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Appendices

Appendix A - Schematic drawing of 13 areas for tree clearing

Appendix B - Environmental Impact Analysis for this project

1 GENERAL

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 01 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work for this Contract is comprised of 27.7 hectares of clearing trees along the Trans-Canada Highway (TCH) in Terra Nova National Park. Onsite work is to commence on or after December 28th, 2015. All brush and tree cutting work, removal and disposal of trees is to be completed before May 15th 2016.

- .2 The site on which this clearing work is to take place is divided into 13 sections described below. Km 0.000 is located at the East entrance to Terra Nova National Park, south of Salmon Brook, as indicated by existing survey marker and the coordinate is Latitude 48.3907905, Longitude -54.2074438. All clearing limits have been marked with colored ribbons along the 13 areas of the Trans-Canada Highway (see schematic drawing at appendix A). Note chainage distances indicated below do not include taper lengths:

- .1 Km 2.675 to 4.500 (North West River): 1.5 ha
- .2 km 6.790 to 9.230 (Cobbler's Cove): 2.2 ha
- .3 km 9.600 to 14.350 (Tide Waters): 4.0 ha
- .4 km 12.350 to 16.650 (Yuddle Ponds): 3.2 ha
- .5 km 18.200 to 20.380 (Charlottetown): 1.5 ha
- .6 km 19.075 to 21.120 (Island Ponds): 1.0 ha
- .7 km 21.570 to 23.985 (Bread Cove): 2.3 ha
- .8 km 23.950 to 28.880 (Ochre Hill): 3.0 ha
- .9 km 29.520 to 32.500 (Newman Sound): 2.5 ha
- .10 km 32.150 to 33.800 (Saltons Brook South): 1.0 ha
- .11 km 34.400 to 36.850 (Saltons Brook): 1.5 ha
- .12 km 35.600 to 37.380 (South West Brook): 1.5 ha
- .13 km 38.040 to 41.900 (South West Arm): 2.5 ha

1.3 CONTRACT METHOD

- .1 Construct Work under unit price contract for brush and tree clearing and lump sum for all other works which are required for completion of the project. The quantity to be measured for payment shall be the number of hectares of land cleared (measured on a horizontal plane).

- .2 Relations and responsibilities between Contractor and subcontractors are as defined in Conditions of Contract. Subcontractors must, in addition:
 - .1 Furnish to Contractor bonds covering faithful performance of subcontracted work and payment of obligations thereunder when Contractor is required to furnish such bonds to Departmental Representative.
 - .2 Purchase and maintain liability insurance to protect Contractor from claims for not less than limits of liability which Contractor is required to provide to Departmental Representative.

1.4 WORK BY OTHERS

- .1 Co-operate with other Contractors in carrying out their respective works and carry out instructions from Departmental Representative.
- .2 Construction of climbing lanes on the Trans-Canada Highway within the Terra Nova National Park will commence in May 2016 and will present traffic disruptions to this tree clearing project. If the tree clearing work is not completed by May 15th 2016, the clearing contractor will accommodate and work around the schedule and methodology of the climbing lanes contractor.
- .3 Additional payments or schedule extensions due to work or scheduling conflicts with other Contractors will not be considered.

1.5 WORK SEQUENCE

- .1 Construct Work in stages to provide for continuous public usage of the Trans-Canada Highway in Terra Nova National Park. Do not close off public usage of facilities.
- .2 Maintain fire access/control.
- .3 If the brush and tree clearing work is not completed by May 15th 2016, the Contractor will have to accommodate and prioritize his work around the schedule and methodology of the contractor responsible to build climbing lanes.

1.6 CONTRACTOR USE OF PREMISES

- .1 Limit use of premises for work, to allow:
 - .1 Work by other contractors starting on May 1st 2016.
 - .2 Public usage of TCH in Terra Nova National Park.

1.7 OWNER OCCUPANCY

- .1 Owner will occupy premises during entire construction period for execution of normal operations.

1.8 MEETINGS

- .1 Within 10 days after award of Contract, request a pre-construction meeting to discuss and resolve administrative procedures and responsibilities.

- .2 During course of Work, schedule progress meetings every 2 weeks.
- .3 Contractor, major Subcontractors involved in Work and Departmental Representative are to be in attendance.

