

A. PROJECT IDENTIFICATION	
PROJECT ID AND UNIT ID:	LAND OR TENURE HOLDER:
K4R/FESBC Wildfire Risk Reduction – Prescription #2	Chinook Community Forest Tenure K4R
0.8 km to 2.0 km Keefe's Landing Road	(CFA:K4R)
Original WRR Shapes #3, 4, 5	
LATITUDE/LONGITUDE:	GEOGRAPHIC DESCRIPTION:
53° 55' 08" N, 125° 54' 34" W	Keefe's Landing Road, 0.8km to 2.0km
HIGHER-LEVEL PLAN(s):	MAP REFERENCE NUMBER:
Lakes District Land and Resource Management Plan – 2000	93F 091
Lakes South Sustainable Resource Management Plan – 2003	

B. FUEL TREATN	. FUEL TREATMENT PROJECT DESCRIPTION								
OBJECTIVE:	□ Public Safety	🗵 Range Imp	provement	Ecosystem Restoration					
1	☐ Recreation	☐ Wildlife Ha	phitat	☐ Other:					
		□ Wildille Ha	abitat	□ Other.					
	Prescription Area #2: Keefe's Landing Road Wildfire Risk Reduction (WRR) area is on the south starting François Lake and is bordered by both private and Crown land. This unit is entirely within the Chine Community Forest (CFA:K4R) tenure area and has been identified as a high priority corridor by the Columbia Wildfire Service (BCWS) WRR Tactical Plan.  The unit is within the François Lake Wildland Urban Interface (WUI) Risk Class (RC) polygon white been assigned a risk class rating of 2 due to the prevalence of High Value Resources and Assets (HV namely the infrastructure and community values along Keefe's Landing Road. The Provincial Strate Analysis (PSTA) has classified stands within the unit as having a Final Threat Rating (FTR) of high extreme (9). This rating considers the anticipated head fire intensities and spotting impacts for the fit present as well as historical fire densities. Initial spread index (ISI) roses generated by the Grassy Pl (161) fire weather station indicate that prevailing winds during the core fire season are typically from southwest.								
	<ul> <li>(WUI) areas – specifically the</li> <li>reduce the risk of wildfire to prespecifically those along the Ke</li> <li>reduce the risk of wildfire to conclude the reduce the risk of wildfire to conclude the reduce the reduce</li></ul>								



STRATEGIES:	Wildfire risk reduction objectives will be achieved through the application of treatment regimes designed to address site and stand specific conditions. Treatments will reduce fire behaviour potential through the modification or removal of hazardous forest fuels as well as through reductions to surface fuel load contributions from downed woody material and treatment residues. Stand modifications are intended to reduce fire intensities and reduce continuity between forest fuels, and therefore reduce the potential for the propagation and persistence of crown fire as well as the potential for spotting. Treatment intensities increase with the level of hazard identified as well as in response to anticipated operational limitations.  The prescribed treatment activities balance WRR objectives with established land use objectives and existing tenure obligations to reduce the risk of wildfire to public safety, promote natural processes and maintain ecosystem function, as well as to reduce open burning requirements through the utilization of biomass.
METHODS:	The proposed operational treatment for this TU 1 of this Prescription area will be a Clearcut with Reserves (CCRES) Silviculture System and TU 2 will be a Clearcut with Dispersed Retention (CCDRET) Silviculture System as both TU's requires significant stand modification to address the hazardous stand conditions. Stand conditions are poor in these areas due to the impacts of historical insect infestations and subsequent wind events. The prescription area will provide moderate to marginal commercial fibre recovery opportunities. Initial stand entries require an overstory removal phase utilizing conventional ground-based harvest (HARV) methods. Final treatment phases require surface fuel load reductions (SFR) to dead and down material and treatment residues by mechanical surface fuel reductions to existing downed woody materials and treatment residues to ensure surface fuel load targets are achieved.  Surface fuel reduction targets are intended to reduce surface fire intensities to a level below critical surface fire intensity thresholds (<2000 kW/m) under 90th percentile fire weather conditions as well as to comply with provincial fuel hazard abatement requirements.  Prescription area design and specifications have been developed with consideration of the influence of topography.

C. TRE	ATMEN	T UNIT (	TU) SUN	<b>MARY</b>			
TU	SU	NET AREA (ha)	GROSS AREA (ha)	LEAVE AREAS (ha)	NP (ha)	NAR (ha)	TREATMENT REGIME (i.e. PRUNE THIN, PILE BURN, BROAD, CHAUL, ETC.)
1	1	11.1	12.0	0.9	0	11.1	CCRES / HARV / SFR / Mechanical Debris Pile & Burn
2	1	5.5	7.0	1.5	0	5.5	CCDRET / HARV / SFR / Mechanical Debris Pile & Burn
TO	TALS	16.6	19.0	2.4	0	16.6	

D. SITE CI	D. SITE CHARACTERISTICS								
TU	CFFBPS FUEL TYPE	TIMBER TYPE	BGC SUBZONE, VARIANT & SITE ASSOC.	ELEVATION RANGE (m)	SLOPE POSITION	SLOPE RANGE (%)	ASPECT		
1	C2	MATURE Coniferous	SBS dk 01	855 – 890	Middle	5 – 15	West (East)		
2	C2	MATURE Coniferous	SBS dk 01	863 – 885	Middle	5 – 10	East (South)		
FUEL TYPE DETERMINATION  TU1: C2 is the fuel type is used for representing mountain pine beetle (MPB) affected stands  TU 2: C2 is the fuel type used, based upon observed fire behaviour, for mid-elevation interior spruce and hybrid spruce stands throughout the province.									



