagrammatic and are intended to indicate the scope and general arrangement of the work.

.3 If anything is found by the Contractor to be missing from the Contract Documents immediately inform the Departmental Representative.

1.6 Other Contracts

.1 Further Contracts may be awarded while this contract is in progress.

.2 Cooperate with other Contractors in carrying out their respective works and carry out instructions from Departmental Representative.

.3 Coordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Departmental Representative, in writing, any defects which may interfere with proper execution of this Work.

1.7 Division of Specifications

.1 The specifications are subdivided in accordance with the current 6-digit National Master Specifications System.

.2 A division may consist of the work of more than 1 subcontractor. Responsibility for determining which subcontractor provides the labour, material, equipment and services required to complete the work rests solely with the Contractor.

1.8 Project Location

.1 The project is located within the Pacific Rim National Park Reserve boundaries on Vancouver Island, British Columbia.

1.9 Time of Completion

.1 Substantial completion of the work shall be done within 16 weeks after Contract Award.

1.10 Contract Method

.1 Construct Work under Unit Price Contract.

1.11 Section Includes

.1 In general, Work under this Contract covers the:

.1 Clearing of all vegetation within a designated right of way and danger trees within Worksafe BC distances to right of way;

.2 Clearing if vegetation within construction pull off areas;

.3 Clearing of vegetation for designated highway access points, topsoil stripping and placing of geofabric, 400 mm aggregates, and culverts;

.4 Clearing of individual identified trees;

.5 Clearing of previously downed trees and ground coverings within the designated right of way;

.6 Chipping and spreading of all cleared material up to 120 mm diameter;

.7 Salvaging of identified logs to designated areas;

.8 Construction of one graveled future parking lot;

.9 Traffic control;

.10 Installation of two project signs.

1.12 Work Included .1 Work includes, but is not limited to: (quantities are approximate)

.1 Providing traffic control when falling trees near roads, highways, pedestrian trails, and parking lots.

.2 Close clearing of a right of way 5.2 m wide by approximately 30 km long (156,000 square metres) containing approximately 3,155 cubic metres of Merchantable timber.

.3 Clearing of fallen timber and organic debris from the 5.2 m wide right of way to original ground level and depositing material approximately 5 to 15 metres from the right of way for the approximately 30 km of trail.

.4 Close clearing of approximately 80 construction pull-off areas 3.0 m wide by 20 metres long (4,800 square metres.)

.5 Close clearing and grubbing of approximately 40 access points 5.2 m wide by 20 metres long (2,200 square metres) including Topsoil stripping, placing geotextile, and placing and compacting 300 mm of granular sub-base and 100 mm base material (4,000 square metres.)

.6 Clearing and grubbing of one future parking lot approximately 4,800 square metres in area.

.7 Chipping and spreading of all cleared material up to 100 mm diameter;

.8 Topsoil stripping, placing of a geotextile, and placing and compacting 450 mm of granular sub-base and 100 mm base material for one parking area (3,200 square metres)

.9 Installation of three HDPE culverts, (two 600 mm diameter X 12 metres long and forty 450 mm diameter by 9 metres long.)

.10 Supply and installation of two project signs, 1.2 m X 2.4 m, one located at each end of Pacific Rim National Park along Highway # 4.

.11 Salvaging and delivering designated timber to three parking lots within Pacific Rim National Park (approximately 3,155 cubic metres.)

.12 Falling and close cutting of approximately 38 individually identified danger trees throughout the park. Falling and close cutting of approximately 80 individually identified danger trees along the trail alignment. Falling and close cutting of approximately 120 individually identified root damaged trees along the trail alignment Chipping and spreading of all trunks and branches up to 120 mm diameter and salvaging to 2 designated parking areas timbers over 120 mm diameter.

.2 "Green" requirements:

.1 Use only environmentally responsible green materials/ products with no VOC emissions.

.2 Use materials/products containing highest percentage of recycled and recovered materials practicable - consistent with maintaining cost effective satisfactory levels of competition.

.3 Adhere to waste reduction requirement for reuse or recycling of waste materials, thus diverting materials from landfill.

.3 Unless specifically stated otherwise, the Work is to include the furnishing of all labour, materials, equipment, and services necessary to complete the Work. The intent is that the Contractor provides a complete Job.

1.13 Contractor's Responsibility

.1 Give all required Notices and comply with all local, provincial, and federal laws, bylaws, ordinances, rules, regulations, codes, and orders relating to the Work which are or become in force during the Performance of the Work.

.2 As Prime Contractor, coordinate all the Work and provide all labour, materials, equipment, and services necessary for delivery, storage, handling, protection, installation, removal, inspection, and replacement or maintenance as required to provide a complete Project.

1.14 Work Schedule

.1 Carry on work as follows:

.1 Within 10 working days after Contract award, provide a "phasing bar chart" and a schedule showing anticipated progress stages and final completion of the Work within the time period required by the Contract documents. Indicate the following:

.1 Commencement and completion of Work of each section of the specifications or drawings as outlined.

.2 Final completion date within the time period required by the Contract documents.

.2 Do not change approved Schedule - without notifying Departmental Representative.

.3 Interim reviews of work progress based on work schedule will be conducted as decided by Departmental Representative and schedule updated by Contractor in conjunction with and to approval of Departmental Representative.

.4 Due to the length of the trail alignment requiring clearing and the restricted project schedule it is anticipated that the Contractor will utilize multiple crews and work at several locations concurrently. It is anticipated that the Department will require several Environmental, Archeological, and First Nations crews to approve the right of way in advance of the clearing.

1.15 Documents Required

.1 Maintain 1 copy each of the following at the job site:

.1 Contract drawings.
.2 Contract specifications.
.3 Addenda to Contract documents.
.4 Copy of approved work schedule.
.5 Change orders.
.6 Other modifications to Contract.
.7 Field test reports.
.8 Manufacturers' installation and application instructions.
.9 One set of record drawings and specifications for "as-built" purposes.
.10 Project Safety Plan / Traffic Control Plan.
.11 Labour conditions and wage schedules.
.12 Environmental Management Plans.
.13 Environmental Report and Drawings (Confidential, to be secured.)
.14 Archeological Report and Drawings (Confidential, to be secured.)

1.16 Regulatory Requirements

.1 Obtain and pay for Building Permit, Certificates, Licenses, and other permits required by regulatory municipal, provincial or federal authorities to complete the work.

.2 Provide inspection authorities with plans and information required for issue of acceptance certificates.

.3 Furnish inspection certificates in evidence that the work conforms to the requirements of the authority having jurisdiction.

1.17 Contractor’s Use

.1 Use of site:

of Site

.1 Portion of Florencia Bay parking lot, one new gravel parking lot, and trail right of way, exclusive and complete for execution of Work.

.2 Assume responsibilities for assigned premises for performance of this Work.

.3 Be responsible for coordination of all Work activities on site, including the Work of other contractors engaged by the Departmental Representative.

.2 Perform Work in accordance with Contract documents. Ensure work is carried out in accordance with indicated phasing.

.3 Do not unreasonably encumber site with material or equipment.

1.18 Traffic Control .1 Do not close any areas of road or parking lot without consulting Departmental Representative. Contractor to provide vehicle control when falling trees within safety zone of roads, trails, and parking lots. Before implementing traffic control erect suitable signs and devices in accordance with instructions contained in "Traffic Control Manual for Work on Roadways". The Contractor is advised that the Park will remain open to the public during construction and accommodation of vehicle and pedestrian traffic is a requirement of the contract. Refer to section 01 35 00, Special Procedures for Traffic Control, for detailed requirements.

1.19 Examination .1 Examine site and be familiar and conversant with existing conditions likely to affect work.

.2 Provide photographs of surrounding properties, objects and structures liable to be damaged or be the subject of subsequent claims.

1.20 Setting Out Work .1 Assume full responsibility for and execute complete layout of work to locations, lines and elevations indicated. Trail profile may be modified by the Contractor with Departmental Representative's approval to reduce removal of existing material from site.

.2 Trail alignment shall be adjusted with Departmental Representative's approval to accommodate First Nations, environmental, and archeological considerations, to minimize impacts on trees, and improve trail aesthetics.

.3 General conditions of the trail alignment shall be as follows; alignment shall accommodate the movement of construction vehicles (gravel trucks, asphalt trucks and transfer boxes); minimum radius shall be 20 m on center line; maximum straight tangent shall be 40 metres; the final alignment produced shall be gently meandering to provide interest to the user. Site lines shall be such that the surface of the trail is visible for a distance of 35 metres. The

grade along the centerline of the trail shall generally be a maximum of 6% (0.6 metres in 10 metres.) Where this grade is not reasonably achievable the Departmental Representative will be advised and consulted.

.4 Provide devices needed to lay out and construct work.

.5 Supply such devices as templates required to facilitate Departmental Representative's inspection of work.

.6 Supply such devices as templates required to facilitate Departmental Representative's inspection of work.

1.21 Quality of Work

.1 Ensure that quality workmanship is performed through use of skilled tradesmen, under supervision of qualified journeyman.

.2 The workmanship, erection methods, and procedures to meet minimum standards set out in the applicable codes and standards.

.3 In cases of dispute, decisions as to standard or quality of work rest solely with the Departmental Representative, whose decision is final.

1.22 Works Coordination

.1 Coordinate work of subtrades:

.1 Designate one person to be responsible for review of contract documents and shop drawings and managing coordination of Work.

.2 Convene meetings between subcontractors whose work interfaces and ensure awareness of areas and extent of interface required.

.1 Provide each subcontractor with complete plans and specifications for Contract, to assist them in planning and carrying out their respective work.

.2 Develop coordination drawings when required, illustrating potential interference between works of various trades and distribute to affected parties.

.3 Facilitate meeting and review coordination drawings. Ensure subcontractors agree and sign off on drawings.

.4 Submit copy of coordination drawings and meeting notes to Departmental Representative for information purposes.

.5 Coordinate and plan for all necessary road/lane closures ahead of time.

.3 Work cooperation:

.1 Ensure cooperation between trades in order to facilitate general progress of Work and avoid situations of spatial interference.

.2 Ensure that each trade provides all other trades reasonable opportunity for completion of Work and in such a way as to prevent unnecessary delays, cutting, patching, and removal or replacement of completed work.

.3 Ensure disputes between subcontractors are resolved.

.4 It is anticipated that two or more clearing crews will work concurrently and in different locations of the park to maintain the desired schedule.

.4 Departmental Representative is not responsible for, or accountable for extra costs incurred as a result of Contractor's failure to coordinate Work.

.5 Maintain efficient and continuous supervision.

1.23 Relics and Antiques

.1 Relics and antiquities and items of historical or scientific interest shall remain property of Department. Protect such articles and request directives from Departmental Representative.

.2 Give immediate notice to Departmental Representative if evidence of archeological finds are encountered during excavation/construction, and await Departmental Representative's written instructions before proceeding with work in this area.

1.24 Project Meetings

.1 Departmental Representative will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.

1.25 Testing and Inspections

.1 Particular requirements for inspection and testing to be carried out by testing service or laboratory approved by the Departmental Representative are specified in Section 014500 – Quality Control.

.2 The Contractor will appoint and pay for the services of testing agencies and/or testing laboratories to meet the requirements specified in the Contract documents and where required for the following:

.1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.

.2 Inspection and testing performed exclusively for Contractor's convenience.

.3 Tests specified to be carried out by Contractor under the Departmental Representative's supervision.

.3 Where tests or inspections by designated testing laboratory reveal work is not in

accordance with the Contract requirements, Contractor shall pay costs for additional tests or inspections as the Departmental Representative may require to verify acceptability of corrected work.

.4 Contractor shall notify Departmental Representative in advance of planned testing.

.5 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.

.6 Pay costs for uncovering and making good work that is covered before required inspection or testing is completed and approved by Departmental Representative.

.7 The Departmental Representative may require, and pay for, additional inspection and testing services not included here.

.8 Provide Departmental Representative with 2 copies of testing laboratory reports and mill tests and certificates of compliance as soon as they are available.

1.26 As-Built Documents

.1 The Departmental Representative in coordination with the Contractor will provide 2 sets of drawings, 2 sets of specifications, and 1 copy of the original AutoCAD files for "as-built" purposes.

.2 As work progresses, Contractor is to maintain accurate records to show all deviations from the Contract documents. Note on as-built specifications, drawings, and shop drawings as changes occur. At the end of the work Contractor is to supply the Engineer the records of the changes in the drawings and specifications to prepare as-built drawings.

1.27 Cleaning

.1 Conduct daily cleaning and disposal operations. Comply with local ordinances and anti-pollution laws.

.2 Ensure cleanup of the work areas each day after completion of work.

1.28 Environmental Protection

.1 Prevent extraneous materials from contaminating air, land, or water beyond construction area.

.2 Do not dispose of waste or volatile materials into water courses, storm or sanitary sewers.

.3 Ensure proper disposal procedures in accordance with all applicable regulations.

1.29 Species at Risk

.1 Pacific Rim National Park Reserve is home to several listed species at risk and areas of critical habitat. The Contractor shall avoid contact or damage to at risk species or critical habitat to all reasonable extents possible.

