

A. PROJECT IDENTIFICATION	
PROJECT ID AND UNIT ID: District of Mackenzie Fuel Management Prescription 2020; Treatment Areas and their Treatment Units: 1-MECH (TUs: DC-C, DC-E, DC-F); 2-MECH (TU: DC-H); and 3-MAN (TU: DC-C).	LAND OR TENURE HOLDER: Crown Municipal (District of Mackenzie)
LATITUDE/LONGITUDE: 123°6'36.75"W 55°20'38.018"N (approximate).	GEOGRAPHIC DESCRIPTION: The proposed treatment areas are located within the WUI, directly adjacent to private homes/property to the north, south and west perimeter of town.
HIGHER-LEVEL PLAN(s): <ul style="list-style-type: none"> • Community Wildfire Protection Plan (CWPP) – District of Mackenzie (2017 Update) • McLeod Lake Mackenzie Community Forest (K2M) Forest Stewardship Plan 2016-2021 • Mackenzie Land Resource Management Plan (2000) • Mackenzie Sustainable Resource Management Plan • Mackenzie Natural Resource District (MNRD) Integrated Silviculture Strategy – Situation Analysis (2015) • MNRD Fire Management Plan (2017) 	MAP REFERENCE NUMBER: 93O.035

B. Fuel Treatment PROJECT DESCRIPTION	
Fuel Management OBJECTIVE:	The proposed treatment areas contain a wildfire threat rating of Moderate to High, with a high priority for treatment due to their proximity to private residences and high-use recreation trails. The objectives of this prescription are to: <ul style="list-style-type: none"> • Reduce the risk of wildfire ignition, spread, and spotting within forested areas adjacent to private residences and infrastructure; • Reduce wildfire intensity and potential for crown fire around the town of Mackenzie; • Enhance public safety; • Demonstrate the principles and practices of effective FireSmart fuel/vegetation management to local community members and the broader public; • Accelerate forest succession to mature forest structural conditions with generally lower stand densities; • Enhance forest health and resilience to biotic and abiotic elements including mountain pine beetle, spruce beetle, western gall rust and windthrow; • Minimize negative impacts to, and where possible enhance, community values including recreation, cultural heritage, and visual quality; and • Minimize impacts to, and where possible, protect and enhance the availability/diversity of habitat and important ecosystem features.
STRATEGIES:	Strategies to achieve the above objectives include: <ul style="list-style-type: none"> • Thinning from below (i.e., remove suppressed, intermediate trees and select overstory trees) to reduce ladder fuels, crown bulk density, and ultimately reduce the risk of crown fire; • Retention of dominant and co-dominant canopy trees to a threshold that maintains a cool and moist understorey microclimate, where appropriate, while reducing wildfire behaviour intensity; • Pruning of retained trees to increase crown base height and reduce ladder fuel continuity; • Reduce fine surface fuel loading and flammable understorey vegetation to reduce surface fire intensity and rate of spread; • Retain and encourage live deciduous tree and shrub species with a high moisture content to reduce fire behaviour and provide wildlife habitat.
METHODS: Thin from below (TFB), Commercial thin (CT), Hazard tree removal (HTR), Pruning (PR), Surface fuel removal (SFR), Chipping (CHIP) into bins, Grinding (GRIND) into bins, Pile and burn (PB).	

C. TREATMENT UNIT (TU) SUMMARY							
TU	NET AREA (ha)	GROSS AREA (ha)	LEAVE AREAS (ha)	NP (ha)	NAR (ha)	TREATMENT REGIME (i.e. PRU, THIN, PIL, BURN)	GENERAL DESCRIPTION
1-MECH (DC-C North/South, DC-E, DC-F)	7.2	7.2	-	-	-	CT, TFB, HTR, PR, SFR, CHIP, GRIND, PB	This treatment unit is characterized as a C-3 fuel type comprised primarily of Bl and Ep in the overstory, with minor components of Sx and At. Understory density is high, with approximately 1,500 sph of Bl, Sx. A commercial thin from below, hazard tree removal, pruning of retained trees, surface fuel removal and chipping for debris disposal (or pile and burn in select locations upon development of a smoke management plan) is proposed. All healthy deciduous trees will be retained, as well as healthy conifers >27.5cm dbh.
2-MECH (DC-H)	1.1	1.1	-	-	-	CT, TFB, HTR, PR, SFR, CHIP, GRIND, PB	This treatment unit is characterized as a M-1/2 (80% conifer) fuel type composed of a mix of Bl, Sx, and At. Understory density is high, with approximately 1,200 sph of Bl. Soils are wet due to surrounding streams and wetland features. Thin from below, hazard tree removal, pruning of retained trees, surface fuel removal and chipping for debris disposal is proposed. Winter harvest is prescribed to limit soil disturbance. All healthy deciduous trees will be retained, as well as healthy conifers >35cm dbh.
3-MAN (DC-C-Man)*	1.6	1.6	-	-	-	TFB, HTR, PR, SFR, CHIP, GRIND, PB	This treatment area is characterized as an M-1/2 with gullied terrain; drainage features and wet soils make this treatment area operationally unsuited to mechanical harvest. Manual treatment surrounding the established recreation trail (15 m buffer) is proposed including thin from below of understory stems, prune branches on retained trees and surface fuel cleanup.
TOTALS	9.9	9.9	-	-	-	-	-
<i>*TU-3 is not ribboned as operations are meant to manage fuels within a linear 15 m distance.</i>							

D. SITE CHARACTERISTICS							
TU	CFFBPS FUEL TYPE	TIMBER TYPE	BGC SUBZONE, VARIANT & SITE ASSOC.	ELEVATION RANGE (m)	SLOPE POSITION	SLOPE RANGE (%)	ASPECT
1-MECH (DC-C North/South, DC-E, DC-F)	C-3	Bl80Ep15Sx05	SBSmk2-01/05	750-780	Valley bottom	0-15%	S
2-MECH (DC-H)	M-1/2	Bl40Sx30At25Ac5	SBSmk2-01/05	750-780	Valley bottom	0-20%	SW

3-MAN (DC-C-Man)	M-1/2	BI40Sx30At25Ac5	SBSmk2-01/05	750-780	Valley bottom	0-40%	W
FUEL TYPE DETERMINATION		Fuel types were determined using the provincial PSTA fuel type data and field verification.					
E. SOIL CHARACTERISTICS							
TU	SOIL TEXTURE	DUFF DEPTH (cm)	COARSE FRAGMENTS (%)	SOIL DISTURBANCE LIMIT (%)	SOIL HAZARD RATING		
					Compaction	Erosion	Displacement
1-MECH (DC-C North/South, DC-E, DC-F) And 3-MAN (DC-C-Man)	LS	3	70	10	Moderate	Moderate	Moderate
2-MECH (DC-H)	SL	2	55	10	Moderate	High	Moderate

F. VALUES – FOREST AND RANGE PRACTICES ACT				
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		Streams are located within units TU-2(DC-H) and TU-3(DC-C-Man): 1. Stream #1: S6 2. Stream #2: TBD Additionally, TU-2 (DC-H) is located directly east of wetlands (classification W-5)	
RIPARIAN MANAGEMENT AREAS (RMAs) - FPPR sections 51 and 52				
STREAM, LAKE, WETLAND ID	CLASS	RRZ (m)	RMZ (m)	SPECIFICATIONS FOR RIPAIRAN OR LAKESHORE MANAGEMENT AREAS
Stream #1	S-6	-	-	See Appendix A: Maps. Stream #1 is located along the boundary of TU-2(DC-H) with a high proportion of deciduous trees within the RMZ. Winter harvest is recommended given wet soils. Winter harvest is required within this S-6’s RMZ given wet soils and some riparian features.
Stream #2	S-6	-	-	See Appendix A: Maps. This stream and associated RRZ and RMZ does not require specific considerations as its either outside of any TU or within 3-MAN.
Wetland #1	W-5	-	40	See Appendix A: Maps. The boundaries of a wetland complex (W-5) is located outside the boundary of 2-MECH (DC-H). Winter harvest is required within this W-5’s RMZ given wet soils and some riparian features.
TEMPERATURE SENSITIVE STREAMS - 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		
ROAD CONSTRUCTION IN RIPARIAN MANAGEMENT AREAS - FPPR section 50				
Is road construction proposed in riparian management areas within	Yes	No	Not applicable as no road construction is proposed.	

the treatment area or an associated road permit (RP)?				
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	No	No stream crossings are necessary for the proposed activities.	
MAINTAINING STREAM BANK AND CHANNEL STABILITY ON S4, S5, and S6 STREAMS - 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		
DOMESTIC WATER LICENCES (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		
LICENCED WATER WORKS (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		
FISHERIES SENSITIVE WATERSHED - GAR section 14, FPPR section 8.1				
Are any activities proposed within a fisheries sensitive watershed?		No		
COMMUNITY WATERSHED - 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		
WATERSHED ASSESSMENT CONSIDERATIONS - FRPA section 180 areas with "significant watershed sensitivity"				
Does the proposed treatment area include areas that have watershed assessment considerations?		No	Since the proposed treatment areas are not within a community watershed, this is non applicable.	
SOIL DISTURBANCE AND PERMANENT ACCESS STRUCTURES - FPPR sections 35 and 36				
Treatment Area/Unit	Proposed Max. Allowable Soil Disturbance (%) (5% or 10%)	Proposed Max. Soil Disturbance for Roadside Work Areas (%)	Proposed Max. Permanent Access Structures (%)	Comments
1-MECH (DC-C North/South, DC-E, DC-F)	5%	25	N/A	No permanent access structures are allowed.
2-MECH (DC-H)	5%	25	N/A	No permanent access structures are allowed.