F. VALUES – FOREST AND RANGE PRACTICES ACT

E. SOIL	E. SOIL CHARACTERISTICS								
	COIL	DUFF		COU DISTUDBANCE	SOI	L HARZARD R	ATING		
TU	SOIL TEXTURE	DEPTH (cm)	COARSE FRAGMENTS (%)	SOIL DISTURBANCE LIMIT (%)	Compaction	Erosion	Displacement		
1	SL	3	45 - 55	10	M	M	L		
2	SL	3	45 - 55	10	M	M	L		

RIPARIAN & LAKESHORE AREAS - 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 ⊠		Agreem 6.5.2 of are other	Riparian features that occur within the Chinook Community Forest Agreement (CFA) tenure area have been managed in accordance with section 6.5.2 of the approved Chinook CFA Forest Stewardship Plan (FSP) 2016 and are otherwise compliant with the requirements of section 47 to 51, 52(2), and 53 of the FPPR.		
RIPARIAN MANAGEMENT AREAS (F	RMAs) - F	PPR sec	tions 51	and 52		
STREAM, LAKE, WETLAND ID	CLASS	RRZ (m)	RMZ (m)	SPECIFICATIONS FOR RIPAIRAN OR LAKESHORE MANAGEMENT AREAS		
Lake #1 (Tatalaska Lake)	L1-B 10		0	The proposed harvest area of WRR-4 is greater than 10m from the L1 Lake.		
TEMPERATURE SENSITIVE STREAM	<b>S</b> - FPPR s	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?	Yes 🗆 I	Treatment activities have not been prescribed in areas that contain, are adjacent to, or are a direct tributary to an identified temperature sensitive stream.				
ROAD CONSTRUCTION IN RIPARIAN	MANAG	SEMENT	T AREAS	- FPPR section 50		
Is road construction proposed in riparian management areas within the treatment area or an associated road permit (RP)?	Yes 🗆 1	No ⊠	Road construction activities have not been proposed within the RMA of any identified riparian feature.			
STREAM CROSSINGS - FPPR section	55					
Will stream crossings be constructed within the proposed treatment area or a road permit road providing access to the treatment area?	Yes 🗆 I	No 🗵	There are no stream crossings associated with this prescription.			



MAINTAINING STREAM BANK AND	CHANNEL STABI	LITY ON S4, S5, and	S6 STREAMS - FF	PPR 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?	Yes □ No ⊠	Treatment activities have not been prescribed within the RMZ of an S4, S5, or S6 stream that is a direct tributary to an S1, S2, or S3 stream, and therefore the basal area retention requirements for maintaining stream bank and channel stability provided by section 52 of the FPPR do not apply.			
DOMESTIC WATER LICENCES (inside	CES (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?	Yes □ No ⊠	The treatment area consumption by a		water sources that are diverted for human rks.	
LICENCED WATER WORKS (inside o	r outside of a cor	nmunity watershed	) - FPPR section 6	50	
Does the proposed treatment include areas that are within 100m of a licensed waterworks?	Yes □ No ⊠			vitities have not been proposed within 100 vithin a community watershed.	
FISHERIES SENSITIVE WATERSHED -	GAR section 14,	FPPR section 8.1			
Are any activities proposed within a fisheries sensitive watershed?	Yes □ No ⊠	Treatment activitie watershed.	s have not been p	proposed within a fisheries sensitive	
COMMUNITY WATERSHED - GAR se	ection 8, FPPR sec	ction 8.2, 61, 62 and	l 84		
Does the proposed treatment area include areas that are within a community watershed?	Yes 🗆 No 🗵	Treatment activitie	s have not been p	proposed within a community watershed.	
Will this project require road construction or deactivation within a community watershed?	Yes □ No ⊠	Treatment and road community waters		tivities have not been proposed within a	
WATERSHED ASSESSMENT CONSID	ERATIONS - FRPA	A section 180 areas	with "significant	watershed sensitivity"	
Does the proposed treatment area include areas that have watershed assessment considerations?	Yes □ No ☒			proposed in areas identified as having other watershed assessment	
SOIL DISTURBANCE AND PERMANE	NT ACCESS STRU	ICTURES - FPPR sect	tions 35 and 36		
Treatment Unit (TU)	Proposed Max. Allowable Soil Disturbance (5% or 10%) 10%	Proposed Max. Soil Disturbance for Roadside Work Areas 25%	Proposed Max. Permanent Access Structures 5%	Comments  Proposed permanent access structures calculated at 3.6%, and they will be planted once all treatment activities are complete.	
Do the proposed Permanent Access Structures exceed 7% of the total area?	Yes □ No ⊠	Permanent access structures will not exceed 7%.			
LANDSLIDES AND TERRAIN STABILI	TY - FPPR section				
Does the proposed treatment area include areas where terrain stability is a concern?	Yes □ No ⊠	Indicators of slope area.	instability or land	dslides were not noted within the treatment	