.2 **The practices used during vegetation clearing for the Pacific Traverse Trail will have varying levels of potential to damage or destroy critical habitat and at risk species that might be situated in the trail right of way. Parks Canada will contract professional environmentalists and First Nations assistants to salvage and remove species at risk and monitor vegetation clearing within the Project area. The Contractor's activities shall be approved in advance by these representatives. The Contactor will also be provided with plans showing the presently known areas and features to avoid. These plans shall be treated as confidential by the Contractor. The Contractor will be required to accommodate these salvage operations and the possible reduced productivity as a result of this process shall be reflected in the prices tendered.**

1.30Archaeological /Heritage Areas

.1 **The practices used during vegetation clearing for the Pacific Traverse Trail will have varying levels of potential to damage or destroy archeological sites that might be situated in the trail right of way. These activities may result in the ducking down of archeologically significant culturally modified trees (CMT's); surface features like historical buildings could also be damaged by tree falling. Parks Canada will contract a professional archeologist and a First Nations assistant to monitor vegetation clearing within the Project area to avoid impacts to CMT's and historical features. The Contractor's activities shall be approved in advance by these representatives. The Contactor will also be provided with plans showing the presently known features to avoid. These plans shall be treated as confidential by the Contractor.**

1.31 Additional Drawings

.1 The Departmental Representative may furnish additional drawings for clarification. These additional drawings have the same meaning and intent as if they were included with plans referred to in the Contract documents.

.2 Upon request, Departmental Representative may furnish up to a maximum of 6 sets of Contract documents for use by the Contractor at no additional cost. Should more than 6 sets of documents be required the Departmental Representative will provide them at additional cost.

1.32 Additional Information

.1 Following memo is included in the contract Document as follows:

Pacific Traverse Trail - Timber Cruise and Valuation Assessment
Strategic Natural Resource Consultants, August 22, 2016.

.2 The information contained in this report, by its nature, cannot reveal all conditions which exist or can occur at the site. This report is included for the Contractor's general information only, and no guarantee is given as to the completeness and accuracy of this information. Any actions or assumptions based on the information, recommendations or suggestions contained in this report are entirely the Contractor's responsibility.

.3 Information will be provided to the successful tender at time of award to identify the 38 individual trees located throughout the park for removal.

1.33 System of Measurement	.1	The metric system of measurement (SI) is used on this Contract. All survey and co-ordination data is in the NAD 83 coordinate system.
1.34 Familiarization with Site	.1	Before submitting tender, it is recommended to visit the site to become familiar with all conditions likely to affect the tender cost.
1.35 Submission of Tender	.1	Submission of a tender is deemed to be confirmation of the fact that the Tenderer has analyzed the Contract documents and is fully conversant with all conditions therein.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes
.1 Scheduled preconstruction and progress meetings.

1.2 Description
.1 Coordination of progress schedules, submittals, use of sites, temporary utilities, construction facilities, and construction Work, with progress of work by others under instructions of Departmental Representative.

1.3 Construction Project Meetings
.1 The Departmental Representative will schedule and administer project meetings as deemed necessary throughout progress of the Work.

.2 Agenda to include, but not limited to, the following:

- .1 Review and approval of minutes of previous meeting.
- .2 Review of site safety and security issues.
- .3 Review of Work progress since previous meeting.
- .4 Field observations, problems, conflicts.
- .5 Problems that impede construction schedule.
- .6 Corrective measures and procedures to regain projected schedule.
- .7 Revision to construction schedule.
- .8 Progress schedule, during succeeding work period.
- .11 Maintenance of quality standards.
- .12 Review proposed changes for affect on construction schedule and on completion date.
- .13 Environmental Issues including species at risk, critical habitat, and work in and about streams.
- .14 Archeological issues including Culturally Modified Trees (CMT's) and historical sites.
- .15 Animal sightings and encounters
- .16 Other business
- .17 Schedule next meeting

.3 The Owner shall provide physical space and arrange for meetings.

.4 The Departmental Representative will record minutes, including significant proceedings and decisions, identify action by parties, and set time and date for next progress meeting.

.5 The Departmental Representative will reproduce and distribute minutes within 3 days after each meeting and transmit to meeting participants, affected parties not in attendance, and Contractor.

1.4 Construction Organization and Start-up
.1 Within 5 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

.2 Departmental Representatives and senior representatives of the Contractor, major Subcontractors (if applicable), field inspectors and supervisors will be

in attendance.

.3 Establish time and location of meeting and notify parties concerned minimum 3 days before meeting.

.4 Agenda to include, but not limited to, the following:

- .1 Appointment of official representative of participants in Work.
- .2 Schedule of Work, progress scheduling in accordance with Section 013217 - Construction Progress and Reporting.
- .3 Schedule of submissions in accordance with Section 013300 - Submittal Procedures.
- .4 Requirements for temporary facilities, storage sheds, utilities, etc. in accordance with Section 015100 - Temporary Utilities.
- .5 Site security in accordance with Section 015200 - Construction Facilities.
- .6 Environmental Issues (species at risk, critical habitat, work in and about streams.)
- .7 Archeological issues (CMT's and historical sites.)
- .8 Permitting and Environmental Requirements.
- .9 Proposed suppliers and/or sub-contractors.
- .10 Proposed hours of work per day and days per week Contractor will normally work.
- .11 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
- .12 Take-over procedures, acceptance, and warranties in accordance with Section 017700 - Closeout Procedures.
- .13 Monthly progress claims, administrative procedures, photographs, and holdbacks.
- .14 Appointment of inspection and testing agencies or firms in accordance with Section 014500 - Quality Control.
- .15 Insurances and transcript of policies.
- .16 Other business.

.5 Comply with Departmental Representative's allocation of mobilization areas of sites; for field offices and sheds, access, traffic, and parking facilities.

.6 During construction, coordinate use of sites and facilities with Departmental Representative.

.7 Comply with instructions of Departmental Representative for use of temporary utilities and construction facilities.

1.5 Schedules

.1 Submit preliminary construction progress schedule in accordance with Section 013217 - Construction Progress and Reporting to Departmental Representative coordinated with Departmental Representative'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 Departmental Representative.

1.6 Submittals

.1 Submit preliminary shop drawings and product data and samples in accordance with Section 013300, submittal procedures, for review for compliance with Contract Documents; for field dimensions and clearances, for relation to available space, and for relation to Work of other contracts. After review, revise and resubmit for transmittal to Departmental Representative.

.2 Submit Environmental Protection Plans to Departmental Representative.

.3 Submit requests for payment for review, and for transmittal to Departmental Representative.

.4 Submit requests for interpretation of Contract Documents, and obtain instructions through Departmental Representative.

.5 Process substitutions through Departmental Representative.

.6 Process change orders through Departmental Representative.

.7 Deliver closeout submittals for review and preliminary inspections, for transmittal to Departmental Representative.

1.7 Closeout Procedures

.1 Notify Departmental Representative when Work is considered ready for Substantial Performance, in accordance with Section 017700 – Closeout Procedures.

.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.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes

.1 Schedule submittals required.

.2 Progress Photographs.

1.2 Submittals

.1 At preconstruction meeting submit a detailed schedule bar chart listing work items and days to complete each item. Clearly show sequence and interdependence of construction activities.

.2 Submit letter ensuring that schedule has been prepared in coordination with major Subcontractors and suppliers, if applicable.

.3 Update schedule at the end of each week and submit to the Departmental Representative.

1.3 Progress Photographs

.1 Provide digital photographs with dates and descriptions on CD disk with progress reports. Relate dates and descriptions to photo file names in a separate text file on disk.

.2 Number of photographs: minimum of 50 photos to cover all aspects of the work.

.3 Viewpoints: determined by Contractor to provide history of work.

.4 Frequency: with progress statement, at completion of each construction stage, and as directed by Departmental Representative.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes .1 This section includes but is not limited to the following:

.1 Health and Safety Plan.
.2 Certificates and Transcripts.
.3 Survey and Quality Testing Reports.
.4 Warranties

1.2 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 Work affected by submittal shall not proceed until review is complete.

.3 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 coordinated with requirements of Work and Contract Documents.

.4 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.5 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.

.6 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.

.7 Keep one reviewed copy of each submission on site.

1.3 Progress Photographs .1 Submit progress photographs in accordance with Section 013217 - Construction Progress and Reporting.

1.4 Survey and Quality Testing Reports .1 Submit certified survey and quality testing reports with progress reports.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes	.1	Informational and Warning Devices.
	.2	Protection and Control of Public Traffic.
	.3	Operational Requirements.
1.2 Measurement for Payment	.1	Payment for special procedures for traffic control and accommodation shake be made at the lump sum unit price tendered for this item. Payment will be made as follows, 25% for the first Progress Payment, equal distribution of 50% of payment for the intermediate progress payments, and 25% for the last Progress Payment. Payments for dust control to be included in the excavation prices in this Contract.
1.3 References	.1	"Traffic Control Manual for Work on Roadways" (distributed by Province of B.C., Ministry of Transportation and Highways).
1.4 Protection of Public Traffic	.1	Comply with current requirements of Acts, Regulations, and By-Laws for traffic regulation or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.
	.2	Do not leave equipment on traveled roadways overnight.
	.3	Do not close driving or parking areas without consulting Departmental Representative. Before re-routing traffic erect signs and traffic control devices.
	.4	Contractor shall be required to control traffic when falling timber within distances of roads, parking areas, or paths as specified by WorkSafe BC.
1.5 Informational and Warning Devices	.1	Provide, erect, and maintain signs, flashing warning lights, and other devices required to indicate construction activities and other temporary and unusual conditions resulting from Project Work that requires road user response as specified in "Traffic Control Manual for Work on Roadways".
	.2	Meet with Departmental Representative prior to commencement of Work to determine signs and other devices required for project.
1.6 Operational Requirements	.1	Maintain existing conditions for traffic throughout period of Contract except when required for construction under Contract and when measures have been taken as specified herein and reviewed by Departmental Representative to protect and control public vehicle and pedestrian traffic.
	.2	Remove signs and barriers upon completion of the project.

END OF SECTION

PART 1 - GENERAL

1.1 References

.1 Government of Canada:

.1 Canada Labour Code - Part II
.2 Canada Occupational Health and Safety Regulations.

.2 Province of British Columbia:

.1 Workers Compensation Act, Part 3, Occupational Health and Safety.
.2 Occupational Health and Safety Regulation.

1.2 Related Sections

.1 Refer to the following current Specification sections as required:

.1 Project Management: Section 013119
.2 Construction Progress and Reporting: Section 013217
.3 Submittal Procedures: Section 013300
.4 Special Procedures for Traffic Control: Section 013500
.5 Temporary Utilities: Section 015100
.6 Construction Facilities: Section 015200
.7 Temporary Barriers and Enclosures: Section 015600

1.3 WorkSafe BC Coverage

.1 Comply fully with the Workers' Compensation Act, regulations, and orders made pursuant thereto, and any amendments up to the completion of the work.

.2 Maintain WorkSafe BC coverage during the term of the Contract, until and including the date that the Certificate of Final Completion is issued.

1.4 Compliance with Regulations

.1 PWGSC may terminate the Contract without liability to PWGSC where the Contractor, in the opinion of PWGSC, refuses to comply with a requirement of the Workers' Compensation Act or the WorkSafe BC Regulations.

.2 It is the Contractor's responsibility to ensure that all workers are qualified, competent, and certified to perform the work as required by the Workers' Compensation Act or the WorkSafe BC Regulations.

1.5 Submittals

.1 Submit to Departmental Representative for review all submittals listed.

.2 Work affected by submittals shall not proceed until review(s) by Departmental representative is/are complete.

.3 Submit the following:

.1 Health and Safety Plan within 5 days after date of Notice to Proceed and prior to commencement of Work.

.2 Copies of reports or directions issued by federal and provincial Health and Safety inspectors.

.3 Copies of incident and accident reports.

.4 Complete set of Material Safety Data Sheets (MSDS) and all other documentation required by Workplace Hazardous Materials Information System (WHMIS) requirements.

.5 On site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

.4 The Departmental Representative will review the Contractor's site-specific project Health and Safety Plan and emergency procedures, and provide comments to the Contractor within 5 days after receipt of the plan. Revise the plan as appropriate and resubmit to Departmental Representative for review upon request.

.5 Submission of the Health and Safety Plan, and any revised version, to the Departmental Representative is for information and reference purposes only. It shall not:

.1 Be construed to imply approval by the Departmental Representative.

.2 Be interpreted as a warranty of being complete, accurate, and legislatively compliant.

.3 Relieve the Contractor of his legal obligations for the provision of Health and Safety on the project.

1.6 Responsibility

.1 Assume responsibility as the Prime Contractor for Work under this Contract.

.2 Be responsible for Health and Safety of persons on site, safety of property on site, and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

.3 Comply with and enforce compliance by employees with safety requirements of Contract documents, applicable federal, provincial, territorial, and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.7 Health and Safety Coordinator

.1 Employ and assign to Work, competent and authorized representative as Health and Safety Coordinator. The Health and Safety Coordinator must:

.1 Have site-related working experience.

.2 Have working knowledge of occupational Health and Safety regulations.

.3 Be responsible for completing all Health and Safety training, and ensuring that personnel that do not successfully complete the required training are not permitted to enter the site to perform Work.