3-MAN (DC-C-Man)	5%	-	-	Treatment is to be completed manually. Soil disturbance is anticipated to be below 5%.
Do the proposed Permanent Access Structures exceed 7% of the total area?		No	No permanent access structures are proposed. Temporary access skid trails only are proposed.	
LANDSLIDES AND TERRAIN STABILITY - FPPR section 37				
Does the proposed treatment area include areas where terrain stability is a concern?		No	Slopes do not exceed 20% within mechanical lead treatment units (TU-1 and TU-2)	
SUITABLE SECONDARY STRUCTURE - FPPR section 43.1				
Does the proposed treatment area include a “targeted pine leading stand”?		No	All stands are sub-alpine fir (BI) leading.	
UNGULATE WINTER RANGE - GAR section 12, FRPA sections 180 and 181, FPPR section 69				
Does the proposed treatment area include areas within an Ungulate Winter Range?		No		
WILDLIFE HABITAT AREA - GAR section 10, FRPA sections 180 and 181, FPPR section 69				
Does the proposed treatment area include any wildlife habitat areas (WHA)?		No		
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	The proposed treatment areas overlap the range/distribution of the central mountain caribou population.	
OBJECTIVES SET BY GOVERNMENT FOR BIODIVERSITY OBJECTIVES (Landscape Level) - FPPR section 9				
Does the proposed treatment area include areas to which objectives for landscape level biodiversity under FPPR section 9 apply?		No	<p>The proposed treatment area is within the Morfee Landscape Unit, established under the Mackenzie Land and Resource Management Plan (LRMP). The Morfee LU contains the following biodiversity assignment:</p> <ul style="list-style-type: none">• Intermediate Biodiversity Emphasis Option <p>No legal or non-legal biodiversity objectives currently exist for the Morfee Landscape Unit.</p> <p>The treatment area is within the SBSmk BEC zone, with a Natural Disturbance regime of frequent stand-initiating fires (NDT3). Historically, these forested ecosystems experience large and severe wildfires which often averaging approximately 300 ha every 125 years, resulting in even-aged stands that vary in their uniformity based on the time since the last major disturbance. Methods within this prescription, such as thinning from below, and removing a large portion of the overstory is consistent with the historical spatial and temporal landscape level patterns of NDT 3.</p>	
OBJECTIVES SET BY GOVERNMENT FOR BIODIVERSITY OBJECTIVES (Stand Level) - FPPR section 9.1				
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	As part of this prescription, all dominant and co-dominant overstory trees will be retained, with the exception of danger trees that pose a risk to crew workers. Wildlife Danger Tree Assessments are required prior to implementation to identify and retain high value wildlife trees; where practicable. ‘No work zone’ areas will constitute no more than 5% of the entire net treatment, measured by TU. In consultation with a WorkSafeBC (WCB) Inspector, treatment specifications may be reduced to activities that constitute LOD 1 to allow for modified treatment in vicinity of large diameter LOD 2 danger trees which are characterized as high value wildlife	

			<p>trees. Resulting specifications for modified LOD 1 treatments must be confirmed with a WCB inspector, but may include: limbing, pruning trees <20cm dbh, use of in-helmet radio communication; and/or moving debris manually.</p> <p>Coarse woody debris will be retained as per Section H: Surface Fuel Loading. Larger diameter pieces (>25 cm) greater than 5m in length are preferred for retention. All deciduous trees and low flammability understory shrub and herb species will be retained within the treatment area.</p>
RECREATION FEATURES - FRPA section 56 and 149, FPPR section 70			
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?	Yes	No	Active community recreation trails are located within TU-1 and TU-3. If trail tread is disturbed after works the Contractor will make every effort to return the trail to its original trail tread alignment.
VISUAL QUALITY OBJECTIVES - GAR section 7, FRPA sections 180 and 181, FPPR section 9.2			
Is the proposed treatment within a scenic area?		No	No visual quality objectives exist for the proposed treatment areas. However, numerous private homes border treatment area boundary, therefore visual quality should be considered.
ARCHAEOLOGICAL RESOURCES/CULTURAL HERITAGE RESOURCES - FPPR section 10			
Are there any known archaeological sites or cultural heritage resources that are important to First Nations within the proposed area?		No	<p>A request for known archaeological/cultural sites was submitted to the Archaeology Branch on October 19, 2020. The Archaeology Branch replied on October 27, 2020, stating that no known archaeological sites are recorded within any of the treatment areas, and there is no data available describing the potential for unidentified sites.</p> <p>If, during any phase of implementation, a believed archaeological site above or below surface is discovered, all activities in the vicinity must stop immediately and the contract supervisor must contact the Archaeology Branch for direction at 250-953-3334.</p>
INVASIVE PLANTS - FRPA section 47 and FPPR section 17			
Is the introduction and spread of invasive plants likely as a result of the proposed treatment?	Yes	No	<p>The Invasive Alien Plant Program (IAPP) database reports the following species have been identified in the vicinity of the treatment area, within the town of Mackenzie:</p> <ul style="list-style-type: none"> • Hawkweed spp. (<i>HS</i>), • Oxeye Daisy (<i>OD</i>), • Orange Hawkweed (<i>OH</i>), • Common Tansy (<i>TC</i>), • Yellow Hawkweed (<i>YH</i>). <p>In order to control the spread of and abundance of the above species, the Contractor will take the following management measures:</p> <ul style="list-style-type: none"> • Limiting soil disturbance to <1% near invasive plant infested areas, particularly in mechanized treatment areas; • All machinery must be thoroughly pressure washed prior to each initial entry into the treatment unit.
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?		No	
LAND USE OBJECTIVES (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		<p>The Mackenzie Land and Resource Management Plan (LRMP) provides direction for planning and natural resource management for the area of interest. The proposed treatment area overlaps the following land use polygons:</p> <ul style="list-style-type: none"> Mackenzie Townsite Resource Management Zone (PRG_52_109) – Objectives regarding visual quality. No established visual quality objectives exist for the treatment areas. The Morfee landscape unit, having a biodiversity emphasis option of intermediate.
Do the proposed activities conflict with land use objectives (higher level plans or objectives under the <i>Land Act</i>)?		No	<p>Treatment activities proposed within this prescription do not conflict with legal requirements or non-legal guidance set out in the Mackenzie LRMP, including objectives for wildlife, biodiversity, visual quality, recreation, cultural resources, and water quality.</p> <p>However, a Section 17 Notation – Conservation Reserve land polygon (Gantahaz Lake reserve/notation tenure) overlaps roughly half of TU-2 MECH. FrontCounter BC was contacted to acquire more information regarding this area on October 19, 2020, and a follow up email was sent on March 8, 2021.</p> <p>Final approval to conduct fuel treatment operations on the overlapping area within the Section 17 Notation was received on April 22, 2021 from the Lands Branch – Omineca Region via email.</p>

G. OTHER CONSIDERATIONS AND REQUIREMENTS**CONSULTATION – FIRST NATIONS**

FIRST NATION		CONCERNS IDENTIFIED AND MEASURES TO ADDRESS	
McLeod Lake Indian Bands		TBD – Treaty 8 disputed area	
First Nations consultation complete?	Yes	No	The First Nations Liaison (Rob Sweeney, MFLNRORD) advised the District of Mackenzie to send information sharing to the McLeod Lake Indian Band. The District sent a copy of this prescription to Cody Ross, McLeod Lake Indian Band Forestry Referrals Officer) on April 15, 2021. No response has been received to date.

CONSULTATION – GENERAL

District of Mackenzie Municipal Government Staff Information and a draft of this prescription were sent to DoM staff on February 23, 2021 and no response was received.

Mackenzie Outdoor Route & Trail Association (MORATA) – Ross Hobbs (representative of MORATA) was contacted in April 2021 and he stated that he had no concerns or issues with the content of this prescription.

BC Government – A copy of this draft was sent to Ravdeep Brar (MFLNRORD) on February 24, 2021 and no response was received.

EXISTING TENURE HOLDERS (Forest, Range, Guide Outfitters, Trappers)

Tenure Holder	Concerns		Measures proposed to address licensee's concerns
McLeod Lake Mackenzie Community Forest (K2M)	Yes	No	The MLMCF manager (Dan Boulianne) is aware of the proposed treatment areas and activities and has no issues or concerns.