END OF SECTION

1 GENERAL

1.1 REFERENCES

- .1 Manual of Uniform Traffic Control Devices for Streets and Highways - (MUTCD), 2002 (US FHWA).
- .2 Uniform Traffic Control Devices for Canada, (UTCD), 2008 (Distributed by Transportation Association of Canada).
- .3 Traffic control manual, latest edition, Department of Transportation & Works, Newfoundland & Labrador
www.tw.gov.nl.ca/publications/TrafficControlManual2011.pdf.

1.2 PROTECTION OF PUBLIC TRAFFIC

- .1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.
- .2 When working on travelled way:
 - .1 Place equipment in position to minimize interference and hazard to travelling public.
 - .2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.
 - .3 Do not leave equipment on travelled way overnight.
- .3 Do not close any lanes of road without approval of Departmental Representative. Before re-routing traffic erect suitable signs and devices in accordance with instructions contained in Part D of UTCD.
- .4 Keep travelled way graded, free from pot holes and of sufficient width for required number of lanes of traffic.
 - .1 Provide 5 m wide minimum temporary roadway for traffic in two-way sections through Work and on detours.
- .5 Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, except where other means of road access exist that meet approval of Departmental Representative.

1.3 INFORMATIONAL AND WARNING DEVICES

- .1 Provide and maintain competent Flag Persons, traffic signals, signs, barricades and flares, lights, lanterns, and/or other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.
- .2 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in Part D, Temporary Conditions Signs and Devices, of UTCD manual.
- .3 Place signs and other devices in locations recommended in UTCD manual.
- .4 Prior to commencement of the Work, prepare list of signs and other devices required for project. If situation on site changes, revise list to approval of Departmental Representative.

- .5 Continually maintain traffic control devices in use:
 - .1 Check signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
 - .2 Remove or cover signs which do not apply to conditions existing from day to day.

1.4 CONTROL OF PUBLIC TRAFFIC

- .1 Provide competent flag persons, trained in accordance with, and properly equipped as specified in, UTCD manual in following situations:
 - .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
 - .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
 - .3 When workers or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
 - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
 - .5 For emergency protection when other traffic control devices are not readily available.
 - .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
- .2 Where roadway, carrying two-way traffic, is restricted to one lane, for 24 hours each day, provide portable traffic signal system. Adjust, as necessary, and regularly maintain system during period of restriction. Signal system to meet requirements of Part IV of Manual of Uniform Traffic Control Devices for Streets and Highways, US FHWA.

1.5 OPERATIONAL REQUIREMENTS

- .1 Maintain at least one lane of traffic at all times.
- .2 If a request from the Departmental Representative is made for the passage of an extra wide load or any other requirement for vehicular passage beyond those already specified, the Contractor shall provide suitable and safe passage abilities during the duration of the work. This shall be implemented into the Contractors working schedule and must be made available and accommodated within seven (7) days (working and non-working) of the initial request. The Contractor shall submit an action plan to the Departmental Representative within three (3) days of the request. If the plan requires temporary structures then these structures shall be submitted under seal of Professional Engineer licensed to practice in NL. The accommodation of a wide load may also include the relocation of temporary barriers, traffic control devices, and other necessary items which should also be included in the action plan.

1.6 TRAFFIC CONTROL PLAN

- .1 Submit a comprehensive traffic control plan to Departmental Representative for review minimum 10 days prior to starting any work.
 - .1 Traffic Control Plan shall include all phases of Work.
 - .2 Indicate durations, times and types of any traffic disruptions.

END OF SECTION

1 GENERAL

1.1 Definitions

- .1 COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
- .2 Competent Person: means a person who is:
 - .1 Qualified by virtue of personal knowledge, training and experience to perform assigned work in a manner that will ensure the health and safety of persons in the workplace, and;
 - .2 Knowledgeable about the provisions of occupational health and safety statutes and regulations that apply to the Work and;
 - .3 Knowledgeable about potential or actual danger to health or safety associated with the Work.
- .3 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.
- .4 PPE: personal protective equipment
- .5 Work Site: where used in this section shall mean areas, located at the premises where Work is undertaken, used by Contractor to perform all of the activities associated with the performance of the Work.

