

# Fuel Management Prescription

## Williams Lake Community Forest – PM091

A. PROJECT IDENTIFICATION	
<b>PROJECT ID AND UNIT ID:</b> PM091 Williams Lake Community Forest (WLCF)	<b>LAND OR TENURE HOLDER:</b> Williams Lake Community Forest Limited Partner Mark: K3A
<b>COORDINATES (UTM E/N):</b> 576297/5803377	<b>GEOGRAPHIC DESCRIPTION:</b> Jones Road, Big Lake Elementary School.
<b>HIGHER-LEVEL PLAN(s):</b> WL Community Forest LP FSP. The FSP has an effective date October 2015. All of the standards in this plan are subject to the requirements and exemptions in the FSP.	<b>MAP REFERENCE NUMBER:</b> 93A.031

B. TREATMENT UNIT (TU) SUMMARY							
TU	NET AREA (ha)	GROSS AREA (ha)	LEAVE AREAS (ha)	NP (ha)	NAR (ha)	TREATMENT REGIME	GENERAL DESCRIPTION
1	13.7					HTR, TFB, SFR, P, PB	The terrain is flat to very gently rolling, hummocky and moist with a slight north aspect. The stand contains a mature Sx overstory with a dispersed Sx and Fd understory.
2	14.2					CT, HTR, TFB, SFR, P, PB	The terrain is flat to gently rolling with some ridge and gully features and moist to dry with a north-east aspect. The stand contains multi-story and multi-aged Sx, Fd and occasional Ep with an understory of Sx, Fd and Pl. Dead blowdown Pl is very common.
3	6.3					CT, HTR, TFB, SFR, P, PB	The terrain is flat to very gently rolling with some ridge and gully features and moist to dry with a north-west aspect. The stand contains multi-story and multi aged Sx, Fd and occasional Ep with an understory of Sx, Fd and Pl. Dead blowdown Pl is very common. Most of this TU is in a Permanent OGMA.
<b>TOTAL</b>	<b>34.2</b>	<b>35.7</b>	<b>0.0</b>	<b>1.5</b>	<b>0.0</b>		

**CCGTR** = Clearcut with green tree retention, **HTR** = Hazard tree removal, **TFB** = Thin from below, **SFR** = Surface Fuel Removal, **B** = Brush Flammable Shrubs, **P** = Prune, **PB** = Pile Burn, **C** = Chip, **CT** = Commercial Thin, **M** = Maintenance, **BP** = Broadcast Burn

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C. PROJECT DESCRIPTION		
<b>OBJECTIVE:</b>	<b>PUBLIC SAFETY</b> <input checked="" type="checkbox"/>	<b>RANGE IMPROVEMENT</b> <input type="checkbox"/>
	<b>ECOSYSTEM RESTORATION</b> <input type="checkbox"/>	<b>RECREATION</b> <input type="checkbox"/>
	<b>WILDLIFE HABITAT</b> <input type="checkbox"/>	<b>OTHER: Forest Fuel Management FBP Type: C7, M1/M2.</b>
<b>C -1. SITE AND LOCATION</b>		
<p><b>DESCRIPTION:</b></p> <p><u>Location:</u>            PM091 is an Interface Fuel Break (IFB) treatment unit located adjacent to residential private property, the Big Lake Elementary School, the Big Lake Community Hall, the Big Lake Community Boat Launch and Campsite, Jones Road and BC Hydro distribution lines. PM091 is less than 250m east of the Likely Highway. Access is via Jones Road coming off the Likely Highway. Jones Road is important for ingress and egress for the community.</p> <p><u>Site Description:</u>            PM091 is strategically located on Crown Land at the wildland urban interface and is designed to modify fire behaviour, create fire suppression options, and improve suppression outcomes. PM091 ranges from approximately 100m wide on its east side and north of Jones Road and approximately 400m wide on its western side, between private properties. PM091 is intended to break the crown fire threshold to reduce the risk of a crown fire reaching private land and structures.</p> <p>PM091 has been designed at the wildland urban interface to modify fire behaviour and create fire suppression options including:</p> <ul style="list-style-type: none"> <li>• reducing the risk of a crown fire reaching a community and/or adjacent fuels;</li> <li>• being sufficiently wide and appropriately treated to break the crown fire threshold and reduce fire intensity and cause a crown fire to move to the ground surface, reducing the rates of spread.</li> </ul> <p>PM091 has three treatment units that contain forest fuels where hazard trees and surface fuel loading will be reduced. Conifers in the stand will be thinned from below to retain the largest and best growing Douglas-fir (Fd), lodgepole pine (PI), and hybrid white spruce (Sx). Thinning will target trees impacted by low vigour, poor form, pests or disease. Retained conifers will be pruned. Deciduous species, trembling aspen (At) and white birch (Ep) will be retained. Herbaceous plants and shrubs are not targeted for removal or treatment. Surface fuels will be removed either through pile and burning or chipping or a combination of both.</p> <p>PM091 is characterized by mature stands of Fd, Sx, At, Ep and infrequent PI. Overall, Fd and Sx are the significant stand components. The understory consists of Fd, Sx, At with occasional PI occurring in the southern half of the area. The understory ranges from patchy to continuous with thickets of Sx and Fd being common. Mature PI was heavily impacted by Mountain Pine Beetle (MPB) and most of the PI has fallen out of the stand and is on the ground as elevated dead fuel. Some dead PI remains standing on its own or is leaning against other live or dead tree stems. Some mature blowdown Sx and Fd occur as elevated dead fuels. Ladder fuels are composed of Layer 2, 3 and 4 Sx, Fd and PI as well as limby blowdown PI and Sx. Dead and down material continuity (less than 7cm) ranges from 10% to 50% coverage but in TU2 tends to be 40% coverage. The Crown Base Height (CBH) is typically low (less than 3m) for Layer 1 and less than 2m for Layer 2, 3 and 4 with a low Fuel Strata Gap of less than 3m. Crown closure ranges from 41 to 80% and is typically 41 to 60% with occasional gaps and openings in the Layer 1 crowns.</p> <p>TU1 is prescribed as a hand treatment only to mitigate the risk for windfall and minimize soil disturbance closer to Big Lake.</p> <p>TU2 is prescribed for both mechanical and hand treatments. Dominant and sub-dominant mature Sx will be targeted for removal as well as merchantable dead standing and blowdown PI, Sx and Fd.</p> <p>TU3 is prescribed for both mechanical and hand treatments. Small diameter, sub-dominant Sx will be targeted for removal as well as merchantable dead standing and blowdown PI, Sx and Fd.</p>		

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Following the development of proposed roads, this PFB will be well roaded.

PM091 is within Provincial Strategic Threat Analysis (PSTA) Fuel Class (2019) of Moderate, High and Extreme.

The southern edge of PM091 (TU3) overlaps a permanent OGMA (CAR\_RCA\_3913).

Although harvesting is generally not allowed to take place within permanent-static OGMAs, according to the September 6, 2018 document “CCLUP Land Use Order Amendment to Address Fuel Breaks for OGMAs, Community Areas of Special Concern, Lakeshore Management Zones and Riparian reserve Zones” exceptions can be made for the following situations:

*Within primary and interface fuel breaks, in an approved community or regional wildfire plan, where impacts to primary old seral forest characteristics are minimized:*

*(i) reduction of fine surface debris, ladder fuels and small diameter trees in intermediate and overtopped crown classes and,*

*(ii) separation of tree crowns among individual trees or clumps within the dominant and co-dominant layers sufficient to mitigate the spread of a passive crown fire, to a maximum spacing of 6 metres between crowns.<sup>1</sup>*

Primary Old Seral Forest Characteristics means, within an interface or primary fuel break, large (>37.5 cm dbh) and very large (>57.5 cm dbh) trees, large coarse woody debris, and dead and declining trees where they do not represent a significant safety hazard.