Trapline Tag: TR0730T002		No	As indicated by the FrontCounter BC Manager in Prince George, the trapline owner does not wish to be identified, and therefore could not be contacted regarding the fuel treatment. Response from Tim Mergen is as follows, from October 20, 2020: <i>"I talked with Dawn this morning and she has referred the question on the disclosure of trapline information over to the individuals responsible for adjudicating these forms of tenure. As I understand things, very few trapline holders have given written permission to government to disclose this information. I will note, that over the years this has been a challenge for any person or business trying to engage with trapline holders. This is the risk the trapline holders take."</i>
PRIVATE PROPERTY			
Does private property border the proposed treatment area?	Yes		<p>The treatment areas combined border 12 private land parcels. A majority of these private land parcels are homes/residences. No future lot transfers from crown to private land as discussed with the Land & Environmental Programs Coordinator Daris Gillis.</p> <p>Some private landowners have over the years stored equipment or built sheds on Crown land adjacent to their private properties. Continued conversations with these private landowners and the DoM municipal government staff should continue to ensure that proposed activities within this prescription can commence.</p> <p>Additionally, it is recommended that any FireSmart activities that occur on or near private land be completed simultaneously (if possible) to this treatment. Details on the FireSmart program as it relates to this treatment area are included in Appendix: D.</p>
SMOKE MANAGEMENT			
Does a smoke management plan exist for the proposed treatment area?	Yes	No	A smoke management plan currently does not exist for the proposed treatment area. All treatment areas/units are within a 'High' smoke sensitivity polygon. Therefore, if any burning is to occur all OBSCR regulations must be adhered to (see sections below). Chipping and removal off site is the preferred method of debris disposal.
SAFETY			
Have any specific safety concerns been identified in or adjacent to the proposed treatment area?	Yes	No	<p>Due to the close proximity of homes to many of these treatment areas, a post-treatment hazard tree assessment must occur. This is because some trees may be at higher risk of failure soon after treatment and they are within close proximity to homes or other valuable targets.</p> <p>Post-Treatment Hazard Tree Assessment must occur in treatment areas: DC-F, DC-C North and DC-C South (See Appendix A: Maps). The assessor must be either a Tree Risk Assessment Qualification (TRAQ) assessor or an individual certified as a Danger Tree Assessor (Parks Module). The assessor may recommend creating wildfire trees (i.e., stub and limb) where trees represent high value to wildlife and will no longer remain hazardous to surrounding values (residences) and to recreationalists.</p> <p>Powerlines are also another known safety concern – distribution and transmission are present near treatment areas (see Appendix A: Maps). All workers will be made aware of the location of these lines and all tree felling will ensure trees fall away from lines.</p>

UTILITIES			
Are utilities located in or adjacent to the proposed treatment area? i.e. power lines, gas lines, etc.	Yes	No	Utility Right of Way: Sewer Effluent Line is located within 10m of TU-2 (DC-H) treatment unit. DOM Utility Department was contacted and no concerns were identified related to these proposed activities.
ACCESS CONTROL			
Are there any foreseen issues with access and access control during and post treatment?	Yes	No	An Access Control Plan must be developed before operations commence. This is due to the close proximity of these treatment areas to private land and residences as well as high recreational use within some of the treatment areas. The access control plan must be reviewed and signed off by the project supervisor. Details of the access control must be communicated to members of the public at least 30 days before operations commence. The access control must address the protection of recreationalists or citizens that enter the treatment area during the following phases: active tree felling. During active tree felling, trails must be blocked off with signage clearly indicating that the trail is closed. Trails may be reopened and the trail blocks removed when those hazards are no longer present. Overhead hazards, including danger trees must be made safe before recreationalists re-enter sections of the treatment area.
TRAFFIC CONTROL			
Is traffic control required at any point during operations?	Yes	No	No traffic control plan will be required.
OTHER (Public Notification)			
Public Notification will be led by the District of Mackenzie and will commence 30 days before start of operations. This notification will include social media, websites and written notice in local media.			

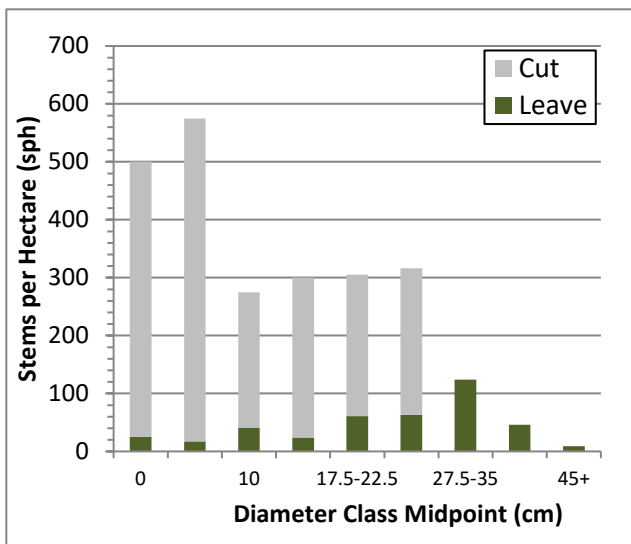
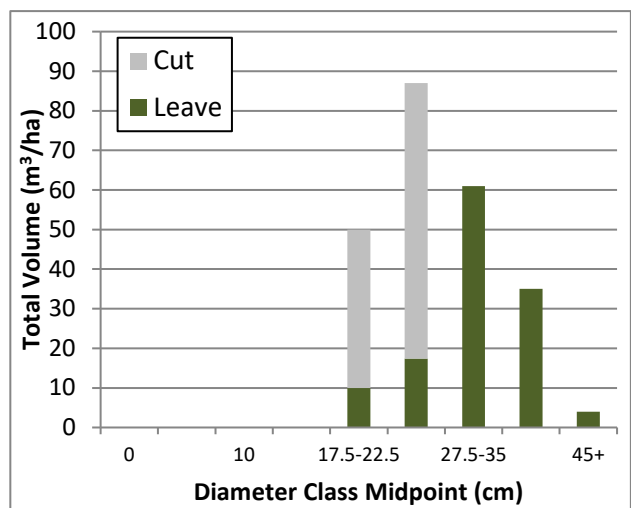
TREATMENT SPECIFICATIONS SUMMARY OVERVIEW– OVERALL GUIDELINES FOR ALL TREATMENT AREAS/TUs											
<p>The main goal for all TU's will be to create a relatively even-spaced forest, retaining the healthiest and largest trees. Years after treatment and when adjacent tree crowns coalesce, the area will display characteristics of a shaded fuel break. The contractor will follow the following bulleted guidelines across all treatment areas/units:</p> <ul style="list-style-type: none"> Remove all dead standing trees (except when designated high value wildfire trees). Non-thrifty or unhealthy trees should be targeted for removal. In all TUs, preference for conifer tree retention will be (in descending order): Sx, Bl. Standing dead Sx and Sx showings signs of spruce beetle attack will be targeted for removal to reduce potential spread of spruce beetle attack, Retain all living deciduous overstory and understory trees, Scarring and/or scorching of retained trees will represent < 10% of retained trees, measured by net ha. Preserve natural clumping characteristics where practical and where wildfire threat objectives are not compromised, and Maximum stump height will be 15 cm and cut at an angle less than 10 degrees. 											
H. STAND AND STOCK TABLE – TU-1: MECH (DC-C Mech, DC-E, DC-F)											
			STEM PER HECTARE (SPH)			VOLUME (m3/ha)			BASAL AREA (m2/ha)		
Species	Average Crown to Base	Average Tree Height (m)	Existing	Cut	Leave	Existing	Cut	Leave	Existing	Cut	Leave

	Height (m)										
Layer 1 (>45 cm dbh)											
DU	-	4	9	0	9	4	0	4	2	0	2
Total Live	-	-	0	0	0	0	0	0	0	0	0
Total All Species	-	4	9	0	9	4	0	4	2	0	2
Total Conifer	-	-	0	0	0	0	0	0	0	0	0
Layer 1 (35 - 45 cm dbh)											
BI	4	19	17	0	17	17	0	17	2	0	2
Ep	-	19	19	0	19	11	0	11	2	0	2
Sx	8	19	10	0	10	7	0	7	1	0	1
Total Live	-	19	46	0	46	35	0	35	5	0	5
Total All Species	-	19	46	0	46	35	0	35	5	0	5
Total Conifer	6	19	27	0	27	24	0	24	3	0	3
Layer 1 (27.5 - 35 cm dbh)											
BI	4	20	94	0	94	50	0	50	7	0	7
Ep	-	20	30	0	30	11	0	11	2	0	2
Total Live	-	20	124	0	124	61	0	61	9	0	9
Total All Species	-	20	124	0	124	61	0	61	9	0	9
Total Conifer	6	20	94	0	94	50	0	50	7	0	7
Layer 1 (22.5 cm - 27.5 cm dbh)											
BI	4	17	257	257	0	69	69	0	12	12	0
Ep	-	17	38	0	38	12	0	12	2	0	2
Sx	8	17	21	0	21	6	0	6	1	0	1
Total Live	-	17	316	257	59	87	69	18	15	12	3

Total All Species	-	17	316	257	59	87	69	18	15	12	3
Total Conifer	6	17	278	257	21	75	69	6	13	12	1
Layer 1 (17.5cm dbh - 22.5 cm dbh)											
BI	4	17	278	250	28	44	40	4	8	7	1
Ep	-	17	27	0	27	6	0	6	1	0	1
Total Live	-	17	305	250	55	50	40	10	9	7	2
Total All Species	-	17	305	250	55	50	40	10	9	7	2
Total Conifer	6	17	278	250	28	44	40	4	8	7	1
Layer 1 (12.5 cm - 17.5 cm dbh)											
BI	4	15	250	250	0	0	0	0	0	0	0
DU	-	15	25	25	0	0	0	0	0	0	0
Ep	-	15	25	0	25	0	0	0	0	0	0
Total Live	-	15	300	275	25	0	0	0	0	0	0
Total All Species	-	15	300	275	25	0	0	0	0	0	0
Total Conifer	6	15	250	250	0	0	0	0	0	0	0
Total Layer 1											
Total Layer 1 - All Species	-	-	1100	782	318	237	109	128	40	19	21
Total Layer 1 - Conifers Only	6	15	927	757	170	193	109	84	31	19	12
Layer 2 (7.5-12.49)											
BI	2	10	225	225	0	-	-	-	-	-	-
Ep	2	10	50	0	50	-	-	-	-	-	-
Total Live	2	10	275	225	50	-	-	-	-	-	-
Total All Species	2	10	275	225	50	-	-	-	-	-	-

