

WOODLOT LICENCE W1832 SITE PLAN

Woodlot Licence	W1832	Cutting Permit	C	Block	1	Opening #	
Total Area (ha)	27.4	Net Area to be Reforested (NAR) (ha)	23.1	Non-Productive - Natural (ha)	0.1	Non-Productive - Un-Natural (ha)	2.1
Area of Reserve (ha)	2.1	Type of Reserve	Uniform		Air Photo #s	BCC98051 #173-175	
Harvest Method	CONVENTIONAL GROUND SKID Equipment – Conventional ground based machinery. Ie Feller Buncher; Hoe, Crawler tractor, or Skidder. Season of Harvest – Any.						
Silvicultural System	CLEARCUT with reserves – The cutblock consists predominantly of age class 5 Lodgepole Pine leading type with a minor component of Douglas fir, Larch, Western red Cedar and Hemlock. There is a minor veteran Fd and Lw.						
Comments:	<p>Mountain Pine Beetle (IBM) salvage harvest. The area of this proposal is not on an approved FDP. This application is consistent with Section 22.01 of the WLFMR that allows the expedited harvest and access of bark beetle infested timber without the area of proposed harvesting or any associated road construction being identified in an FDP.</p> <p>Pursuant to the explanation of intent of section 22.01 the following applies:</p> <ol style="list-style-type: none"> Harvesting of bark beetle infested timber” means harvesting timber that is infested with larvae or adult bark beetles or must be removed incidentally to facilitate the removal of bark beetle infested timber. The WL holder does not need to request an exemption from the FDP process. The WLFMR provides an automatic exemption to eliminate associated paperwork. There is no arbitrary maximum limit on the amount of volume that could be covered under the CP application (i.e. if half the WL area was beetle infested a CP application could cover half the WL area). <p>This cut block is designed to recover timber that is damaged or imminent risk to be damaged by mountain pine beetle. This stand has been severely infested by mountain pine beetle since 2003 with current Lodgepole pine infection levels approaching 80%.</p>						
Silviculture System Comments.							
Trees to be Retained	Species	Fd, Lw, Cw, Hw, Ep					
	Function	<ul style="list-style-type: none"> Future Seed source Mitigate visual concerns Act as wildlife trees Current and future course woody debris Future crop trees 					
Trees to be Removed	Characteristics	<p>Mountain Pine Beetle salvage harvest. The following merchantable stems will be harvested:</p> <ul style="list-style-type: none"> All Lodgepole Pine and White Pine. Western Larch that is heavily infested with mistletoe. Stems with a high diameter to height ratio which will be highly susceptible to blowdown and snowpress following harvesting. Stems damaged during harvest operations or stems that pose a safety hazard or operability constraint. Stems that require felling to provide machine access within the cutblock. <p>Based on the cruise compilation approximately 163 sph will be retained following harvest. A high degree of variation in actual stem per hectare and basal area per hectare retention is expected due to the uneven (natural) species distribution within the cutblock and to statistical imperfections.</p>					
Initial Basal Area (m ² /ha)	42.3 – (based on the compiled cruise)	Residual Basal Area (m ² /ha)	7.2 - (based on the compiled cruise)	Range 0 – 14 m ² /ha			
SU	NAR (ha)	Biogeoclimatic Ecosystem Classification			Regeneration Method	Preferred Species	Acceptable Species
		Zone	Variant	Site Series			
1	23.1	ICH	dw	01a ^(60%) / 01b ^(40%)	Planting	Pl, Fd, Lw	Pw, Hw, Bg, Cw, Sxw
Comments:		Majority of block has rolling broken terrain with the 01B site series predominant in the receiving and lesser sloped areas and the 01A predominant on the shedding scarps.					
Elevation range if planting is specified		960 to 1050 meters					

The free growing stand will be established in accordance with the stocking specifications in the Woodlot Licence Forest Management Regulation (November, 1998) Division 2 of Part 6 and Table A of Schedule A. White Pine acceptability will be consistent with Section 83 of the Woodlot Licence Forest Management Regulation. Larch seedlings will not be planted within a 20 meter radius of residual DML infected Lw.

PERMANENT ACCESS STRUCTURES

Rationale for greater than 7% of the total cutblock area being occupied by permanent access structures:

Block includes panhandle access corridors through unharvested stands for access roads from Woodlot Mainline road. These road corridors increase the proportion of cutblock area occupied by permanent access structures.