<sup>1</sup> C. Mooney (2010). Fuelbreak Effectiveness in Canada’s Boreal Forests: A Synthesis of Current Knowledge. F.P. Innovations.

Fuel reduction treatment in the OGMA will consist of creating crown separation in Layer 1 by removing smaller diameter, sub-dominant Sx, reducing fine fuels from Pl, Fd and Sx blowdown limbs and branches, snow pressed Fd and Sx, removing non-merchantable stems (primarily Layer 3 and 4), pruning and spacing (primarily Layer 2) and other fine fuel reduction.

For the purposes of fine fuel management, the option to include prescribed fire throughout the maintenance regime should be considered for PM091. Prescribed fire has the ability to address the management of fine fuel loading which is anticipated to increase over time and should be considered during future activities within the IFB.

### **C -2. PROJECT DESCRIPTION**

#### **Fuel Management Objectives:**

Conduct fuel management treatments adjacent to areas of high structure density, high community values, roads important for ingress and egress and adjacent to distribution lines to reduce potential crown fire initiation, fire intensity and crown fire spread.

Other objectives include:

- Providing a safe location for suppression activities to be initiated;
- Providing a buffer that will cause wildfires to transition from crown fires to the ground;
- Improving access and firefighter safety in the event of wildfire suppression activities;
- Improving the effectiveness of aerial and ground-based fire control actions;
- Improving natural barriers that reduce the continuity of fuel loads, fire behaviour and wildfire risk;
- Reducing the Head Fire Intensity to less than 2000kW/m through surface fuel reduction;
- Increasing public safety within the community;
- Demonstrating to community members and the public, the principles and practices of vegetation and fuels management.

#### **STRATEGIES:**

Fuel Management Strategies include:

- Modifying stand structure to reduce fuels available in the event of a wildfire;
- Creating or improving crown separation;
- Maintaining clumpy nature of the stand where clumps occur;

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	<ul style="list-style-type: none"> <li>Falling and treating dead stems;</li> <li>Pruning ladder fuel component;</li> <li>Thinning thickets of Fd, Pl and Sx with a priority of removing Sx, then Pl and then Fd.</li> <li>Reducing surface fuel material by debris piling and burning and/or chipping onto ground and/or grinding for offsite removal.</li> </ul>
<b>METHODS:</b>	<p>A combination of methods will be utilized to achieve the fuel management strategies outlined above. These methods may include:</p> <ul style="list-style-type: none"> <li>Removing dead and danger trees;</li> <li>Thinning and spacing of conifer stems;</li> <li>Pruning all retained conifer stems;</li> <li>Maintain deciduous trees and shrubs;</li> <li>Debris piling and burning and/or chipping onto ground and/or grinding for offsite removal.</li> </ul>

D. SITE CHARACTERISTICS							
TU	CFFBPS FUEL TYPE	TIMBER TYPE	BGC SUBZONE, VARIANT & SITE ASSOC.	ELEVATION RANGE (m)	SLOPE POSITION	SLOPE RANGE (%)	ASPECT
1	C7, M1/M2	Sx(At) 733	SBSdw1 07(09)	820-840	Lower	0-15% Avg. 5%	Flat to north-east.
2	C7	FdSx(Pl) 844 At(Sx) 537 SxFd(At) 736	SBSdw1 01	840-880	Lower to Mid	0-35% Avg. 10%	Flat to north-east.
3	C7 (M1/M2)	SxFd(At) 736 FdSx(At) 746	SBSdw1 01(07)	860-880	Mid	0-15% Avg. 5%	Flat to north-east.
FUEL TYPE DETERMINATION		Field analysis was completed to ensure the fuel types were deemed accurate.					

E. SOIL CHARACTERISTICS							
TU	SOIL TEXTURE	DUFF DEPTH (cm)	COARSE FRAGMENTS (%)	SOIL DISTURBANCE LIMIT (%)	SOIL HAZARD RATING		
					Compaction	Erosion	Displacement
1	SiL	8	<5	7	H	M	L
2	SiL	4	25	7	H	M	L
3	SiL	4	25	7	H	M	L

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<b>F. VALUES – FOREST AND RANGE PRACTICES ACT</b>				
<b>RIPARIAN &amp; LAKESHORE AREAS</b> - Forest Planning and Practices Regulation (FPPR) division 3, Government Action Regulation (GAR) section 6, Forest and Range Practices Act (FRPA) sections 180 and 181				
Is the proposed cutting, modification or removal of trees, or site preparation, in an area that contains streams, lakes or wetlands?	Yes			The area does not contain classifiable stream or wetland features. Big Lake is an L1-B lake (id_1). Portions of the northern area of TU1 overlap the Lake Management Zone (CAR_27_21504).
<b>RIPARIAN MANAGEMENT AREAS (RMAs)</b> - FPPR sections 51 and 52				
STREAM, LAKE, WETLAND ID	CLASS	RRZ (m)	RMZ (m)	SPECIFICATIONS FOR RIPARIAN OR LAKESHORE MANAGEMENT AREAS
Big Lake (id_1)	L1-B	10	100	4.2ha of TU1 overlaps the LMZ. No previous harvest has been conducted in the overlap area in the last 20 years. The area under treatment is less than 10% of the LMZ. Very limited partial cutting is proposed within the Class B Lakeshore management zone of Big Lake.
<b>TEMPERATURE SENSITIVE STREAMS</b> - FPPR section 53, GAR section 15, FRPA sections 180 and 181				
Are there temperature sensitive streams or direct tributaries to temperature sensitive streams within or adjacent to the proposed treatment area?		No		
<b>ROAD CONSTRUCTION IN RIPARIAN MANAGEMENT AREAS</b> - FPPR section 50				
Is road construction proposed in riparian management areas within the treatment area or an associated road permit (RP)?		No		
<b>STREAM CROSSINGS</b> - FPPR section 55				
Will stream crossings be constructed within the proposed treatment area or a road permit road providing access to the treatment area?		No		
<b>MAINTAINING STREAM BANK AND CHANNEL STABILITY ON S4, S5, and S6 STREAMS</b> - FPPR section 52 (2)				
Is the proposed treatment in the RMZ of an S4, S5 or S6 stream that is directly tributary to an S1, S2 or S3 stream and the activity is likely to contribute significantly to the destabilization of the stream bank or the stream channel?		No		
<b>DOMESTIC WATER LICENCES</b> (inside or outside of community watershed) - FPPR section 59				
Does the proposed treatment area contain water sources that are diverted for human consumption by a licensed waterworks?		No		There are no water sources that are being diverted for human consumption. Licence No.: C132196; Licensee: Ministry of Transport on and Infrastructure. Purpose is Dust Control. Water is taken from Big Lake.

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<b>LICENCED WATER WORKS</b> (inside or outside of a community watershed) - FPPR section 60				
Does the proposed treatment include areas that are within 100 m of a licensed waterworks?		No		
<b>FISHERIES SENSITIVE WATERSHED</b> - GAR section 14, FPPR section 8.1				
Are any activities proposed within a fisheries sensitive watershed?		No		
<b>COMMUNITY WATERSHED</b> - GAR section 8, FPPR section 8.2, 61, 62 and 84				
Does the proposed treatment area include areas that are within a community watershed?		No		
Will this project require road construction or deactivation within a community watershed?		No		
<b>WATERSHED ASSESSMENT CONSIDERATIONS</b> - FRPA section 180 areas with "significant watershed sensitivity"				
Does the proposed treatment area include areas that have watershed assessment considerations?		No		
<b>SOIL DISTURBANCE AND PERMANENT ACCESS STRUCTURES</b> - FPPR sections 35 and 36				
Treatment Unit	Proposed Max. Allowable Soil Disturbance (%) (5% or 10%)	Proposed Max. Soil Disturbance for Roadside Work Areas (%)	Proposed Max. Permanent Access Structures (%)	Comments
1, 2, 3	10%	25%	7%	Roadside work areas may be used to minimize skidding and/or forwarding distance.
Do the proposed Permanent Access Structures exceed 7% of the total area?		No		
<b>LANDSLIDES AND TERRAIN STABILITY</b> - FPPR section 37				
Does the proposed treatment area include areas where terrain stability is a concern?		No		
<b>SUITABLE SECONDARY STRUCTURE</b> - FPPR section 43.1				
Does the proposed treatment area include a "targeted pine leading stand"?		No		
<b>UNGULATE WINTER RANGE</b> - GAR section 12, FRPA sections 180 and 181, FPPR section 69				
Does the proposed treatment area include areas within an Ungulate Winter Range?		No		
<b>WILDLIFE HABITAT AREA</b> - GAR section 10, FRPA sections 180 and 181, FPPR section 69				
Does the proposed treatment area include any wildlife habitat areas (WHA)?		No		