BCWS Fuel Mullidgement Prescription ver. 2022				
SUITABLE SECONDARY STRUCTURE	- FPPR section 4	3.1		
Does the proposed treatment area include a "targeted pine leading stand"?	Yes □ No ⊠	Treatment activities have not been proposed in a "targeted pine leading stand" as defined by section 1 of the FPPR.  Additionally, the treatment activities proposed will occur entirely within a community forest agreement (CFA) license for the purpose of wildfire risk reduction and therefore, as per section 43.1(4) and 43.1(2) of the FPPR, the secondary stand structure retention specifications set out by section 43.1(1) of the FPPR do not apply.		
<b>UNGULATE WINTER RANGE</b> - GAR se	ection 12, FRPA s	ections 180 and 181, FPPR section 69		
Does the proposed treatment area include areas within an Ungulate Winter Range?	Yes ⊠ No □	Treatment activities have been proposed in a Special Resource Management Sub-Zone 4 with identified M1 ungulate winter habitat for Moose. Prior to the commencement of treatment activities the Agreement Holder, will ensure that the habitat requirements for the winter survival of ungulate species specified by s.6.4.2 of the FSP are maintained.		
WILDLIFE HABITAT AREA - GAR sect	ion 10, FRPA sec			
Does the proposed treatment area include any wildlife habitat areas (WHA)?	Yes □ No ⊠	The treatment area does not overlap any mapped or otherwise identified wildlife habitat areas.		
MIGRATORY BIRD CONVENTION AC	<b>T</b> – 1994			
Does the proposed treatment have the potential to impact migratory bird habitat?	Yes □ No ⊠	The nest density ranking for this Prescription area is 2 and therefore is not likely to impact Migratory Bird Habitat.		
OBJECTIVES SET BY GOVERNMENT	FOR WILDLIFE -	FPPR section 7		
Does the proposed treatment area include areas to which objectives for wildlife under FPPR section 7 apply?	Yes ⊠ No □	A legal order establishing objectives set by government for wildlife has not been enacted in the Lakes district and objectives are not specified in the Lakes LRMP or the Lakes South SRMP.  Two notices, enabled under section 7(2) of the FPPR, specifying indicators of the amount, distribution and attributes of wildlife habitat required for the winter survival of ungulate species as well as for the survival of species at risk exist for the Lakes and Nadina districts, respectively.		
OBJECTIVES SET BY GOVERNMENT	FOR BIODIVERSI	TY OBJECTIVES (Landscape Level) - FPPR Part 4 Division 5		
Does the proposed treatment area include areas to which objectives for landscape level biodiversity under FPPR section 9 apply?	Yes 🗵 No 🗆	The design of the proposed Wildfire Risk Reduction areas will resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape.		
OBJECTIVES SET BY GOVERNMENT	FOR BIODIVERSI	TY OBJECTIVES (Stand Level) - FPPR Part 4 Division 5		
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 ⊠ No □	Four external Wildlife Tree Patch areas amounting to 2.4ha (12.6%) have been identified with this plan.		



RECREATION FEATURES - FRPA sect	ion 56 and 149, I	FPPR section 70
Does the proposed treatmentarea contain interpretive sites, recreation trails, recreation sites, recreation facilities that are of significant recreation value and are designated a resource feature?	Yes □ No ⊠	The treatment area does not contain known interpretive sites, recreation trails, recreation sites, recreation facilities that are considered to be of significant recreation value and are designated a resource feature.
	section 7 EDDA	sections 180 and 181, FPPR section 9.2
Is the proposed treatment within		WRR-3, 4 and 5 are not within a Scenic area, nor a VQO – Retention polygon.
a scenic area?	Yes 🗆 No 🔼	Wick-5, 4 and 5 are not within a Seeme area, not a \$400 Retention polygon.
ARCHAEOLOGICAL RESOURCES/CU	LTURAL HERITAG	
Are there any known archaeological sites or cultural heritage resources that are important to First Nations within the proposed area?  No Referral to Land Manager is required if proposed TU is on the applicant's own First Nation Land.	Yes □ No ⊠	None of these proposed WRR treatment areas overlap with any high archaeological polygons and here are no archaeological site or cultural heritage resources that were identified with the proposed treatment areas. In the event that additional CHR features are identified or otherwise made known during First Nation information sharing and consultation, measures to protect the CHR or address First Nation concerns must be communicated by an addendum to, or an amendment of, this prescription. In the event that previously unidentified CHR features are encountered while carrying out treatment activities, work in the area must stop, and an authorized treatment supervisor must be notified. The Agreement Holder will complete a cultural heritage resource evaluation (CHR) and provide management direction to protect or otherwise manage for the identified feature(s).
INVASIVE PLANTS - FRPA section 47	and FPPR sectio	n 17
Is the introduction and spread of invasive plants likely as a result of the proposed treatment?	Yes ⊠ No □	Review of the Invasive Alien Plant Program (IAPP) database indicated the presence of invasive plant species adjacent to the FTU along the Keefe's Landing Road. IAPP sites include Orange Hawkweed (OH), Meadow Buttercup (MB), Oxeye Daisy (OD), Scentless Chamomile (SH), Common Tansy (TC), and Yellow Hawkweed (YH).
NATURAL RANGE BARRIERS - 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?	Yes □ No ⊠	Fencelines and a cattleguard are already in place adjacent to WRR-3 and WRR-5b (south side of Keefe's Landing Road). In the event that fencelines are damaged, they will be repaired to the pre-damaged condition.
SPECIES AT RISK – FPPA section 7		
Are there species at risk present within the boundaries of the prescribed treatment area?	Yes □ No ⊠	No known occurrences of a species at risk were noted during field assessments or through review of BC Conservation Data Centre spatial data.
	l Plans and object	ctives set by Government under the Land Act)
Are there land use objectives (higher level plans or objectives under the Land Act) that apply to the proposed treatment area or a Road Permit necessary to provide access to the treatment area?	Yes □ No ⊠	Prescribed activities are not expected to conflict with other land use objectives not specifically addressed by this prescription.