1.2 Submittals

- .1 Submit site-specific Health and Safety Plan prior to commencement of Work.
 - .1 Submit within 10 work days of notification of Bid Acceptance. Provide 3 copies.
 - .2 Departmental Representative will review Health and Safety Plan and provide comments.
 - .3 Revise the Plan as appropriate and resubmit within 10 work days after receipt of comments.
 - .4 Departmental Representative's review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
 - .5 Submit revisions and updates made to the Plan during the course of Work.
- .2 Submit name of designated Health & Safety Site Representative and support documentation specified in the Safety Plan.
- .3 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other department of labour organization.
 - .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Submit copies of incident reports.
- .6 Submit WHMIS MSDS - Material Safety Data Sheets.

1.3 Compliance requirement

- .1 Comply with Occupational Health and Safety Act for Province of Newfoundland and Labrador, and Occupational Health & Safety Regulations made pursuant to the Act.
- .2 Comply with Canada Labour Code - Part II (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.
 - .1 The Canada Labour Code can be viewed at:
[www.http://laws.justice.gc.ca/en/L-2/](http://laws.justice.gc.ca/en/L-2/)
 - .2 COSH can be viewed at: [www.http://laws.justice.gc.ca/eng/SOR-86-304/n e .html](http://laws.justice.gc.ca/eng/SOR-86-304/n e .html)
- .3 Observe construction safety measures of:
 - .1 Part 8 of National Building Code
 - .2 Municipal by-laws and ordinances.
- .4 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply.
- .5 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing.
- .6 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.

1.4 Responsibility

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment adjacent to the site to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by all workers, sub-contractors and other persons granted access to Work Site with safety requirements of Contract Documents, applicable federal, provincial, and local by-laws, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.5 Site Control and Access

- .1 Control the Work and entry points to Work Site. Approve and grant access only to workers and authorized persons. Immediately stop and remove non-authorized persons.
 - .1 Departmental Representative will provide names of those persons authorized by Departmental Representative to enter onto Work Site and will ensure that such authorized persons have the required knowledge and training on Health and Safety pertinent to their reason for being at the site, however, Contractor remains responsible for the health and safety of authorized persons while at the Work Site.
 - .2 Provide flagperson for traffic control with equipment accessing / egressing construction site.
- .2 Isolate Work Site from other areas of the premises by use of appropriate means.
 - .1 Erect fences, hoarding, barricades and temporary lighting as required to effectively delineate the Work Site, stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the Work and create a safe environment.

- .2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.
- .3 Use professionally made signs with bilingual message in the 2 official languages or international known graphic symbols.
- .3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.
- .4 Ensure persons granted site access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.
- .5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm. Provide security guard where adequate protection cannot be achieved by other means.

1.6 Protection

- .1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.
- .2 Should unforeseen or peculiar safety related hazard or condition become evident during performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

1.7 Filing of Notice

- .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.
 - .1 Departmental Representative will assist in locating address if needed.

1.8 Permits

- .1 Post permits, licenses and compliance certificates, specified in section 01 11 00 - General Instructions, at Work Site.
- .2 Where a particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing and obtain approval to proceed before carrying out applicable portion of work.

1.9 Hazard Assessments

- .1 Perform site specific health and safety hazard assessment of the Work and its site.
- .2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site.
- .3 Record results and address in Health and Safety Plan.
- .4 Keep documentation on site for entire duration of the Work.

1.10 Project/Site

- .1 Following are potential health, environmental Conditions and safety hazards at the site for which Work may involve contact with:
 - .1 Known latent site and environmental conditions:
 - .1 Steep slopes and rock faces.
 - .2 Streams, brooks and other water bodies.

- .3 Wildlife.
- .2 Facilitate on-going operations:
 - .1 Highway traffic.
- .2 Above items shall not be construed as being complete and inclusive of potential health and safety hazards encountered during Work.
- .3 Include above items in the hazard assessment of the Work.

1.11 Meetings

- .1 Attend pre-construction health and safety meeting, convened and chaired by Departmental Representative, prior to commencement of Work, at time, date and location determined by Departmental Representative. Ensure attendance of:
 - .1 Superintendent of Work
 - .2 Designated Health & Safety Site Representative
 - .3 Subcontractors
- .2 Conduct regularly scheduled tool box and safety meetings during the Work in conformance with Occupational Health and Safety regulations and document minutes of meetings.
- .3 Keep documents on site.