Total Conifer	2	10	225	225	0	-	-	-	-	-	-
Layer 3 (2.5-7.49)											
BI	1	2	400	388	12	-	-	-	-	-	-
DU	1	2	175	175	0	-	-	-	-	-	-
Total Live	1	2	400	388	12	-	-	-	-	-	-
Total All Species	1	2	575	563	12	-	-	-	-	-	-
Total Conifer	1	2	400	388	12	-	-	-	-	-	-
Layer 4 (<1.3m)											
BI	0	1	375	356	19	-	-	-	-	-	-
Sx	0	1	125	119	6	-	-	-	-	-	-
Total Live	0	1	500	475	25	-	-	-	-	-	-
Total All Species	0	1	500	475	25	-	-	-	-	-	-
Total Conifer	0	1	500	475	25	-	-	-	-	-	-
SURFACE FUEL LOADING (kg/m²)	Existing: Small-Med (0.1-7.5cm diameter): 0.95 kg/m2 Large (>7.6cm diameter): 9.41 kg/m2		Target: Small-Med: Maintain < 1kg/m2 Large: Reduce to < 1.5 kg/m2								
	Distribution:		Distribution: Scattered								
	Method used to measure:		The USFS photoload photo method ¹ .								
Crown Closure (%)	Existing: 40%		Target: 25%								
BIODIVERSITY AND FOREST HEALTH CONSIDERATIONS AND TARGETS											
COARSE WOODY DEBRIS (CWD) RETENTION TARGET - sph and Distribution	Current CWD: approximately 360 pieces/ha (>5m in length) Target CWD: approximately 150 pieces/ha (>5m in length) CWD is an important habitat element. Where available, retain a minimum of 150 pieces/ ha (equates to 15 m spacing) with a preference for larger CWD pieces (> 25 cm diameter at top) and > 3 meter in length, scattered randomly throughout the area. Existing decayed large diameter CWD (> Decay Class or higher ²) will be given preference for retention to enhance wildlife habitat and ecosystem values. CWD in decay class 4 or above is not counted towards the CWD target. No Sx will be left as CWD to reduce spread of spruce beetle; all Sx felled must be removed from the site.										

¹ <https://www.fs.usda.gov/treesearch/pubs/26755>

	A piece is defined as a 5-meter piece and therefore a long log may be counted as multiple 'pieces'.																														
WILDLIFE TREE RETENTION TARGET	Retention of high-value wildlife trees will occur provided that they represent <5% of each treatment unit.																														
FOREST HEALTH & WINDTHROW	Windthrow hazard is assessed as low to moderate. Given the treatment specifications, only endemic windthrow (5-10%) is expected over time. Due to the suburban location of these treatment units, hazard trees must be assessed by either a Tree Risk Assessment Qualification (TRAQ) assessor or an individual certified as a Danger Tree Assessor (Parks Module). The assessor may recommend creating wildlife trees (i.e., stub and limb) where trees represent high value to wildlife and will no longer remain hazardous to surrounding values (residences) and to recreationalists. A utility arborist will be used to manage all tree felling/topping operations.																														
TREATMENT SPECIFICATIONS SUMMARY - TU-1: MECH (DC-C Mech, DC-E, DC-F)																															
TU	TREE REMOVAL/RETENTION STRATEGY BY SIZE/SPECIES (Summarize specifications identified in table above)																														
1-MECH (DC-C Mech, DC-E, DC-F)	<p>1-MECH: Thin from below conifers up to 35 cm DBH to a total target average overstory (+17.5 cm DBH) density of 275 SPH (+/- 50 SPH) or an average retention of 21 m²/ha. 275 SPH equates to 6.5 m intertree spacing. In addition, retain approximately 100 SPH of understory conifer trees. See figures and table below.</p> <div><p>Stems per Hectare (sph) by Diameter Class Midpoint (cm)</p><table><thead><tr><th>Diameter Class Midpoint (cm)</th><th>Cut (sph)</th><th>Leave (sph)</th></tr></thead><tbody><tr><td>0</td><td>480</td><td>20</td></tr><tr><td>10</td><td>550</td><td>20</td></tr><tr><td>17.5-22.5</td><td>250</td><td>40</td></tr><tr><td>27.5-35</td><td>250</td><td>120</td></tr><tr><td>45+</td><td>10</td><td>10</td></tr></tbody></table></div> <div><p>Total Volume (m³/ha) by Diameter Class Midpoint (cm)</p><table><thead><tr><th>Diameter Class Midpoint (cm)</th><th>Cut (m³/ha)</th><th>Leave (m³/ha)</th></tr></thead><tbody><tr><td>17.5-22.5</td><td>40</td><td>10</td></tr><tr><td>27.5-35</td><td>68</td><td>60</td></tr><tr><td>45+</td><td>5</td><td>5</td></tr></tbody></table></div>	Diameter Class Midpoint (cm)	Cut (sph)	Leave (sph)	0	480	20	10	550	20	17.5-22.5	250	40	27.5-35	250	120	45+	10	10	Diameter Class Midpoint (cm)	Cut (m³/ha)	Leave (m³/ha)	17.5-22.5	40	10	27.5-35	68	60	45+	5	5
Diameter Class Midpoint (cm)	Cut (sph)	Leave (sph)																													
0	480	20																													
10	550	20																													
17.5-22.5	250	40																													
27.5-35	250	120																													
45+	10	10																													
Diameter Class Midpoint (cm)	Cut (m³/ha)	Leave (m³/ha)																													
17.5-22.5	40	10																													
27.5-35	68	60																													
45+	5	5																													

Stand Layer	DBH Class Midpoint (cm)	Species				Cutting Specs	Cut	Leave
		Bl	DU	Ep	Sx			
L4	0	375			125	95%	475	25
L3	5	400	175			97%	558	17
L2	10	225		50		85%	234	41
L1	12.5-17.5	250	25	25		92%	276	24
	17.5-22.5	278		27		80%	244	61
	22.5-27.5	257		38	21	80%	253	63
	27.5-35	94		30		0%	0	124
	35-45	17		19	10	0%	0	46
	45+		9			0%	0	9
Totals							2039	411

TREATMENT SPECIFICATION RATIONALE (See notes to assist)

This prescription specifies treatment activities that will result in a reduction in stand stem density, crown bulk density, surface fuel loading, ladder fuels, and vertical and horizontal fuel continuity. Fuel management in these treatment units will function to reduce aggressive fire behaviour to an extent that will limit crown fire behaviour, reduce rate of spread, and meet overall objectives for public safety and wildfire risk reduction within the WUI. See Appendix C: Fire Behaviour Modeling.

TU 1-MECH (DC-C Mech, DC-E, DC-F)

Factor	Pre-Treatment	Post-Treatment
Fire Type	Passive Crown	Surface Fire
Likelihood of Crown Fire (%)	78	5
Rate of Spread (m/min)	9.6	2.2
Critical Surface Fire Intensity (kW/m)	69	2,608
Wildfire Intensity (kW/m)	2,570	586

STAND AND STOCK TABLE – TU-2: MECH (DC-H)

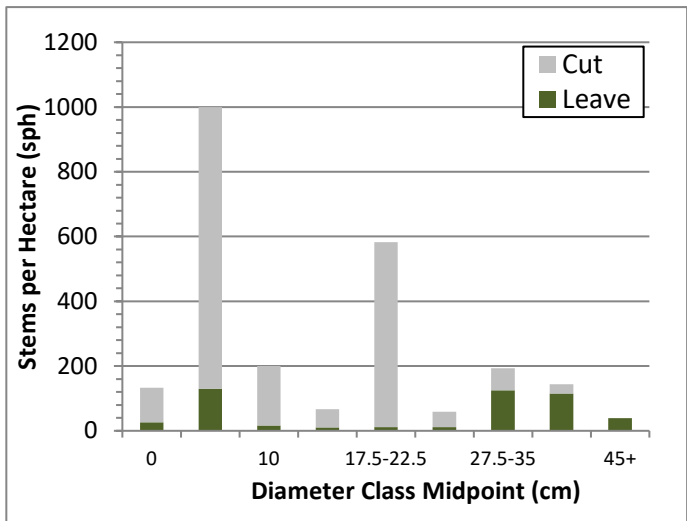
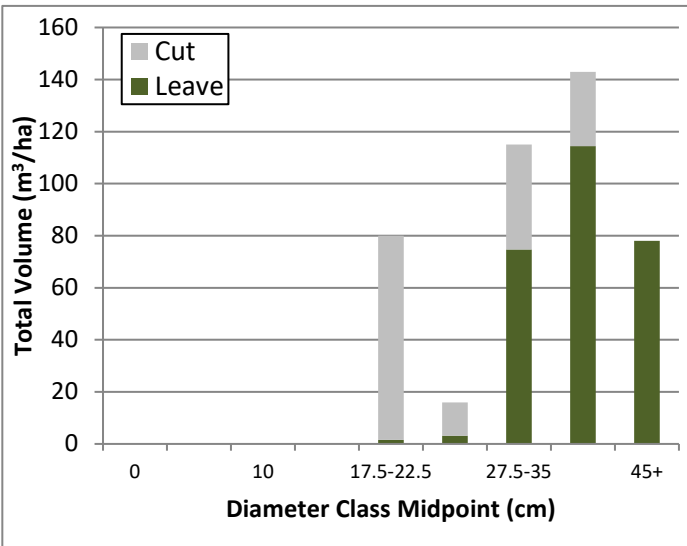
			STEM PER HECTARE (SPH)			VOLUME (m3/ha)			BASAL AREA (m2/ha)		
Species	Average Crown to Base Height (m)	Average Tree Height (m)	Existing	Cut	Leave	Existing	Cut	Leave	Existing	Cut	Leave
Layer 1 (>45 cm dbh)											
Act	-	29	9	0	9	26	0	26	3	0	3
Sx	4	29	30	0	30	52	0	52	5	0	5

