

5P424-13-0246  
ANNEX A  
STATEMENT OF WORK

FOREST THINNING FOR ECOSYSTEM RESTORATION - SINCLAIR RESTORATION PROJECT  
KOOTENAY NATIONAL PARK OF CANADA

## **1.0 INTRODUCTION**

### **1.1 Project Overview: Forest Thinning for Ecosystem Restoration**

Historically, the slopes and valley bottoms of the Rocky Mountain Trench in the Radium area were characterized by an open Douglas fir/grassland forest type, a natural mosaic of open stands of conifer and broad expanses of grasses. This landscape was ideal habitat for ungulates, predators, and a number of small mammals. This habitat was maintained through relatively regular patterns of disturbance, including fire.

A combination of changing human values, fire suppression, and shifting weather patterns has altered the natural disturbance regime. Forest in-growth has eliminated much of the natural open grassland, particularly on the mountain slopes. The result has been a marked decrease in species diversity, and the quantity and quality of habitat for the animals requiring open forest types.

The main goal of this project is the restoration of critical Rocky Mountain Bighorn Sheep transitional habitat on the lower slopes of Mt. Berland, adjacent to lower Sinclair Canyon. This proposed project will restore 61 hectares of closed forest to open Douglas Fir forest/grassland (Montane) forest structure. This montane forest is the preferred habitat for the blue-listed Rocky Mountain Bighorn sheep herd of up to 200 animals in size. This local herd is currently in decline through the cumulative effects of habitat destruction, lack of open forest/grasslands, disease, and highway mortality. As part of the restoration, ecological biodiversity will increase for other indigenous flora and fauna as well and prescribed fire will allow natural process to return to a fire-dominated landscape and enhance ecological integrity.

Parks Canada is undertaking the ***Sinclair Restoration Project*** which aims to reintroduce the historic role of fire to re-establish these forest types in the south end of Kootenay National Park. A 61 hectare prescribed fire is being planned for the south slopes of Mt. Berland, across the highway from the Radium Hot Springs. Prior to operational commitments of prescribed burning, the initial stages of the project requires **15.3 hectares** of mechanical forest thinning to reintroduce natural forest structure near the valley bottom, and will also act to reduce fuel loads near values at risk prior to burning. With the expiry of the lease of the old Radium Lodge, the restoration of this portion of the Sinclair Canyon to an open forest type has become feasible. This forest thinning project will dovetail with the demolition of the Radium Lodge (a separate contract) in order to achieve some of the initial objectives of the restoration project.

**This contract requires the removal of full-stem trees, transportation of logs, management of associated harvesting debris, rehabilitation of disturbed sites, and operating under the direction of a BC Hydro Certified Utilities Arborist in part of the treatment area as defined in these terms of reference.** This work will be performed by the successful contractor in a manner that will minimize mortality of retained stems as well as limit the creation of additional hazard trees.

**Low-impact mechanical harvesting is the only method that will be considered for this contract** to ensure that it is completed in the designated time period, to ensure the tree harvesting progress remains within designated timelines, and that environmental protection and debris management considerations are met. **Cut-to-length, whole-tree, or tree-length harvesting methods will be feasible within the terms of this contract,** provided proposed methodologies limit environmental impacts and meet other restrictions within these terms of reference. *Low-impact*, under the terms of this contract, will be defined as high-floatation rubber tire (with or without the addition of specialized tracks for ground pressure reduction) and/or tracked equipment with limited compaction rating; with ground pressure limited to < 15psi loaded. **Tracked equipment will only be allowed to operate on landings and previously disturbed (skid/forwarding) roads.** Prospective bidders must detail the limited compaction and reduced impact characteristics of the mechanical equipment they intend to use for this project in their bid submission as per Annex "D". Specialized methodologies for harvesting trees using this equipment must also be provided by the Contractor in the tender submission.

**Contractors are encouraged to seek suitable market(s) for harvested wood in order to provide some cost-offset to the project.** A significant proportion of the timber removed is expected to be merchantable to contractor-specified markets. **All timber harvested under the scope of this project that is NOT merchantable to available markets to maximize cost recovery, will be designated as firewood for Parks Canada and forwarded to predetermined firewood decking site(s) within Kootenay National Park and included in the scope of the bid submitted. Firewood provisions are detailed in Section 3.2.2 and log decking restrictions can be found in Section 8.6.** Total volume of non-merchantable wood (total volume minus merchantable volume) removed from each treatment area will be transported as per the terms of the contract (as *firewood*) and remain under ownership of Parks Canada

## **1.2 Project Location**

The work required for this contract is located within the boundaries of Kootenay National Park, British Columbia. Kootenay National Park is managed by Parks Canada and the park is bounded by the Alberta/BC boundary to the north and Radium Hot Springs, British Columbia to the south. The geographic location where tree harvesting is required is immediately adjacent to highway 93S at the reclaimed site (planned) of the old Radium Lodge; directly across the highway from the Radium Hot Springs.

An overview of the work location is illustrated in Figure 2 below.



Figure 1. Project area location within Kootenay National Park of Canada, northeast of Radium Hot Springs, BC.

## **2.0 PROJECT OBJECTIVES**

The main objective of this project is to **remove select immature and subdominant forest vegetation to restore natural forest structure** in defined *Treatment Units* as described in the attached specifications using mechanical harvesting as part of a larger forest restoration project on the south slopes of Mt. Berland across the highway from the Radium Hot Springs in Kootenay National Park.

This project will undertake selective and/or complete mechanical harvesting of live and dead Douglas fir and subdominant conifer species in strategically identified locations within treatment units. These areas have been identified by Parks Canada in the Environmental Impact Assessment: *Basic Impact Analysis, Sinclair Ecological Restoration, Kootenay National Park, File # 2013-0011(K)*.

Under the terms of this contract the tree removal is to be completed between **Jan 10th, 2014 and February 28, 2014** (see Section 4.0 for further details related to scheduling).