1.12 Health and Safety Plan

- .1 Prior to commencement of Work, develop written Health and Safety Plan specific to the Work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.
- .2 Health and Safety Plan shall include the following components:
 - .1 List of health risks and safety hazards identified by hazard assessment.
 - .2 Control measures used to mitigate risks and hazards identified.
 - .3 On-site Contingency and Emergency Response Plan as specified below.
 - .4 On-site Communication Plan as specified below.
 - .5 Name of Contractor's designated Health & Safety Site Representative and information showing proof of his/her competence and reporting relationship in Contractor's company.
 - .6 Names, competence and reporting relationship of other supervisory personnel used in the Work for occupational health and safety purposes.
- .3 On-site Contingency and Emergency Response Plan shall include:
 - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
 - .2 Evacuation Plan: site and floor plan layouts showing escape routes, marshalling areas. Details on alarm notification methods, fire drills, location of firefighting equipment and other related data.
 - .3 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
 - .4 Emergency Contacts: name and telephone number of officials from:
 - .1 General Contractor and subcontractors.
 - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
 - .3 Local emergency resource organizations.

- .5 Harmonize Plan with Facility's Emergency Response and Evacuation Plan. Departmental Representative will provide pertinent data including name of PWGSC and Facility Management contacts.
- .4 On-site Communication Plan:
 - .1 Procedures for sharing of work related safety information to workers and subcontractors, including emergency and evacuation measures.
 - .2 List of critical work activities to be communicated with Facility Manager which have a risk of endangering health and safety of Facility users.
- .5 Address all activities of the Work including those of subcontractors.
- .6 Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever new trade or subcontractor arrive at Work Site.
- .7 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.
- .8 Post copy of the Plan, and updates, prominently on Work Site.

1.13 Safety Supervision

- .1 Employ Health & Safety Site Representative responsible for daily supervision of health and safety of the Work.
- .2 Health & Safety Site Representative may be the Superintendent of the Work or other person designated by Contractor and shall be assigned the responsibility and authority to:
 - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work.
 - .2 Monitor and enforce Contractor's site-specific Health and Safety Plan.
 - .3 Conduct site safety orientation session to persons granted access to Work Site.
 - .4 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent person while on the Work Site.
 - .5 Stop the Work as deemed necessary for reasons of health and safety.
- .3 Health & Safety Site Representative must:
 - .1 Be qualified and competent person in occupational health and safety.
 - .2 Have site-related working experience specific to activities of the Work.
 - .3 Be on Work Site at all times during execution of the Work.
- .4 All supervisory personnel assigned to the Work shall also be competent persons.
- .5 Inspections:
 - .1 Conduct regularly scheduled safety inspections of the Work on a minimum bi-weekly basis. Record deficiencies and remedial action taken.
 - .2 Conduct Formal Inspections on a minimum monthly basis. Use standardized safety inspection forms. Distribute to subcontractors.
 - .3 Follow-up and ensure corrective measures are taken.

- .6 Cooperate with Facility's Occupational Health and Safety representative should one be designated by Departmental Representative.
- .7 Keep inspection reports and supervision related documentation on site.

1.14 TRAINING

- .1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.
- .2 Maintain employee records and evidence of training received. Make data available to Departmental Representative upon request.
- .3 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of province having jurisdiction and advise Departmental Representative verbally and in writing.

1.15 MINIMUM SITE SAFETY RULES

- .1 Notwithstanding requirement to abide by Site Safety Rules federal and provincial health and safety regulations; ensure the following minimum safety rules are obeyed by persons granted access to Work Site:
 - .1 Wear appropriate PPE pertinent to the Work or assigned task; minimum being hard hat, safety footwear, safety glasses, hearing protection and high-visibility workwear.
 - .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.
 - .3 Maintain site and storage areas in a tidy condition free of hazards causing injury.
 - .4 Obey warning signs and safety tags.
- .2 Brief persons of disciplinary protocols to be taken for non-compliance. Post rules on site.

1.16 CORRECTION OF NON-COMPLIANCE

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

1.17 INCIDENT REPORTING

- .1 Investigate and report the following incidents to Departmental Representative:
 - .1 Incidents requiring notification to Provincial Department of Occupational Safety and Health, Workers Compensation Board or to other regulatory Agency.
 - .2 Medical aid injuries.

- .3 Property damage in excess of \$10,000.00,
- .4 Interruptions to Facility operations resulting in an operational lost to a Federal department in excess of \$5000.00.

- .2 Submit report in writing.