.4 Be responsible for implementing, daily enforcing, and monitoring the site-specific Health and Safety Plan.

1.8 General Conditions

.1 Provide safety barricades and lights around Work site as required to provide a safe working environment for workers and protection for pedestrian and vehicular traffic.

.2 Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the Work site.

1.9 Project/Site Conditions

.1 Potential work hazards onsite include: overhead and buried electrical utilities, buried water mains, and local traffic.

1.10 Regulatory Requirements

.1 Comply with specified codes, acts, bylaws, standards, and regulations to ensure safe operations at site.

.2 In event of conflict between any provision of the above authorities, the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, the Departmental Representative will advise on the course of action to be followed.

1.11 Work Permits

.1 Obtain permit(s) related to project before start of work.

1.12 Filing of Notice

.1 The Contractor is to file Notice of Project with Provincial authorities prior to beginning of Work.

.2 Provide copies of all notices to the Department Representative.

1.13 Health and Safety Plan

.1 Conduct a site-specific hazard assessment based on review of Contract documents, required work, and project site. Identify any known and potential health risks and safety hazards.

.2 Prepare and comply with a site-specific project Health and Safety Plan based on hazard assessment, including, but not limited to, the following:

.1 Primary requirements:

.1 Contractor's safety policy.
.2 Identification of applicable compliance obligations.
.3 Definition of responsibilities for project safety/organization chart for project.
.4 General safety rules for project.
.5 Job-specific safe work procedures.

.6 Inspection policy and procedures.
.7 Incident reporting and investigation policy and procedures.
.8 Occupational Health and Safety Committee / Representative procedures.
.9 Occupational Health and Safety meetings.
.10 Occupational Health and Safety communications and record keeping procedures.

.2 Summary of health risks and safety hazards resulting from analysis of hazard assessment, with respect to site tasks and operations which must be performed as part of the work.

.3 List hazardous materials to be brought on site as required by work.

.4 Indicate engineering and administrative control measures to be implemented at the site for managing identified risks and hazards.

.5 Identify personal protective equipment to be used by workers.

.6 Identify personnel and alternates responsible for site Safety and Health.

.7 Identify personnel training requirements and training plan, including site orientation for new workers.

.3 Develop the plan in collaboration with all Subcontractors. Ensure that work/activities of Subcontractors are included in the hazard assessment and are reflected in the plan.

.4 Revise and update Health and Safety Plan as required, and re-submit to the Departmental Representative.

.5 Departmental Representative's review: the review of Health and Safety Plan by PWGSC shall not relieve the Contractor of responsibility for errors or omissions in final Health and Safety Plan or of responsibility for meeting all requirements of construction and Contract documents.

1.14 Emergency Procedures

.1 List standard operating procedures and measures to be taken in emergency situations. Include an evacuation plan and emergency contacts (i.e. names/telephone numbers) of:

.1 Designated personnel from own company.
.2 Regulatory agencies applicable to work and as per legislated regulations.
.3 Local emergency resources.
.4 Departmental Representative.

.2 Include the following provisions in the emergency procedures:

.1 Notify workers and the first-aid attendant, of the nature and location of the emergency.
.2 Evacuate all workers safely.
.3 Check and confirm the safe evacuation of all workers.
.4 Notify the fire department or other emergency responders.
.5 Notify adjacent workplaces or residences which may be affected if the risk extends beyond the workplace.
.6 Notify Departmental Representative.

.3 Revise and update emergency procedures as required, and re-submit to the Departmental Representative.

1.15 Hazardous Products .1 Comply with requirements of WHMIS regarding use, handling, storage, and disposal of hazardous materials, and regarding labelling and provision of MSDSs acceptable to the Departmental Representative and in accordance with the Canada Labour Code.

.2 Where use of hazardous and toxic products cannot be avoided:

.1 Advise Departmental Representative beforehand of the product(s) intended for use. Submit applicable MSDS and WHMIS documents as per Section 013300 – Submittal Procedures.

1.23 Fire Safety and Hot Work .1 Obtain Departmental Representative's authorization before any welding, cutting, straightening, or any other hot work operations can be carried out onsite.

1.24 Fire Safety Requirements .1 Store oily/paint-soaked rags, waste products, empty containers, and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.

.2 Handle, store, use, and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.

1.25 Unforeseen Hazards .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of the work, immediately stop work and advise the Departmental Representative verbally and in writing.

1.26 Posted Documents .1 Post legible versions of the following documents on site:

.1 Health and Safety Plan.
.2 Sequence of work.
.3 Emergency procedures.
.4 Site drawing showing project layout, locations of the first-aid station, evacuation route and marshalling station, and the emergency transportation provisions.
.5 Notice of Project.

.6 Notice as to where a copy of the Workers' Compensation Act and Regulations are available on the work site for review by employees and workers.
.7 WHMIS documents.
.8 MSDSs.
.9 List of names of Joint Health and Safety Committee members, or Health and Safety Representative.

.2 Post all MSDSs onsite, in a common area, visible to all workers and in locations accessible to tenants when work of this Contract includes construction activities adjacent to occupied areas.

.3 Postings should be protected from the weather and visible from the street or the exterior of the principal construction site shelter provided for workers and equipment, or as approved by the Departmental Representative.

1.27 Meetings

.1 Schedule and administer a Health and Safety meeting with Departmental Representative prior to commencement of Work.

.2 Attend the Health and Safety pre-construction meeting and all subsequent meetings called by the Departmental Representative.

.3 Contractor to hold regular Health and Safety meetings onsite as required by applicable legislation.

.4 All Health and Safety documentation / meeting minutes completed by the Contractor are to forwarded to the Departmental Representative.

1.28 Correction of Non-Compliance

.1 Immediately address Health and Safety non-compliance issues identified by the Departmental Representative.

.2 Provide Departmental Representative with written report of action taken to correct non-compliance with issues identified.

.3 The Departmental Representative may issue a "stop work order" if non-compliance with Health and Safety regulations is not corrected immediately or within posted time. The General Contractor/Subcontractors will be responsible for any costs arising from such a "stop work order".

END OF SECTION

PART 1 - GENERAL

1.1 Definitions

.1 **Environmental Pollution and Damage**: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

.2 **Environmental Protection**: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

.3 **Invasive plants**: are any alien plant species that have the potential to pose undesirable or detrimental impacts on humans, animals or ecosystems. Invasive plants have the capacity to establish quickly and easily on both disturbed and un-disturbed sites, and can cause widespread negative economic, social and environmental impacts

.4 **Noxious weeds**: are invasive plants that have been designated under the *BC Weed Control Act*. This legislation imposes a duty on all land occupiers to control a set list of identified invasive plants.
www.agf.gov.bc.ca/cropprot/noxious.htm

1.2 Regulatory Overview

.1 Comply with all applicable environmental laws, regulations and requirements of Federal, Provincial, and other regional authorities, and acquire and comply with such permits, approvals and authorizations as may be required.

1.3 Site Access and Parking

.1 The Contractor shall park employee vehicles and equipment in an area designated by the Departmental Representative.

1.4 Erosion control

.1 Erosion control measures that prevent sediment from entering any waterway, in the vicinity of the construction site.

.2 Erosion control measures must be in compliance with both Federal and Provincial legislation where required. Contractors should be referencing the provincial MOE Standards and Best Practices for Instream Works (2004) for best management practices in sediment and erosion control during construction activities.

1.5 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 to any surface

water.

.2 The Contractor shall prevent blowing dust and debris by providing dust control for on-site work by methods that are approved by the Departmental Representative.

.3 The Contractor shall provide spill kits, to the satisfaction of the Departmental Representative, 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 Contractor and site staff shall be informed of the location of the spill response kit(s) and be trained in its use.

.4 Timely and effective actions shall be taken to stop, contain and clean-up all spills as long as the site is safe to enter. The Departmental Representative shall be notified immediately of any spill as well as the provincial authorities.

.5 In the event of a major spill, the Contractor shall prioritize the clean up and all other work shall be stopped, where appropriate, and personnel devoted to spill containment and clean up.

.6 The costs involved in a major spill incident (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 pre-spill condition to the satisfaction of the Departmental Representative.

1.6 Equipment Maintenance, Fueling 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 before delivery to the work site.

.2 Equipment fueling site will be identified by the Contractor to the satisfaction of the Departmental Representative. On site storage of fuel shall not be allowed.

.4 Mobile fuel containers (e.g. slip tanks, small fuel carboys) shall remain in the service vehicle at all times.

.5 Equipment use on the project shall be fueled with E10, and low sulphur diesel fuels where available, and shall conform to local emission requirements. The Contractor is to ensure that unnecessary idling of the vehicles is avoided.

.6 Oil changes, lubricant changes, greasing and machinery repairs shall be performed at locations satisfactory to the Departmental Representative. Waste lubrication product (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. or anywhere within the work area.

.7 The Contractor shall ensure that all equipment is inspected daily for fluid/fuel leaks and maintained in good working condition.

.8 Fuel containers and lubricant products shall be stored only in secure locations to the satisfaction of the Departmental Representative. Fuel tanks or other potential deleterious substance containers shall be secured to ensure they are tamperproof and cannot be drained by vandals when left overnight. Alternatively, the Contractor may hire a security person employed to prevent vandalism.

1.7 Operation of Equipment

.1 Equipment movements shall be restricted to the “footprint” of the construction area.

.2 When, in the opinion of PWGSC, 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.

.3 Restrict vehicle movements to the work limits.

1.8 Managing Invasive Plant Vegetation

.1 Keep equipment clean and wash equipment prior to mobilization to site.

.2 Whenever possible, re-seed with grass mixtures that are free of weeds, locally adapted, non-invasive, and quick to establish. Spread seed in the early spring or late fall to ensure successful establishment.

1.9 Fire Prevention and Control

.1 A fire extinguisher shall be carried and available for use on each machine.

.2 Construction equipment shall be operated in a manner and with all original manufacturers' safety devices to prevent ignition of flammable materials in the area.

.3 Care shall be taken while smoking on the construction site to ensure that the accidental ignition of any flammable material is prevented.

.4 In case of fire, the Contractor or worker shall take immediate action to extinguish the fire provided it is safe to do so. The Departmental Representative shall be notified of any fire immediately as well as the applicable Provincial Authorities. Basic instruction and phone numbers will be provided on-site by the Contractor and will be discussed in the project start-up meeting.

.5 Fires or burning of waste materials is not permitted.

1.10 Relics and Antiquities

.1 Artifacts, relics, antiquities, and items of historical interest such as cornerstones, commemorative plaques, inscribed tablets and any objects found on the work site that may be considered artifacts shall be reported to the Departmental Representative immediately. The Contractor and workers shall wait for instruction before proceeding with their work.

.2 All historical or archaeological objects found are protected under federal Acts and regulations. The Contractor and workers shall stop work and protect any articles found and request direction from the Departmental Representative.

1.11 Waste Materials Storage and Removal

.1 The Contractor and workers shall dispose of hazardous wastes in conformance with the applicable federal and provincial regulations.

.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 be contained and removed and disposed of at an appropriate off site waste landfill.

.4 A concerted effort shall be made by the Contractor and workers to reduce, reuse and recycle materials where possible.

.5 Sanitary facilities, such as portable container toilets, shall be provided by the Contractor and

maintained in a clean condition.

1.12 Wastewater Discharge Criteria

.1 Wash water, contaminated groundwater, and/or any other liquid effluent stream will be released onto the ground at a location that is a minimum of 30 metres from natural drainage courses and will conform to the discharge requirements set out in the provincial Water Act Permit:
.2 Contractor must obtain approval from the provincial Water Act Officer prior to discharging any treated wastewater.

1.13 Drainage

.1 Provide temporary drainage as necessary to keep excavations and site free from water.
.2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.

1.14 Environment Protection Supplies

.1 Comply with federal and provincial fisheries and environmental protection legislation, including preventing the loss or destruction of fish habitat, and minimizing the impact of sedimentation, siltation or otherwise causing a degradation in water quality.
.2 Supply, transport, install and maintain erosion, sediment and drainage controls necessary to complete the Work in accordance with the requirements of Departmental Representative.
.3 Provide inventory of environmental protection supplies prior to mobilization.

END OF SECTION

PART 1 - GENERAL

1.1 Quality Control Plan
.1 Prepare and submit to Departmental Representative for review and approval a Quality Control Plan in accordance with Section 013300 – Submittal Procedures, prior to project startup.

1.2 Measurement for Payment
.1 No separate payment will be made for quality assurance, surveying, and testing. These items shall be included in all work as part of total contract amount.

1.3 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 law of Place of Work.

.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 may 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. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

1.4 Independent Inspection Agencies
.1 Appoint and pay for services of third-party Independent Quality Assurance testing laboratory and field staff including as follows:

.1 Inspection and testing required by laws, ordinances, rules, regulations, or orders of public authorities.
.2 Inspection and testing performed for Contractor's convenience.
.3 Tests specified to be carried out by Contractor under the supervision of Departmental Representative.
.4 Additional tests at the rates specified as follows:

1.	Granular Base	
1.1	Compaction:	1 test / 250 m^2
1.2	Sieve:	1 test / material source / 1000 m^3
2.	Granular Sub-Base	
2.1	Compaction:	1 test / 250 m^2
2.2	Sieve:	1 test / material source / 1000 m^3
3.	Culvert Trench Backfill	

3.1 Compaction: 1 test / trench

.2 Where tests or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, pay costs for additional tests or inspections as required by Departmental Representative to verify acceptability of corrected work.

.3 Provide equipment required for inspection and testing by appointed agencies.

.4 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.

.5 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 Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and reinspection.

1.5 Access to Work .1 Allow inspection/testing agencies access to Work.

.2 Cooperate to provide reasonable facilities for such access.

1.6 Procedures .1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.

.3 Provide labour and facilities to obtain and handle samples and materials onsite. Provide sufficient space to store test samples.

1.7 Rejected Work .1 Remove defective Work, whether result of poor workmanship, use of defective products, or damage and whether incorporated in Work or not, which 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 (DR) it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, DR may deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, with the amount determined by DR.

1.8 Surveys .1 The Contractor shall be responsible for all layout and construction survey to complete the work.

.2 The Contractor shall submit a red line as-built drawing of the work to the

Departmental Representative upon completion of the work. An electronic as-build survey will be acceptable in place of a red line drawing.

1.9 Reports .1 Submit 1 copy of inspection and test reports to Departmental Representative with all progress reports or, generally, as reports become available.

.2 Provide copies to Subcontractor of Work being inspected or tested and to manufacturer or fabricator of material being inspected or tested.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes	.1	Temporary utilities.
1.2 Installation and Removal	.1	Provide temporary utilities in order to execute Work expeditiously.
	.2	Remove from site all such work after use.
1.3 Water Supply	.1	Provide continuous temporary supply of potable water for construction use, if applicable.
	.2	Remove or decommission temporary water supply facilities upon completion of project.
1.4 Sanitary Facilities	.1	Provide sanitary facilities for construction use.
	.2	Remove temporary sanitary facilities upon completion of project.
1.5 Temporary Power and Light	.1	Provide and pay for temporary power during construction for temporary lighting and operating of power tools and for construction use.
	.2	Arrange for connection with appropriate utility company or Departmental Representative. Pay all costs for installation maintenance and removal.
1.6 Temporary Communication Facilities	.1	Provide and pay for temporary telephone necessary for own use.
1.7 Fire Protection	.1	Provide and maintain temporary fire protection equipment during performance of Work required by governing codes, regulations, and bylaws.
	.2	Burning rubbish and construction waste materials is not permitted onsite.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes	.1	Construction access and parking.
1.2 Installation and Removal	.1	Provide construction facilities in order to execute work expeditiously.
	.2	Remove from all sites all such facilities after use.
1.3 Site Storage	.1	Confine Work and operations of employees to only that which is required by the Contract Documents.
	.2	Do not unreasonably encumber premises with products.
1.4 Construction Access and Parking	.1	Parking will be permitted onsite provided it does not disrupt performance of Work.
	.2	Provide and maintain adequate access to project site.
	.4	Existing roads and temporary access roads will be used for access to the project site. Maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.
1.5 Sanitary Facilities	.1	Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
	.2	Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
1.6 Construction Signage	.1	Signs and notices for health, safety, traffic control, instruction, etc. shall be in both official languages. See Sections 013533, Health and Safety, and 013500, Special Procedures for Traffic Control, of these Specifications for more information.
	.2	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.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes	.1	Barriers.
	.2	Traffic Controls.
1.2 Installation and Removal	.1	Provide temporary controls in order to execute Work expeditiously.
	.2	Remove from all sites all such work after use.
1.3 Protection for Trees	.1	Protect trees and plants designated to remain. Protect from damage by equipment and construction procedures.
	.2	Replace any trees designated for saving in kind that are damaged during construction.
1.4 Access to Site	.1	Maintain existing access roads required for access to Work.
1.5 Public Traffic Flow	.1	Provide and maintain competent signal flag operators, traffic signals, barricades and flashers as required to perform Work and protect the public.
1.6 Fire Routes	.1	Maintain access to property for use by emergency response vehicles.
1.7 Protection for Off-Site and Public Property	.1	Protect surrounding private and public property from damage during performance of Work.
	.2	Be responsible for damage incurred.
1.8 Protection of Structure Finishes	.1	Provide protection for existing structures during performance of Work.
	.2	Be responsible for damage incurred due to lack of or improper protection.

END OF SECTION

PART 1 - GENERAL

1.1 Products and Materials

.1 Use new products and materials unless otherwise specified.

.2 Use products of one manufacturer for material of the same type or classification unless otherwise specified.

.3 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.

.4 Notify Departmental Representative in writing of any conflict between these specifications and manufacturer's instructions. Departmental Representative will designate which document is to be followed.

.5 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact. Do not remove from packaging or bundling until required in Work.

.6 Prevent damage, adulteration, and soiling of products during delivery, handling, and storage. Immediately remove rejected products from site.

.7 Store products in accordance with suppliers' instructions.

.8 Touch-up damaged finished surfaces to Departmental Representative's satisfaction.

.9 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.

1.2 Quality of Products

.1 Products, materials, 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 will be rejected regardless of previous inspections.

.1 Inspection does not relieve responsibility, but is precaution against oversight or error.

.2 Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

.3 Retain purchase orders, invoices, and other documents to prove that

all products utilized in this Contract meet the requirements of the specifications. Produce documents when requested by the Departmental Representative.

.4 Should any dispute arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.

.5 Unless otherwise indicated in the Specifications, maintain uniformity of manufacture for any particular or like item throughout the site.

1.3 Availability of Products

.1 Immediately upon signing the 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 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 the work.

.3 In 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.

1.4 Manufacturer's Instructions

.1 Unless otherwise indicated in Specifications, install or erect products in accordance with manufacturer's instructions.

.1 Do not rely on labels or enclosures provided with products.

.2 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.

.4 Provide Manufacturer’s instructions and specifications to

Departmental Representative (and Engineer) for review prior to any installations.

1.5 Contractor's Options for Selection of Products for Tendering

.1 Products are specified by "Prescriptive" specifications: select any product meeting or exceeding specifications.

.2 Products specified under "Acceptable Products": select any one of the indicated manufacturers, or any other manufacturer meeting or exceeding the Prescriptive specifications and indicated Products.

.3 Products specified by performance and referenced standard: select any product meeting or exceeding the referenced standard.

.4 Products specified to meet particular design requirements or to match existing materials: use only material specified Approved Products. Alternative products may be considered provided full technical data is received in writing by Departmental Representative.

.5 When products are specified by a referenced standard or by Performance specifications, upon request of Departmental Representative obtain from manufacturer an independent laboratory report showing that the product meets or exceeds the specified requirements.

1.6 Substitution After Contract Award

.1 No substitutions are permitted without prior written approval of the Departmental Representative.

.2 Proposals for substitution may only be submitted after Contract award. Such request must include statements of respective costs of items originally specified and the proposed substitution.

.3 Proposals will be considered by the Departmental Representative if:

.1 products selected by tenderer from those specified are not available;

.2 delivery date of products selected from those specified would unduly delay completion of Contract, or

.3 alternative product to that specified, which is brought to the attention of and considered by Departmental Representative as equivalent to the product specified, and will result in a credit to the Contract amount.

.4 Should the proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on the Project. Pay for design or drawing changes

required as result of substitution.

.5 Amounts of all credits arising from approval of the substitutions will be determined by the Departmental Representative, and the Contract price will be reduced accordingly.

1.7 Transportation .1 Pay costs of transportation of products required in performance of Work.

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 Coordination .1 Ensure cooperation of workers during Work. Maintain efficient and continuous supervision.

1.10 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.

PART 2 - PRODUCTS

2.1 Acceptable Products .1 Submit product data sheets for all manufactured products used in the Work to Departmental Representative for review in accordance with Section 013300, Submittal Procedures.

.2 Use best quality products.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes	.1	Progressive cleaning.
	.2	Final cleaning.
1.2 Project Cleanliness	.1	Maintain Work in tidy condition, free from accumulation of waste products and debris.
	.2	Remove waste materials from sites at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials onsite.
	.3	Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
	.4	Ensure that no evasive species of vegetation are brought into the Park or are transported from one location to another within the Park. Make arrangements to provide only uncontaminated products for use. This may include using washed materials or materials using only clean blast rock. Machinery and equipment shall be thoroughly cleaned before moving between locations.
1.3 Final Cleaning	.1	When Work is Substantially Performed, remove surplus products, tools, construction machinery, and equipment not required for performance of remaining Work.
	.2	Remove all waste products and debris.
	.3	Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes

.1 Waste Management Work Plan.

1.2 Definitions

.1 Waste Management Coordinator (WMC): Designate individual who is in attendance onsite full-time. Designate, or have designated individuals from each Subcontractor to be responsible for waste management related to their trade and for coordinating activities with WMC.

.2 Waste Audit (WA): Relates to projected waste generation. Involves measuring and estimating quantity and composition of waste, reasons for waste generation, and operational factors that contribute to waste.

.3 Waste Reduction Workplan (WRW): Written report that addresses opportunities for reduction, reuse, or recycling of materials.

.4 Materials Source Separation Program (MSSP): consists of a series of ongoing activities to separate reusable and recyclable waste materials into material categories from other types of waste at point of generation.

1.3 Documents

.1 Maintain at the job site one copy of following documents:

.1 Waste Management Workplan.

1.4 Use of Site and Facilities

.1 Locate waste, refuse, recycling, etc. containers in locations to facilitate deposit of materials without hindering daily operations.

.2 Locate separated materials in areas which minimize material damage.

1.5 Submittal

.1 Submit requested submittals in accordance with Section 013300, Submittal Procedures.

.2 Prepare and submit the following submittals within 7 days of the Award of Contract:

.1 Submit 3 copies of completed Waste Management Workplan (WMW).

.3 Provide Departmental Representative with receipts indicating quantity of material delivered to landfill.

.4 Provide Departmental Representative with receipts indicating quantity and type of materials sent for recycling.

1.6 Waste Management Workplan	.1	Structure WMW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
	.2	Describe management of waste.
	.3	Identify opportunities for reduction, reuse, and/or recycling (3Rs) of materials.
	.4	Post workplan or summary where workers at site are able to review its content.
1.7 Waste Processing Sites	.1	Provide waste processing sites as applicable within the Province of British Columbia to Departmental Representative within 14 days of the Award of Contract.
1.8 Disposal of Wastes	.1	Burying of rubbish and waste materials is prohibited unless approved by Departmental Representative at off-site locations obtained by the Contractor.
	.2	Burning of rubbish and waste materials is prohibited unless permitted by British Columbia Ministry of Forests. Permit to be obtained by the Contractor.
	.3	Disposal of waste volatile materials, mineral spirits, oil, paint thinner, etc. into waterways or by dumping onsite is prohibited.
1.9 Storage and Handling	.1	Store, materials to be reused, recycled, and salvaged in locations obtained by the Contractor and accepted by Departmental Representative.
	.2	Unless specified otherwise, materials for removal become Contractor's property.
1.10 Scheduling	.1	Coordinate work with other activities at site to ensure timely and orderly progress of the Work.

PART 2 – EXECUTION

2.1 Application	.1	Do work in compliance with the WMW.
	.2	Implement MSSP for waste generated on Project in compliance with approved methods and as approved by Departmental Representative.
	.3	Materials must be immediately separated into required categories for reuse or recycling.

.4 Materials in separated condition: collect, handle, store onsite, and transport off-site to an approved and authorized recycling facility.

.5 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

2.2 Cleaning

.1 Remove tools and waste materials on completion of work, and leave work area in clean and orderly condition.

.2 Cleanup work area as work progresses.

.3 Source separate materials to be reused/recycled into specified sort areas.

2.3 Diversion of Materials

.1 Create a list of materials to be separated from the general waste stream and stockpiled in separate containers, to the approval of the Departmental Representative and consistent with applicable fire regulations.

.1 Mark containers.

.2 Provide instruction on disposal practices.

.2 Onsite sale of salvaged, recovered, reusable, recyclable, etc. materials is not permitted.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes

.1 Administrative procedures preceding preliminary and final reviews of Work and Final Payment.

1.2 Inspection and Declaration

.1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.

.2 Request Departmental Representative's Inspection.

.2 Departmental Representative's Review: Departmental Representative and Contractor will perform review of Work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.

.3 Engineer's Review: Engineer, Departmental Representative, and Contractor will perform review of Work to identify if Work has been completed according to the requirements of the Contract Documents. Contractor shall correct Work accordingly.

1.3 Construction Completion Certificate

.1 Once the Contractor has completed all Work and correction of deficiencies, he shall submit written certification to the Departmental Representative that

.1 Contract Documents have been reviewed.

.2 Work has been completed and inspected for compliance with Contract Documents.

.3 Defects have been corrected and deficiencies have been completed.

.4 Work is complete and ready for Final Review.

.1 Final Review: when items noted above are completed, request final review of Work by Departmental Representative. If Work is deemed incomplete by Departmental representative, complete outstanding items and request another review.

.2 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects have been corrected and it appears requirements of Contract have been

substantially performed, make application for Certificate of Substantial Performance.