Section 3.0 of this document outlines the prescribed treatments to be implemented by the contractor within the scope of this project. The treatment is specifically defined to consider risk, ecological concerns, dominant tree species, density, age-class, and post-harvest longer-term management objectives. Primary tree species in the Treatment Units is Douglas fir (*Pseudotsuga menziesii*). Trembling aspen (*Populus tremuloides*) and Rocky Mountain juniper (*Juniperus scopulorum*) may exist in some treatment areas. Primary species to be removed is Douglas fir.

Post-harvest slash management is very carefully defined in the plans and specifications of this project. Harvested and otherwise disturbed sites will require considerable clean-up of project-generated debris (tops, limbs, slash). Debris is to be piled and burned and/or chipped in accordance with the restrictions outlined in Section 3.4.

Reclamation of disturbed sites is another critical component to this project and is defined in the specification in Section 5.0. The contractor will be responsible for fulfilling the reclamation requirements to the extent detailed in Section 5.0 on or before the end date of the contract.

### **3.0 PLANS AND SPECIFICATIONS for TREE REMOVAL**

#### **3.1 Harvesting Locations and Sites**

The project area has been delineated into three (3) primary *Treatment Units* based on their general geographic location and operational complexity within the project area. The Treatment Unit layouts, locations, and tree removal parameters are defined below and in Figure 2.

The areas that will be mechanically treated are those areas designated in yellow in figure 2 (approximately 15.3 Ha), and then only those areas that are machine accessible. These treatment areas were outlined to include only terrain that is accessible for mechanical harvesting, and the intent is to harvest them by mechanical methods with only a small amount of hand falling where required.

An old access road extends from the old Radium Lodge to the BC Hydro transmission line. This route is marked in purple on figure 2. The active hydro line (marked in blue in figure 2) that parallels the road for a short time, then cuts across the slope to the old Lodge and the hot pools. Clearance on this line varies widely with the terrain, and heavy equipment operators will need to maintain awareness and ensure safety protocols are in place.

##### Treatment Unit # 1:

Orientation: Main treatment area of project running from behind radium Lodge on the East end of the project area, including downslope toward highway and upslope above access trail.

Prescription: 80 stems/ha retention; single tree and clumped retention; Douglas fir > 30cm dbh retained.

Treatable area: 10.2 ha

##### Treatment Unit # 2:

Orientation: Westernmost triangular shaped treatment area, from powerline upslope to park boundary.

Prescription: 80 stems/ha retention; single tree and clumped retention; Douglas fir > 30cm dbh retained

Treatable area: 2.6 ha

Treatment Unit # 3:

Orientation: North and south side of powerline running through project area, approximately 40-50 meters on either side of the line.

Prescription: 80 stems/ha retention; single tree retention, all hazard trees and leaners removed

Treatable area: 2.5 ha

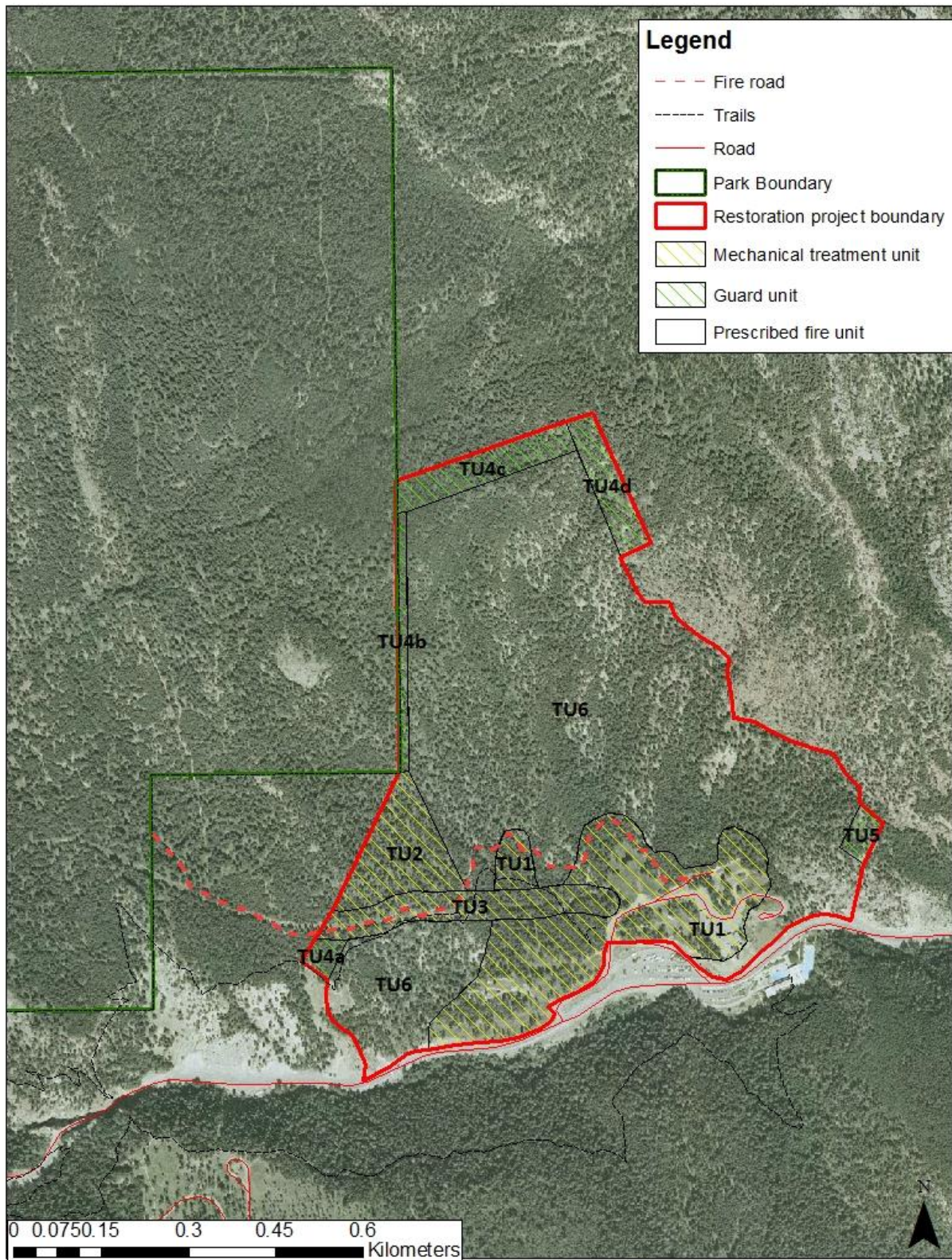


Figure 2. Sinclair restoration unit (45ha) with the unit boundary shown as a red line. Yellow shaded area indicates the mechanical thinning Treatment Units required of this contract (15.3 ha total) and green shaded area indicates the guard units (not within the terms of this contract).

### **3.2 Project Harvesting Specifications**

Douglas fir will be the dominant removal species for the purposes of this contract. Most sub-mature trees will be removed. Trembling aspen and Rocky Mountain juniper will also be considered 'harvestable' under the terms of this contract in order to meet prescription, but will be retained where feasible to meet "clumping" prescription. All veteran Douglas fir >30cm DBH will be retained unless otherwise directed by Parks Canada. Some trees will be retained <30cm DBH in order to create more effective "clumping" patterns in the retention, in order to provide effective wildlife cover and increase windfirmness of retention. See Figures 3, 4 and 5 below.

All trees, live or dead, with any clear indication of lean toward the BC Hydro transmission line (Treatment Unit #3) will also be removed.



Figure 3. Approximate current stand condition and density.



Figure 4. Desired approximate retained stem density (*clumping not illustrated*).

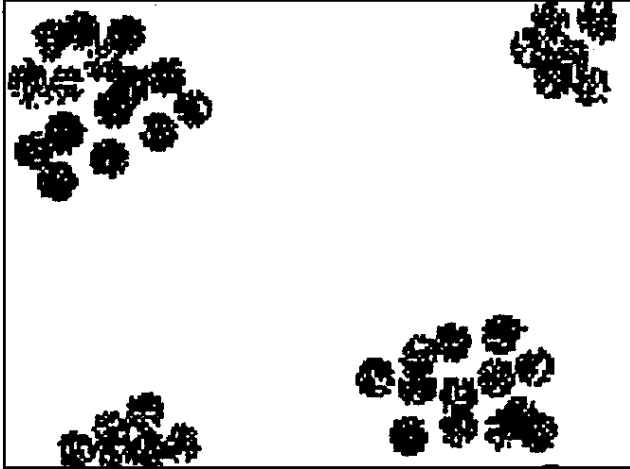


Figure 5. Desired tree spacing; clumping retained stems.

The use of hand-falling techniques will be mandatory in environmentally sensitive areas including steep slopes, and near riparian areas and watercourses. Mechanical equipment will not be permitted to operate on ground within 15 meters of any stream or watercourse or within 15 meters of the perimeter of any riparian zone. In any treatment area requiring stream-crossing by mechanical equipment, proximity to watercourses and type and method of crossing structure will require the pre-approval of the Parks Canada project manager and Parks Canada Environmental Assessment office.

Forwarding trails used for wood transport will not exceed a maximum width of 5 meters and will maintain a minimum spacing of 25 meters between trails. Existing roads, trails, rights-of-way, disturbed areas or natural forest openings will be used to lay out forwarding trails where feasible. Where aesthetic concerns are identified by the Parks Canada project manager, forwarding trails will be laid out in such form as to 'meander' in an effort to minimize open sight-lines along cleared trail networks. No sub-grading of organic material or mineral soil will be permissible during this project, **except** along the BC Hydro access road (see section 8.5). No removal of stumps will be permitted. A minimum number of forwarding trails is encouraged for this project and forwarding trail locations will be based on equipment limitations and the minimization of ecological impacts. The Parks Canada project manager will reserve the right to pre-approve any and all forwarding trail locations.

Refer to section 8.5 and 8.6 for forwarding trail and landing restrictions.

### **3.2.1 Special Considerations - Harvesting**

- If timber is not safely transportable due to decay condition, it will be retained as is where is on the ground or forwarded to burn piles. Only *unsound* standing or fallen wood will be retained as course woody debris. At the discretion of the project manager, a *maximum* 25 stems per hectare of felled or previously fallen (existing) decayed wood will be allowable to remain on the ground as coarse woody debris if non-transportable or if access with equipment would cause excessive environmental damage. Minimizing the number of stems left on the ground is key to meeting project objectives.
- Stump heights will be maintained at less than 25 cm for mechanically harvested timber, and less than 15 cm for hand-fallen timber. Stumps will not be removed from forwarding trails or landings.
- If the Contractor deems any standing dead timber a safety hazard for its workers, they may remove such timber.



- Should weather conditions be unusually wet and lead to rapid saturation of soils, the project manager will reserve the right to temporarily implement load capacity reductions on forwarding equipment on forwarding trails until which time the soils no longer become prone to increased compaction.
- Trucking load weight restrictions will be applied in the identical manner as on Alberta Provincial and/or British Columbia roads.
- No mobile camps or accommodation facilities will be permitted within the Park. The Contractor is responsible for all accommodation required for the Contractor's personnel and must use existing accommodation.
- The Contractor will take all necessary measures to ensure that no trees, other vegetation or soils outside the designated flagged areas are damaged or removed.
- When rot is encountered in the butt of a tree's bole, the procedures and standards for determination of sound wood shall be identical to those set by the Province of British Columbia.
- Submission of tender is deemed to be confirmation that the tenderer has inspected the sites and is conversant with all conditions affecting execution and completion of the Work. Failure to do so will not relieve the Contractor of any obligations under this contract.

### **3.2.2 Special Considerations: Firewood Provision of non-Merchantable Timber**

In keeping with Parks Canada's *Surplus Timber Directive (2002)*, all non-merchantable but *sound* wood harvested within the scope of this project will be utilized as firewood by Parks Canada. All wood salvaged as firewood from Treatment Units will remain the property of Parks Canada and will be delivered, where required by the terms defined in this contract, in full-length or short-log form, to a designated firewood decking site identified by Parks Canada and outlined in figure 6 and listed below:

- Redstreak Campground firewood storage site (vehicle access and turnaround ability) south of project site above the town of Radium Hot Springs, adjacent to Redstreak campground. Transport distance from project site to firewood storage at Redstreak is approximately **6.5 kms**.