1.18 HAZARDOUS PRODUCTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS).
- .2 Keep MSDS data sheets for all products delivered to site.
 - .1 Post on site.
 - .2 Submit copy to Departmental Representative.
- .3 For interior work in an occupied Facility, post additional copy in one or more publically accessible locations.

1.19 BLASTING

- .1 Blasting or other use of explosives is not permitted.

1.20 POWDER ACTUATED DEVICES

- .1 Use powder actuated devices only after receipt of written permission from Departmental Representative.

1.21 SITE RECORDS

- .1 Maintain on Work Site copy of safety related documentation and reports stipulated to be produced in compliance with Acts and Regulations of authorities having jurisdiction and of those documents specified herein.
- .2 Upon request, make available to Departmental Representative or authorized Safety Officer for inspection.

1.22 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on Work Site in accordance with Acts and Regulations of Province having jurisdiction.
- .2 Post other documents as specified herein, including:
 - .1 Site specific Health and Safety Plan
 - .2 WHMIS data sheets
 - .3 Incident reports
 - .4 Tool box and safety meeting minutes

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; unfavorably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.

1.2 FIRES

- .1 Fires and burning of slash, brush, trees or rubbish on site is not permitted.

1.3 DISPOSAL OF WASTES

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- .3 Do not discharge wastes into streams or waterways.
- .4 Dispose of uncontaminated construction/demolition material which cannot be recycled or reused, at an approved construction and debris disposal site.

1.4 DRAINAGE

- .1 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .3 Do not pump water containing suspended materials to enter into waterways, sewer or drainage systems.
- .4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.5 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties where indicated or as directed by the Departmental Representative.
- .2 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .3 Minimize stripping of topsoil and vegetation.
- .4 Restrict vegetation removal to areas indicated or designated by Departmental Representative.
- .5 Vegetation and topsoil should not be removed to obtain fill for road construction purposes.

1.6 WORK ADJACENT TO WATERWAYS

- .1 Do not operate construction equipment in waterways or within 20 metres of waterways.
- .2 Do not use waterway beds for borrow material without Departmental Representative's approval.
- .3 Do not dump excavated fill, waste material or debris in waterways.
- .4 Design and construct temporary crossings to minimize erosion to waterways.
- .5 Do not skid logs or construction materials across waterways.
- .6 Avoid indicated spawning beds when constructing temporary crossings of waterways.
- .7 Temporary diversion ditches, approved by the Departmental Representative, are to be plastic lined.
- .8 Temporary storage sites for debris generated from clearing operations should be deposited away from watercourses and should be surrounded by a natural vegetative buffer.
- .9 Do not pump or drain water containing suspended materials into waterways. Water containing suspended materials shall be pumped into vegetation a minimum of 30 m away from watercourses.

1.7 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.
- .3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.

1.8 GENERAL REQUIREMENTS

- .1 Work under this contract is to be carried out in a National Park, and environmental protection must be given a high priority by all staff involved with the work.
- .2 An Environmental Briefing will be held prior to work commencing at the site, which will outline environmental factors to be considered during the work. It is mandatory that all current staff of the Contractor attend this meeting with the Departmental Representative and Environmental Protection Officer (EPO).

1.9 SITE SET-UP AND USE

- .1 All site activities related to construction are to be confined within the defined project boundaries.
- .2 Work sites will be equipped with appropriate and properly maintained sanitary facilities.

- .3 Garbage must be collected and removed daily from the work site. All material must be removed, transported and disposed of in accordance with existing provincial - municipal and Park solid waste disposal guidelines and/or regulations.
- .4 Littering is prohibited.
- .5 Temporary storage, parking areas, and turn-a-round facilities for contractor-related equipment and vehicles will be limited to those areas agreed to and designated by the Departmental Representative.

1.10 ENVIRONMENTAL PROTECTION PLAN

- .1 The Contractor is required to submit a plan showing all pollution control measures that will be used to fulfill the requirements of the Environmental Protection Section. This plan will be reviewed by the Departmental Representative and the Environmental Protection Officer prior to commencement of any work. Any deviation from this plan will require further approval by the Departmental Representative. The protection plan shall be submitted prior to the pre-construction meeting.
- .2 The Environmental Plan will outline how the Contractor will address the environmental protection requirements, including removal and installation of culverts, and ensure pollution created by the construction is controlled. It will show sufficient detail on products to be used and physical placement on site to determine effectiveness of these items.
- .3 The plan must cover all activities within the Limits of all Construction, laydown and traffic diversion areas.