Roads	Length	1048 m	Width	15 m	Area	1.6 ha		
Landings	Number:	3	Length	60 m	Width	20 m	Area	0.4 ha
Small Decking Areas	Number:	1	Length	40 m	Width	20 m	Area	0.1 ha
Skid/Forwarder Trails	Length	N/A	Width	N/A	Area	N/A		
Total Harvested Area (ha)	27.4 ha	Total Area of Permanent Access (ha)	2.1 ha	Maximum % of the Total Cutblock Area to be occupied by Permanent Access Structures	8.1%			
Trails that will be used for repeated harvest entries are proposed as permanent access structures.			N/A					
Roads, landings, borrow pits, or quarries within this cutblock are proposed for rehabilitation.			No					

REHABILITATION MEASURES

Describe the structures to be rehabilitated as well as the measures and timing for rehabilitation if the measures in the WLFMR will not be used

Structures	Excavated or bladed trails will be completed as per WLFMR.	Measures and Timing	As per WLFMR and within a year following completion of harvesting.
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SOIL DISTURBANCE SU 1

Maximum Percentage of the Net Area to be Reforested to be occupied by Soil Disturbance: 10% of NAR

Rationale for greater than 5% of the NAR being occupied by soil disturbance:

A field assessment of the cutblock was conducted on January 26, 2006 with site and soil data information collected. Based on the FPC Soil Conservation Guidebook the soil hazard summary for SU 1 indicates that 10% soil disturbance within the NAR is acceptable.

SU 1	Compaction Hazard	High	Erosion Hazard	Mod – 21 points	Displacement Hazard	Low - 3 points
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EXCAVATED OR BLADED TRAILS

Cutbanks into Mineral Soil	Maximum Ht. (cm)	90 cm	The equipment to be used for trail construction if other than excavator	Cat and/ or excavator
	Average Ht. (cm)	50 cm		

Approximate location where the trails will be built

- Three known bladed trails are identified on the attached the site plan map and will be constructed in accordance with Section 62 Subsection 2 of the WLFMR.
- Minor topographic blading associated with random skidding will be used where required within the cutblock.
- Rehabilitation of all excavated or bladed trails will be done in accordance to Section 62 Subsection 6 of the WLFMR.

If within a Community Watershed	Soil Erosion Hazard	N/A	Risk of Sediment Delivery to Stream	N/A
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WILDLIFE TREE STRATEGY

Selection Criteria	Cutblock is located in the Pedro Landscape unit and requires 8% Wildlife Tree Patch retention.
Level of Retention	Woodlot 1832 is covered by a "Comprehensive Plan for Wildlife Tree Retention for WL1832", revised in October 2005. Further designation of Wildlife Tree Patches is not required.

MEASURES FOR COARSE WOODY DEBRIS

Little CWD from the pre-1912 stand survives. Current CWD levels are unevenly distributed throughout the block and range from 1 to 20 m³/ha with a diameter range of 10cm to 30cm.

Maintenance and retention strategies are as follows:

1. Increase existing CWD by avoiding broadcast burning treatment and leaving all non-merchantable logs on site.
2. Where post-harvest CWD levels are excessive and create a fire hazard, the first option will be to scatter CWD pieces throughout the harvest site to create a more even distribution.
3. A second option will be to machine pile excessive CWD and burn those piles in order to reduce fire hazard.
4. Larger pieces of CWD should be retained as dispersed pieces rather than piled.
5. Reserved stems will provide a recruitment source for future CWD, as larger pieces are deficient.

The anticipated average volume per hectare of CWD will range between 5 to 40 m³/ha with piece sizes ranging from 10 to 40 cm.

KNOWN UNGULATE WINTER RANGE

This block is located within mule deer winter range identified by the Ministry of Environment in Fall 2005.

An ungulate winter range forest cover analysis was completed for the Woodlot based on the new UWR linework. The analysis parameters followed the ICH dw Mule Deer parameters stated in the UWR U-4-001 Order in that greater than 30 % of the forest cover polygons within the identified UWR had to be 81 years or older and have a crown closure of 40% or more.

Results are as follows:

Total UWR in the Woodlot = 405.0 hectares

Total not suitable for UWR = 114.6 hectares (including proposed harvesting of CP C).

Total suitable for UWR = 290.4 hectares (including proposed harvesting of CP C).

Total % suitable for UWR = **72%**

End result = 72% of the UWR area within the Woodlot meets or exceeds the requirements stated in the UWR U-4-001 Order.

FOREST HEALTH

Mountain pine beetle This cut block is designed to recover timber that is damaged or imminent risk to be damaged by mountain pine beetle. This stand has been severely infested by mountain pine beetle since 2003 with current Lodgepole pine infection levels approaching 80%.

Measures: IBM salvage harvest. To the extent possible all Lodgepole pine and White pine will be harvested. IBM infected trees within one tree length of the block boundary will also be harvested.

Root rot No significant root rot activity observed to date.

Measures:

RIPARIAN MANAGEMENT

Riparian Class of Feature	N/A	Designation on Map	N/A	Falling and/or Skidding or Yarding Across a Stream	No	
Post Harvest Stand Structure		N/A				
Comments:	There are no classifiable watercourses or wetlands within or adjacent to the cutblock. Two ephemeral non-classified watercourses are identified on the attached site plan map. To the extent possible machine traffic in this area will be minimized by establishing designated machine crossings at the time of harvest. A non-classified wetland (0.1ha) is located in the north east part of the block. This area has been included in a Riparian Reserve Area (0.3 ha) and removed from the NAR. Refer to the Site Plan map. The RRZ boundary placement maintains an approximate 10 meter timbered buffer between the wetland edge and the harvested cutblock.					
Trees to be Retained	Species					
	Characteristics					
	Function					
Minimum	Basal Area (m2/ha)	0	or	Trees/ha	or	Number of Trees
Harvesting is proposed in the RMZ of an S4, S5 or S6 stream that is a direct tributary to a known temperature sensitive S1, S2, S3 or S4 stream and there are currently sufficient numbers of shade trees in the RMZ.(Yes/No)						No
Harvesting is proposed in the RMZ of an S4, S5 or S6 stream that is a direct tributary to a S1 S2 or S3 stream or a marine-sensitive zone and there are sufficient numbers and distribution of trees in the RMZ to provide or contribute significantly to the maintenance of stream bank or channel stability.						No
Measures for debris management if falling and/or skidding or yarding across a stream is proposed		N/A				

NON-TIMBER RESOURCES AND RESOURCE FEATURES IN OR ADJACENT TO THE CUTBLOCK

Feature(s) Cultural heritage resources and Archaeological sites	Measures to protect or accommodate or the reason for not protecting the feature(s)/ comments: Based on an Archaeological overview re-assessment of woodlots in arrow district, dated May 15, 1997, completed by Kutenai West Consulting Ltd., the area under this plan was not recommended for AIA because it "does not have sufficient potential for archaeological site placement".
Visual	The cutblock is not located within a known scenic area. No further action required.
Watershed	The cutblock is located in the Dumont Creek (class 2 watershed) and North Fork Creek (class 3 sub-basin watershed). Most of the harvesting in CP C (23.1 ha of 28.1 ha total) is located in the Dumont watershed above the H60 line. The current weighted ECA in Dumont Creek is 23%. The area covered by CP C will increase the ECA by 5% to 28% total. The remainder of the harvesting in CP C (5.0 ha) is located in the North Fork Creek watershed. The current ECA of North Fork Creek is at 20%. The area covered by this site plan will increase the ECA by 1% to 21% total. Attached is the equivalent clearcut assessment table. Due to the high IBM infection levels these ECA percentages levels will be achieved regardless of whether this block is harvested or not. These dead trees no longer transpire moisture, will quickly loose much of their snow interception and snow-shading functions, and will no longer play any role in snow melt dynamics once they fall to the ground over the next decade. We will mitigate the impacts of harvesting by leaving most stable non-pine stems in the harvest area, but no human choice or action can forestall the hydrological impacts from the alterations to vegetation cover that are already well under way in this area.
Recreation	No recreation features are present in the area of this plan

** As agreed upon with the MoF the licensee acknowledges that this Site Plan was written in less than ideal conditions and may require additional field work and/or amendment at a future date.

SIGNATURE OF WOODLOT LICENSEE OR PERSON AUTHORIZED ON BEHALF OF THE WOODLOT LICENSEE(S)	RPF SIGNATURE AND SEAL
_____ Signature _____ Date (yy/mm/dd)	
SIGNATURE FOR DISTRICT MANAGER APPROVAL	
_____ Signature _____ Date (yy/mm/dd)	_____ RPF Signature and Seal Date 2006/02/07 (yy/mm/dd) <u>Ken Williams</u> RPF Name (Printed)

Equivalent Clearcut Assessment Table for Domestic Watersheds

Watershed Name	Watershed Area (ha)	Existing Non-Greened up Area (ha)	Current Weighted ECA	CP C Proposed Logging (ha)	Proposed Weighed ECA
Dumont Creek	596	116.4	23%	23.1	28%
North Fork Creek	798	119.4	20%	5.0	21%

Ungulate Winter Range Analysis

Summary of Area Within W1832 Crown Portion and Within Nov 23 2004 UWR Polygons		
Cover Class	Ha	% of Total UWR Area
Non-Forested	29.0	
Forage Units	40.5	
Not Suitable for UWR (≤ 80 yrs or ≤39% CC, ICHdw) Includes Proposed CP C Harvest Area	114.6	28%
Suitable for UWR	290.4	72%
	405.0	