All non-merchantable but *sound* wood greater than 4" diameter will be salvaged for firewood under the terms of this contract. Any unsound wood not suitable for transport (due to decay/decomposition/breakage) will be forwarded to burn piles or retained on the ground as coarse woody debris (see 3.4 *Debris Management* for woody debris retention parameters).

All costs associated with the harvesting of timber, including but not limited to log-hauling and transportation costs (including highway traffic management cost if applicable), will be the responsibility of the Contractor and should be appropriately considered in the overall bid submission.

Any requirements to process full-length log decks into firewood length will be considered separate from and outside the scope of this contract.

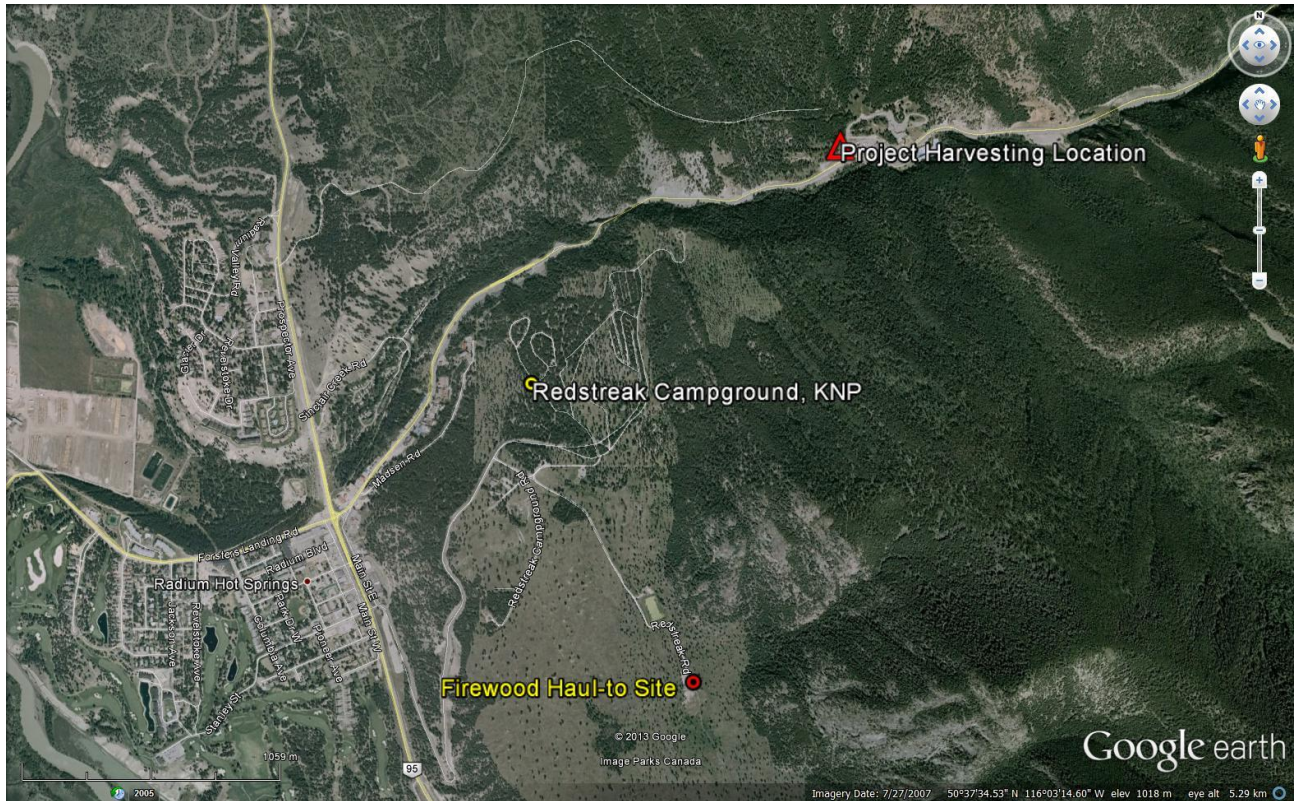


Figure 6. Firewood haul-to site, Redstreak Campground area, KNP.

### **3.3 Mandatory Certified Utility Arborist Requirements**

The Contractor who is awarded this tree harvesting contract is required to provide a Certified Utility Arborist (CUA) to supervise the safety of all tree falling operations required of this contract within a tree-length (defined in this project as 25 meters) of the powerline. BC Hydro requires a CUA on-site during the course of each daily operational period whenever mechanical or hand-felling is planned or practiced in proximity [a tree length] to the powerline. Treatment Unit #3 is subject to these terms. This requirement is stipulated by BC Hydro and will be enforced by Parks Canada, BC Hydro, and the Workman's Compensation Board (WCB). The CUA requirements are legislated by Worksafe BC and will be adhered to in full commitment by the Contractor. The CUA must be able to provide the contractor's staff with mandatory [electrical safety] certification training prior to any work site operations.

The full name, contact information, and British Columbia certification number of the intended CUA must be provided in each bid submission (see Annex "C").

### **3.4 Debris Management Specifications**

Limbs and tops of harvested trees, as well as non-salvageable fiber will be piled for later burning, and/or chipped and removed from site as per the specifications below.

All associated debris greater than 5 cm in diameter will be defined as debris under the terms of this contract. Where a given volume of coarse woody debris exists on the forest floor in pre-treatment condition, an acceptable volume of coarse woody debris may be retained post-harvest at the discretion of the Parks Canada project manager; where feasible and where critical wildlife habitat retention is a concern.