1.11 ENVIRONMENTAL PERFORMANCE

- .1 The Contractor is required to follow the Canadian Environmental Protection Act.
- .2 The Contractor is held responsible to ensure that all necessary permits related to Environmental Protection have been obtained and that necessary documentation is available on-site.

1.12 VEHICULAR MOVEMENTS

- .1 Restrict movement of vehicles and equipment to existing disturbed areas (access roads, borrow pits, disposal areas and right-of-ways).

1.13 STORAGE AND HANDLING OF FUELS AND DANGEROUS FLUIDS

- .1 Locate fuel storage facility outside Park and a minimum of 100 m from any water body in an area approved by Departmental Representative and construct impermeable dykes so that any spillage is contained. Fueling of vehicles or equipment will not be permitted within 100 m of any water body. Maintenance of vehicles and equipment will be permitted only in designated areas as directed by the Departmental Representative. In case of emergencies, call the Parks Canada dispatch at 1-877-852-3100.
- .2 Exercise care in handling of fuels or dangerous materials to minimize potential for spills. Report immediately any spills to Departmental Representative. Contractor is responsible for responding immediately to any spill to minimize environmental damage and for clean-up, repair or

- rehabilitation resulting from any spills to the satisfaction of the Departmental Representative.
- .3 Supply and maintain on site emergency response material to contain spills and minimize environmental damage, i.e. absorbent material, to the approval of Departmental Representative. Disposal of all contaminated material shall be off-site at an approved facility.
 - .4 Dangerous goods, whose release into the environment could cause adverse effect, should be stored and handled in a manner which gives due regard for workers and public safety, and for the protection of the environment.
 - .5 No material toxic to fish or any aquatic life shall be permitted to enter any stream, river, or lake. This shall include, but not be limited to lubricants, fuels, testing fluids, insecticides, detergents, herbicides, cement, lime or concrete.
 - .6 The management of fuels, lubricants and chemicals must meet with the requirements of the Newfoundland & Labrador Department of Environment & Conservation and all other appropriate provincial and federal regulations.
 - .7 Fuel storage containers must be accompanied by impermeable structures that would provide containment of 125% of the container capacity in the event of a leak or spill.
 - .8 All refueling and lubricating operations should employ protection measures such as drip pans, to reduce the potential for escape of petroleum products to the environment.
 - .9 The Departmental Representative and the Park's Environmental Protection Officer (EPO) must be immediately contacted after a spill of fuel or lubricant, and after any amount of other chemical products has escaped.
 - .10 Storage of any fuel has to occur only in previously approved locations, and with Park consent. The Contractor must submit plans for fuel management and a Spill Contingency Plan seven days prior to the start of the Work. The Contractor is expected to be prepared to effect the containment and cleanup of all spills related to the Work.
 - .11 Storage of hazardous material, including explosives, shall not be permitted, except for quantities which shall normally be expected to be utilized in a day of Work, and which are not permitted to stockpile.
 - .12 Emulsion storage tanker and transfer of emulsion from tanker to spray vehicle are not permitted.

1.14 EROSION AND SEDIMENT CONTROL

- .1 Appropriate preventative controls should be in place at all times during construction to prevent undue erosion and sedimentation. The Contractor is required to provide to the Departmental Representative for approval ten (10) working days before start-up an erosion and sedimentation control plan, as part of the Environmental Protection Plan. The plan shall incorporate all necessary silt fences, silt traps, plastic lined trenches and ditches as approved by the Departmental Representative.
- .2 The Contractor shall install and maintain all sedimentation and erosion control features for the duration of the project, in accordance with the approved plan. The Contractor shall remove all sedimentation and erosion control upon completion of the work and when requested by the Departmental Representative.

- .3 Sediment fences and erosion control structures shall be constructed in roadside ditches or at culvert inlets prior to any excavation as directed by Departmental Representative.
- .4 To minimize run-off, work on slopes which may affect water body will be curtailed during periods of heavy rainfall, as directed by the Departmental Representative.
- .5 Prior to carrying out work, check long range weather forecast to ensure that there is adequate time before forecast of heavy rain storms to stabilize the work. Provide details of stabilization plan to Departmental Representative for review.
- .6 Maintain a stockpile of appropriate erosion and environmental protection materials (e.g. silt fences, straw bales, wood chips, clean rock fill and aggregate base course) on site at all times.
- .7 Install additional erosion control measures as required by site conditions to prevent sediment from entering drainage courses.
- .8 Inspect erosion and sediment control measures on a daily basis and maintain as necessary.