Total Dead Potential	-	29	0	0	0	0	0	0	0	0	0
Total Live	-	29	39	0	39	78	0	78	8	0	8
Total All Species	-	29	39	0	39	78	0	78	8	0	8
Total Conifer	4	29	30	0	30	52	0	52	5	0	5
Layer 1 (35 - 45 cm dbh)											
At	-	27	40	0	40	51	0	51	5	0	5
Sx	4	27	76	0	76	69	0	69	8	0	8
Total Dead Potential	-	27	28	28	0	23	23	0	3	3	0
Total Live	-	27	116	0	116	120	0	120	13	0	13
Total All Species	-	27	144	28	116	143	23	120	16	3	13
Total Conifer	4	27	76	0	76	69	0	69	8	0	8
Layer 1 (27.5 - 35 cm dbh)											
At	-	26	117	0	117	77	0	77	8	0	8
Bl	1	26	42	38	4	14	13	1	3	3	0
Sx	4	26	34	31	3	24	22	2	3	3	0
Total Dead Potential	-	26	0	0	0	0	0	0	0	0	0
Total Live	-	26	193	69	124	115	35	80	14	6	8
Total All Species	-	26	193	69	124	115	35	80	14	6	8
Total Conifer	2.5	26	76	69	7	38	35	3	6	6	0
Layer 1 (22.5 cm - 27.5 cm dbh)											
Bl	1	18	59	47	12	16	13	3	3	2	1
Total Dead Potential	-	18	0	0	0	0	0	0	0	0	0
Total Live	-	18	59	47	12	16	13	3	3	2	1

Total All Species	-	18	59	47	12	16	13	3	3	2	1
Total Conifer	1	18	59	47	12	16	13	3	3	2	1
Layer 1 (17.5cm dbh - 22.5 cm dbh)											
BI	1	15	583	571	12	80	78	2	16	16	0
Total Dead Potential	-	15	0	0	0	0	0	0	0	0	0
Total Live	-	15	583	571	12	80	78	2	16	16	0
Total All Species	-	15	583	571	12	80	78	2	16	16	0
Total Conifer	1	15	583	571	12	80	78	2	16	16	0
Layer 1 (12.5 cm - 17.5 cm dbh)											
BI	1	15	67	57	10	0	0	0	0	0	0
Total Dead Potential	-	15	0	0	0	0	0	0	0	0	0
Total Live	-	15	67	57	10	0	0	0	0	0	0
Total All Species	-	15	67	57	10	0	0	0	0	0	0
Total Conifer	1	15	67	57	10	0	0	0	0	0	0
Total Layer 1											
Total Layer 1 - All Species	-	-	1085	772	313	432	149	283	57	27	30
Total Layer 1 - Conifers Only	2.75	22	891	744	147	255	126	129	38	24	14
Layer 2 (7.5-12.49)											
BI	1	10	200	184	16	-	-	-	-	-	-
Total Live	-	10	200	184	16	-	-	-	-	-	-
Total All Species	-	10	200	184	16	-	-	-	-	-	-
Total Conifer	1	10	200	184	16	-	-	-	-	-	-

Layer 3 (2.5-7.49)											
At	-	2	133	0	133	-	-	-	-	-	-
BI	1	2	867	867	0	-	-	-	-	-	-
Total Live	-	2	1000	867	133	-	-	-	-	-	-
Total All Species	-	2	1000	867	133	-	-	-	-	-	-
Total Conifer	1	2	867	867	0	-	-	-	-	-	-
Layer 4 (<1.3m)											
BI	0	1	133	106	27	-	-	-	-	-	-
Total Live	-	1	133	106	27	-	-	-	-	-	-
Total All Species	-	1	133	106	27	-	-	-	-	-	-
Total Conifer	0	1	133	106	27	-	-	-	-	-	-
SURFACE FUEL LOADING (kg/m²)	Existing: Small-Med (0.1-7.5cm diameter): 0.46 kg/m2 Large (>7.6cm diameter): 22.47 kg/m2		Target: Small-Med: Maintain < 1kg/m2 Large: Reduce to < 1.5 kg/m2								
	Distribution:		Distribution: Scattered								
	Method used to measure:		The USFS photoload photo method ² .								
Crown Closure (%)	Existing: 25%		Target: 15-20%								
BIODIVERSITY AND FOREST HEALTH CONSIDERATIONS AND TARGETS											
COARSE WOODY DEBRIS (CWD) RETENTION TARGET - sph and Distribution	Current CWD: approximately 430 pieces/ha (>5m in length) Target CWD: approximately 150 pieces/ha (>5m in length)										
	CWD is an important habitat element. Where available, retain a minimum of 150 pieces/ ha (equates to 15 m spacing) with a preference for larger CWD pieces (> 25 cm diameter at top) and > 3 meter in length, scattered randomly throughout the area. Existing decayed large diameter CWD (> Decay Class or higher ²) will be given preference for retention to enhance wildlife habitat and ecosystem values. CWD in decay class 4 or above is not counted towards the CWD target. No Sx will be left as CWD to reduce spread of spruce beetle; all Sx felled must be removed from the site.										
	A piece is defined as a 5-meter piece and therefore a long log may be counted as multiple ‘pieces’. CWD in excess of this minimum may be removed at the contract supervisor’s discretion.										

² <https://www.fs.usda.gov/treearch/pubs/26755>

WILDLIFE TREE RETENTION TARGET	Retention of high-value wildlife trees will occur provided that they represent <5% of each treatment unit.																																				
FOREST HEALTH & WINDTHROW	<p>Windthrow hazard is assessed as low to moderate. Given the treatment specifications, only endemic windthrow (5-10%) is expected over time.</p> <p>Due to the suburban location of these treatment units, hazard trees must be assessed by either a Tree Risk Assessment Qualification (TRAQ) assessor or an individual certified as a Danger Tree Assessor (Parks Module). The assessor may recommend creating wildlife trees (i.e., stub and limb) where trees represent high value to wildlife and will no longer remain hazardous to surrounding values (residences) and to recreationalists. A utility arborist will be used to manage all tree felling/topping operations.</p>																																				
TREATMENT SPECIFICATIONS SUMMARY - TU-2: MECH (DC-H)																																					
TU	TREE REMOVAL/RETENTION STRATEGY BY SIZE/SPECIES (Summarize specifications identified in table above)																																				
2-MECH (DC-H)	<p>2-MECH (DC-H): Thin from below up to 35 cm DBH (trees cut above this size are DP trees) to a total target average overstory (+17.5 cm DBH) density of 275 SPH (+/- 50 SPH) or an average retention of 21 m²/ha. 275 SPH equates to 6.5 m intertree spacing. In addition, retain approximately 100 SPH of understory conifer trees.</p> <div><table><caption>Stems per Hectare (sph) by Diameter Class Midpoint (cm)</caption><thead><tr><th>Diameter Class Midpoint (cm)</th><th>Cut (sph)</th><th>Leave (sph)</th></tr></thead><tbody><tr><td>0</td><td>100</td><td>20</td></tr><tr><td>10</td><td>180</td><td>20</td></tr><tr><td>17.5-22.5</td><td>580</td><td>20</td></tr><tr><td>27.5-35</td><td>100</td><td>120</td></tr><tr><td>45+</td><td>10</td><td>50</td></tr></tbody></table></div> <div><table><caption>Total Volume (m³/ha) by Diameter Class Midpoint (cm)</caption><thead><tr><th>Diameter Class Midpoint (cm)</th><th>Cut (m³/ha)</th><th>Leave (m³/ha)</th></tr></thead><tbody><tr><td>0</td><td>0</td><td>0</td></tr><tr><td>10</td><td>0</td><td>0</td></tr><tr><td>17.5-22.5</td><td>80</td><td>0</td></tr><tr><td>27.5-35</td><td>40</td><td>75</td></tr><tr><td>45+</td><td>0</td><td>78</td></tr></tbody></table></div>	Diameter Class Midpoint (cm)	Cut (sph)	Leave (sph)	0	100	20	10	180	20	17.5-22.5	580	20	27.5-35	100	120	45+	10	50	Diameter Class Midpoint (cm)	Cut (m³/ha)	Leave (m³/ha)	0	0	0	10	0	0	17.5-22.5	80	0	27.5-35	40	75	45+	0	78
Diameter Class Midpoint (cm)	Cut (sph)	Leave (sph)																																			
0	100	20																																			
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0	0	0																																			
10	0	0																																			
17.5-22.5	80	0																																			
27.5-35	40	75																																			
45+	0	78																																			

Stand Layer	DBH Class Midpoint (cm)	Species					Cutting Specs	Cut	Leave
		Act	At	BI	DP	Sx			
L4	0			133			80%	106	27
L3	5		133	867			87%	870	130
L2	10			200			92%	184	16
L1	12.5-17.5			67			85%	57	10
	17.5-22.5			583			98%	571	12
	22.5-27.5			59			80%	47	12
	27.5-35		117	42		34	35%	68	125
	35-45		40		28	76	20%	29	115
	45+	9				30	0%	0	39
							Totals	1932	486

TREATMENT SPECIFICATION RATIONALE (See notes to assist)

This prescription specifies treatment activities that will result in a reduction in stand stem density, crown bulk density, surface fuel loading, ladder fuels, and vertical and horizontal fuel continuity. Fuel management in these treatment units will function to reduce aggressive fire behaviour to an extent that will limit crown fire behaviour, reduce rate of spread, and meet overall objectives for public safety and wildfire risk reduction within the WUI. See Appendix C: Fire Behaviour Modeling.