As indicated in Section 3.2.1, *up to 25* felled, full-stem tree boles per hectare of treatment area will be permitted to remain on the ground ONLY when wood is unsound or where sound wood is in inaccessible terrain within the project area. This caveat will allow for a natural volume of coarse woody debris to be maintained post-harvest if there was a pre-existing natural condition, and will allow for the retention of felled trees as coarse woody debris in areas of micro-topography which are not accessible to harvesting or recovery equipment. Debris management may require some full stem trees to be burned as debris if the area is not accessible to facilitate removal of the tree and/or there becomes an excess of 25 boles per hectare felled or unsound wood on the ground. Under the terms of this contract, a tree *bole* will be defined as the full length of the woody mass (trunk) of any single tree stem.

Burn piles established *within* Treatment Units will not exceed the maximum dimensions of 3 meters in depth and 3 meters in diameter. Burn piles within the treatment units will not be placed within scorching distance of retained stems and will not be permitted within 30 meters of any riparian area or watercourse. Location of burn piles (if required) will be determined on-site under consultation with the Parks Canada project manager in order to minimize environmental impacts.

If proposed methodology involves transporting either all or a portion of post-harvesting debris to a designated landing, maximum single burn pile dimensions of 7.5mx7.5m on the landing will be maintained.

Parks Canada will ensure burn piles are constructed to the specifications outlined in this terms of the contract. The contractor will be solely responsible for burning debris piles within the contract timeframes. Consultation with the Parks Canada project manager will be required before burning any debris to ensure fire danger levels will not result in accidental wildfire spreading from burning piles.

Chipping of debris will also be considered a viable methodology for the purposes of debris management. Chips will be removed from site and disposed of outside of the park. Chip piles will not be permitted within 30 meters of any riparian area or watercourse. The contractor will be responsible for all aspects of chipping and removal of chips under the terms of this contract if that methodology is preferred by the contractor.

A 25 meter buffer must be maintained at all times between the main hydro transmission line and any burn piles in order to minimize the possibility of arcing due to concentrated smoke particulate.

While burning, the Contractor will monitor **smoke venting** conditions on a daily forecast basis. Environment Canada provides daily venting forecast for the Golden, BC region at the following URL:

<http://www.env.gov.bc.ca/epd/epdpa/venting/venting.html>

Parks Canada will also monitor smoke venting forecasts and observe and record localized venting conditions and will reserve the right to temporarily cease burning operations if public health and/or safety concerns are identified. The contractor is required to abide by the BC smoke control guidelines and regulations which can be found at the following URL:

<http://www.env.gov.bc.ca/epd/bcairquality/reports/agttobsc.html>

### **3.5 Traffic Control**

The Contractor will be responsible for provision of highway safety and necessary traffic control for any roadside operations within the scope of the harvesting project. The contractor will be responsible for all aspects of traffic management (including speed reduction and flagpersons as required). It is anticipated that traffic management within the Radium Hot Springs parking lot will be required.

Contractors should detail their proposed methods for log transport in their tender submission AND will be expected to prepare a highway traffic safety plan prior to project start, to be approved and signed by the Parks Canada project manager.

Log-hauling on roadways within Kootenay Nation Park **will not be permitted** on Fridays after 1200 noon, or at any time on weekends (Saturday/Sunday) due to high weekend traffic volume on Highway 93 South.

Parks Canada will not bear any costs to this project incurred as the result of highway traffic safety during the length of the contract nor flagpersons required for safety and traffic coordination through the project areas. All highway safety provision costs will be the sole responsibility of the contractor.

Parks Canada will ensure a designate is on-site during the preliminary safety meeting to provide additional information.

#### **4.0 WORK SCHEDULE**

The harvesting component of this project is scheduled for fall of 2013; the start date is scheduled for **January 10th, 2014.**

The ground is expected to be mostly dry this time of year at this elevation and geographic location. The project may be rescheduled or stopped or payload restrictions placed on heavy equipment at the discretion of the Parks Canada project manager or designate in the event of excessive precipitation (>10mm in 24hr period) to protect soils and vegetation from excessive compaction.

The duration of the project is expected be four-to-six weeks. The project must be completed no later than **February 28, 2014** – including any debris management and reclamation work that will apply in the contract.

Parks Canada will reserve the right to limit work days to daylight hours [0700 – 1900 hrs] as and where required in certain areas based on wildlife considerations and potential for public disturbance.

#### **5.0 RECLAMATION REQUIREMENTS**

Reclamation of disturbed sites is key to meeting project objectives;

The clean-up and rehabilitation of disturbed sites during the course of the project are as follows:

- Tops and limbs will be piled on-site as defined by parameters in Section 3.4
- All forwarding and/or skid trails reclaimed to a natural state using organic material and coarse woody debris and reseeded where disruption to mineral soil has occurred (Parks Canada to provide proper seed mix)
- Deep rutting and excessive compaction from machinery to a depth greater than 5cm will be scarified with organic material and reclaimed as above
- Stumps will be flush-cut as close to the ground as possible (considering mechanical limits) as per the guidelines in Section 3.2.1
- All areas with disruption of mineral soil, *excluding* all burn pile locations, will be reseeded at the cost of the Contractor. Parks Canada will provide the native seed to the Contractor for such purposes to ensure the correct seed mixture is utilized.

In addition;

- Any garbage including but not limited to oil containers, food garbage and miscellaneous waste will be collected in a suitable containment device provided by the Contractor and removed from sites on a daily basis. The Contractor will ensure all garbage items are completely removed from work sites before the end of the contract. Parks Canada reserves the right to impose fines for unmanaged garbage during the course of the project.

Site rehabilitation/restoration will be completed within the contract time parameters.

## **6.0 ADDITIONAL CONTRACTOR RESPONSIBILITIES**

The range of contractor responsibilities include, but are not limited to:

- Cutting and removal of timber in accordance with Parks Canada's terms of reference, the Environmental Assessment, WCB regulations, and environmental safety standards.
- Transportation of timber to market (mill) and/or designated decked-firewood storage areas within Kootenay National Park
- Site clean-up and rehabilitation to project specifications (see section 5.0)
- Sourcing and hiring highway traffic safety provider/ other (see Section 3.5)
- Ensuring all sub-contractors are familiar with the Specifications and Safety Protocols
- Various administrative roles specified in the following (in no particular order of importance):

Within 72 hours of notification of award of the contract, the contractor will review the following items in consultation with the Parks Canada project manager:

- Terms of the Environmental Impact Assessment – this document is produced by federal law and sets the environmental parameters for the project.
- The methodology for managing the slash, forest debris and burn piles; density and network of forwarding trails; decking and landing sites, if applicable.
- Details of log transportation and destination including mill(s) and designated (firewood) storage locations and their volume and access limitations.
- Methods for mitigating environmental impacts.