1.15 ENVIRONMENTAL INCIDENT OR EMERGENCY

- .1 In the event of an environmental incident or emergency such as:
 - .1 Chemical spill or petroleum spill;
 - .2 Poisonous or caustic gas emission;
 - .3 Hazardous material spill;
 - .4 Sewage spill;
 - .5 Contaminated water into waterways.
 - .6 The Contractor or his employees shall immediately:
 - .1 Notify the Contractor's job Superintendent.
 - .2 Call the local emergency services and give type of emergency.
 - .3 Notify the Departmental Representative and the Park's Environmental Protection Officer (EPO).
 - .4 Notify the Parks Canada Emergency Dispatch at 1-877-852-3100.
- .2 The Contractor is to submit to Departmental Representative a copy of its Environmental/Spill Response Plan for approval.

1.16 SPECIES AT RISK

- .1 Should a species or its critical habitat be encountered, measures are to be implemented to avoid destruction, injury and interference with the species, its residence and/or its habitat (e.g., through siting, timing or design changes). If the foregoing cannot be avoided, Contractor should cease work and contact Departmental Representative for advice regarding mitigation measures.
- .2 In the event that it is determined that the project likely may have unexpected adverse effects on species at risk (SAR), the Contractor shall notify the Departmental Representative immediately.

1.17 MIGRATORY BIRDS / WILDLIFE HABITAT

- .1 Disturbance and destruction of habitat should be minimized during the breeding season of April 1st to end of July.
- .2 Ensure all works are in compliance with the Migratory Birds Convention Act.

- .3 Restrict vehicle movements to construction areas and access roads and avoid harassment of animals.

1.18 FISH / FISH HABITAT

- .1 All materials and equipment used will be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) as defined by the Fisheries Act from entering the surface water.

1.19 SITE DECOMMISSIONING

- .1 Unless prior permission from the Departmental Representative is obtained, all contractor equipment, facilities and materials must be removed from the Park at the finish of each work phase, or if work is suspended due to weather or other circumstances, upon the suspension of work activities.
- .2 All work sites must be returned to a neat and tidy condition upon site abandonment.

1.20 SITE CLEARING

- .1 Timber and vegetation shall not be cleared unless approved by Departmental Representative.
- .2 Vegetation and topsoil shall not be removed to obtain fill for road construction purposes.
- .3 All cleared trees and timber shall become the property of the Contractor, and are to be disposed of outside the park boundaries.
- .4 All cut shrub vegetation and underbrush shall be chipped and evenly dispersed on-site. No burning of any vegetation or debris will be permitted in the park boundaries.
- .5 No roadside vegetation clearing will be permitted during the annual songbird nesting period of June and July.

END OF SECTION

1 GENERAL

1.1 DESCRIPTION

- .1 This item consists of cutting and salvaging Merchantable Timber, and disposing of all other trees, brush and slash.
- .2 Merchantable timber is defined as any timber for which the Contractor can find an established market in the general vicinity of the Contract.

1.2 BASIS OF PAYMENT

- .1 Payment for Work under this item shall be at the Unit Price.
- .2 The Quantity to be measured for payment will be the number of hectares of land cleared in accordance with this item, including disposal of large trees outside park boundaries and traffic control.
- .3 All measurements will be made in a horizontal plane, calculated by average and area.

1.3 DEFINITIONS

- .1 Clearing consists of cutting off trees and brush vegetative growth to not more than specified height above ground and disposing of felled trees, previously uprooted trees and stumps, and surface debris.
- .2 Underbrush clearing consists of removal from treed areas of undergrowth, deadwood, [and trees smaller than 50 mm trunk diameter] and disposing of fallen timber and surface debris.

1.4 QUALITY ASSURANCE

- .1 Do construction occupational health and safety in accordance with Section 01 35 29 - Health and Safety Requirements.