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<b>OBJECTIVES SET BY GOVERNMENT FOR WILDLIFE - FPPR section 7</b>			
Does the proposed treatment area include areas to which objectives for wildlife under FPPR section 7 apply?		No	
<b>OBJECTIVES SET BY GOVERNMENT FOR BIODIVERSITY OBJECTIVES (Landscape Level) - FPPR section 9</b>			
Does the proposed treatment area include areas to which objectives for landscape level biodiversity under FPPR section 9 apply?		No	
<b>OBJECTIVES SET BY GOVERNMENT FOR BIODIVERSITY OBJECTIVES (Stand Level) - FPPR section 9.1</b>			
Are considerations for maintaining stand structure (wildlife trees, wildlife tree reserves, etc.), coarse woody debris, and maintaining tree and vegetation species composition incorporated into this prescription?	Yes		<p>Fd and Sx are the predominant species in PM091. All conifer species present and less than 12.5cm dbh, will be thinned, leaving a mix of species including Fd, Pl and Sx. Fd will be selected as a priority for retention over Pl and Sx. Thinning will target conifer species impacted by poor form, pests or disease.</p> <p>Deciduous species will be retained. Herbaceous plants and shrubs are not targeted for removal or treatment.</p> <p>Key wildlife trees will be retained where safe to do so.</p> <p>Coarse Woody Debris will be retained where practicable.</p>
<b>RECREATION FEATURES - FRPA section 56 and 149, FPPR section 70</b>			
Does the proposed treatment area contain interpretive sites, recreation trails, recreation sites, recreation facilities that are considered to be of significant recreation value and are designated a resource feature?		No	
<b>VISUAL QUALITY OBJECTIVES - GAR section 7, FRPA sections 180 and 181, FPPR section 9.2</b>			
Is the proposed treatment within a scenic area?	Yes		<p>All of PM091 is within a VQO (Visual Quality Objective) of Partial Retention.</p> <p>In a VQO of Partial Retention, a visually altered forest landscape when assessed from a viewpoint that is representative of significant public viewing opportunities, will be:</p> <ul style="list-style-type: none"> <li>(a) easy to see,</li> <li>(b) small to medium in scale, and</li> <li>(c) natural and not rectilinear or geometric in shape.</li> </ul> <p>The primary objective of the PFB is fuel management.</p> <p>Partial cutting will be the preferred silviculture system. The TU's will not be easy to see, will be small to medium in scale and will have natural shapes with occasional rectilinear or geometric shapes.</p>
<b>ARCHAEOLOGICAL RESOURCES/CULTURAL HERITAGE RESOURCES - FPPR section 10</b>			
Are there any known archaeological sites or cultural heritage resources that are important to First Nations within the proposed area?		No	<p>An Archaeological Impact Assessment (AIA) was conducted by Sugar Cane Archaeology.</p> <p>No Areas of Archaeological Potential (AAP) were identified in or adjacent to PM091.</p>

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			<p>No archaeological sites, features or materials were located and no evidence of recent cultural activity was observed during the survey. No further archaeological work is recommended for the treatment area.</p> <p>If any cultural heritage features are discovered during operations in the cut block, forest management activities will cease and Williams Lake First Nation, Xatsu'll First Nation and MFLNRORD will be promptly notified.</p> <p>The Williams Lake First Nation staff will be notified of the proposed treatment. See Outstanding Works.</p>
<b>INVASIVE PLANTS</b> - FRPA section 47 and FPPR section 17			
Is the introduction and spread of invasive plants likely as a result of the proposed treatment?	Yes		<p>As identified by the Invasive Alien Plant Program (IAPP) Database &amp; Map Display, there are known infestations of the following species adjacent to or within close proximity to PM091: Spotted Knapweed, Diffuse Knapweed, Orange Hawkweed, Tall Hawkweed, Common Tansey, Bull Thistle, Creeping Buttercup, and Oxeye Daisy.</p> <p>For Contractors and licensees operating in known infestation areas, see Outstanding Works.</p> <p>For reducing the spread of invasive plants, see Outstanding Works.</p>
<b>NATURAL RANGE BARRIERS</b> - FRPA section 48, FPPR section 18			
Are there natural range barriers within the proposed treatment area that are likely to be removed or rendered ineffective?		No	
<b>LAND USE OBJECTIVES</b> (Higher Level Plans and objectives set by Government under the <i>Land Act</i> )			
Are there land use objectives (higher level plans or objectives under the <i>Land Act</i> ) that apply to the proposed treatment area or a Road Permit necessary to provide access to the treatment area?	Yes		See previous sections where Land Use Objectives have been applied to the proposed treatment.
Do the proposed activities conflict with land use objectives (higher level plans or objectives under the <i>Land Act</i> )?		No	



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<b>G. OTHER CONSIDERATIONS AND REQUIREMENTS</b>			
<b>CONSULTATION – FIRST NATIONS</b>			
FIRST NATION		CONCERNS IDENTIFIED AND MEASURES TO ADDRESS	
Williams Lake Indian Band		<p>Conditional approval was provided noting that they would like all roads to be deactivated for access control when post harvest treatments are complete.</p> <p>For the purpose of berry picking, the Williams Lake Indian Band has requested that treatments do not occur between July 1 to September 15.</p>	
Xat'sull First Nation		No concerns were identified.	
First Nations consultation complete?	YES		
<b>CONSULTATION – GENERAL</b>			
Big Lake Community Association: No concerns were identified during 2019 Big Lake Community Association AGM. Final Fuel Management Prescription and map to be presented at 2020 Big Lake Community Association AGM. See Outstanding Works.			
<b>EXISTING TENURE HOLDERS (Forest, Range, Guide Outfitters, Trappers)</b>			
Tenure Holder	Concerns	Measures proposed to address licensee's concerns	
Range - RAN076632, Thomas Redl	No	<p>A range fence runs east/west in the north-west area of PM091. There is a private property fence along the western edge of PM091.</p> <p>Maintain integrity of existing fence lines at current effectiveness.</p>	
Trapline – TR0502T032	No		
Trapline – TR0502T021	No		
Guide/Outfitter – 500911, Gavin Nicol	No		
<b>PRIVATE PROPERTY</b>			
Does private property border the proposed treatment area?	Yes		<p>Private property is adjacent to the eastern and western sides of PM091. Property pins have been located by forestry field crews. It is recommended that a legal land survey be carried out to verify and/or establish the location of real property boundaries. See Outstanding Works.</p>
<b>SMOKE MANAGEMENT</b>			
Does a smoke management plan exist for the proposed treatment area?		No	<p>PM091 is located within the Medium Smoke Sensitivity Zone. Debris pile burning will be in compliance with the Open Burning Smoke Control Regulation (OBSCR). If piling and burning of debris is carried out, it will be in conjunction with cutting where practicable.</p> <p>The preferred approach is to remove surface fuels and treatment debris to landings for processing to hog fuel for the local market. A test pile will be lit at the start of each work day to determine if sufficient venting is in place. Crews will be guided by the Williams Lake venting numbers. Piles will be hand or machine piled and will not exceed 2m in height by 3m in width. No piles will be lit after 2pm. Burning piles will be tended approximately an hour before the crew leaves the site each day to ensure that no major smoldering occurs during the evenings. Burn reference numbers will be obtained prior to ignition.</p>