with land use objectives (higher level plans or objectives under the Land Act)?	Yes □ No		tspecifically addressed by this prescription.			
Known and potential species at	Yes 🗵 No	☐ The treatmen	The treatment activities for WRR-4 overlap 100% into an OGMA established			
risk, windthrow hazard, and old		by the Lakes	South SRMP. The Agreement Holder has an exemption from			
growth management areas			esource District to allow for the overlap between OGMA and all Reduction proposed areas.			
(OGMA)?	V N N		vest area WRR-4 overlaps into the newly designated PROV.			
Do the proposed activities conflict	Yes 🛛 No		each, and WRR-5 overlaps by 5%. The Agreement Holder has an			
with Provincial Priority Deferral			om the Nadina Resource District to allow for the overlap			
Areas (PROV. DEF) identified by the Old Growth Strategic Review?		between the I	PROV. DEF areas and all Wildfire Risk Reduction proposed			
old Glowin Strategic Neview.		areas.				
G. OTHER CONSIDERATIONS AN	-					
WRR IS1 and is dated July 04, 2022	nfo-share w		1 22, 2022 and Adequacy Letter is called: 10455-50/22 K4R			
FIRST NATION	NT.		RNS IDENTIFIED AND MEASURES TO ADDRESS			
Nee Tahi Buhn Band		concerns brought t				
Skin Tyee Nation		concerns brought t				
Stellat'en First Nation			erns brought forward.			
Wet'suwet'en First Nation		concerns brought t				
Office of the Wet'sewet'en	No	concerns brought	forward.			
First Nations consultation comple	te?		Yes ⊠ No □			
consultation – GENERAL, EXISTIN existing Tenure Holders on April 22		HOLDERS (Forest, F	Range, Guide Outfitters, Trappers): Info-share was initiated for			
Tenure Holder		Concerns?	Measures proposed to address licensee's concerns			
Range: George Amendt		Yes □ No ⊠	No concerns brought forward.			
Range: Carl Doglione		Yes □ No 🗵	No concerns brought forward.			
Range: Sharon Robertson		Yes ☐ No ⊠	No concerns brought forward.			
Range: Ootsa Lake Cattle Company		Yes □ No ⊠	No concerns brought forward.			
Range: Victor Bateson		Yes □ No ⊠	No concerns brought forward.			
Range: Jonathan Solecki		Yes □ No 🗵	No concerns brought forward.			
Range: Jack Burt		Yes □ No 🗵	No concerns brought forward.			
Range: Clint Lambert		Yes □ No 🗵	No concerns brought forward.			
Range: Elizabeth McEntire		Yes □ No 🗵	No concerns brought forward.			
Range: Harold Moroski		Yes □ No ⊠	No concerns brought forward.			
Trapline: TR0604T014		Yes □ No ⊠	No concerns brought forward.			
Trapline: TR0604T017		Yes □ No ⊠	No concerns brought forward.			
Trapline: TR0604T018		Yes □ No ⊠	No concerns brought forward.			
Trapline: TR0604T019		Yes □ No ⊠	No concerns brought forward.			
Trapline: TR0604T020		Yes □ No ⊠	No concerns brought forward.			
Guide Outfitter: James Lancaster		Yes □ No ⊠	No concerns brought forward.			
Guide Outfitter: Brett Hall		Yes □ No ⊠	No concerns brought forward.			
Guide Outfitter: Gary Blackwell		Yes □ No ⊠	No concerns brought forward.			

LAND USE OBJECTIVES (Higher Level Plans and objectives set by Government under the Land Act) Cont'd



PRIVATE PROPERTY							
Does private property border the proposed treatment area?	Yes ⊠ No □	There is private land immediately to the east of WRR-3. This land owner has just finished fire-proofing this property, therefore, this Wildfire Mitigation project will go along tactically with those efforts.					
SMOKE MANAGEMENT							
Does a smoke management plan beyond OBSCR exist for the proposed treatment area?	Yes □ No ⊠	The treatment area is within a Medium Smoke Sensitivity Zone and therefore the <i>August 2021</i> <i>Community Wildfire Risk Reduction Open Burning</i> <i>Smoke Control Regulations</i> will be followed for the burning of debris piles.					
SAFETY							
Have any specific safety concerns been identified in or adjacent to the proposed treatment area?	Yes ⊠ No □	The level of blowdown within these proposed treatment areas are very high. Cattle within this range tenure area are no longer able to use portions of this area as they are completely impassable.					
UTILITIES							
Are utilities located in or adjacent to the proposed treatment area? i.e. power lines, gas lines, etc.	Yes ⊠ No □	All four of the proposed shapes within this Prescription area are adjacent to Utility Lines.					
ACCESS CONTROL							
Are there any foreseen issues with access and access control during and post treatment?	Yes ⊠ No □	WRR-4 and WRR-5 are adjacent to an access road to a private residence, which will require access control during the treatment phase to ensure the safety of the residents. There are no foreseen access issues for access to Wildfire Risk Reduction shapes WRR-3 and WRR-5b (south side of Keefe's Landing Road).					
TRAFFIC CONTROL		,					
Is traffic control required at any point during operations?	Yes □ No ⊠	There is no need for traffic control on these shapes because timber will be felled into the blocks, and there is a minimum of a tree length previously cleared between the blocks and the Keefe's Landing Road.					
OTHER (E.g Public Notification	)						
	The landowner of private land parcel to the East of WRR-3 must be notified prior to activities commencing and notification to the Community should be posted on Chinook Community Forest's Facebook Page.						
II CTAND AND CTOCK TABLE							

community should be posted on chimosk community I of six 8 I decoder I age.
H. STAND AND STOCK TABLE
Is merchantable timber cutting prescribed? If yes, please provide details below.
About 69.5% percent of the treatment unit contains merchantable timber. The intent of this project is to recover as much fibre as possible from these proposed areas. The appropriate tenure authorization method will be applied for once timber purchase agreements have been arranged.
Are there any challenges to utilizing merchantable material? If yes, please provide details below.
⊠ Yes □ No
There is extensive blowdown, dead standing and ladder fuels throughout the Prescription area. Much of the volume that is down on the ground and overlapping has be dead and down for many years now. The hope is that the merchantable stems can be separated out efficiently and effectively from the stems that cannot to aid in a seamless flow of merchantable timber from the Prescription area. The plan would then be for the non-merch material to also potentially be shipped to a biomass facility, or potentially that a grinding unit would arrive on site to process the debris. Alternatively, debris may be left on site for a small period of time so that community members may come and load the material for firewood.



TREATMEN	TREATMENT SPECIFICATIONS SUMMARY								
TU 1	TREE REMOVAL/RETENTION STRATEGY BY SIZE/SPECIES (Summarize specifications identified in table above)								
1	Silviculture Systems: Clearcut with Reserve (CCRES)  Treatment Regimes: Conventional Harvest or Forwarder (HARV), Hazard Tree Removal (HTR), Surface Fuel Reduction (SFR), Mechanical Pile (MPILE) and potential for Burning (PILE BURN)								
2	Silviculture Systems: Clearcut with Dispersed Retention (CCDRET)  Treatment Regimes: Conventional or Forwarder Harvest (HARV), Hazard Tree Removal (HTR), Surface Fuel Reduction (SFR), Mechanical Pile (MPILE) and potential for Burning (PILE BURN)								

#### TU 1 - TREATMENT SPECIFICATION RATIONALE

Treatment activities will utilize a Clearcut with Reserve silviculture system which primarily requires the use of mechanical treatment methods. Initial treatment phases will remove remnant hazardous overstory fuels consisting of 118.9 m3/ha hybrid spruce and lodgepole pine – approximately 62.4% of this volume is dead potential lodgepole pine. Secondary treatment phases will require surface fuel reductions to the specified targets by means of mainly mechanical methods, (with the potential for manual treatment methods). Final treatment phases will require surface fuel reductions to the specified targets by means of manual/mechanical piling. Treatment activities are expected to transition stands from a C-2 fuel type (Boreal Spruce \*with MPB affected stands) to a C-6 (Conifer Plantation) and reduce surface fire intensities significantly.

To reduce predicted fire behaviour the following treatment specifications have been applied:

- Retain all live deciduous trees except where their removal is necessary to address a safety concern.
- Remove all live and dead overstory and understory coniferous trees unless the tree is to be retained to achieve biodiversity objectives or the tree has been identified as a wildlife habitat or cultural heritage feature.
- Reduce < 7.0 cm surface fuel loads to  $0.5 \text{ kg/m}^2$  (+/-  $0.25 \text{ kg/m}^2$ ).
- Reduce >7.0 cm surface fuel loads to 2.5 kg/m2 (+/- 0.5 kg/m2).

#### TU 2 - TREATMENT SPECIFICATION RATIONALE

Treatment activities will utilize a clearcut with Dispersed Retention silviculture system to be carried out using primarily mechanical treatment methods. Initial treatment phases will remove dead or otherwise hazardous overstory trees. The removal of live overstory and understory trees will reduce continuity between fuel strata and accommodate the recovery of treatment fibre and residues. Secondary treatment phases will mechanically (and potential manual methods), thin understory trees to reduce vertical and horizontal continuity to overstory retention. Final treatment phases will require surface fuel reductions to the specified targets by means of manual/mechanical piling. Treatment activities are expected to transition stands from a C-2 fuel type (Boreal Spruce \*with MPB affected stands) to a C-6 (Conifer Plantation) and reduce surface fire intensities significantly.

To reduce predicted fire behaviour the following treatment specifications apply:

- Remove all dead overstory and understory trees except where the tree is to be retained to achieve biodiversity objectives or the tree has been identified as a wildlife habitat or cultural heritage feature.
- Retain all live deciduous trees except where their removal is necessary to address a safety concern.
- Retain 200 sph ( $\pm 100$  sph) of live L1 coniferous trees.
- Retain 200 sph ( $\pm 50$  sph) of live L2 coniferous trees.
- Recruitment between L1 and L2 conifers stocking is acceptable to a maximum total target conifer stocking of 400 sph (±100 sph).
- Thinning from below to a height of 4.5 m is only required on residual coniferous trees where contiguous crown ratio of >50% coverage exists.
- Substitution of deciduous stems (where they exist) for coniferous stocking is acceptable.
- Remove all L3 and L4 understory trees, (where they exist).
- Reduce < 7.0 cm surface fuel loads to  $0.5 \text{ kg/m}^2 (+/- 0.25 \text{ kg/m}^2)$ .
- Reduce > 7.0 cm surface fuel loads to 2.5 kg/m2 (+/- 0.5 kg/m2).



TU 1: STAND AND STOCK TABLE DATA											
Species and Diameter Class <sup>1</sup>	Crown Base Height	Average STEMS PER HECTARE Tree Height (sph)			VOLUME PER HECTARE (m³/ha)²			Basal Area (m²)			
	Range (m)	(m)	Existing	Cut	Leave	Existing	Cut	Leave	Existing		
Layer 1 (≥ 22.5 cm - 27.5 cm c	Layer 1 (≥ 22.5 cm - 27.5 cm dbh) (Merchantability criteria can also be included here.)										
Pl	-	24	134	134	0	41	41	0	7.0		
Sx	3.6	27	123	123	0	78	78	0	10.6		
Total Dead Potential			204	204	0	101	101	0	17.6		
Total Live			53	53	0	18	18	0	2.3		
Total All Species		18.9	257	257	0	119	119	0	19.9		
Total Conifers		18.9	257	257	0	119	119	0	19.9		
Layer 1 (≥ 17.5cm - 22.5 cm db	h)										
Pl	3.4	17	75	75	0	10	10	0	1.3		
Sx	3.1	16	195	195	0	32	32	0	6.8		
Bl	2.6	17	123	123	0	22	22	0	4.7		
Total Dead Potential			89	89	0	11	11	0	2.3		
Total Live			304	304	0	54	54	0	10.5		
Total All Species		16	392	392	0	65	65	0	12.8		
Total Conifers		16	392	392	0	65	65	0	12.8		
Layer 1 (≥ 12.5 cm - 17.5 cm c	lbh)					•		·	•		
Pl	-	14	133	133	0	7	7	0	2.3		
Total Dead Potential			133	133	0	7	7	0	2.3		
Total Live			0	0	0	0	0	0	0		
Total All Species		14	133	133	0	7	7	0	2.3		
Total Conifers		14	133	133	0	7	7	0	2.3		
TOTALS: Layer 1											
Total Layer 1 - All Species (Conifers Only	3.2	23	781	781	0	191	191	0	34.9		