1.5 STORAGE AND PROTECTION

- .1 Prevent damage to natural features, existing pavement, utility lines and water courses which are to remain:
 - .1 Repair damaged items to approval of Departmental Representative.
 - .2 Replace trees designated to remain, if damaged, as directed by Departmental Representative.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Merchantable timber shall be salvaged. Salvaged material shall become the property of the Contractor and shall be removed from the work site by May 15th 2016.
- .2 Cut trees shall be transported outside park boundaries. The use of ATVs and / or over snow vehicles will be allowed, with the prior approval by the Field Unit Superintendent.

2 PRODUCTS

2.1 NOT USED

3 EXECUTION

3.1 PREPARATION

- .1 Inspect site and verify with Departmental Representative, items designated to remain.
- .2 Locate and protect utility lines: preserve in operating condition active utilities traversing site.
- .3 Notify utility authorities before starting clearing and grinding.
- .4 Keep roads and walks free of dirt and debris.
- .5 Provide traffic control in accordance with Traffic Control Manual, latest edition, Department of Transportation and Works, Newfoundland and Labrador,
www.tw.gov.nl.ca/publications/trafficcontrolmanual2011.pdf

3.2 CLEARING

- .1 The site on which this clearing work is to take place is divided into 13 sections described below. Km 0.000 is located at the East entrance to Terra Nova National Park, south of Salmon Brook, as indicated by existing survey marker and the coordinate is Latitude 48.3907905, Longitude -54.2074438. All clearing limits have been marked with colored ribbons along the 13 areas of the Trans-Canada Highway (see schematic drawing at appendix A). Note chainage distances indicated below do not include taper lengths:
 - .1 Km 2.675 to 4.500 (North West River): 1.5 ha
 - .2 km 6.790 to 9.230 (Cobbler's Cove): 2.2 ha
 - .3 km 9.600 to 14.350 (Tide Waters): 4.0 ha
 - .4 km 12.350 to 16.650 (Yuddle Ponds): 3.2 ha
 - .5 km 18.200 to 20.380 (Charlottetown): 1.5 ha
 - .6 km 19.075 to 21.120 (Island Ponds): 1.0 ha
 - .7 km 21.570 to 23.985 (Bread Cove): 2.3 ha
 - .8 km 23.950 to 28.880 (Ochre Hill): 3.0 ha
 - .9 km 29.520 to 32.500 (Newman Sound): 2.5 ha
 - .10 km 32.150 to 33.800 (Saltons Brook South): 1.0 ha
 - .11 km 34.400 to 36.850 (Saltons Brook): 1.5 ha
 - .12 km 35.600 to 37.380 (South West Brook): 1.5 ha
 - .13 km 38.040 to 41.900 (South West Arm): 2.5 ha

- .2 Clearing includes felling, trimming, and cutting of trees into sections and satisfactory disposal of trees and other vegetation designated for removal, including downed timber, snags, brush and rubbish occurring within cleared areas.
- .3 Trees shall be cut so that stump height is not greater than 0.3 m above average ground level, or in the event of significant snow cover, to a height as agreed with the Departmental Representative. The use of heavy equipment to cut trees, such as harvesters, is not authorized. Cutting of trees shall be done with a chain saw.
- .4 Cut trees shall be transported outside park boundaries. The use of ATVs and / or over snow vehicles will be allowed, with the prior approval by the Field Unit Superintendent.
- .5 No shredding, chipping, or placement of shredded or chipped material shall occur within 20 m of a watercourse or wetland. Clearing work within 20 m of watercourse or wetland is to be done by hand / using a chainsaw.
- .6 All other non-merchantable trees, and all brush and slash shall be shredded or chipped using mini-excavators or bobcats with mulching heads, within the marked areas only.
- .7 Disposal by burning is prohibited.
- .8 Notwithstanding items .5 to .7 above, all non-merchantable trees, brush and slash shall be disposed of such that the Departmental Representative can set and grade stakes for cut and fills, set stakes for top of slope and toe of slope; and survey cross-sections.
- .9 The Contractor shall limit ground disturbance to minimize the potential for erosion and sedimentation of watercourses and wetlands.
- .10 There shall be no long skids of timber on steep slopes adjacent to watercourses, and no felling or skidding trees across a watercourse.

3.3 FINISHED SURFACE

- .1 Leave ground surface in condition suitable for immediate excavation operations to approval of Departmental Representative.

3.4 CLEANING

- .1 On completion and verification of performance of work, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION