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<b>SAFETY</b>																								
Have any specific safety concerns been identified in or adjacent to the proposed treatment area?	Yes		Jones Road is an important ingress and egress route for the community of Big Lake to access community facilities. A BC Hydro distribution line is located along Jones Road as well as in a portion of TU3. Contact BC Hydro when work is proposed within the limit of approach. See Outstanding Works.																					
<b>UTILITIES</b>																								
Are utilities located in or adjacent to the proposed treatment area? i.e. power lines, gas lines, etc.	Yes		A BC Hydro distribution line is located along Jones Road as well as in a portion of TU3. Contact BC Hydro when work is proposed within the limit of approach. See Outstanding Works.																					
<b>ACCESS CONTROL</b>																								
Are there any foreseen issues with access and access control during and post treatment?	Yes		Access controls may not stop all users. Contractors must be vigilant for recreational users, residents of Jones Road and other operations that may be occurring in this area. Signs must be posted on roads.																					
<b>TRAFFIC CONTROL</b>																								
Is traffic control required at any point during operations?	Yes		'Active Logging' signage should be located on all access roads to the treatment unit areas.																					
<b>OTHER</b>																								
<p><b>Known Species at Risk:</b> The Conservation Data Centre web map application was searched for Species and Ecosystems at Risk. No Species and Ecosystems at Risk were identified in this area.</p> <p><b>Potential Species at Risk:</b> The BC Species and Ecosystem Explorer was used with the following criteria:            BC Conservation Status: Red and Blue Listed Species            Forest Districts: Central Cariboo Forest District (DCC)            Habitat Subtypes: Conifer Forest - Mesic, Conifer Forest – Moist/Wet, Mixed Forest (deciduous/coniferous mix), Riparian Forest            BGC Zone: SBS</p> <p>Likely species to be encountered as identified by BC Species Ecosystems Explorer:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">• Western Toad</td> <td style="width: 33%;">• Evening Grosbeak</td> <td style="width: 33%;">• Little Brown Myotis</td> </tr> <tr> <td>• Great Blue Heron</td> <td>• Olive-sided Flycatcher</td> <td>• Northern Myotis</td> </tr> <tr> <td>• Swainson's Hawk</td> <td>• Wolverine</td> <td>• Jutta Arctic</td> </tr> <tr> <td>• Common Nighthawk</td> <td>• Barn Swallow</td> <td>• Fisher</td> </tr> <tr> <td>• Sprengel's Sedge</td> <td>• Rusty Blackbird</td> <td>• Grizzly Bear</td> </tr> <tr> <td>• Painted Turtle</td> <td>• Lewis's Woodpecker</td> <td>• Yellow-breasted Chat</td> </tr> <tr> <td></td> <td></td> <td>• Northern Gooseberry</td> </tr> </table> <p><b>Breeding Birds:</b> As per the BC Wildlife Act, Section 34, a person must not injure, molest or damage a bird or its egg, or a nest occupied by a bird or its egg. The nests of eagles, peregrine falcons, gyrfalcons, ospreys, herons and burrowing owls are specifically protected through the entire year under this regulation. In addition, the federal Migratory Birds Convention Act prohibits the killing of migratory birds directly or indirectly, or to disturb or destroy their eggs, nests or nest shelters during the breeding season.</p> <p>To ensure compliance with these Acts, breeding bird and nest surveys must be conducted during the breeding season (Mid March to late August) by a qualified biologist prior to fuel management treatments.</p>				• Western Toad	• Evening Grosbeak	• Little Brown Myotis	• Great Blue Heron	• Olive-sided Flycatcher	• Northern Myotis	• Swainson's Hawk	• Wolverine	• Jutta Arctic	• Common Nighthawk	• Barn Swallow	• Fisher	• Sprengel's Sedge	• Rusty Blackbird	• Grizzly Bear	• Painted Turtle	• Lewis's Woodpecker	• Yellow-breasted Chat			• Northern Gooseberry
• Western Toad	• Evening Grosbeak	• Little Brown Myotis																						
• Great Blue Heron	• Olive-sided Flycatcher	• Northern Myotis																						
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H. STAND AND STOCK TABLE – TU1								
Species and Diameter Class	Average Crown to Base Height (m)	Average Tree Height (m)	STEMS PER HECTARE (sph)			VOLUME PER HECTARE (m <sup>3</sup> /ha)		
			Existing	Cut	Leave	Existing	Cut	Leave
<b>Layer 1 (&gt; 17.5cm dbh)</b>								
Total Live Conifers: Fd/Sx/Pl	<3	22.0	250	0	250	125	0	125
Total Live Deciduous: At/Ep			175	0	175	88	0	88
Total Dead Potential Conifer: Fd/Sx/Pl			10	10	0	5	5	0
Total Live All Species			425	0	425	213	0	213
Total All Conifers			260	10	250	130	5	125
Total All Species			435	10	425	218	5	213
<b>Layer 1 (&gt;= 12.5cm - 17.5cm dbh)</b>								
Total Live Conifers: Fd/Sx/Pl	<2	11.4	100	0	100	10	0	10
Total Live Deciduous: At/Ep			125	0	125	13	0	13
Total Dead Conifer: Fd/Pl/Sx			10	10	0	1	1	0
Total Live All Species			225	0	225	23	0	23
Total All Conifers			110	10	100	11	1	10
Total All Species			235	10	225	24	1	23
<b>Layer 2 (&gt;=7.5 – 12.5cm dbh)</b>								
Species: Fd/Sx/Pl	<2	7.6	250	125	125	15	8	7
Total Live Deciduous: At/Ep			125	0	125	8	0	8
Total Dead Potential: Fd/Pl/Sx			10	10	0	1	1	0
Total Live All Species			325	125	200	20	8	12
Total All Conifers			260	135	125	16	8	8
Total All Species			335	135	200	20	8	12
<b>Layer 3 (&gt;=1.3m – 7.5cm dbh)</b>								
Total Live Conifers: Fd/Sx/Pl	<1.5	4.0	275	220	55			
Total Live All Species			275	220	55			
Total All Conifers			275	220	55			
Total All Species			275	220	55			
<b>Layer 4 (&lt;1.3m)</b>								
Total Live Conifers: Fd/Sx/Pl	<1	0.5	125	100	25			
Total Live All Species			125	100	25			
Total All Conifers			125	100	25			
Total All Species			125	100	25			
<b>Total Live Layer 1 &amp; 2 - Conifers</b>			600	125	475	150	8	142
<b>Total Live Layer 1 &amp; 2 - All Spp.</b>			975	125	850	256	8	248
<b>Total All Conifers (L1 to L4)</b>			1030	475	555	157	14	143
<b>Total All Species (L1 to L4)</b>			1405	475	930	262	14	248

## Fuel Management Prescription Williams Lake Community Forest – PM091

H. STAND AND STOCK TABLE – TU2								
Species and Diameter Class	Average Crown to Base Height (m)	Average Tree Height (m)	STEMS PER HECTARE (sph)			VOLUME PER HECTARE (m <sup>3</sup> /ha)		
			Existing	Cut	Leave	Existing	Cut	Leave
<b>Layer 1 (&gt; 17.5cm dbh)</b>								
Total Live Conifers: Fd/Sx/Pl	<3	26.0	600	200	400	300	100	200
Total Live Deciduous: At/Ep			50	0	50	25	0	25
Total Dead Potential Conifer: Fd/Sx/Pl			10	10	0	5	5	0
Total Live All Species			650	200	450	325	100	225
Total All Conifers			610	210	400	305	105	200
Total All Species			660	210	450	330	105	225
<b>Layer 1 (&gt;= 12.5cm - 17.5cm dbh)</b>								
Total Live Conifers: Fd/Sx/Pl	<2	12.5	133	44	89	13	4	9
Total Live Deciduous: At/Ep			20	0	20	2	0	2
Total Dead Conifer: Fd/Pl/Sx			10	10	0	1	1	0
Total Live All Species			153	44	109	15	4	11
Total All Conifers			143	54	89	14	5	9
Total All Species			163	54	109	16	5	11
<b>Layer 2 (&gt;=7.5 – 12.5cm dbh)</b>								
Species: Fd/Sx/Pl	<2	9.5	134	67	67	8	4	4
Total Live Deciduous: At/Ep			20	0	20	1	0	1
Total Dead Potential: Fd/Pl/Sx			10	10	0	1	1	0
Total Live All Species			154	67	87	9	4	5
Total All Conifers			144	77	67	9	5	4
Total All Species			164	77	87	10	5	5
<b>Layer 3 (&gt;=1.3m – 7.5cm dbh)</b>								
Total Live Conifers: Fd/Sx/Pl	<1.5	4.0	800	640	160			
Total Live All Species			800	640	160			
Total All Conifers			800	640	160			
Total All Species			800	640	160			
<b>Layer 4 (&lt;1.3m)</b>								
Total Live Conifers: Fd/Sx/Pl	<1	0.5	1033	826	207			
Total Live All Species			1033	826	207			
Total All Conifers			1033	826	207			
Total All Species			1033	826	207			
<b>Total Live Layer 1 &amp; 2 - Conifers</b>			867	311	556	321	108	213
<b>Total Live Layer 1 &amp; 2 - All Spp.</b>			957	311	646	349	108	241
<b>Total All Conifers (L1 to L4)</b>			2730	1807	923	328	115	213
<b>Total All Species (L1 to L4)</b>			2820	1807	1013	356	115	241

## Fuel Management Prescription Williams Lake Community Forest – PM091

H. STAND AND STOCK TABLE – TU3								
Species and Diameter Class	Average Crown to Base Height (m)	Average Tree Height (m)	STEMS PER HECTARE (sph)			VOLUME PER HECTARE (m <sup>3</sup> /ha)		
			Existing	Cut	Leave	Existing	Cut	Leave
<b>Layer 1 (&gt; 17.5cm dbh)</b>								
Total Live Conifers: Fd/Sx/Pl	<3	20.5	500	100	400	250	50	200
Total Live Deciduous: At/Ep			50	0	50	25	0	25
Total Dead Potential Conifer: Fd/Sx/Pl			10	10	0	5	5	0
Total Live All Species			550	100	450	275	50	225
Total All Conifers			510	110	400	255	55	200
Total All Species			560	110	450	280	55	225
<b>Layer 1 (&gt;= 12.5cm - 17.5cm dbh)</b>								
Total Live Conifers: Fd/Sx/Pl	<2	12.5	133	44	89	13	4	9
Total Live Deciduous: At/Ep			20	0	20	2	0	2
Total Dead Conifer: Fd/Pl/Sx			10	10	0	1	1	0
Total Live All Species			153	44	109	15	4	11
Total All Conifers			143	54	89	14	5	9
Total All Species			163	54	109	16	5	11
<b>Layer 2 (&gt;=7.5 – 12.5cm dbh)</b>								
Species: Fd/Sx/Pl	<2	9.5	134	67	67	8	4	4
Total Live Deciduous: At/Ep			20	0	20	1	0	1
Total Dead Potential: Fd/Pl/Sx			10	10	0	1	1	0
Total Live All Species			154	67	87	9	4	5
Total All Conifers			144	77	67	9	5	4
Total All Species			164	77	87	10	5	5
<b>Layer 3 (&gt;=1.3m – 7.5cm dbh)</b>								
Total Live Conifers: Fd/Sx/Pl	<1.5	4.0	200	160	40			
Total Live All Species			200	160	40			
Total All Conifers			200	160	40			
Total All Species			200	160	40			
<b>Layer 4 (&lt;1.3m)</b>								
Total Live Conifers: Fd/Sx/Pl	<1	0.5	200	160	40			
Total Live All Species			200	160	40			
Total All Conifers			200	160	40			
Total All Species			200	160	40			
<b>Total Live Layer 1 &amp; 2 - Conifers</b>			767	211	556	271	58	213
<b>Total Live Layer 1 &amp; 2 - All Spp.</b>			857	211	646	299	58	241
<b>Total All Conifers (L1 to L4)</b>			1197	561	636	278	65	213
<b>Total All Species (L1 to L4)</b>			1287	561	726	306	65	241

# Fuel Management Prescription

## Williams Lake Community Forest – PM091

CROWN CLOSURE AND BASAL AREA: TU1, TU2, TU3		
<b>Crown Closure (%)</b>	<b>Existing:</b> TU1: 41 to 60% TU2: 41 to 60% TU3: 41 to 60%	<b>Target:</b> TU1: 41 to 60% TU2: 41 to 50% TU3: 41 to 60%
<b>Basal Area (m<sup>2</sup>/ha)</b>	<b>Existing:</b> TU1: 12 to 40m <sup>2</sup> /ha TU2: 20 to 40m <sup>2</sup> /ha TU3: 12 to 40m <sup>2</sup> /ha	<b>Target:</b> TU1: 12 to 40m <sup>2</sup> /ha TU2: 18 to 32m <sup>2</sup> /ha TU3: 12 to 36m <sup>2</sup> /ha
SURFACE FUEL LOADING AND HAED FIRE INTENSITY: TU1, TU2, TU3		
<b>SURFACE FUEL LOADING (SFL) (kg/m<sup>2</sup>)</b>	<b>Existing SFL:</b> TU1: 2.5kg/m <sup>2</sup> to 7.0kg/m <sup>2</sup> TU2: 2.5kg/m <sup>2</sup> to 9.0kg/m <sup>2</sup> TU3: 2.5kg/m <sup>2</sup> to 7.0kg/m <sup>2</sup>	<b>Target SFL:</b> PM091 is approximately 5km outside of the area of interest for the Williams Lake & Area Community Wildfire Protection Plan (WLCWPP). The recommended targets for Surface Fuel Loading that have been outlined in the WLCWPP will be used. To achieve 2,000kW Head Fire Intensity (HFI) or lower, reduce fine fuel (<7.1cm diameter) loading to: TU1: <1 kg/m <sup>2</sup> (i.e. 10 T/ha) on average, TU2: <2 kg/m <sup>2</sup> (i.e. 20 T/ha) on average, TU3: <2 kg/m <sup>2</sup> (i.e. 20 T/ha) on average, excluding Coarse Woody Debris, to achieve that fire behaviour standard in the 90th percentile of fire weather.
	<b>Head Fire Intensity:</b> Recommended targets for Head Fire Intensity have been outlined in the WLCWPP. Reduce surface fuels to achieve Head Fire Intensity of less than 2000kW/m.	
	<b>Existing Distribution:</b> Scattered to patchy to continuous throughout the unit.	<b>Target Distribution:</b> Lightly scattered throughout unit with most material under 7.1cm being removed through piling and burning.
	<b>Method used to measure:</b>	USDA: The Photoload Sampling Technique: Estimating Surface Fuel Loadings From Downward-Looking Photographs of Synthetic Fuel Beds. Rocky Mountain Research Station General Technical Report RMRS-GTR-190, April, 2007. Target tonnage thresholds may be adjusted in a prescription amendment once modelled.
BIODIVERSITY AND FOREST HEALTH CONSIDERATIONS AND TARGETS		
<b>COARSE WOODY DEBRIS (CWD) RETENTION TARGET - sph and Distribution</b>	<p>The treatment area contains areas of moderate to high CWD levels accrued during the previous Mountain Pine Beetle infestation. Large CWD (pieces greater than 20cm small end diameter and greater than 10m in length) is variable in the stand with some areas abundant in CWD.</p> <p>The primary objective for PM091 is fuel management, therefore greater than 95% of dead stems will be felled and disposed of.</p> <p>As per the <i>Chief Forester's Guidance on Coarse Woody Debris Management, May 2010</i>, meet or exceed 4 pieces/ha of large CWD.</p> <p>Where occurring, dead standing trees greater than 20cm small end diameter that are felled may be left as CWD after limbing and bucking.</p> <p>Coarse Woody Debris may be retained at up to 40m<sup>3</sup>/ha, bucked to five-metre-long pieces with preference for stems greater than 20cm small end diameter.</p>	
<b>WILDLIFE TREE RETENTION TARGET</b>	<p>For High Value Wildlife Trees, maintain standing dead and declining large (&gt;37.5cm) and very large (&gt;57.5cm) Fd where safe and practicable to do so.</p> <p>Key wildlife trees and any stems less than 5m in height that have Wildlife Tree Potential will be retained where safe and practicable to do so.</p>	

# Fuel Management Prescription

## Williams Lake Community Forest – PM091

FOREST HEALTH	No forest health concerns were noted in the proposed treatment area during prescription development. Douglas-fir bark beetle (IBD) outbreaks occur in this area. If IBD occurs in the treatment area, current and non-current IBD attacked trees will be harvested. Grey attacked stems will be reserved, unless they present a worksite hazard. Retained spruce should be in the sub-dominant layer to reduce windthrow hazard.
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TREATMENT SPECIFICATIONS SUMMARY	
TU	TREE REMOVAL/RETENTION STRATEGY BY SIZE/SPECIES (Summarize specifications identified in table above)
TU1	<ul style="list-style-type: none"> <li>• Retain all live Layer 1 conifers greater than 12.5cm dbh to maintain the stands current clumpy nature/areas of Layer 1 stems.</li> <li>• Allow for up to 10% removal of Layer 1 and 2 (live stems) for safety and danger tree removal only.</li> <li>• Remove only PI that is less than 5m in height or poorly formed or of poor health and vigour.</li> <li>• Where practicable, Layer 1 Aspen are eligible for removal, up to 10% (species occurrence), to encourage suckering.</li> <li>• Remove greater than 95% of dead trees. The remaining 5% will allow for the retention of important wildlife and/or cavity trees and biodiversity anchors.</li> <li>• Remove greater than 99% of live conifer stems, less than 12.5cm dbh, within 5m of any road edge and fence line to remove laddering potential.</li> <li>• Remove Layer 2 stems under the dripline of mature overstory stems.</li> <li>• Thin Layer 2 to a target spacing of +/- 5m inter-tree distance varying to 0.5m where two well-formed trees are close together.</li> <li>• Remove up to 80% of Layer 3 and 4 conifers with the intent of reducing all laddering potential.</li> <li>• Thin retained Layer 3 and 4 conifers to a target spacing of +/- 3m inter-tree distance varying to 0.5m where two well-formed trees are close together.</li> <li>• Prune retained live conifers to approximately 3.5m in height or half of the height of the conifer, whichever is less.</li> </ul>
TU2	<ul style="list-style-type: none"> <li>• Remove greater than 95% of dominant and subdominant Sx greater than 12.5cm dbh to create crown separation and canopy gaps.</li> <li>• Retain up to 90% of live Layer 1 Fd and PI greater than 12.5cm dbh to maintain the stands current clumpy nature/areas of Layer 1 stems.</li> <li>• Remove only PI that is less than 5m in height or poorly formed or of poor health and vigour.</li> <li>• Where practicable, Layer 1 Aspen are eligible for removal, up to 10% (species occurrence), to encourage suckering.</li> <li>• Remove greater than 95% of dead trees. The remaining 5% will allow for the retention of important wildlife and/or cavity trees and biodiversity anchors.</li> <li>• Remove greater than 99% of live conifer stems, less than 12.5cm dbh, within 5m of any road edge and fence line to remove laddering potential.</li> <li>• Remove Layer 2 stems under the dripline of mature overstory stems.</li> <li>• Thin Layer 2 to a target spacing of +/- 5m inter-tree distance varying to 0.5m where two well-formed trees are close together.</li> <li>• Remove up to 80% of Layer 3 and 4 conifers with the intent of reducing all laddering potential.</li> <li>• Thin retained Layer 3 and 4 conifers to a target spacing of +/- 3m inter-tree distance varying to 0.5m where two well-formed trees are close together.</li> <li>• Prune retained live conifers to approximately 3.5m in height or half of the height of the conifer, whichever is less.</li> </ul>
TU3	<ul style="list-style-type: none"> <li>• Maintain the stands current clumpy nature/areas of Layer 1 stems (greater than 12.5cm dbh).</li> <li>• Remove small diameter, subdominant Sx less than 27.5cm dbh.</li> <li>• Remove only PI that is less than 5m in height or poorly formed or of poor health and vigour.</li> <li>• Allow for up to 10% removal of Layer 1 and 2 (live stems) for safety and danger tree removal only.</li> </ul>

# Fuel Management Prescription

## Williams Lake Community Forest – PM091

- Where practicable, Layer 1 Aspen are eligible for removal, up to 10% (species occurrence), to encourage suckering.
- Remove greater than 95% of dead trees. The remaining 5% will allow for the retention of important wildlife and/or cavity trees and biodiversity anchors.
- Remove greater than 99% of live conifer stems, less than 12.5cm dbh, within 5m of any road edge and fence line to remove laddering potential.
- Prune retained live conifers to approximately 3.5m in height or half of the height of the conifer, whichever is less.
- Remove Layer 2 stems under the dripline of mature overstory stems.
- Where overstory is absent and gaps in the canopy exist, allow for retention of sub-dominant preferred conifers in clumps. Where clumps are retained, adequate spacing from the outside of the clump (ie. 5m from outside crown to outside crown) shall be targeted to reduce the opportunity for wildfire spread from retained regeneration clumps to the adjacent mature overstory. A Layer 2 clump is defined as an area containing 3 to 9 trees, with an optimal spacing of 0.5 to 2.5m within a distinct 6m diameter area. In order to maintain and promote such clumps, retention of the largest stems is preferred and spacing of smaller, undesirable stems may be required within the area occupied by the clump.
- Remove up to 80% of Layer 3 and 4 conifers with the intent of reducing all laddering potential.
- Thin retained Layer 3 and 4 conifers to a target spacing of +/- 3m inter-tree distance varying to 0.5m where two well-formed trees are close together.
- Prune retained live conifers to approximately 3.5m in height or half of the height of the conifer, whichever is less.

### TREATMENT SPECIFICATION RATIONALE

Prescribed treatments will:

- Reduce surface fuels and bulk flammable material to reduce fire intensity;
- Reduce laddering potential through pruning and removal of regeneration and saplings within the dripline of retained stem crowns;
- Reduce laddering potential through bucking and limbing dead and down PI, Sx and Fd;
- Reduce potential for running crown fires by creating crown breaks and reducing fire intensity by removal of surface fuels.



# Fuel Management Prescription

## Williams Lake Community Forest – PM091

I. TREATMENT DESCRIPTION
<b>MERCHANTABLE TIMBER HARVEST</b>
ROADS, LANDINGS AND TRAILS: Treatment areas will be accessed by existing roads and trails. A proposed permanent road has been located in TU2. The proposed road is intended to provide access and act as a fuel break where the overstory canopy will be separated by approximately 10m.
FELLING: TU1: Manual. TU2 and TU3: Manual and/or mechanical.
YARDING/SKIDDING: TU1: Manual skidding to piles or chipper. TU2: Mechanical and/or manual skidding to roadside and/or landings. Skid trail development will occur as necessary. TU3: Mechanical and/or manual skidding to piles or chipper and/or mechanical skidding to roadside and/or landings. Skid trail development will occur as necessary.
LOADING AND HAULING: Either at roadside or at landings
SLASH DISPOSAL: Either by piling and burning, chipping, mulching or dispersal on site.
SITE DISTURBANCE: Low.
SPECIAL MEASURES: None.
<b>STAND MODIFICATION TREATMENTS</b>
MERCHANTABLE TIMBER UTILIZATION: Was commercial timber harvest considered? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If commercial timber harvest not prescribed, explain:
<u>TU1:</u> Merchantable timber harvest was not considered as this area contains a mature Sx leading stand with large crowns on a moist to wet, hummocky site. Windthrow of residual stems would be likely following partial cutting. Clearcutting would not achieve the VQO of Partial Retention.
<u>TU2:</u> Commercial timber harvest will be conducted in this treatment unit.
<u>TU3:</u> The treatment unit area is within a Permanent OGMA. Stands resulting from commercial harvest would not support OGMA values. However, a small volume of merchantable timber will be harvested to create the maximum 6m crown gap separation. This fuel management treatment isn't considered a commercial timber harvest opportunity.
BRUSHING: Deciduous species will be retained. Herbaceous plants and shrubs are not targeted for removal or treatment.
PRUNING: Retained live conifers will be pruned to approximately 3.5m in height or half the height of the green crown, whichever is less.
THINNING:
<u>TU1:</u> Remove Layer 2 stems under the dripline of mature overstory stems. Retained Layer 2 conifer stems will be spaced to an approximate inter-tree distance of 5m, varying to 0.5m where two well-formed trees are close together. Thin retained Layer 3 and 4 conifers to a target spacing of +/- 3m inter-tree distance varying to 0m where two well-formed trees are close together.
<u>TU2:</u> Remove Layer 2 stems under the dripline of mature overstory stems. Retained Layer 2 conifer stems will be spaced to an approximate inter-tree distance of 5m, varying to 0.5m where two well-formed trees are close together. Thin retained Layer 3 and 4 conifers to a target spacing of +/- 3m inter-tree distance varying to 0m where two well-formed trees are close together.
<u>TU3:</u> Remove Layer 2 stems under the dripline of mature overstory stems. Where overstory is absent and gaps in the canopy exist, allow for retention of sub-dominant preferred conifers in clumps. Where clumps are retained, adequate spacing from the outside of the clump (ie. 5m from outside crown to outside crown) shall be targeted to reduce the opportunity for wildfire spread from retained regeneration clumps to the adjacent mature overstory. A Layer 2 clump is defined as an area containing 3 to 9 trees, with an optimal spacing of 0.5 to 2.5m within a distinct 6m diameter area. In order to maintain and promote such clumps, retention of the largest stems is preferred and spacing of smaller, undesirable stems may be required within the area occupied by the clump. Thin retained Layer 3 and 4 conifers to a target spacing of +/- 3m inter-tree distance varying to 0.5m where two well-formed trees are close together.

## Fuel Management Prescription Williams Lake Community Forest – PM091

Greater than 99% of cut stems will be either piled, burned or mulched or a combination of these methods.
<p>DEBRIS PILING:</p> <p><u>TU1:</u> Debris will be hand piled.</p> <p><u>TU2:</u> Debris will be hand and/or machine piled.</p> <p><u>TU3:</u> Debris will be hand and/or machine piled.</p> <p>In all treatment units:</p> <ul style="list-style-type: none"> <li>• Piles are not to exceed 2m in height and 3m in width.</li> <li>• Placement of piles for burning is to be done so as not to unduly damage retained stems or crowns and are to be located away from the base of retained trees in suitable canopy openings.</li> <li>• Placement of piles for burning is to be at least 5m from any fence line so as not to unduly damage fences.</li> <li>• Lopping and scattering can occur in lower density portions of the treatment areas.</li> </ul>
PILE BURNING: Piles will be burned concurrent with cutting and piling operations where possible and practicable.
CHIPPING: Chipping is considered an appropriate treatment where practicable. Chipping is a preferred activity where there is suitable 2WD access to debris. Where practicable, chips are to be blown into trucks for removal to biomass-fired generating facilities
MULCHING: Mulching is considered an appropriate treatment where practicable.
MASTICATION: N/A
GRINDING: Grinding is considered an appropriate treatment where practicable. Grinding is a preferred activity where there is suitable 2WD access to debris. Where practicable, grindings are to be loaded into trucks for removal to biomass-fired generating facilities
PRESCRIBED FIRE: Prescribed fire is recommended for ongoing maintenance treatments. If prescribed fire is not permitted, understory hand treatments may be utilized.
PLANTING: N/A
OTHER: N/A
<b>AUTHORIZATION AND TIMBER TENURE</b>
FRPA Section 52: N/A
Forestry Licence to Cut (FLTC): N/A.
Cutting Permit: Yes.
Park Use Permit: N/A
Road Permit or Road Use Permit: A Road Permit is not required for the proposed in-block road in TU2. Road Use Agreements will be developed with M
Other (i.e. local government, utilities, etc.): A transmission line is located adjacent to the proposed treatment area. Contact BC Hydro when work is required within the limit of approach.

## Fuel Management Prescription Williams Lake Community Forest – PM091

J. POST TREATMENT													
EXPECTED VEGETATION RESPONSE: Pinegrass, herbs and low deciduous shrubs will increase. Conifer stocking ingress will occur.													
ADDITIONAL TREATMENTS OR MAINTENANCE: Prescribed fires or understorey cutting may be used at site-appropriate intervals. MCH Application post treatment to be considered after treatment.													
SILVICULTURE OBLIGATIONS: Do silvicultural obligations apply to the treatment area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> The target post treatment stand will meet Free-Growing Multi-Layered Standards.													
PLANTING: Is planting a treatment identified in this prescription or required as a legislative obligation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>													
STOCKING STANDARDS: Single-tree Selection Stocking Standards apply to stands in the WLCF . As per the FSP, where single-tree selection harvesting will remove 20% or less of the pre-harvest basal area, these stands are exempted from the requirements to establish a free growing stand.  The Biogeoclimatic zone has been determined to be consistent with the SBSdw1 01 and SBSdw1 07 .													
TU	SSID	Layer	Pref. Spp.	Acc. Spp.	Well Spaced Stem/ha				Minimum Height (m)			Regen Delay	Free Growing (years)
					TSS	MSS		MITD	Pref. Fd, Pl, Sx	Acc. BI	RTH (%)		
						Pref. & Acc.	Pref.						
1	As per the FSP, where single-tree selection harvesting will remove 20% or less of the pre-harvest basal area, these stands are exempted from the requirements to establish a free growing stand.												
2, 3	80194	All	Fd, Pl, Sx	BI	1200	700	600	2.0	1.4, 2.0, 1.0	1.0	150	7	12

K. Outstanding Works		
<b>First Nation Consultation:</b>		
Engage in First Nation consultation and communication, as appropriate, before and throughout the treatment implementation.		
Completed: Yes <input type="checkbox"/> No <input type="checkbox"/>	Date:	Initials:
<b>Community Consultation:</b>		
Engage in Big Lake Community Association and consultation and communication at the Community's September 2020 AGM.		
Completed: Yes <input type="checkbox"/> No <input type="checkbox"/>	Date:	Initials:
<b>Invasive Plants - Contractors and licensees operating in known infestation areas:</b>		
Contractors and licensees operating in known infestation areas as per the Invasive Alien Plant Program (IIAP) Display will be advised that		
<ul style="list-style-type: none"> <li>i) Clothing and vehicle/equipment undercarriages will be regularly inspected for plant parts or propagules if working in an area known to contain invasive plants.</li> <li>ii) Prior to moving to a new work site or region, mud and invasive plant parts will be removed from clothing and/or equipment by dislodging and containing dirt, mud and/or associated water on-site or at designated cleaning stations.</li> <li>iii) Infested sites will be avoided for staging, parking, and log sorting, both in the bush and storage yards.</li> <li>iv) Road grading/snow plowing must not spread invasive plants.</li> </ul>		
Completed: Yes <input type="checkbox"/> No <input type="checkbox"/>	Date:	Initials:
<b>Invasive Plant – Mitigation and Reducing Spread of Invasive Plants:</b>		
Where there is exposed mineral soil from fuel management activities, seed or rake nearby native and uncontaminated forest floor materials over exposed soil, including burned areas.		
Seeding, if any, will use a Canadian registered commercial seed mixture suitable to the area.		
Completed: Yes <input type="checkbox"/> No <input type="checkbox"/>	Date:	Initials:

# Fuel Management Prescription

## Williams Lake Community Forest – PM091

**Private Property:**

It is recommended that a legal land survey be carried out to verify and/or establish the location of real property boundaries.

Completed: Yes <input type="checkbox"/> No <input type="checkbox"/>	Date:	Initials:
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**Utilities – BC Hydro:**

Develop a Compatible Use Agreement and contact BC Hydro when work is proposed within the limit of approach of powerlines on Airport Road.

Completed: Yes <input type="checkbox"/> No <input type="checkbox"/>	Date:	Initials:
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**L. ADMINISTRATION**

**PREPARATION**

**FOREST PROFESSIONAL NAME:** Thomas L. Foley, RPF

**FOREST PROFESSIONAL SIGNATURE:**



**COMPANY:** Consus Management Ltd.

**MEMBER NUMBER:** 3178

**DATE:** September 14, 2020

**Field Assessment, Field Work and Document Preparation Completed by:**

**FOREST PROFESSIONAL NAME:** Daniel Persson

**COMPANY:** Consus Management Ltd.

**MEMBER NUMBER:** 5815

**DATE:** May 20, 2020

**M. ATTACHMENTS**

MAPS : Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	FIELD DATA CARDS: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
WUI WTA Plots and Photos: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CRUISE DATA: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
AIR PHOTOS/IMAGERY: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	BURN PLAN: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
MODELING/DATA ANALYSIS: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	OTHER: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
TERRAIN STABILITY ASSESSMENT Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	VISUAL IMPACT ASSESSMENT Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
ARCHAEOLOGY IMPACT ASSESSMENT Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> An Archaeological Impact Assessment (AIA) was conducted by: Sugar Cane Archaeology Date: January 17, 2020	BIOLOGIST ASSESSMENT Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>  Completed By: Date:

**Additional Comments:**

576000

576500

Big Lake

5804000

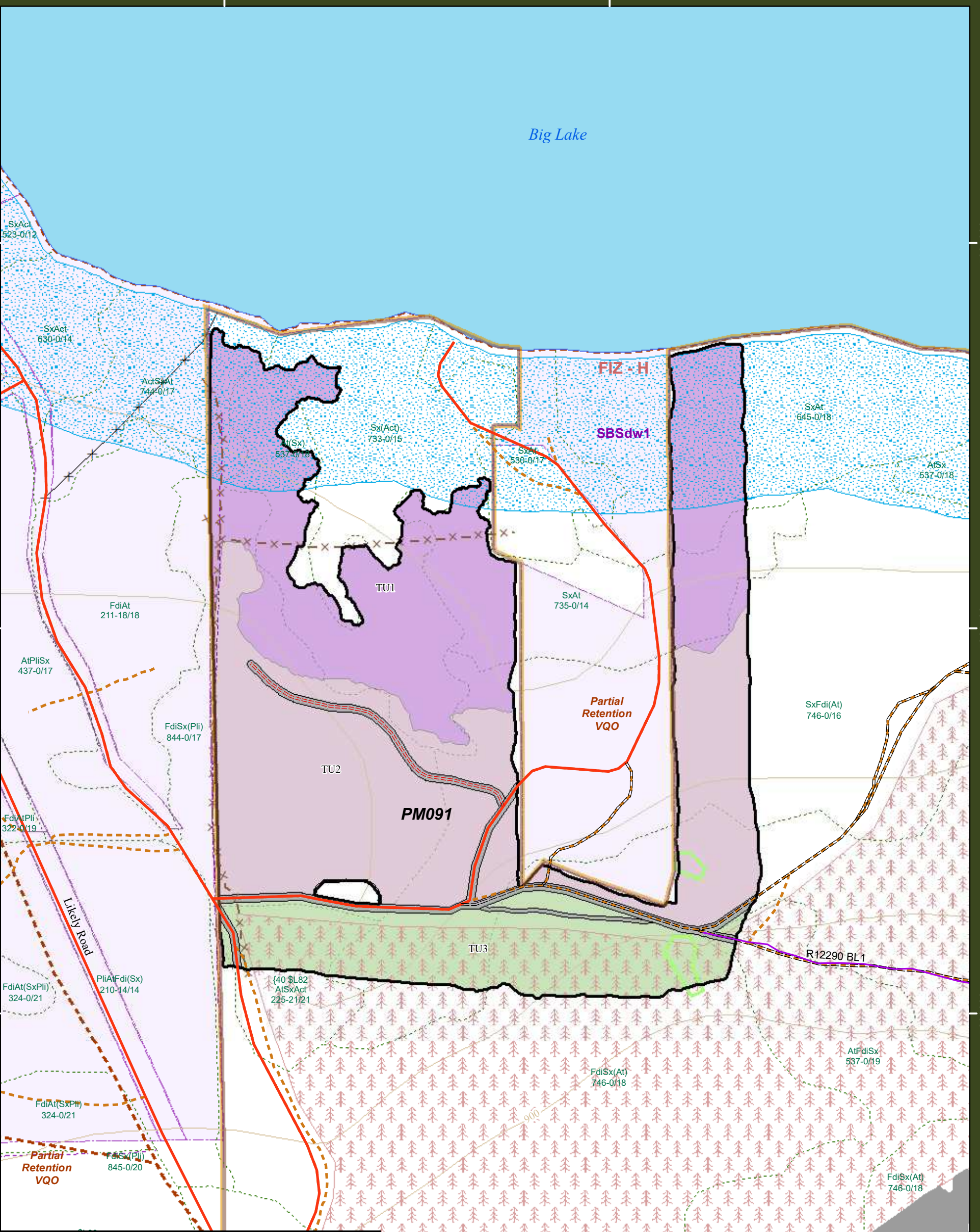
5804000

5803500

5803500

5803000

5803000



PM091	Gross Block	TU 1	TU 2	TU 3	NP Unn (New Roads & Landings)	NP Unn (Existing Rds & Right of Way)
	35.7	13.7	14.2	6.3	0.4	1.1

Access Instructions



Scale 1:5,000  
 MAP DATE: 2020-09-14  
 CREATED BY: mthurow

**Site Plan Map**  
 BLK: PM091 GROSS BLK AREA (HA): 35.66  
 Location: Potato Mtn / Peskwenkwinem



MAP REF: 93A.031 FOREST DISTRICT: Central Cariboo NAD: 83  
 LAND DISTRICT: Cariboo SUPPLY BLOCK: Skelton LONGITUDE: -121.8792  
 U.T.M. ZONE: 10 N REGION: 56 LATITUDE: 52.37533  
 T.S.A.: Williams Lake COMPARTMENT: 52

**Legend**

Block	Public Road (DRA)	FIZ	Index Contour (100m interval)	Gravel or Sand Pit
TU 1	Existing Road	BEC	Intermediate Contour (20m interval)	Lakes
TU 2	Located Road	Visual Quality Objectives	VRI Type Line	Private Land
TU 3	DRA Roads	Lake Management Zone (Class)	Cutline or Seismic Line	
NPUnn	Other Road Permit	Permanent OGMA	Fence	
Skid Trail	S6			
Site Polygon	Fence			
WLCF Boundary	Other Blocks			