Any changes to these items must have the prior approval of the Parks Canada project manager or designate.

**The Contractor is responsible for all costs associated with this work.** This includes the provision of and payment for all labour, materials (seed for reclamation to be supplied by Parks Canada), equipment, supplies, accommodation, transportation and hauling of timber to designated in-park facilities and all other services necessary for proper performance of the work.

**The Contractor will be responsible for communicating with any other contractors working in the vicinity of the project and who may be utilizing the same access roads.** Safety of workers will be a key part of the contractor responsibility as demolition contractors are expected to be accessing and working within the old Radium Lodge property boundaries.

Additional responsibilities of the contractor will include:

- 6.1 Ensuring that all personnel working on this project attend an on-site project orientation meeting conducted by Parks Canada prior to commencement of work. This orientation session is approximately 1.5 hour duration with the Project Manager to ensure safety of work site, answer questions of project specifications, and understanding of National Park regulations.

- 6.2 Conducting an on-site safety briefing prior to commencing work for all select Parks Canada personnel, other area contractors and subcontractors who will be working in proximity to the Contractor's equipment and machinery.
- 6.3 Attending weekly meetings with the Project Manager to discuss work schedules, timelines and any problems encountered.
- 6.4 Conducting a pre-work site inspection of each operational area and identify any concerns to the Parks Canada project manager.
- 6.5 Employing and identifying a responsible supervisor and the necessary assistants who shall be in attendance at the work site at all times during progress of the work.
- 6.6 Maintaining, for the duration of the contract, insurance for all phases of harvesting and transport of timber, in accordance with Insurance Conditions attached, as follows:
  - commercial general liability - \$5,000,000
  - automobile and other vehicular coverage - \$2,000,000 per accident minimum
  - workers' compensation or employer's liability insurance
- 6.7 In addition to contractual obligations, any park facilities, private leaseholder facilities or other infrastructure damaged during the project will be repaired or replaced at the expense of the contractor.
- 6.8 Providing a minimum of 24 hours notice to the Project Manager if contract highway flagperson controllers are required on-site (see Section 3.5).
- 6.9 The Contractor shall ensure that all work is performed in accordance with the ordinances, laws, rules and regulations set out in the Canada National Parks Act. The Contractor shall comply with the Dangerous Goods Act and Regulations for Workplace Hazardous Materials Information System (WHMIS). Any materials incorporated into project must comply with Act and Regulations.
- 6.10 The Contractor shall also observe construction safety measures of the Federal Government, Provincial Government and Provincial Worker's Compensation Board. In case of conflict or discrepancy, the more stringent requirements shall apply.
- 6.11 The Contractor shall obtain a Kootenay National Park Business Licence and Work Vehicle Passes for each fiscal operating period over the life of the contract.
- 6.12 Contractor will obtain a Restricted Activity Permit provided by Parks Canada for the scope of work.
- 6.13 The Contractor shall comply with the special considerations and environmental mitigations noted in section 8.0 of these Plans and Specifications and those identified in the Environmental Screening Report for the project: *Basic Impact Analysis, Sinclair Ecological Restoration, Kootenay National Park, File # 2013-0011(K)*
- 6.14 Parks Canada has the authority to charge violators under the Canada National Parks Act. Failure to comply with the environmental protection measures as identified in these Plans and Specifications and the Environmental Assessment report may result in work being suspended pending rectification of the problem.
- 6.15 Ensuring all fuel storage tanks are located in areas well removed from any watercourse including both standing and moving water as per the environmental restrictions and controls outlined in this document. An impervious berm shall be constructed around the tanks and any other potential spill areas. The berm shall be capable of holding 110% of tank storage volumes.

- 6.16 Maintaining a sufficient number of spill kits on the project site to handle any potential spills.
- 6.17 Complying with all directions given by the Parks Canada Project Manager.
- 6.18 Maintaining daily operational contacts with the Parks Canada project manager and ensuring there is one Contractor representative on site at all times that is competent, qualified, experienced and trained in all aspects of this contract. This individual must be responsible for training, orientation and proper performance of his/her employees and has the authority to receive, on behalf of the Contractor, any order, direction or other communication that may be given under the contract.
- 6.19 Ensuring that all vehicles and heavy equipment are appropriately licensed, maintained, refueled, and repaired at designated areas.
- 6.20 Ensuring that all equipment has been thoroughly cleaned and pressure washed so that it does not contain or carry any seeds or vegetation from outside of the Park prior to entering the Park.
- 6.21 Ensure that no decked or otherwise salvageable wood included under the scope of this contract is left in the project area after the project completion date indicated in these terms, unless otherwise determined in the accepted bid submitted by the contractor and at the ultimate approval by the Parks Canada Project Manager.
- 6.22 Working with Parks Canada to minimize conflicts with Park users and ensure traffic safety by adhering to designated haul routes through populated areas, complying with work day restrictions, and maintaining signs or notices provided by Parks Canada. In the interest of public safety, hauling from certain areas may be limited to Monday through Thursday with no hauling on holidays or weekends at the discretion of the Parks Canada project manager.
- 6.23 Supplying, erecting, moving and maintaining all traffic control devices, highway flagpersons, regulatory and warning signs, and other safety measures and providing staff to ensure safe passage of all traffic over the length of the project. Legal (Ministry of Transportation) sign layout is available from Parks Canada on request.
- 6.24 Providing security for all of their machinery and equipment while on site;  
  
Loss to or damage of any of the Contractor's vehicles, equipment, supplies, etc. while on Parks Canada's property or in performance of this contract is the Contractor responsibility.
- 6.25 Obtaining an Alberta/BC log transport form from the Parks Canada Project manager or designate prior to each truckload of wood products leaving the work area. The Parks Canada representative on-site will sign, review and withhold a copy of all haul-slips used under the terms of this contract.
- 6.26 Clearing of snow or packing of snow on paved or unpaved haul roads and project access roads and periodic maintenance of winter roads (excluding major highways and roadways open to the public).
- 6.27 Responsible for arrangement and cost of temporary relocation of any utilities, (i.e. phone or power) if required.
- 6.28 Contractor is responsible for all post-project environmental reclamation and seeding on haul roads, forwarding trails and landing sites using native seed approved and provided by Parks Canada.
- 6.29 Contractor may, at their own expense, have a timber cruise prepared for the project areas.
- 6.30 Submitting a safety plan within a week of contract award and/or before the start of any work.

## **7.0 ADDITIONAL PARKS CANADA'S RESPONSIBILITIES**

In addition to other responsibilities detailed in the Specifications of this document, Parks Canada will be responsible for the following:

- 7.1 Prior to commencement of work by the Contractor:
  - arranging for and conducting an on-site meeting for the Contractor's personnel describing the project.
  - identifying the role of the Parks Canada Project Manager and/or Environmental Surveillance Officer
  - providing information on pertinent National Park Regulations.
  - identifying routes, landing and/or burn pile locations, equipment exclusion areas, stream crossings, sensitive environmental or cultural areas.
  - providing information pertaining to toxic spill responses; and discussing other relevant issues.
  - Identifying mandatory wildlife tree retention using flagging marked "*wildlife tree*"
  - Identifying known *Rubber boa* habitat using flagging marked "*no work zone*"
- 7.2 Meeting with the successful contractor to review, modify and approve within 72 hours of notification of award of the contract, the following items as submitted in the proposal:
  - methodology for managing the slash, forest debris and burn piles; density and network of forwarding trails.
  - details on transportation and specifications of firewood products.
  - methods for mitigating environmental impact.
- 7.3 Identifying to the Contractor, the Parks Canada personnel who will be working in proximity to the contract equipment and machinery and ensuring all identified personnel attend the on-site safety briefing provided by the Contractor.
- 7.4 Designating accessible landing areas (where applicable) and working with the Contractor to identify and approve an acceptable access plan; promptly responding to requests from the Contractor for any additional log decking areas and/or forwarding trails.
- 7.5 Working with the Contractor to minimize conflicts with Park visitors and staff and Radium Hot Springs townsite residents. When necessary to ensure safe operations and the safety of the public and park staff, Parks Canada will temporarily close trails, roadways and/or reroute traffic. Where these concerns arise, every effort will be made to schedule operations during periods of less use (weekdays rather than weekends, during daylight hours). Parks Canada will notify the public as required.
- 7.6 Instituting, posting, managing and enforcing public area closures of the designated work sites for the duration of each operational period at work sites.
- 7.8 Provision of necessary maps and diagrams of the contract area, as required and requested by the Contractor.
- 7.9 Provision of a Restricted Activity Permit in the Contractor's name for the duration of the project in Kootenay National Park.



- 7.10 Ensuring that the Parks Canada Project Manager or designate is available at all times when the Contractor is performing work on-site and responding promptly when consultation is required by the Contractor.
- 7.11 Monitoring the Contractor's performance to ensure these Specifications and all other directions are being followed. Parks Canada reserves the right to stop the Contractor's work in order to rectify any problem situations. Parks Canada will not unreasonably invoke a stop work order. Parks Canada will not be responsible for any costs incurred as a result of a work stoppage.
- 7.12 Flagging the perimeter of the project area, thinning block boundaries, sensitive environmental or cultural areas, equipment exclusion areas and marking of leave trees in designated prescription "Training areas" (if applicable).
- 7.13 Providing the Contractor with log transport forms for each load of wood products leaving the work area.
- 7.14 Providing the Contractor with a legal timber mark and hammers for marking timber prior to leaving the work site, if and as required.

#### **8.0 AVOIDANCE OF ENVIRONMENTAL IMPACTS**

The Environmental Impact Analysis for this project was completed in early 2013. Parks Canada policy requires that both the Contractor and Parks Canada comply with the mitigative measures contained in this assessment. A summary of environmental restrictions and requirements that apply to this contract are summarized below and are a condition of the Contract Specifications. They are designed to minimize the environmental impact of this project. It is recommended that the contractor read and be familiar with the Environmental Impact Assessment, as this section includes only a general overview of details contained within the document.

## 8.1 General Protection Measures

- Industry protocols for flagging the outer perimeter of work sectors, and areas that are not to be entered will be followed in this project.
- An area closure(s) will restrict unauthorized people from entering the work area during the course of the project. The public will be informed of closures and closures will be enforced by Parks Canada.
- Both parties will agree upon all primary equipment, log hauling, and access routes. Maps of these will be provided by Parks Canada prior to initiation of work if and as required.
- Tree boles will be limbed and cut to length (processed) either at the stump or at the landing sites. Boles and forest debris will be forwarded to designated landings and burn sites.
- The Contractor will be required to reduce stumps to the minimum that can be achieved by the equipment (25 centimetres or less) to preserve aesthetic value.
- To help mitigate for any potential short-term disturbance to wildlife movement through, and habitat use near, the project site, all work will be conducted during daylight hours only. Work will cease if carnivores are spotted in the vicinity of the work site, until the animals are well out of the area. All wildlife sightings will be reported to the surveillance officer.
- All wildlife sightings of significance will be reported to the Environmental Surveillance Officer (ESO) or Project Manager (PM), and;

Any tree containing evidence of nests containing owls, eagles, ospreys, or herons will be reported immediately to the Parks Canada project manager and will not be felled without Parks Canada approval, and;

**All trees observed by the Contractor or Parks Canada representative to require removal under the terms of this contract and contain visible cavity nests will be retained or stubbed no less than 5 meters from the ground** or at a height in compliance with WCB regulations if the tree is deemed unsafe to workers.

- **\*\*Rubber boa** is a special species of concern and has been observed in the project area. Any sighting of rubber boa snake(s) will be reported immediately to the Parks Canada project representative onsite, or to the KNP resource Conservation office at Mckay Creek as soon as possible (see *Environmental Impact Assessment*). Parks Canada will identify no-work-zones in known habitat within the project area.
- To avoid importing noxious or restricted weed species, **the Contractor will ensure that all equipment to be used off paved roads will be thoroughly pressure washed before entering the Park.** Equipment will be inspected by Parks Canada prior to being deployed in the field and further cleansing may be required.
- Forwarding trails shall be laid out to avoid habitat trees, live trees not targeted for removal under the terms of this contract, and stream crossings wherever possible. Known habitat trees and streams will be flagged for identification by Parks Canada.
- Veteran Douglas fir and older age classes of other tree species as well as non-hazardous, live mature aspen will be retained unless designated a hazard tree under the terms of this contract.
- Disturbance of low shrub/grass species will be minimized.

- The Contractor is responsible for post project environmental reclamation and seeding on haul roads, forwarding trails, burn piles, lands and any other disturbed sites.
- No on-site disposal or storage of food or other waste garbage will be permitted.
- Parks Canada will ensure that a Parks Canada representative designated to this project is available to the Contractor at all times.

## **8.2 Protection of Cultural Resources**

To protect cultural resources, all significant sites identified in the Environmental Impact Analysis and located within any designated work site will be marked and flagged by Parks Canada Agency personnel. Areas within 10 meters of cultural sites will be designated as no work zones (*note – to date, no known sites of concern have been identified*).

All cultural resources (previously unidentified) and/or evidence of any archaeological/cultural resource artifacts including any trees observed to possess cultural significance or markings of any kind will be reported to the Environmental Surveillance Officer (ESO) or Project Manager (PM).

## **8.3 Protection of Roads and Motorists**

Safety for motorists on Highway 93 through the south end of Kootenay Park is of utmost importance. Appropriate access routes to and from the work site, signage, speed limits and flagging will be used to ensure vehicular safety when trucks and equipment are entering or departing onto these roadways. The contractor will be required to ensure signage is of legal standard and clearly visible and that access closures are in place at the end of workday.

Travel by machinery fitted with chains or grommets on asphalt surfaces will not be permitted and seasonal weight restrictions will be respected as required.

## **8.4 Operations Near Riparian Areas**

Riparian areas will be avoided during this project unless requested by the Project Manager. If there is uncertainty about working close to a riparian area, the Contractor will consult with the Project Manager. As per the Environmental Impact Assessment for this project, heavy machinery will not be permitted within 15 meters of any riparian area or watercourse and applies to all mechanical harvesting and reclamation equipment.

No stream crossings will be permitted unless approved by both the Parks Canada project manager and Parks Canada Environmental Assessment office.

Falling will be in a favourable direction away from riparian zones so as to limit disturbance in and on the periphery of these area.

No refuelling of hand equipment and/or heavy machinery will occur within 30m of a riparian area or watercourse. All refuelling areas will have spill containment capability relative to the volume of fuel available.

No burning (or chipping) of debris will occur within the 30m riparian buffer zone.

## **8.5 Harvesting Access Routes (Forwarding Trails)**

No new roads will be constructed to facilitate forest thinning operations. Existing BC Hydro access road(s) will be utilized as much as possible to forward wood from Treatment Units to landings. In some areas, this road (average 3 meters wide, existing) will need to be widened to allow for the mechanical harvesting equipment to effectively and safely access Treatment Units. Where required, debris will be cut from the upslope bank and placed on the road surface. In situations where debris cannot be placed on the road surface it will be moved and used as fill at the nearby Radium Lodge demolition site. Debris will not be allowed to fall down the bank (see environmental impact assessment for more details if required).

Forwarding trails shall maintain a distance greater than 25 metres apart and will meander as much as possible to reduce aesthetic impacts and minimize the potential for undesired public access throughout the treatment areas. Final location of any forwarding trail will require pre-approval of the Parks Canada project manager.

The Contractor is responsible for the hauling of snow, branches, gravel or chips as well repairing potholes and icing unpaved trails to further insulate and pad the ground if and as required.

Stump removal will NOT be permitted on any routes used in this project.

### **8.6 Log Decks and Landings**

Existing disturbed areas will be used for landings on this project in order to minimize disturbance and ecological impacts. Landing locations will avoid all ecologically sensitive and culturally significant sites

Three (3) areas have been delineated in the project area as options for landings (see figure 7). Logs will be decked within the landing footprint(s). Debris (piling/burning), if managed on the landing, will remain within the designated footprint of the landing(s).



Figure 7. Designated landing/log deck locations within the project area.

### **8.7 Log Transport**

Transport of logs on public highways will be in accordance with the Provincial Highway Traffic Acts (Alberta and British Columbia) and applicable forestry regulations.

### **8.8 Equipment Maintenance and Servicing**

The Contractor shall inspect equipment daily for leaks and stressed hoses, perform preventative repairs, ensure that appropriate spill kits are kept on-site and report any spills immediately to Parks Canada (403-762-4506). All machinery will have an emergency contact list.

Repairs requiring draining or replacement of petrochemical-based fluids will be conducted over impervious containment devices or on paved surfaces.

Re-fuelling of machinery from approved slip-tanks (i.e. tanks equipped with automatic shut-off nozzles and break-away couplings) is permitted in the field over impervious spill containment berms located more than 30 metres from any water body or wetland.

Fuel for chainsaws (25 litre jugs or less) may be kept on site, but within spill containment berms. In the event of fuel or lubricant spills, absorbent material will be used for clean up and any contaminated soils removed to an approved landfill designated by Parks Canada. Equipment will be parked on containment material overnight to detect and prevent leaks from leaching into soils. Used fluids and other hazardous wastes will not be disposed of on site.

Toxic spill responses will be addressed in Contractor briefings and responsibilities for coordinating and conducting responses identified.