1.4 Close-Out Submittals

.1 Project Record Documents as specified in Section 013300.

.2 As-Built Documents as specified in Section 01100.

.3 Guarantees and Warranties:

.1 In addition to guarantee requirements contained elsewhere in the Contract Documents to which all Work of this Contract is to be guaranteed for two (2) years after the date of issue of the Construction Completion Certificate by the Engineer.

.2 Upon completion of the Work, furnish to the PWGSC a guarantee in writing, stating that the Contractor will make good, at their expense, and to the satisfaction of the Departmental Representative, all defects that may develop in materials and equipment used on the Work for a minimum period of two (2) years from date of Construction Completion Certificate, upon PWGSC assuming custody, that are in the opinion of the Departmental Representative due to the use of improper workmanship and faulty materials and equipment.

.3 The Contractor is to, in the case of Work Performed by their Subcontractors and when guarantees are required, secure such guarantees from the Subcontractor and furnish them to PWGSC on or before the final completion of the Work.

.4 The guarantees are to provide that all Work furnished and installed by the guarantors are to remain in like new condition and working order for the period of two (2) years and that the guarantors will replace same with new and like materials at no expense to PWGSC unless it can be proven that the defects are caused by abuse and negligence on the part of PGWSC or its employees.

.5 It is to be understood that in effecting the replacement, the Contractor or Subcontractor responsible is to also bear all Costs involved in removing or replacing adjacent affected materials.

.6 One (1) month prior to expiry of guarantee period, the Departmental Representative will carry out a detailed inspection of the Project.

.7 Any defect apparent will be noted and will be forwarded to the Contractor in writing for correction under the terms of the Contract with no additional cost to PWGSC.

.4 Commencement of Guarantee and Warranty Periods: date of Departmental Representative's acceptance of submitted declaration of Substantial Performance shall be date of commencement for warranty periods.

1.5 Final Payment .1 Final Payment: When Departmental Representative considers final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed, make application for final payment. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request final review.

END OF SECTION

PART 1 - GENERAL

1.1 Measurement for Payment

.1 All materials, labour, equipment, and services necessary for any toxic waste removal of existing materials shall be paid as a Change Order to this Contract.

1.2 References

.1 Canadian Environmental Protection Act, CEPA.

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1 Material Safety Data Sheets (MSDS)

.3 National Fire Code of Canada latest edition.

.4 Transportation of Dangerous Goods Act (TDG Act).

.5 Transportation of Dangerous Goods Regulations (T-19.01-SOR/2003-400).

1.3 Definitions

.1 Toxic: For the purposes of this specification, a substance is considered toxic if it is listed on the Toxic Substances List found in Schedule 1 of CEPA.

.2 List of Toxic Substances: found in Schedule 1 of CEPA, lists all substances that have been assessed as toxic. The federal government can make regulations with respect to a substance specified on the List of Toxic Substances. Column II of this List identifies the type of regulation applicable to each substance.

1.4 Submittals

.1 Product Data:

.1 Submit photocopies of shipping documents and waste manifests to Departmental Representative when shipping toxic wastes off-site.

.2 Maintain 1 copy of product data in a readily accessible file onsite.

.2 Submission Requirements:

.1 Submit product data to Departmental Representative in accordance with Section 013300, Submittal Procedures.

.2 Express all weights and volumes in SI Metric units.

.3 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 attached product data.
.5 Other pertinent data.

1.5 Storage and Handling

.1 Store and handle toxic wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.

.2 Store and handle flammable and combustible wastes in accordance with current National Fire Code of Canada requirements.

.3 Coordinate storage of toxic wastes with Departmental Representative and abide by internal requirements for labeling and storage of wastes.

.4 Observe smoking regulations at all times. Smoking is prohibited in any area where toxic wastes are stored, used, or handled.

.5 Report spills or accidents involving toxic wastes immediately to Departmental Representative and to appropriate regulatory authorities within 24 hours of incident. Take all reasonable measures to contain the release while ensuring health and safety is protected.

.6 Transport toxic wastes in accordance with federal Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable provincial regulations.

.7 Use only an authorized/licensed carrier to transport toxic waste.

.8 Coordinate transportation and disposal of toxic wastes with Departmental Representative.

1.6 Waste Management and Disposal

.1 Dispose of toxic wastes generated onsite in accordance with applicable federal and provincial acts, regulations, and guidelines.

.2 Ensure toxic waste is shipped to an authorized/licensed treatment or disposal facility and that all liability insurance requirements are met.

END OF SECTION

PART 1 - GENERAL

1.1 References

.1 Canadian Environmental Protection Act, CEPA.

.1 Export and Import of Hazardous Waste Regulations (EIHW Regulations), SOR/2002-200.

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1 Material Safety Data Sheets (MSDS)

.3 National Fire Code of Canada.

.4 Transportation of Dangerous Goods Act (TDG Act) 1999, (c.34).

.5 Transportation of Dangerous Goods Regulations (T-19.01-SOR/2003-400).

1.2 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.

1.3 Submittals

.1 Submit product data in accordance with Section 013300, Submittal Procedures.

.2 Submit to Departmental Representative current MSDSs for each hazardous material required prior to bringing it/them onsite.

.3 Submit a hazardous materials management plan to Departmental Representative that identifies all hazardous materials, their use, their location, personal protective equipment requirements, and disposal arrangements.

1.4 Storage and Handling

.1 Coordinate storage of hazardous materials with Departmental Representative and abide by internal requirements for labeling 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 Keep no more than 45 litres of flammable and combustible liquids such as gasoline, kerosene, and naphtha for ready use. Store all flammable and combustible liquids in approved safety cans bearing the Underwriter's Laboratory of Canada or Factory Mutual seal of approval. Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires the written approval of the Departmental Representative.

.5 Transfer of flammable and combustible liquids will not be carried out in the vicinity of open flames or any type of heat-producing devices.

.6 Flammable liquids having a flash point below 38 degrees Celsius, such as naphtha or gasoline will not be used as solvents or cleaning agents.

.7 Store flammable and combustible waste liquids for disposal in approved containers located in a safe, ventilated area. Keep quantities to an absolute minimum.

.8 Observe smoking regulations at all times. Smoking is prohibited in any area where hazardous materials are stored, used, or handled.

.9 Abide by the following storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids and 5 litres for liquids:

.1 Store hazardous materials and wastes in closed and sealed containers which are in good condition.

.2 Label containers of hazardous materials and wastes in accordance with WHMIS.

.3 Store hazardous materials and wastes in containers compatible with that material or waste.

.4 Segregate incompatible materials and wastes.

.5 Ensure that different hazardous materials or hazardous wastes are not mixed.

.6 Store hazardous materials and wastes in a secure storage area with controlled access.

.7 Maintain a clear egress from storage area.

.8 Store hazardous materials and wastes in a manner and location which will prevent them from spilling into the environment.

.9 Have appropriate emergency spill response equipment available near the storage area, including personal protective equipment.

.10 Maintain an inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.

.11 Ensure personnel have been trained in accordance with WHMIS requirements.

.12 Report spills or accidents involving toxic wastes immediately to Departmental Representative and to appropriate regulatory authorities within 24 hours of incident. Take all reasonable measures to contain the release while ensuring health and safety is protected.

1.5 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 onsite:

.1 Coordinate transportation and disposal with Departmental Representative.

.2 Ensure compliance with applicable federal, provincial, and municipal laws and regulations for generators of hazardous waste.

.3 Use 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 trained personnel handle, offer for transport, or transport dangerous goods.

.7 Provide photocopy of 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 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 onsite 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, the environment in general, or in municipal solid waste landfills is prohibited.

.6 Dispose of hazardous wastes in a timely fashion in accordance with applicable provincial regulations.

END OF SECTION

PART 1 - GENERAL

1.1 Basis of Payment

.1 No measurement will be made under this Section. Payments for aggregate to be included in lump sum price in this Contract.

1.2 References

.1 ASTM D4791-99, Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate.

1.3 Samples

.1 Submit samples in accordance with Section 013300 – Submittal Procedures.

.2 Allow sampling by third-party tester during production.

.3 Provide third-party tester with access to source and processed material for sampling if requested by Departmental Representative.

.4 Install sampling facilities at discharge end of production conveyor, to allow third party tester to obtain representative samples of items being produced. Stop conveyor belt when directed by third-party tester to permit full cross section sampling.

.5 Do not stockpile material.

PART 2 - PRODUCTS

2.1 Materials - General

.1 Aggregate quality: sound, hard, durable material free from soft, thin, elongated or laminated particles, organic material, clay lumps or minerals, or other substances that would act in deleterious manner for use intended. All materials brought into the park shall be free of evasive species materials or seeds

.2 Flat and elongated particles of coarse aggregate: to ASTM D4791.

.1 Greater dimension to exceed 5 times least dimension.

.3 Fine aggregates satisfying requirements of applicable section to be one or blend of following:

.1 Natural or manufactured sand.

.3 Screenings produced in crushing of quarried rock, boulders, or gravel.

.4 Coarse aggregates satisfying requirements of applicable section to be one or blend of following:

.1 Crushed rock.

.2 Gravel and crushed gravel composed of naturally formed particles of stone.

.5 All crushed gravel when tested to ASTM C136 and ASTM C117 to conform to the following:

.2 Liquid limit: maximum 25.

.3 Plasticity index: maximum 6.

.4 Crushed particles: at least 20% of particles by mass retained on 4.75 mm sieve to have at least one freshly fractured face.

2.3 Source Quality Control

.1 Inform Departmental Representative of proposed source of aggregates and provide access for sampling at least 2 weeks prior to commencing production.

.2 If materials from proposed source do not meet, or cannot reasonably be processed to meet, specified requirements, locate an alternative source or demonstrate that material from source in question can be processed to meet specified requirements.

.3 Advise Departmental Representative 2 weeks in advance of proposed change of material source.

.4 Acceptance of material at source does not preclude future rejection if it fails to conform to requirements specified, lacks uniformity, or if its field performance is found to be unsatisfactory.

PART 3 – EXECUTION

3.1 Processing

.1 Process aggregate uniformly using methods that prevent contamination, segregation, and degradation.

.2 Blend aggregates, if required, to obtain gradation requirements, percentage of crushed particles, or particle shapes, as specified.

.3 Wash aggregates, if required to meet specifications.

.4 Wash aggregates or source from uncontaminated quarry to provide aggregates free of evasive species.

3.2 Handling

.1 Avoid segregation, contamination, and degradation of aggregate during handling and transporting.

END OF SECTION

PART 1 - GENERAL

1.1 Measurement for Payment

.1 Payment for clearing and grubbing work shall be paid at the unit rates tendered in the Schedule of Prices and Quantities.

.2 Payment for clearing standing vegetation from 5.2 m wide right of way shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to clear cut all vegetation to ground level within the 5.2 m right of way, mulch and dispose of all materials less than 120 mm in diameter, and costs related to coordination with archeological, environmental, and endangered species salvage and relocation efforts by employees and consultants contracted by the Department. Also included shall be costs incurred for cutting of material over 120 mm in diameter and disposal into the adjacent forest areas if, at the direction of the Departmental Representative, this material is not to be transported to one of the two designated storage sites. Measurement shall be by the linear metre measured along the centerline of the cleared right of way.

.3 Payment for clearing standing vegetation from the 3.0 m wide construction pullovers of way shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to clear cut all vegetation to ground level within the 3.0 m wide pullover, mulch and dispose of all materials less than 120 mm in diameter, and costs related to coordination with archeological, environmental, and endangered species salvage and relocation efforts by employees and consultants contracted by the Department. Also included shall be costs incurred for cutting of material over 120 mm in diameter and disposal into the adjacent forest areas if, at the direction of the Departmental Representative, this material is not to be transported to one of the two designated storage sites. Each pullover shall be approximately 20 m long and generally situated to minimize tree cutting. Measurement shall be by the linear metre measured along the centerline of the pull over.

.4 Payment for clearing standing vegetation from parking lot and grubbing to remove roots and stumps shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to clear cut all vegetation to ground level, grub roots and stumps mulch and dispose of all materials less than 120 mm in diameter, and costs related to coordination with archeological, environmental, and endangered species salvage and relocation efforts by employees and consultants contracted by the Department. Also included shall be costs incurred for cutting of material over 120 mm in diameter and

disposal into the adjacent forest areas if, at the direction of the Departmental Representative, this material is not to be transported to one of the two designated storage sites. Measurement shall be by the hectare of the cleared parking lot and access roads.

.5 Payment for clearing standing vegetation from highway access roads and grubbing to remove roots and stumps shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to clear cut all vegetation to ground level, grub roots and stumps mulch and dispose of all materials less than 120 mm in diameter, and costs related to coordination with archeological, environmental, and endangered species salvage and relocation efforts by employees and consultants contracted by the Department. These access roads shall be situated to minimize impacts to vegetation. Also included shall be costs incurred for cutting of material over 120 mm in diameter and disposal into the adjacent forest areas if, at the direction of the Departmental Representative, this material is not to be transported to one of the two designated storage sites. Measurement shall be by the hectare of the cleared highway access roads.

.6 Payment for clearing of designated danger trees from the areas near the designated trail alignment shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to clear cut each tree to ground level, dispose of all materials less than 120 mm in diameter, and costs related to coordination with archeological, environmental, and endangered species salvage and relocation efforts by employees and consultants contracted by the Department. Also included shall be costs incurred for cutting of material over 120 mm in diameter and disposal into the adjacent forest areas if, at the direction of the Departmental Representative, this material is not to be transported to one of the two designated storage sites. Measurement shall be by count for each individual danger tree removed at the direction of the Departmental Representative.

.7 If, in the opinion of the Departmental Representative, a tree located outside of the 5.2 m wide right of way will be subject to extensive root damage during construction of the trail and its' viability is in question the Departmental Representative shall direct that the tree be removed. Payment for clearing of designated root damaged trees from the areas near the designated trail alignment shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to clear cut each tree to ground level, dispose of all materials less than 120 mm in diameter, and costs related to coordination with archeological, environmental, and endangered species salvage and

relocation efforts by employees and consultants contracted by the Department. Also included shall be costs incurred for cutting of material over 120 mm in diameter and disposal into the adjacent forest areas if, at the direction of the Departmental Representative, this material is not to be transported to one of the two designated storage sites. Measurement shall be by count for each individual root damaged tree removed at the direction of the Departmental Representative.

.8 Payment for clearing of designated danger trees from the areas within the Park shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to clear cut each tree to ground level, dispose of all materials less than 120 mm in diameter, and costs related to coordination with archeological, environmental, and endangered species salvage and relocation efforts by employees and consultants contracted by the Department. Also included shall be costs incurred for cutting of material over 120 mm in diameter and disposal into the adjacent forest areas if, at the direction of the Departmental Representative, this material is not to be transported to one of the two designated storage sites. Measurement shall be by count for each individual danger tree removed at the direction of the Departmental Representative.

.9 Payment for clearing an additional 1.0 m width on each side of the trail alignment through thick brush areas to improve sight lines between a height of 0.5 m and 3.0 m above the ground shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to clear cut all vegetation under 50 mm diameter from 0.5 m to 3.0 m above ground level an additional 1.0 m on both sides of the 5.2 m right of way and mulch and dispose of the materials, and costs related to coordination with archeological, environmental, and endangered species salvage and relocation efforts by employees and consultants contracted by the Department. This additional clearing shall be at the direction of the Departmental Representative. Measurement shall be by the linear metre for both sides (2.0 m total width of additional clearing) measured along the centerline of the cleared right of way.

.10 Payment for clearing and disposal of organic debris from blow down and logging activities from 5.2 m wide right of way and 45 degree back slopes shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to cut fallen material to ground level within the 5.2 m right of way including a 45 degree slope on each side and dispose of all materials into the forest. Costs related

to coordination with archeological, environmental, and endangered species salvage and relocation efforts by employees and consultants contracted by the Department shall also be included. Merchantable material transported to one of the two designated storage sites shall be paid under the appropriate item. Standing material within this area shall be paid for separately under the appropriate item. Measurement shall be by the linear metre measured along the centerline of the cleared right of way regardless of depth of material.

.11 Payment for transporting Merchantable timber to a designated storage area (Florencia Bay Parking Lot or the new parking lot) shall be paid at the unit rate tendered in the Schedule of Prices and Quantities. Included in this price shall be all labour, materials, and equipment to cut timber over 120 mm in diameter to suitable length, skid it to a highway access location, load and transport it to a designated storage area, and unload and stockpile it for future use by others. If directed by the Departmental Representative this material is to be disposed of into the adjacent forest areas payment will be covered within the right of way clearing rates. Measurement shall be by the cubic metre for the volume delivered to the designated storage locations.

.12 Chipped and mulched materials shall not be spread within wetland areas. This material shall be transported up to 500 m and disposed in suitable forest areas as directed by the Departmental Representative. Costs for this transportation and disposal shall be considered incidental to the costs of the clearing.

1.2 Definitions

.1 Clearing: Cutting of trees, brushing vegetative growth to ground level and disposing of felled trees, previously uprooted trees and stumps, and surface debris.

.2 Grubbing: excavating and disposing stumps and roots to 250 mm below existing ground surface.

.3 License to Cut: License required by Contractor under Province of British Columbia's Forest Act that authorizes a Contractor to salvage and remove timber from Crown Land.

.4 Stumpage: Payment by Contractor to Province of British Columbia for timber under License to Cut. Stumpage is required as condition of License to Cut by Province of British Columbia's Forest Act.

.5 Chipping: Mechanically breaking down of all vegetation up to 120 mm in diameter into chips not over 100 mm long, 25 mm wide and 10 mm thick. Product shall be blown 5 to 15 m from trail in a uniformly distributed pattern in areas designated for mulch

disposal. Mulched and chipped materials shall not be disposed of in wetland areas or into running water.

.6 Merchantable Timber: timber greater than 120 mm diameter at breast height and suitable for salvage. This material is the property of Parks Canada and cannot be removed from the Park.

1.3 Storage and Protection

.1 Prevent damage to trees, bench marks, existing chip seal, site appurtenances, watercourses, root systems of trees, all natural features and artificial structures that are to remain.

.2 Repair any damaged items to satisfaction of Departmental Representative.

.3 Protect nesting birds in accordance with Section 013543 – Environmental Protection.

.4 For the purposes of this contract storage areas for salvaged material shall be the new gravel parking area as shown on the Contract Drawings and a designated portion of the new Florencia Bay parking lot off of Highway #4.

PART 2 - PRODUCTS

2.1 Not Used

.1 Not Used.

PART 3 – EXECUTION

3.1 Preparation

.1 Inspect parking sites and trail alignments and verify with Departmental Representative, environmental monitor, archeological monitor, and First Nations representatives the final alignment, and special features and items designated to remain. This shall be done on a regular basis for each segment prior to start of clearing for that segment.

.2 Contractor to provide License to Cut.

3.2 Clearing

.1 Clear, in accordance with Contract Documents, by cutting flush with ground, except in areas where hand clearing is required. Cut hand cleared areas to within 150 mm of ground.

.2 Cut off branches and cut down trees overhanging cleared area as required for safety and in accordance with the Contract Documents.

.3 Chip all downed material under 120 mm diameter and uniformly disperse chipped material as described in clause 1.2.5. Do not disburse any materials into standing or flowing water.

.4 For material over 120 mm in diameter cut into suitable lengths and

deposit on forest floor 5 to 15 metres from the trail or transport to a storage area as directed by Departmental Representative.

.5 For individual trees that are to be cut the contractor shall chip and disburse material under 120 mm diameter and transport material over 120 mm diameter to one of the three storage areas. At the direction of the Departmental Representative material over 120 mm diameter may be cut to suitable length and laid on the forest floor.

.6 Previously fallen timber and debris (from logging operations, road construction, and blow down) shall be cleared from the trail right of way and the material sloped away from the trail at a 45 degree angle. This material shall be deposited 5 to 15 metres from the trail alignment filling in low points and hollows within the remaining timber debris. The resulting debris pile shall not be higher than the existing debris. At the direction of the Departmental Representative some of this material may be salvaged and brought to one of the three storage areas. The right of way shall be cleared down to the original ground and left in a condition that will permit passage of all-terrain vehicles.

3.3 Grubbing

.1 Grub out stumps, roots, and embedded logs to not less than 300 mm below ground surface in designated parking lots. The trail alignment shall be cleared to original ground and the native surface shall remain to provide access to the cleared right of way.

.2 Grub out visible rock fragments and boulders, greater than 300 mm in greatest dimension, but less than 0.25 m^3 in the designated parking lots.

3.4 Removal and Disposal

.1 Remove material identified by the Departmental Representative to one of the three storage areas. Dispose of all other cleared and chipped material a minimum of 5 metres away from the trail right of way. Grubbed material shall be removed off site.

3.5 Finished Surface

.1 Leave ground surface in condition suitable for stripping of topsoil.

END OF SECTION

PART 1 - GENERAL

1.1 Measurement for Payment

.1 Payment for excavation and backfilling required for culverts is included in the relevant unit prices for culverts in this contract.

.2 No extra payment will be made for excavating unnecessarily beyond lines shown on the drawings.

1.2 References

.1 American Society for Testing and Materials (ASTM):

- .1 ASTM C 117, Standard Test Method for Material Finer Than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
- .2 ASTM C 136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- .3 ASTM D 422, Standard Test Method for Particle-Size Analysis of Soils.
- .4 ASTM D 698-00ael, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft) (600 kN-m/m).
- .5 ASTM D 1557-02el, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft) (2,700 kN-m/m).
- .6 ASTM D 4318, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

.2 Canadian General Standards Board (CGSB):

- .1 CAN/CGSB-8.1, Sieves, Testing, Woven Wire, Inch Series.
- .2 CAN/CGSB-8.2, Sieves, Testing, Woven Wire, Metric.

.3 Canadian Standards Association (CSA):

- .1 CAN/CSA-A3000, Portland Cement.
- .2 CAN/CSA-A23.1, Concrete Materials and Methods of Concrete Construction.

1.3 Definitions

.1 Common excavation: excavation of materials of whatever nature, that are not included under definitions of rock excavation.

.2 Topsoil: material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping, and seeding.

.5 Unsuitable materials:

- .1 Weak and compressible materials under excavated areas.

.2 Frost susceptible materials under excavated areas.

.3 Frost susceptible materials:

.1 Fine grained soils with plasticity index less than 10 when tested to ASTM D 4318, and gradation within limits specified when tested to ASTM D 422 and ASTM C 136: Sieve sizes to CAN/CGSB-8.2.

.2 Table:

Sieve Designation	% Passing
2.00 mm	100
0.10 mm	45 – 100
0.02 mm	10 – 80
0.005 mm	0 – 45

.3 Coarse grained soils containing more than 20 % by mass passing 0.075 mm sieve.

1.4 Waste Management and Disposal

.1 Dispose of waste materials in accordance with Section 017421 - Waste Management and Disposal and the Waste Management Work plan.

.2 Place materials defined as hazardous or toxic in designated containers. Ensure containers are sealed and stored safely.

1.5 Protection of Existing Features

.1 Protect existing features in accordance with Section 015600 - Temporary Barriers and Enclosures and applicable local regulations.

.2 Existing surface features:

.1 Conduct, with Departmental Representative, condition survey of existing trees and other plants, buildings, survey bench marks and monuments which may be affected by Work.

.2 Protect existing surface features from damage while Work is in progress. In event of damage, immediately make repair to approval of Departmental Representative.

.3 Where required for excavation, cut roots or branches as approved by Departmental Representative.

PART 2 PRODUCTS

2.1 Materials

.1 Granular base as specified in Section 32 11 23.

PART 3 - EXECUTION

3.1 Site Preparation
.1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.

3.2 Stripping of Topsoil
.1 Commence topsoil stripping of areas as indicated after area has been cleared of weeds and grasses.

.2 Strip topsoil to depths as directed by Departmental Representative. Do not mix topsoil with subsoil.

.3 Dispose of unused topsoil as directed by Departmental Representative.

3.3 Stockpiling
.1 Stockpile fill materials in areas designated by Departmental Representative. Stockpile granular materials in manner to prevent segregation.

.2 Protect fill materials from contamination.

3.6 Excavation
.1 Excavate to lines, grades, elevations and dimensions as indicated on the drawings or as required.

.2 Excavation work to be as minimal as possible.

.3 Do not disturb soil within branch spread of trees or shrubs. If excavating through roots, excavate by hand and cut roots with sharp axe or saw.

.4 Dispose of surplus and unsuitable excavated material in approved location.

.5 Do not obstruct flow of surface drainage or natural watercourses.

.6 Obtain Departmental Representative approval of completed excavation.

.7 Correct unauthorized over-excavation as follows:

.1 Fill under other areas with Type 2 fill compacted to not less than 95% of corrected maximum dry density.

.13 Hand trim, make firm, and remove loose material and debris from excavations.

3.7 Backfilling
.1 Do not proceed with backfilling operations until Departmental Representative has approved.

.2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground. Do not use backfill material that is frozen or contains ice, snow or debris.

.4 Place backfill material in uniform layers not exceeding 150mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.

.5 Backfilling around installations:

.1 Place bedding and surround material as specified elsewhere.

3.8 Restoration

.1 Upon completion of Work, remove waste materials and debris in accordance to Section 017421 - Waste Management and Disposal, trim slopes, and correct defects as directed by Departmental Representative.

END OF SECTION

PART 1 - GENERAL

1.1 Measurement for Payment	.1	Payment for parking lot excavation, embankment and compaction shall be made at the in unit price tendered for sub-grade preparation and grading in this Contract and include moving reclaimed material within the site to meet the design elevations, grading, shaping, and compaction. Measurement shall be by the cubic metre measured by cross section in place prior to excavation.
1.2 References	.1	ASTM D698-00a, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft) (600 kN-m/m).
1.3 Definitions	.1	Common Excavation: excavation of materials that are not Rock Excavation or Stripping Excavation.
	.2	Stripping Excavation: excavation of organic material covering original ground.
	.3	Embankment: material derived from usable excavation and placed above original ground or stripped surface up to top of subgrade.
	.4	Waste material: material other than Stripping, and unsuitable for embankment construction or material surplus to requirements.
	.5	Topsoil: material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping, and seeding.
	.6	Road Reclamation: Full depth road reclamation to a maximum depth 250 mm from existing ground.
1.4 Requirements of Regulatory Agencies	.1	Adhere to Provincial and Federal Environmental requirements if potentially toxic materials are involved.
1.5 Waste Management and Disposal	.1	Separate and recycle waste materials in accordance with Section 017421 – Waste Management and Disposal.

PART 2 – PRODUCTS

2.1 Materials	.1	Embankment materials require approval by Departmental Representative.
	.2	Embankment material will come from the new parking lot grading if approved by Departmental Representative.

PART 3 - EXECUTION

3.1 Compaction Equipment

.1 Compaction equipment must be capable of obtaining required densities in materials on project. Equipment that does not achieve specified densities must be replaced or supplemented.

.2 Operate compaction equipment continuously in each embankment when placing material.

.3 Care must be taken next to existing structures and next to new structures when performing compaction operations.

3.2 Water Distributors

.1 Apply water with equipment capable of uniform distribution.

3.3 Stripping

.1 Commence topsoil stripping of areas as indicated after weeds and grasses have been removed from these areas.

.2 Strip to depths as indicated or as necessary to remove all organic material. Do not mix topsoil with subsoil.

.3 Stockpile in locations in accordance with Contract Documents or as directed by Departmental Representative.

.4 Dispose of unused stripped topsoil in accordance with Contract Documents or as directed by Departmental Representative.

3.4 Excavating

.1 General:

.1 Notify Departmental Representative if waste materials are encountered. Remove to depth and extent directed.

.2 Compact each layer to minimum 95% standard dry density, and compact top 150mm below sub-excavate to min. 100% max. dry density, to ASTM D698 and ASTM D4718.

.2 Drainage:

.1 Maintain profiles, crowns and cross slopes to provide good surface drainage.

3.5 Embankments

.1 Embankment material shall come from regrading of the new parking areas with a balance of the cut and fill quantities.

.2 Move excess material from high points in parking lot profile to low points and to provide cross fall. With Departmental Representatives approval elevations shall be adjusted to eliminate excess material.

.3 Do not place frozen material nor place material on frozen surfaces.

.4 Maintain crowned surface during construction to ensure ready run-off of surface water.

.5 Drain low areas before placing materials.

.6 Place and compact to full width in layers not exceeding 200 mm loose thickness. Departmental Representative may authorize thicker lifts if specified compaction can be achieved.

.7 Embankments to be sloped to Departmental Representative's requirements. Intent is to provide a 2% crown in the parking areas.

3.6 Subgrade Compaction .1 Break material down using full depth reclamation to sizes that enable required compaction and mix for uniform moisture to full depth of layer.

.2 Compact each layer to minimum 95% maximum dry density, to ASTM D698 and ASTM D4718 except top 150mm of subgrade. Compact top 150 mm to 100% maximum dry density.

.3 Add water or dry as required to bring moisture content of materials to level required to achieve specified compaction.

3.7 Finishing .1 Shape entire parking area to provide smooth, uniform surface and to Departmental Representative's satisfaction.

.2 Finish slopes to neat condition, true to lines, grades and drawings where applicable.

.3 Remove rocks over 150mm in any dimension from subgrade surface.

.4 Hand finish slopes that cannot be finished satisfactorily by machine.

3.8 Protection .1 Maintain finished surfaces in condition conforming to this Section until placement of subsequent materials.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes

.1 Materials and installation of polymeric geotextiles used in revetments, breakwaters, retaining wall structures, filtration, drainage structures, and road beds purpose of which is to:

.1 Separate and prevent mixing of granular materials of different grading.
.2 Act as hydraulic filters permitting passage of water while retaining soil strength of granular structure.

1.2 Measurement for Payment

.1 Payment for geotextiles required for the work to be at the unit price tendered for this item in the schedule of prices and quantities in this Contract. Measurement will be made by the area covered. Overlap areas shall be measured once.

1.3 References

.1 American Society for Testing and Materials International, (ASTM)
.2

.1 ASTM D4491-99a, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.

.2 ASTM D4595-86(2001), Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.

.3 ASTM D4716-01, Test Method for Determining the (In-Plane) Flow Rate Per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.

.4 ASTM D4751-99a, Standard Test Method for Determining Apparent Opening Size of a Geotextile.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-4.2 No. 11.2-[M89(April 1997)], Textile Test Methods - Bursting Strength - Ball Burst Test (Extension of September 1989).

.2 CAN/CGSB-148.1, Methods of Testing Geotextiles and Complete Geomembranes.

.1 No.2-M85, Methods of Testing Geosynthetics - Mass per Unit Area.

.2 No.3-M85, Methods of Testing Geosynthetics - Thickness of Geotextiles.

.3 No.6.1-93, Methods of Testing Geotextiles and Geomembranes - Bursting Strength of Geotextiles Under No Compressive Load.

.4 No.7.3-92, Methods of Testing Geotextiles and Geomembranes - Grab Tensile Test for Geotextiles.

.5 No. 10-94, Methods of Testing Geosynthetics - Geotextiles - Filtration Opening Size.

.3 Canadian Standards Association (CSA International)

.1 CAN/CSA-G40.20/G40.21-98, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.2 CAN/CSA-G164-M92(R1998), Hot Dip Galvanizing of Irregularly Shaped Articles.

1.4 Submittals

.1 Submit samples in accordance with Section 013300 - Submittal Procedures.

.2 Submit to Departmental Representative (if requested) following samples at least 4 weeks prior to beginning Work.

.1 Minimum length of 2 m of roll width of geotextile.

.2 Minimum of 1 m seam with at least 300 mm of geotextile on both sides of seam.

.3 Submit to Departmental Representative copies of mill test data and certificate at least 4 weeks prior to start of Work, and in accordance with Section 013300 - Submittal Procedures.

1.5 Delivery and Storage

.1 During delivery and storage, protect geotextiles from direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.

1.6 Waste Management and Diposal

.1 Separate waste materials for reuse and recycling in accordance with Section 017421 - Waste Management and Disposal.

Collect and separate for disposal packaging material for recycling in accordance with Waste Management Plan.

PART 2 - PRODUCTS

2.1 Material

.1 Geotextile: woven and non-woven synthetic fibre fabric, supplied in

rolls 4.75 metres in width.

.1 Composed of: 100% polypropylene.

.2 Physical properties of geocomposite made of stretched, monolithic, textured polypropylene flat bars (PP) with welded junctions and a mechanical bonded filter geotextile which is welded within the geogrid structuree:

.1 Composed of: 100% by polypropylene.

Property	Unit	Specified	
Minimum Thickness	mm	n/a	
Mass per Unit Area	g/m^2	150	
Grab Tensile Strength	kN/m	30	
Grab Tensile Elongation	%	<40	
Puncture	N	1,670	
UB Degradation	% / 500 hrs	50	
Apparent Grid Size	mm	32 X 32	

*applies to soil with <50% passing the 0.075mm (#200) Sieve

.3 Physical properties of non-woven geotextile:

Property	Unit	AASHTO Survivability	
		Moderate	High
Minimum Thickness	mm	1.5	1.5
Mass per Unit Area	g/m^2	150	150
Grab Tensile Strength	N	500	700
Grab Tensile Elongation	%	50	50
Puncture	N	180	275
Mullen Burst	kPa	950	1300
Trapezoidal Tear	N	180	250
UB Degradation	% / 500 hrs	50	50
Apparent	mm	0.25*	0.25*

Opening Size			

*Applies to soil with 15 to 50% passing the 0.075mm (#200) sieve

.4 Based on general physical properties of geocomposite geotextiles outlined above, equivalent geotextiles would be:

NAUE Combigrid 30/30

.5 Securing pins and washers: to CAN/CSA-G40.21, Grade 300W, hot-dipped galvanized with minimum zinc coating of 600 g/m^{2}to CAN/CSA G164

PART 3 - EXECUTION

3.1 Installation

.1 Prepare subgrade by grading to provide a smooth, uniform surface. Remove all stumps, large rock, brush or other debris that could damage the fabric. Fill all holes and depressions so that the fabric does not bridge them. Replace loose or unstable soils.

.2 Place geotextile material by unrolling onto graded surface in orientation, manner and locations indicated and retain in position with securing pins on slopes.

.3 Place geotextile material smooth in a loose fashion and free of tension stress, folds, wrinkles and creases.

.4 Place geotextile material on surfaces in one continuous length.

.5 Overlap each successive strip of geotextile over previously laid strip. Fabric lap for geocomposite material is 300mm.

.6 On slopes pin successive strips of geotextile with 6 mm diameter steel securing pins fitted with washers at 1.0 m intervals along the overlaps and at mid point of lap or as indicated.

.7 On slopes anchor the top edge of the filter fabric by digging a 300 mm deep trench, inserting the top edge of the fabric and backfilling with compacted soil.

.8 Take care to prevent puncturing or tearing the geotextile. Protect installed geotextile material from displacement, damage or deterioration before, during and after placement of material layers. Repair all damage by use of patches that extend at least 1.0 m beyond the perimeter of the tear or puncture.

.9 After installation, cover with overlying layer within sufficient time so that ultraviolet damage does not occur. In no case shall this time exceed 7 days for ultraviolet susceptible material and 14 days for ultraviolet protected and low ultraviolet susceptible polymer geotextliles.

.10 Replace damaged or deteriorated geotextile to approval of Departmental Representative.

.11 For geotextiles under rip-rap commence rip-rap placement at the base of the blanket area and proceed up the slope. Limit the height of drop of rip-rap to 1.0 m or less. Do not allow the rip-rap to roll down the slope.

.12 For geotextiles under road or trail sub-base commence sub-base placement at edge of the blanket area and proceed spreading a minimum thickness of 300 mm of granular material over the geotextile before compacting. Limit the height of drop of granular mateial to 1.0 m or less.

3.2 Protection .1 No vehicles permitted directly on geotextile.

END OF SECTION

PART 1 - GENERAL

1.1 Measurement for Payment

.1 Payment for riprap required for the work to be paid at the unit rate tendered for this item in the schedule of prices and quantities this contract and include supply and placement of riprap and geotextile filter cloth. Measurement shall be the measured square metre area of rip rap placed to a thickness of 350 mm.

PART 2 – PRODUCTS

2.1 Stone

.1 Hard, dense, durable quarry stone, angular in shape, resistant to weathering and water action, free from overburden, spoil, shale or shale seams, and organic material. Care shale be taken to avoid introducing evasive plants into the park by using clean materials. All stones shale have maximum dimension not greater than three times its least dimension, to meet following size distribution:

Class of Riprap	Nominal Thickness of Riprap	Rock Gradation: Percentage Larger Than Given Rock Mass		
(kg)	(mm)	85%	50%	15%
10	350	1 kg	10 kg	30 kg

.2 The minimum acceptable unit weight of the rock is 2.64 tonnes/cubic metre.

2.2 Geotextile Filter

.1 Geotextile: in accordance with Section 313219 – Geotextile.

.1 Geotextile: in accordance with Section 313219 – Geotextile.

PART 3 - EXECUTION

3.1 Processing

.1 Process riprap uniformly using methods that prevent contamination, segregation, and degradation.

3.2 Handling

.1 Handle and transport riprap to avoid segregation, contamination, and degradation.

3.4 Placing

.1 Where riprap is to be placed on slopes, excavate trench at toe of slope first, if and where instructed by the Departmental Representative.

.2 Where riprap is to be placed, fine grade the area first to provide a uniform and even surface, if and where instructed by the Departmental Representative. Fill any depressions with suitable materials and compact to provide a firm bed.

.3 Place geotextile on prepared surface in accordance with Section 313219 – Geotextiles and as indicated. Avoid puncturing geotextile. Vehicle traffic over geotextile in not permitted.

.4 Place rip-rap to thickness and detailed as indicated on the drawing.

.5 Place stones to secure the surface of the slope and create a stable mass. Place larger stones at the bottom of the slopes.

.6 Use larger stones for lower courses and as headers for subsequent courses.

.7 Stagger vertical joints and fill voids with rock spalls or cobbles.

.8 Finished surface to be reasonably uniform and even, free from bumps, depressions, underlying voids, large openings, or individual stones projecting out above apparent surface.

.9 Place riprap prior to permitting water to pass through slope drains, as applicable.

.8 Be careful not the damage the structure (new and existing components) in any way during riprap movement. Any damages shall be repaired at the expense of the Contractor.

.10 Place layers simultaneously at both ends of the bridge to equalize loadings on the structure as a whole. Difference not to exceed 0.3m from one abutment to the other.

.11 Embankments to be sloped to Departmental Representative's requirements. Intent is that slopes be as gentle as possible within limitations of site geometry. Intent is that slopes to be reinforced with riprap to prevent future roadway embankment and river slope erosion, scour, migration, etc.

.12 Rip rap shall be placed only at the culvert ends of the proposed parking lot and not at any temporary culverts.

END OF SECTION

PART 1 - GENERAL

1.1 Measurement for Payment

.1 Payment for Granular Sub-base shall be made at the unit price tendered in the schedule of prices and quantities for each of the specified thicknesses. Measurement shall be per square metre measured in place. Thickness of the layer shall be confirmed with test pits prior to payment.