TU 1: SURFACE FUEL LOADING (kg/m²)									
Size Class (cm)	Existing (kg/m²)	Existing Distribution	Target (kg/m²)	Target Distribution	Method- ology Used				
Fine Woody Debris ( =7cm)</td <td>0.70</td> <td>Moderately continuous distribution with accumulations associated with suspended and jackpotted lodgepole pine.</td> <td>0.5 kg/m<sup>2</sup> (+/- 0.25 kg/m2)</td> <td>Reduce to target levels with an acceptable range of ±0.25 kg/m2. Maintain poor continuity between residual pieces and avoid creating aggregations.</td> <td>Line Intersect Sampling Method</td>	0.70	Moderately continuous distribution with accumulations associated with suspended and jackpotted lodgepole pine.	0.5 kg/m <sup>2</sup> (+/- 0.25 kg/m2)	Reduce to target levels with an acceptable range of ±0.25 kg/m2. Maintain poor continuity between residual pieces and avoid creating aggregations.	Line Intersect Sampling Method				
Large Diameter Woody Debris (>7cm – 20cm)	4.80	Continuous distribution of lodgepole pine damaged by mountain pine beetle as well as some hybrid spruce damaged by wind. Pieces typically have a decay class of 2.		Reduce below target levels with an acceptable range of ±0.5 kg/m2. Ensure poor continuity between retained pieces and avoid creating	Wethod				
Coarse Woody Debris (CWD) (>20cm)	4.86	ricces typicany have a decay class of 2.		aggregations.					
Crown Closure	e (%): 20	Existing Total: 10.36 kg/m <sup>2</sup>	Target:	3.0 kg/m2 (+/- 0.75 kg/m2)					

 $<sup>^{\</sup>mbox{\scriptsize 1}}$  Modify diameter classes as required to suite treatment.

<sup>&</sup>lt;sup>2</sup> A professional estimate is required for any merchantable cutting



TU 2: STAND AND STOCK TABLE DATA										
Species and Diameter Class <sup>3</sup>	Crown Base Height Range	Average Tree Height	9		ECTARE	RE VOLUME PER HECTARE (m³/ha)4			Basal Area (m²)	
	(m)	(m)	Existing	Cut	Leave	Existing	Cut	Leave	Existing	
Layer 1 (≥ 12.5 cm dbh)										
Pl	-	18.3	342	342	0	58	58	0	10.6	
Sx	3.6	21.5	318	84	234	110	61	49	6.8	
Total Dead Potential			426	426	0	119	119	0	22.1	
Total Live			234	0	0	49	0	49	12.8	
Total All Species		19.9	660	426	234	168	119	49	34.9	
Total Conifers		19.9	660	426	234	168	119	49	34.9	
Layer 2 (≥ 7.5cm - 12.5 cm dbh	1)		· '							
Sx	2.8	11.5	240	0	240	5.2	0	5.2	6.8	
Total Dead Potential			0	0	0	0	0	0	0	
Total Live			240	0	240	5.2	0	5.2	6.8	
Total All Species		11.5	240	0	240	5.2	0	5.2	6.8	
Total Conifers		11.5	240	0	240	5.2	0	5.2	6.8	
Layer 3 (≥1.3 m ht 7.5 cm)								•		
Sx	1.0	3.6	425	425	0	-	-	-	-	
Total Dead Potential			0	0	0	-	-	-	-	
Total Live			425	425	0	-	-	-	-	
Total All Species		3.6	425	425	0	<u> </u>	-	-	-	
Total Conifers		3.6	425	425	0	-	-	-	-	
Layer 4 (< 1.3 m height)										
Sx	0	0.4	310	310	0	-	-	-	-	
Total All Species		0.4	310	310	0	-	-	-	-	
Total Conifers		0.4	310	310	0	-	-	-	-	

TU 2: SURFAC	TU 2: SURFACE FUEL LOADING (kg/m²)										
Size Class (cm)	Existing (kg/m²)	Existing Distribution	Target (kg/m²)	Target Distribution	Method- ology Used						
Fine Woody Debris ( =7cm)</th <th>0.72</th> <th>Moderately continuous distribution with accumulations associated with suspended and jackpotted lodgepole pine.</th> <th>0.5 kg/m<sup>2</sup> (+/- 0.25 kg/m2)</th> <th>Reduce to target levels with an acceptable range of ±0.25 kg/m2. Maintain poor continuity between residual pieces and avoid creating aggregations.</th> <th>Line Intersect Sampling Method</th>	0.72	Moderately continuous distribution with accumulations associated with suspended and jackpotted lodgepole pine.	0.5 kg/m <sup>2</sup> (+/- 0.25 kg/m2)	Reduce to target levels with an acceptable range of ±0.25 kg/m2. Maintain poor continuity between residual pieces and avoid creating aggregations.	Line Intersect Sampling Method						
Large Diameter Woody Debris (>7cm – 20cm)	4.16	Moderately continuous distribution of lodgepole pine damaged by mountain pine beetle as well as some hybrid spruce damaged by wind. Pieces typically have a	2.5 kg/m <sup>2</sup> (+/- 0.5 kg/m2)	range of ±0.5 kg/m2. Ensure poor continuity between retained pieces and avoid creating	Wiethod						
Coarse Woody Debris (CWD) (>20cm)	0.3	damaged by white. Pieces typically have a decay class of 2.		aggregations.							
Crown Closure	e (%): 20	Existing Total: 5.18 kg/m <sup>2</sup>	Target:	3.0 kg/m2 (+/- 0.75 kg/m2)							

 $<sup>^{\</sup>mbox{\scriptsize 3}}$  Modify diameter classes as required to suite treatment.

 $<sup>^{\</sup>mathbf{4}}\,\mathsf{A}$  professional estimate is required for any merchantable cutting



BIODIVERSITY AND FOREST HEALTH CONSIDERA	ATIONS AND TARGETS
COARSE WOODY DEBRIS (CWD) RETENTION TARGET – Distribution	Using the May 2022 Chief Forester's Guidance on Coarse Woody Debris Management on Wildfire Mitigation Treatments, the recommendation is to leave 5 CWD pieces per hectare in the SBS dk.
WILDLIFE TREE RETENTION TARGET	Retain up to 10 sph of large diameter (>30 cm dbh) dead potential stems as wildlife snags.  Retain one (1) patch (20 x 20 m) of suitable secondary stand structure per hectare for wildlife habitat. Retention patches must be allocated so as to maintain discontinuity to adjacent stands, be anchored around deciduous and dead potential tree retention where practicable, and contain 400-600 sph of healthy poles and/or saplings (where they exist) with good form and vigour. Retain three (3) to five (5) high stumps (>1.0 m) per hectare adjacent to retention patches to ensure they do not incur damage as a result of skidding/yarding activities.
FOREST HEALTH- Should include sections such	Stands have been assessed to be in poor condition due to the impacts of forest health factors.
as agent, affected species, incidence rating,	Lodgepole pine overstory trees exhibited high mortality (62.4%) as a result of
mortality, and targets	historical mountain pine beetle infestation. Significant wind damage (40%) has occurred where dead lodgepole pine have succumb to wind and snow loads and have transitioned to the forest floor. Additionally, windthrow contributions from residual stand components are anticipated to increase as stand condition continues to decline and stand density decreases. Evidence of emerging mountain pine beetle infestation was not noted.  WINDTHROW RISK EVALUATION  Windthrow assessments indicate the proposed treatment activities will result in a moderate potential for future windthrow risk due to topographic location due to prevailing wind directions. Wind damage is common in stands that have been impacted insect occurrences mainly from historical mountain pine beetle infestations.

## I. TREATMENT DESCRIPTION

## MERCHANTABLE TIMBER CUTTING

#### **ROADS, LANDINGS AND TRAILS:**

Access to the units will be gained via Keefe's Landing Road. Proposed access associated with the treatment areas will include two (2) road permits and three (3) on-block spur roads.

Both new proposed Road Permit Sections commence off of the Spencha Lake FSR.

All additional access structures required to accommodate the prescribed treatment activities, or otherwise necessitated by site conditions or to address a safety concern, must be approved by an authorized treatment supervisor.

#### FELLING:

Felling activities will employ mechanical falling equipment (i.e. feller-bunchers, harvesters).

If or where any hand felling activities are used, they must be carried out by Fallers certified to the BC Faller Training Standard (BCFTS) with the skills and experience to achieve the treatment specifications without damaging residual stand components.

### YARDING/SKIDDING:

Conventional ground-based primary transport equipment (i.e. rubber-tired skidders, forwarders, etc.) will be utilized to carry out skidding/yarding activities. If rubber-tired skidders are utilized, retain high stumps (<1.0 m in height) adjacent to retained trees to prevent retention from incurring damage as a result of yarding and skidding activities.

#### LOADING AND HAULING:

Loading activities will be carried out within the right of way of proposed access structures and any required landings. Hauling activities will be carried out using an appropriate logging truck configuration for the harvest systems employed and processing facility requirements.



#### SLASH DISPOSAL:

Treatment residues and existing downed woody material in excess of prescribed >7.0 cm targets will be brought to road right of ways to facilitate biomass utilization where practicable. Material should be marketed to local processing facilities where a biomass fibre recovery opportunity exists. Where a biomass recovery opportunity does not exist alternative markets/users should be explored, or the material should be piled and burned on site.

The quantity and distribution of biomass resulting from initial mechanical treatment phases will vary with the harvest systems used. Roadside processing may improve biomass recovery opportunities relative to processing at the stump, especially where selection systems have been proposed. Processing at the stump, while improving other objectives, will result in increased dispersed fuel loads and increase the requirement for fire hazard abatement activities.

#### STRATEGIES TO IMPROVE BIOMASS UTILIZATION:

- Aggregate treatment residues, unutilized dead and down material, and bucking waste within utilization requirements for biomass facilities within road right of ways.
- Avoid incorporating mineral soil and other contaminants into piles.

#### STAND MODIFICATION TREATMENTS

BRUSHING: Manual brushing treatments have not been prescribed.

PRUNING: Pruning treatments have not been prescribed.

**THINNING:** Thinning from below to a height of 4.5 m is only required on residual coniferous trees where contiguous crown ratio of >50% coverage exists.

#### **DEBRIS PILING:**

Un-utilized biomass – including treatment residues and residual downed woody material – in excess of prescribed surface fuel load reduction targets outside of right of ways will be aggregated into debris piles. Debris piles must be a minimum of ½ the height of the pile's base width with taller piles being preferred. Surface fuels with a decay class of 4 or 5 do not contribute to surface fuel load calculations and may be retained on site.

#### STRATEGIES FOR DEBRIS PILING:

- Carry out debris piling activities in snow free conditions.
- Construct piles in locations that prevent retention from incurring heat damage and crown scorching during pile burning activities (i.e. within natural openings).
- Ensure piles contain a mix of material sizes and decay classes to facilitate effective ignition and complete combustion.
- Avoid incorporating mineral soil and other non-combustible debris into piles.

#### PILE BURNING

Burning activities must be carried out in compliance with the Wildfire Act and its Regulation as well as the Environmental Management Act (EMA); namely the Open Burning and Smoke Control Regulation (OBSCR).

The treatment area is within a Medium Smoke Sensitivity Zone (SSZ) as indicated by Smoke Sensitivity Zone map #38 – Nechako River (93F). All open burning activities within the Keefe's Landing WRR Area are subject to the requirements of section 9, 10, 11, 13, 14, and 15 of OBSCR. However, the FTU falls under a plan for community wildfire risk reduction – the Nadina South Side Wildfire Risk Reduction Tactical Plan – and therefore may be carried out in accordance with section 23 of OBSCR where open burning activities are anticipated to last less than one (1) day, or under the conditions outlined in an approval issued under section 15 of the EMA.

No Private residences or business buildings have been identified <150 m of the treatment area

If pile burning activities will be carried out in a manner that meets the definition of a Category 3 Open Fire, as defined by the Wildfire Regulation, a Burn Registration Number (BRN) will be required. A BRN can be obtained from BCWS by calling 1-888-797-1717 or emailing hpr.1800@gov.bc.ca.

#### STRATEGIES FOR PILE BURNING:

- Ensure all piled debris is dry and seasoned as per the definition provided by the OBSCR.
- Obtain custom venting forecasts to identify optimal burning opportunities.
- Consider the utilization of an Air Curtain Burner.

MULCHING: Mulching treatments have not been prescribed.

MASTICATION: Mastication treatments have not been prescribed.

#### **GRINDING:**

In the event that debris can sold to a biomass facility, it is likely that a grinding unit will come directly to the site to prepare the debris into the exact specifications to be shipped via a chip transport truck. If this phase is planned to occur, ensure that road access is maintained to all debris piles locations.



PRESCRIBED FIRE: Prescribe Fire treatments have not been prescribed.

PLANTING:

Fire Management Stocking Standards are not provided in the Agreement Holders current approved FSP and therefore an amendment to the Chinook CFA FSP 2016 stocking standards is being proposed. It is recommended that the Wildfire Risk Reduction stocking standard be requested for all Chinook CFA Wildfire Risk Reduction project areas as these standards are in line with the BCWS Fuel Management Prescription Guidance 2022.

OTHER: N/A

AUTHORIZATION AND TIMBER TENURE

FRPA Section 52:

The Agreement Holder (CFA:K4R) maintains the timber rights for all merchantable timber harvested as a result of treatment implementation unless relinquished by the CFA holder and authorized by FPRA Section 52 (1) (b).

Forestry License to Cut (FLTC): Not anticipated.

Park Use Permit: N/A

Road Permit or Road Use Permit: Two new Section for R21201 will be applied for with this Prescription area.

Other (i.e. local government, utilities, etc.): N/A

#### J. POST TREATMENT

#### **EXPECTED VEGETATION RESPONSE:**

Treatment activities are anticipated to result in a moderate vegetative response. Increases to shrub and herbaceous cover and the ingress of various grasses is expected throughout the treatment areas. The establishment of coniferous regeneration is expected to be variable, although site disturbance associated with treatment activities has the potential to promote root suckering where trembling aspen stand components exist.

#### ADDITIONAL TREATMENTS OR MAINTENANCE:

Where clearcut systems have been employed, carry out stand monitoring at an interval that aligns with the required silvicultural assessments. The results of silviculture assessments will inform the mid to long term requirement for maintenance.

SILVICULTURE OBLIGATIONS: Do silvicultural obligations apply to the treatment area? Yes ⊠ No □

PLANTING: Is planting a treatment identified in this prescription or required as a legislative obligation? Yes  $\boxtimes$  No  $\square$  In SU 1 (both TU 1 and TU 2) an even-aged stocking standard has been applied as is shown in the table below.

ST	OCK	(ING	STA	NDA	RDS:

APPLICABLE EVEN-AGED STOCKING STANDARDS for all variations of Clearcut Silviculture Systems:

						Well-Spaced Stem/ha		Minimum Height (m)				_	
		Stocking	Species	Species		MS	SS		IVIIII	Minimum Height (m)		Regen	Free Growing
TU	SU	Standard ID	(Pref.)	(Accep.)	TSS	Pref. &	Pref.	MITD	PI	Others	RTH	Delay	(years)
						Acc.					(%)		
1/2	1	TBD	PLI SX FDI LW AT EP AC	-	1200	700	600	2.0	2.0	1.0	-	4	20



## K. Outstanding Works

- 1.) Obtain the appropriate authorizations for the FRPA Section 52(1)(b) and for the new sections required to R21201 road permit.
- 2.) Obtain District Manager approval for the proposed alternative stocking standards, or upon the approval of the Chinook CFA:K4R FSP adopt the applicable fire management stocking standards if appropriate.
- 3.) If required, obtain the appropriate approval(s) under section 15 of the EMA to exempt pile burning activities from the requirements of sections 9, 10, 11, 13, 14 and 15 and Part 3 of OBSCR.
- 4.) Obtain the appropriate authorizations or exemptions for those portions of the treatment area that are within a Priority Deferral Area identified by the Old Growth Strategic Review and the Old Growth Technical Advisory Panel.

L. ADMINISTRATION								
PREPARATION								
FOREST PROFESSIONAL NAME (Printed):	FOREST PROFESSIONAL SIGNATURE:							
Jennifer Hill, RPF	JENNIFER TIA HILL  BRITISH  OLUMBIA  OLUMBIA							
MEMBER NUMBER:	DATE:							
3889	2023-01-28							
M. ATTACHMENTS								
MAPS: Yes ⊠ No □	FIELD DATA CARDS:	Yes ⊠ No □						
WUI WTA Plots and Photos: Yes ⊠ No □	CRUISE DATA:	Yes ⊠ No □						
AIR PHOTOS/IMAGERY: Yes ⊠ No □	BURN PLAN:	Yes □ No ⊠						
MODELING/DATA ANALYSIS: Yes ☐ No ☐	OTHER: Migratory Bird Nest Ranking Spreadsheet OTHER: WTA Worksheets	Yes ⊠ No □ Yes ⊠ No □						
SURFACE FUEL LOADING DATA: Yes ⊠ No □								
TERRAIN STABILITY ASSESSMENT Yes ☐ No ⊠	VISUAL IMPACT ASSESSMENT	Yes □ No ⊠						
Completed By: Date:	Completed By: Date:							
ARCHAEOLOGY IMPACT ASSESSMENT Yes □ No ☒	BIOLOGIST ASSESSMENT Yes □ No ⊠							
Completed By:	Completed By:							
Date:	Date:							
ADDITIONAL COMMENTS: MAPS: The following maps have been provided to support the Prescription Map Ortho Treatment Map Location Map	prescribed activities:							