1.2 References

.1 ASTM C117, Standard Test Method for Materials Finer than 0.075 mm (No. 200) Sieve in Mineral Aggregates by Washing.

.2 ASTM C136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.

.3 ASTM D698-00a, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).

.4 ASTM D4718, Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles.

.5 ASTM D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3(2,700 kN-m/m3)).

.6 ASTM D4318, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

.7 CAN/CGSB-8.1, Sieves, Testing, Woven Wire, Inch Series.

.8 CAN/CGSB-8.2, Sieves, Testing, Woven Wire, Metric.

PART 2 - PRODUCTS

2.1 Materials

.1 Granular Sub-base: material to Section 310516 – Aggregates following requirements:

.1 Crushed stone or gravel.

.2 Gradations to be within limits specified when tested to ASTM C136 and ASTM C117. Sieve sizes to CAN/CGSB-8.1.

.1 Gradation to:

Sieve Designation	% Passing
75 mm	100
25 mm	50 – 100
0.150 mm	0 – 15
0.075 mm	0 – 5

.2 Liquid limit: to ASTM D4318, maximum 25.

.3 Plasticity index: to ASTM D4318, maximum 6.

.4 Crushed particles: 60% of the material passing each sieve must have one or more fractured faces.

PART 3 – EXECUTION

3.1 Sequence of Operation

.1 Place Granular Sub-base after subgrade is inspected and accepted by Departmental Representative.

.2 Placing:

.1 Construct Granular Sub-base to depth and grade in areas indicated.

.2 Ensure no frozen material is placed.

.3 Place material only on clean unfrozen surface, properly shaped and compacted, and free from snow and ice.

.4 Begin spreading sub-base material on crown line or on high side of one-way slope.

.5 Place material using methods which do not lead to segregation or degradation of aggregate.

.6 Place material to full width in uniform layers not exceeding 150 mm compacted thickness.

.7 Shape each layer to smooth contour and compact to specified density before succeeding layer is placed.

.8 Remove and replace that portion of layer in which material becomes segregated during spreading.

.3 Compaction Equipment:

.1 Compaction equipment to be capable of obtaining required

material densities.

.4 Compacting:

.1 Compact to density not less than 100% maximum dry density in accordance with ASTM D698-00a and D4718.

.2 Shape and roll alternately to obtain smooth, even and uniformly compacted sub-base.

.3 Apply water as necessary during compacting to obtain specified density.

.4 Dry gravel if granular sub-base is excessively moist.

.5 In areas not accessible to rolling equipment, compact to specified density with mechanical tampers.

.6 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

3.2 Site Tolerances

.1 Finished sub-base surface to be within plus or minus 15 mm of established grade and cross section and specified thickness.

3.3 Maintenance

.1 Maintain finished Granular Sub-base in condition conforming to this Section until acceptance by Departmental Representative and until succeeding material is applied.

.2 Apply dust control measures as required.

.3 Ensure that Granular Sub-base surface is in properly compacted state prior to application of succeeding material.

END OF SECTION

PART 1 - GENERAL

1.1 Measurement for Payment

.1 Payment for Granular Base shall be made at the unit price tendered in the schedule of prices and quantities for 19 mm Granular Base in this Contract. Measurement shall be the actual per square metre area of 100 mm thick granular base supplied and installed.

1.2 References

.1 ASTM C117, Standard Test Method for Materials Finer than 0.075 mm (No. 200) Sieve in Mineral Aggregates by Washing.

.2 ASTM C131, Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

.3 ASTM C136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.

.4 ASTM D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).

.5 ASTM D4718, Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles.

.6 ASTM D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3(2,700 kN-m/m3)).

.7 ASTM D1883, Standard Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils.

.8 ASTM D4318, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

.9 CAN/CGSB-8.1, Sieves, Testing, Woven Wire, Inch Series.

.10 CAN/CGSB-8.2, Sieves, Testing, Woven Wire, Metric.

PART 2 - PRODUCTS

2.1 Materials

.1 Granular base: material to Section 310516 - Aggregates and following requirements:

.1 Crushed stone or gravel. Material shall be completely free of evasive species of vegetation through using clean crushed rock or washed materials.

.2 Gradations to be within limits specified when tested to ASTM C136

and ASTM C117. Sieve sizes to CAN/CGSB-8.1.

.1 Gradation to:

Sieve Designation	% Passing
19 mm	100
12.5 mm	75 – 100
9.5 mm	60 - 90
4.75 mm	40 – 70
2.36 mm	27 - 55
1.18mm	16 - 42
0.300 mm	8 - 30
0.075 mm	2 - 8

.2 Liquid limit: ASTM D4318, max. 25.
.3 Plasticity index: ASTM D4318, max. 6.
.4 Crushed Particles: 60% of the material passing each sieve must have one or more fractured faces.

PART 3 - EXECUTION .1 Stockpile Granular Base as specified under Section 310516 – Aggregates.

.2 Place Granular Base after underlying surface is to within tolerances.

.3 Placing:

.1 Construct Granular Base to depth and grade in areas indicated.

.2 Ensure no frozen material is placed. Place on clean unfrozen surface, properly shaped and compacted, free from snow and ice.

.3 Begin spreading base material on crown line or on high side of one-way slope.

.4 Place material using methods which do not lead to segregation or degradation of aggregate.

.5 Place material to full width in uniform layers not exceeding 100 mm compacted thickness.

.6 Shape layer to smooth contour and compact to specified density before proceeding to paving.

.7 Remove and replace that portion of layer in which material becomes segregated during spreading.

.8 Place granular shoulder material upon completion of paving to the dimensions shown on the contract drawings. Compact material as

described in 3.1.5 of this specification. Sweep asphalt surface upon completion of placing shoulder gravel.

.4 Compaction Equipment:

.1 Compaction equipment to be capable of obtaining required material densities.

.5 Compacting:

.1 Compact to density not less than 100% maximum dry density in accordance with ASTM D698 and D4718.

.2 Shape and roll alternately to obtain smooth, even, and uniformly compacted base.

.3 Apply water as necessary during compacting to obtain specified density.

.4 Dry gravel if Granular Base is excessively moist.

.5 In areas not accessible to rolling equipment, compact to specified density with mechanical tampers.

.6 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

3.1 Sequence of Operation

.1 Finished base surface to be within plus or minus 10 mm of established grade and cross section or as directed by Departmental Representative.

3.2 Site Tolerances

.1 Maintain finished Granular Base in condition conforming to this section until acceptance by Departmental Representative and until succeeding material is applied.

.2 Apply dust control measures as required.

.3 Ensure that Granular Base surface is in properly compacted state prior to application of succeeding material.

END OF SECTION

PART 1 - GENERAL

1.1 Measurement for Payment	.1	Payments for two project signs (1200 mm X 2400 mm) on wood posts shall be made at the unit price tendered in the schedule of prices and quantities in this Contract. Measurement shall be by count.
1.2 References	.2	CSA International

PART 2 – PRODUCTS

2.1 Sign Face	.1	1200 mm X 2400 mm Coroplast sheeting 6 mm thickness with silk screened engineering grade reflective material.

PART 3 - EXECUTION

3.1 Examination	.1	The Contractor have manufactured two project signs to specifications and layout provided by Departmental Representative.
3.2 Installation	.1	Install the two project signs on 100 mm X 100 mm 3.05 m long preserved wood posts and 38 mm X 86 mm wood back supports at locations provided by Departmental Representative.

End of Section

PART 1 - GENERAL

1.1 Measurement for Payment .1 Payments for pipe culverts shall be at the unit price tendered in the schedule of prices and quantities this Contract for 450 mm and 600 mm diameter HDPE culverts and include excavation, bedding, and granular backfill. Measurement shall be by measured length of the installed culvert along the centerline from inlet to outlet.

1.2 References .1 ASTM International

.1 ASTM D2412, pipe stiffness.

.2 ASTM F477, gaskets.

.2 CSA International

.1 CSA B182.8, HDPE pipe.

1.3 Delivery, Storage and Handling .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials in accordance with manufacturer's recommendations.

.2 Store and protect pipe and pipe material from damage.

.3 Replace defective or damaged materials with new.

PART 2 – PRODUCTS

2.1 High Density Poly Ethelyne .1 Exterior pipe corrugation to be embossed with stiffness ratings as required by CSA B182.8.

.2 Pipe to have factory assembled spigot gaskets and integral bell joint features certified to CSA B182.8.

.3 Pipe to have minimum stiffness of 320 kPa at 5% deflection, when tested in accordance with ASTM D241.

.4 Gaskets to meet requirements of ASTM F477.

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2.2 Granular Bedding and Backfill .1 Refer to Section 310516, 320116 and 321123 of specification.

PART 3 - EXECUTION

3.1 Examination .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for pipe culvert installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of Departmental Representative.

.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 Trenching .1 Do trenching Work in accordance with Section 312333 - Excavating, Trenching and Backfilling.

.2 Obtain Departmental Representative's approval of trench line and depth prior to placing bedding material or pipe.

3.3 Bedding .1 Dewater excavation, as necessary, to allow placement of culvert bedding in dry condition.

.2 Place 75 mm minimum thickness of approved, compacted granular material on bottom of excavation.

.3 Shape bedding to fit lower segment of pipe exterior so that width of at least 50% of pipe diameter is in close contact with bedding and to camber as indicated or as directed by Departmental Representative, free from sags or high points.

.4 Place bedding in unfrozen condition.

3.4 Laying HDPE Pipe Culverts .1 Begin pipe placing at downstream end.

.2 Ensure bottom of pipe is in contact with shaped bed or compacted fill throughout its length.

.3 Lay pipe with outside bells facing upstream.

.4 Do not allow water to flow through pipes during construction except as permitted by Departmental Representative.

3.8 Joints: HDPE Pipe Culverts	.1	Install rubber gasket joints in accordance with manufacturer's written recommendations.
	.2	Ensure that spigot ends are fully entered into bell ends.
3.9 Backfilling	.1	Backfill around and over culverts as indicated or as directed by Departmental Representative.
	.2	Place granular backfill material in 150 mm layers to full width, alternately on each side of culvert, so as not to displace it laterally or vertically.
	.3	Compact each layer to 95% maximum density to ASTM D698 taking special care to obtain required density under haunches.
	.4	Protect installed culvert with minimum 300 mm cover of compacted granular material before heavy equipment is permitted to cross.
	.5	Restore road sub base, gravel base, and asphalt surface to original condition.
3.10 Cleaning	.1	Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
	.1	Leave Work area clean at end of each day.
	.2	Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
	.3	Waste Management: separate waste materials for recycling in accordance with Section 01 74 21 - Waste Management and Disposal.

END OF SECTION

PART 1 - GENERAL

1.1 Requirements for Working Within or Near Watercourses

.1 Activities which involve Work within or near waterways should be first coordinated with the Departmental Representative, and must always follow applicable legislation/regulations. Under this clearing contract it is anticipated that there will be no work within existing waterways and the Contractor will cross these waterways utilizing temporary spans or other methods approved by the Departmental Representative.

.2 Comply with Department of Fisheries and Oceans' regulations (DFO) and Ministry of Environment's (MOE).

.3 When working near waterways install silt fences and/or other protective devices to ensure no materials enter into the waterway. Protective measures shall be approved by the Departmental Representative in advance of the work.

.4 Do not dump excavated fill, waste material, or debris in waterways. Ensure that no materials enter into the waterways.

.5 Abide by all conditions of permits obtained from Provincial and Federal Government environmental agencies.

.6 Do not skid logs or construction materials across waterways.

.7 Provide a buffer area of at least 50 metres between the storage and handling of fuels, lubricants, or other deleterious substances and the waterway.

.8 Do not store construction materials, debris, waste, etc. within 50 metres of any waterbody.

1.2 Basis for Payment

.1 Payment will be made for preservation of watercourses shall be made at the lump sum price tendered in the schedule of prices and quantities in the Contract. Payment will be made as follows, 25% for the first Progress Payment, equal distribution of 50% of payment for the intermediate progress payments, and 25% for the last Progress Payment.

PART 2 – PRODUCTS

2.1 Preparation

.1 Obtain work permits from governing federal and provincial conservation authorities as applicable.

PART 3 - EXECUTION

3.1 Existing Conditions	.1	Maintain existing flow patterns in natural watercourse systems during completion of this Work.
3.2 Site Clearing and Plant Protection	.1	Conduct Work to provide minimal disturbance to vegetated areas. Protect all trees and plants onsite.
	.2	Maintain temporary erosion and pollution control features installed under this Contract.
3.3 Drainage	.1	Pumping water containing suspended materials into watercourse is prohibited.
	.2	Maintain existing drainage patterns. Do not permit chipped or wood debris to enter into watercourses and as instructed by Departmental Representative.
3.4 Site Restoration	.1	Restore areas damaged by work to original condition. Ensure no evasive species of plants or animals are introduced to the Park.

END OF SECTION

Appendix A
Pacific Traverse Trail
Timber Cruise and Valuation Assessment

Strategic Natural Resource Consultants,
August 22, 2016
Pacific Traverse Trail Clearing,
Pacific Rim National Park Reserve, B.C.