2-MECH (DC-H)

Factor	Pre-Treatment	Post-Treatment
Fire Type	Passive Crown	Surface Fire
Likelihood of Crown Fire (%)	98	7
Rate of Spread (m/min)	9.9	2.2
Critical Surface Fire Intensity (kW/m)	26	2,284
Wildfire Intensity (kW/m)	4,452	586

H. STAND AND STOCK TABLE – TU-3: MANUAL (DC-C Man)

			STEM PER HECTARE (SPH)			VOLUME (m3/ha)			BASAL AREA (m2/ha)		
Species	Average Crown to Base Height (m)	Average Tree Height (m)	Existing	Cut	Leave	Existing	Cut	Leave	Existing	Cut	Leave
Layer 1 (>45 cm dbh)											
Act	-	29	9	0	9	26	0	26	3	0	3
Sx	1	29	30	0	30	52	0	52	5	0	5
Total Dead Potential	-	29	0	0	0	0	0	0	0	0	0

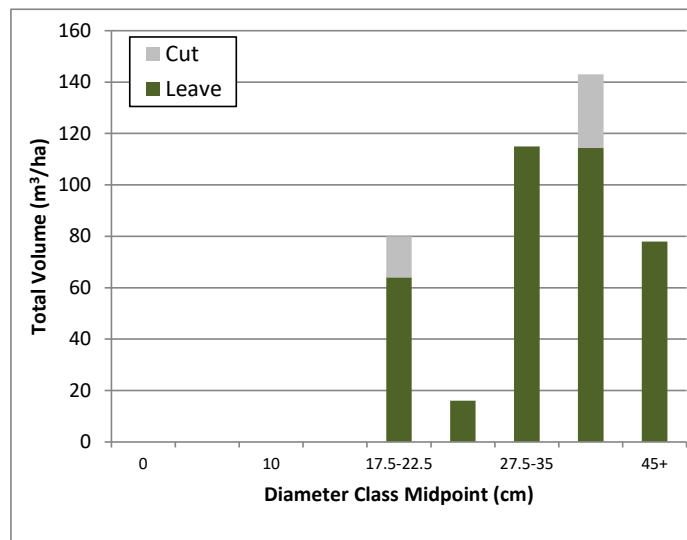
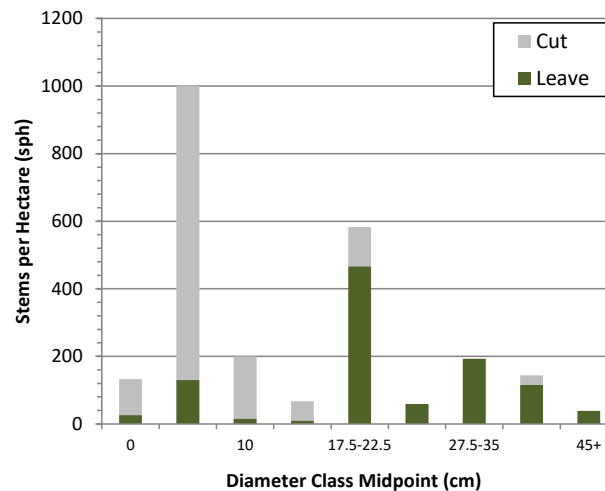
Total Live	-	29	39	0	39	78	0	78	8	0	8
Total All Species	-	29	39	0	39	78	0	78	8	0	8
Total Conifer	1	29	30	0	30	52	0	52	5	0	5
Layer 1 (35 - 45 cm dbh)											
At	-	27	40	0	40	51	0	51	5	0	5
Sx	1	27	76	0	76	69	0	69	8	0	8
Total Dead Potential	-	27	28	28	0	23	23	0	3	3	0
Total Live	-	27	116	0	116	120	0	120	13	0	13
Total All Species	-	27	144	28	116	143	23	120	16	3	13
Total Conifer	1	27	76	0	76	69	0	69	8	0	8
Layer 1 (27.5 - 35 cm dbh)											
At	-	26	117	0	117	77	0	77	8	0	8
Bl	4	26	42	0	42	14	0	14	3	0	3
Sx	1	26	34	0	34	24	0	24	3	0	3
Total Dead Potential	-	26	0	0	0	0	0	0	0	0	0
Total Live	-	26	193	0	193	115	0	115	14	0	14
Total All Species	-	26	193	0	193	115	0	115	14	0	14
Total Conifer	2.5	26	76	0	76	38	0	38	6	0	6
Layer 1 (22.5 cm - 27.5 cm dbh)											

BI	4	18	59	0	59	16	0	16	3	0	3
Total Dead Potential	-	18	0	0	0	0	0	0	0	0	0
Total Live	-	18	59	0	59	16	0	16	3	0	3
Total All Species	-	18	59	0	59	16	0	16	3	0	3
Total Conifer	4	18	59	0	59	16	0	16	3	0	3
Layer 1 (17.5cm dbh - 22.5 cm dbh)											
BI	4	15	583	117	466	80	16	64	16	3	13
Total Dead Potential	-	15	0	0	0	0	0	0	0	0	0
Total Live	-	15	583	117	466	80	16	64	16	3	13
Total All Species	-	15	583	117	466	80	16	64	16	3	13
Total Conifer	4	15	583	117	466	80	16	64	16	3	13
Layer 1 (12.5 cm - 17.5 cm dbh)											
BI	4	15	67	57	10	0	0	0	0	0	0
Total Dead Potential	-	15	0	0	0	0	0	0	0	0	0
Total Live	-	15	67	57	10	0	0	0	0	0	0
Total All Species	-	15	67	57	10	0	0	0	0	0	0
Total Conifer	4	15	67	57	10	0	0	0	0	0	0
Total Layer 1											

Total Layer 1 - All Species	-	-	1085	202	883	432	39	393	57	6	51
Total Layer 1 - Conifers Only	2.75	22	891	174	717	255	16	239	38	3	35
Layer 2 (7.5-12.49)											
BI	1	10	200	184	16	-	-	-	-	-	-
Total Live	-	10	200	184	16	-	-	-	-	-	-
Total All Species	-	10	200	184	16	-	-	-	-	-	-
Total Conifer	1	10	200	184	16	-	-	-	-	-	-
Layer 3 (2.5-7.49)											
At	-	2	133	0	133	-	-	-	-	-	-
BI	1	2	867	867	0	-	-	-	-	-	-
Total Live	-	2	1000	867	133	-	-	-	-	-	-
Total All Species	-	2	1000	867	133	-	-	-	-	-	-
Total Conifer	1	2	867	867	0	-	-	-	-	-	-
Layer 4 (<1.3m)											
BI	0	1	133	106	27	-	-	-	-	-	-
Total Live	-	1	133	106	27	-	-	-	-	-	-
Total All Species	-	1	133	106	27	-	-	-	-	-	-
Total Conifer	0	1	133	106	27	-	-	-	-	-	-

SURFACE FUEL LOADING (kg/m²)	Existing: Small-Med (0.1-7.5cm diameter): Large (>7.6cm diameter):	Target: Small-Med: Maintain < 1kg/m2 Large: Reduce to < 1.5 kg/m2
	Distribution:	Distribution: Scattered
	Method used to measure:	The USFS photoload photo method ³ .
Crown Closure (%)		Target: ~ 20%
BIODIVERSITY AND FOREST HEALTH CONSIDERATIONS AND TARGETS		
COARSE WOODY DEBRIS (CWD) RETENTION TARGET - sph and Distribution	<p>Target CWD: Maximum 225 pieces/ha (>5m in length)</p> <p>CWD is an important habitat element. Where available, retain a minimum of 150 pieces/ ha (equates to 15 m spacing) with a preference for larger CWD pieces (> 25 cm diameter at top) and > 3 meter in length, scattered randomly throughout the area. Existing decayed large diameter CWD (> Decay Class or higher²) will be given preference for retention to enhance wildlife habitat and ecosystem values. CWD in decay class 4 or above is not counted towards the CWD target. No Sx will be left as CWD to reduce spread of spruce beetle; all Sx felled must be removed from the site.</p> <p>A piece is defined as a 5-meter piece and therefore a long log may be counted as multiple ‘pieces’. CWD in excess of this minimum may be removed at the contract supervisor’s discretion.</p>	
WILDLIFE TREE RETENTION TARGET	Retention of high-value wildlife trees will occur provided that they represent <5% of each treatment unit.	
FOREST HEALTH & WINDTHROW	<p>Windthrow hazard is assessed as low to moderate. Given the treatment specifications, only endemic windthrow (5-10%) is expected over time.</p> <p>Some Spruce Bark Beetle attack exists in this TU and has affected the larger sized cohort of Sx. There are notable dead standing Sx trees, some of which may be danger trees or may eventually fall and pose a risk to recreationalists in this TU’s trails. Standing dead Sx and Sx showings signs of spruce beetle attack will be targeted for removal.</p> <p>No forest health concerns post treatment.</p>	
TREATMENT SPECIFICATIONS SUMMARY - <u>TU-3: MANUAL (DC-C Man)</u>		
TU	TREE REMOVAL/RETENTION STRATEGY BY SIZE/SPECIES (Summarize specifications identified in table above)	
3-Manual (DC-C Man)	3-Manual (DC-C MAN): Thin from below conifer stems up to 22.5 cm DBH to a total target average overstory (+17.5 cm DBH) density of 700 SPH (+/- 50 SPH) . 700 SPH equates to 4.0 m intertree spacing . In addition, retain approximately 50 SPH of understory conifer trees. See Table below.	

³ <https://www.fs.usda.gov/treesearch/pubs/26755>



Stand Layer	DBH Class Midpoint (cm)	Species					Cutting Specs	Cut	Leave
		Act	At	BI	DP	Sx			
L4	0			133			80%	106	27
L3	5		133	867			87%	870	130
L2	10			200			92%	184	16
L1	12.5-17.5			67			85%	57	10
	17.5-22.5			583			20%	117	466
	22.5-27.5			59			0%	0	59
	27.5-35		117	42		34	0%	0	193
	35-45		40		28	76	20%	29	115
	45+	9				30	0%	0	39
Totals								1363	1055

TREATMENT SPECIFICATION RATIONALE (See notes to assist)

This prescription specifies treatment activities that will result in a reduction in stand stem density, crown bulk density, surface fuel loading, ladder fuels, and vertical and horizontal fuel continuity. Fuel management in these treatment units will function to reduce aggressive fire behaviour to an extent that will limit crown fire behaviour, reduce rate of spread, and meet overall objectives for public safety and wildfire risk reduction within the WUI. See Appendix C: Fire Behaviour Modeling.

TU 3-Manual (DC-C Man)

Factor	Pre-Treatment	Post-Treatment
Fire Type	Passive Crown	Surface Fire
Likelihood of Crown Fire (%)	98	7
Rate of Spread (m/min)	9.9	2.2
Critical Surface Fire Intensity (kW/m)	26	2,284
Wildfire Intensity (kW/m)	4,452	586

I. TREATMENT DESCRIPTION

MERCHANTABLE TIMBER HARVEST

ROADS, LANDINGS AND TRAILS: Existing access is good. No road building is anticipated; however, skid trails will be utilized (see below specifications).

1-MECH:

DC-C-North/South: Access from Lempray Dr, McIntyre Dr, Centennial Dr.

DC-E: Access from Highway 39

DC-F: Access from Lempray Dr, Gataiga Dr.

2-MECH:

DC-H: Access from Chichouyenly Dr.

3-MAN:

DC-C-Man: Access from Lempray Dr. and unpaved road off of Sewage Lagoon Rd.

FELLING:

1-MECH, 2-MECH: It is recommended that trees are felled using a small feller buncher or other harvesting equipment system.

TU3-MAN: Trees will be felled by hand.

YARDING/SKIDDING:

TU1-MECH and TU2-MECH: Whenever practicable, machines should use existing old roads and skid trails. Bladed trails must be located in consultation with the contract supervisor and must avoid areas of seepage.

TU3-MAN: Skid trails are not allowed unless signed off by the contract supervisor.

LOADING AND HAULING: Roadside loading is plausible for all treatment units.

SLASH DISPOSAL: Chipping and grinding off-site are the preferred methods of debris disposal due to proximity of homes and current levels of fuel loading.

SOIL DISTURBANCE: Any soil disturbance/displacement must be rehabilitated as soon as possible, including slope recontouring and surfacing with material that inhibits erosion and establishment of invasive species. During burning, debris hauling, and equipment transport:

- Minimize soil disturbance and forest floor displacement,
- Machine access corridors must be approved by the contract supervisor, mapped and photo-documented prior to treatment,
- Should an unacceptable level of soil disturbance occur on trails or within the treatment area, the contract supervisor will develop an appropriate rehabilitation plan,
- Established trails will be maintained in or restored to pre-treatment condition, or as specified by the contract supervisor,
- Deactivation of temporary access will be completed immediately following treatment implementation, in order to inhibit any future vehicular/ATV access into treatment areas, and
- Deactivation and rehabilitation are site specific and can involve any combination of the following approaches:
 - 1. Removal and/or redistribution of woody materials as necessary to limit the concentration of subsurface moisture in the area;
 - 2. Decompaction of compacted soils, where possible;
 - 3. Returning displaced surface soils and berm materials; and/or
 - 4. Revegetation of exposed mineral soils.

SPECIAL MEASURES: None.

STAND MODIFICATION TREATMENTS

MERCHANTABLE TIMBER UTILIZATION: Was commercial timber harvest considered? Yes ☒ No ☐

If commercial timber harvest not prescribed, explain: Due to windthrow concerns, proximity to homes, and active recreation trails, the largest healthy trees will be retained in all TUs. Minimal merchantable timber utilization is expected. The following merchantable timber volumes will be removed:

1-MECH: approximately 110 m³/ha of BI
 2-MECH: approximately 160 m³/ha of BI
 3-MAN: Nil merchantable timber is expected and no volume will be utilized.

BRUSHING: N/A

PRUNING:

Retained conifers of all L1, L2, and L3 size classes will be pruned to 2.5m. Pruning will remove branches to a height that maintains at least 40% of the total tree height as live crown. Pruning will be measured from the ground to the lowest reaching point of a branch (usually the branch tip). It is expected that live crown ratio will be minimally impacted by this treatment prescription. Pruning cuts will aim to be flush with the tree stem without cutting into the branch collar, and branch stubs must be less than 1cm long. Dead branches >5 cm in diameter may be left unpruned at the discretion of the contract supervisor.

THINNING: Existing stand condition and target retention densities for individual treatment units are described in detail in Section H of this prescription. Target densities vary by TU according to stand structure, topography, and soil sensitivity.

DEBRIS PILING under the Wildfire Act and Regulation

Debris piles will be constructed manually, and all piles must be disposed of following the below guidelines. All burning is to be conducted in compliance with the *BC Wildfire Act and Wildfire Regulation*.

When burning is used to dispose of piles, the following requirements apply to either Category 2 and 3 fires:

- Burn piles must be constructed within the boundaries of TUs to facilitate effective ignition and complete combustion with minimal tending by ground crews. Piles will feature a mix of small/large and live/dead stem and branch sections arranged to burn efficiently with minimal smoke production. Levels of dirt/soil must be kept to a minimum.
- Burn piles must not be located inside or within a distance of **3m** of any recreation trail, an animal burrow, a snag, and must not result in scorching or heat damage to more than 5% of retained trees.
- It is the contractor's responsibility to obtain all necessary burn permits and facilitate ongoing communication with both the Local Fire Department and the BCWS.

Guidelines for Category 2 piles⁴:

- The Contractor will not concurrently burn more than two piles, and adhere to a maximum pile size of 3m x 3m x 2m tall,
- To reduce the number of piles, burning can occur concurrently with thinning operations using the hot-fed technique. However, up to 80 piles per hectare may be created if concurrent burning during thinning is not possible due to fire weather conditions.

Guidelines for Category 3 piles⁵:

The Contractor, under Category 3 may burn either more than 2 piles outlined above (3m x 3m x 2m tall) or may burn larger roadside piles. However, the Contractor must still follow the below regulations whether burning small (3m x 3m x 2m tall) or large roadside piles:

- To reduce the number of piles, burning can occur concurrently with thinning operations using the hot-fed technique. However, up to 100 piles per hectare (for small piles only) may be created if concurrent burning during thinning is not possible due to fire weather conditions,
- The Contractor must obtain a burn registration number (BRN) for the fire for the entire Category 3 burn duration (the BRN normally lasts 2 weeks),
- The Contractor must ensure that there is sufficient fireguard around piles while ensuring that the fire is contained in the burn area, and

While the fire is burning and there is risk of escape, the Contractor must ensure an adequate fire suppression system at the burn area.

PILE BURNING and SMOKE MANAGEMENT:

Burning is to be conducted in compliance with the 2019 *Environmental Management Act Open Burning Smoke Control Regulations*⁶ (OBSCR). OBSCR contains two parts or Division 1 and Division 2. It is recommended that burning be implemented following OBSCR's Division 2 (Plans for Community Wildfire Risk Reduction). It is also recommended that a custom venting forecast be acquire for optimal use of favourable burning windows.

⁴ https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/wildfire-status/fire-bans-and-restrictions/bcws_backyardburning.pdf

⁵ https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/wildfire-status/fire-bans-and-restrictions/bcws_resourcegmt.pdf

⁶ https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/152_2019/#division_d1e1441

Direction and Requirements under OBSCR Division 2 for smoke management within a 'high' smoke sensitivity zone is as follows:

District of Mackenzie staff will assist the Contractor in burning under Division 2, including contacting the local MOE Director. Some basic requirements of Division 2 are as follows:

- Burning may occur on days when ventilation forecasting is classified as 'fair' followed by 'good' and with reduced setbacks as compared to Division 1,
- Setbacks are reduced to 50 m from a residence or business and 100m from a school, hospital or community care facility.

Requirements under OBSCR Division 1 for smoke management within a 'high' smoke sensitivity zone is as follows:

- Burning is at least **100m from a residence or business, or 500m from a school, hospital or community care facility,**
- Every reasonable alternative must be used to minimize burning amounts by reducing, reusing or recycling vegetative debris,
- Debris must be piled and seasoned before burning can start. Seasoned debris is defined as:
 - Debris with dry-basis moisture content within 30%, or
 - Debris that has been piled for at least 4 months, or
 - Debris that originated from standing dead timber
- All reasonable efforts must be taken to minimize smoke by following best practices for open burning such as: minimizing soil content, maximizing seasoned vegetative debris, no stumps, and constructing debris piles in a way that maximizes air flow;
- No later than 24 hours in advance of starting the open burning, all reasonable efforts are made to give notification of the location of the open burning to the occupants of all residences, businesses, schools, hospitals and community care facilities within 500 m of the open burning;
- Records of burning must be kept as required in the regulation;
- Within a 'high' smoke sensitivity zone, **burning of each pile(s) can occur for up to two consecutive days: start time for burning will be one hour after sunrise (or later) on day 1 and end time will be by 4 pm on the second day;**
- Ignition of new piles or addition of combustible vegetation to existing burning piles must end 4 hours before sunset on the first day of burning,
- The ventilation index must be indicated as 'good' (>54) prior to igniting burn piles on the first day, and burning may continue if ventilation index is 'good' or 'fair' on the second day. If the ventilation index drops to 'poor', open burning cannot continue until ventilation improves.
- Local ventilation must be confirmed by lighting a small test pile before lighting multiple piles. The contract supervisor may halt burning at their discretion if concerns related to public safety or health are identified.

It is the contractor's responsibility to monitor venting and adjust activities accordingly. Smoke should not negatively impact residences adjacent to the proposed treatment area. Further requirements may be imposed, depending on public reaction and smoke conditions at the time of implementation.

CHIPPING/MULCHING: Chipping and mulching on-site dispersal are not fundable activities through the WRR/CRI programs and so therefore the prescribing foresters have not provided explicit guidance for these activities. Further information and additional guidance may be forthcoming.

MASTICATION: N/A

GRINDING: This may be a viable option but ground material must be hauled away (one option is to grind into bins and transport to the CONIFEX plant) and adhere to all fuel loading limits outlined within this prescription.

PRESCRIBED FIRE: N/A

PLANTING: N/A

THER (Firewood): Producing firewood for community members is a preferred than burning this woody residue. If firewood production occurs, it will be left at designated locations accessible to community members as approved by the contract supervisor in order to facilitate its pickup. Piece size will not exceed 1.5 m in length.

AUTHORIZATION AND TIMBER TENURE

The appropriate cutting authorization (Section 52, FLTC) will be processed by the District of Mackenzie prior to project implementation. Firewood cutting permit(s) may also be required.

Park Use Permit: N/A

Road Permit or Road Use Permit: N/A

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

J. POST TREATMENT**EXPECTED VEGETATION RESPONSE:**

SBSmk2-01/05:

Opening of the canopy may encourage shrub and herb understory growth. Post-treatment shrub/herb response is anticipated to be **Moderate** with thimbleberry, twinberry, highbush cranberry, and fireweed. Increased light conditions may also encourage response of deciduous species such as trembling aspen and birch. Natural regeneration of conifers is anticipated to be **low** and consist primarily of Bl and Sx.

The prescription is expected to achieve the primary fuel management objectives for 10 – 15 years. After this time, it is likely that natural regeneration may create flammable ladder fuels which will increase fire hazard and fire behaviour potential. Forest health factors, both biotic and abiotic, may lead to accumulations of surface fuel loading.

ADDITIONAL TREATMENTS OR MAINTENANCE: It is recommended that a qualified professional complete a wildfire hazard assessment 10-12 years (or after a natural disturbance or major forest health factor) post-treatment to assist in scheduling and prioritization of maintenance activities. Maintenance activities may include additional thinning, brushing, or surface fuel loading reduction.

SILVICULTURE OBLIGATIONS: Do silvicultural obligations apply to the treatment area? Yes **X** - **only one TU (see below)** No ☐

PLANTING: Is planting a treatment identified in this prescription or required as a legislative obligation? Yes ☐ No **X**

STOCKING STANDARDS: Stocking standards only apply for TU2-MECH (DC-H) where the treatment unit overlaps the McLeod Lake Mackenzie Community Forest (K2M) tenure. The MLMCF Forest Stewardship Plan⁷ contains stocking standards applicable to harvest activities for the purpose of fuel reduction and wildfire management. The resulting stand composition post-treatment activities will meet the below identified stocking standards for TU2-MECH.

For all other TUs: Stocking standards are generally inconsistent with fuel management objectives because Forest Stewardship Plans (FSPs) and Woodlot License Plans (WLPs) primarily deal with maintaining future timber production. This fuel management prescription applies the following principles: reducing hazardous coniferous understorey vegetation, decreasing ladder fuels, increasing deciduous understorey shrub and herbaceous plant production, and decreasing crown bulk density. Therefore, reforestation and timber production at the stand level are considered secondary objectives within the context of fire hazard reduction.

TU	Stocking Standard ID	Pref. Spp.	Acc. Spp.	Well Spaced Stem/ha				Minimum Height (m)		Regen Delay	Free Growing (years)
				TSSpa	Max Density		MITD (m)	Pref	RTH (%)		
					Deciduou s	Conifer max					
2-MECH (DC-H)	SBSmk2- 01/05	At, Act, Ep	-	2,000	No limit	800	2.0	2.0	-	7	20

K. Outstanding Works

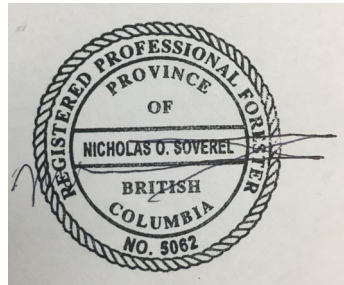
- The appropriate cutting authority/firewood permits must be obtained prior to commencement of operations;
 - This will require a written response from the McLeod Lake Indian Band to be included in the application for the timber cutting permit,
- If this FMP is implemented during breeding bird season⁸ (late April – mid August)⁹, a breeding bird survey must be conducted prior to treatment by a qualified professional;
- Public notification by the District of Mackenzie will occur 30 days before implementation,
- An Access Control Plan signed off by the contract supervisor will be developed before commencement of operations, and
- When and if the contractor plans to conduct any burning, they must notify the District of Mackenzie prior to ignition; in addition, the contractor must obtain a burn reference number from the BC Wildfire Service.

⁷ http://mlmcf.ca/wp-content/uploads/K2M_MLMCF_FSP2_13JUNE2016_Signed.pdf

⁸ <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#ZoneA>

⁹ <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#ZoneA>

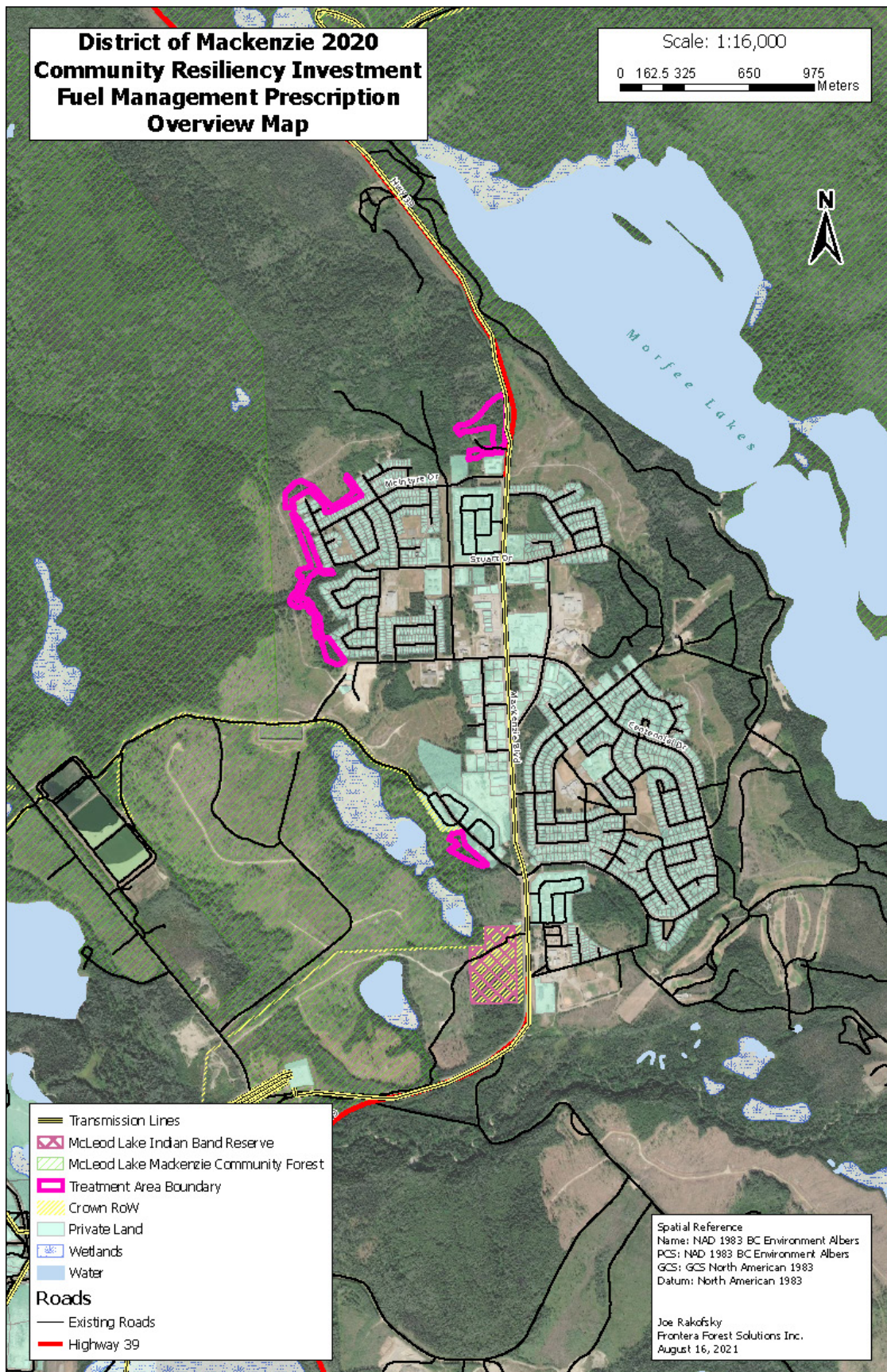
L. ADMINISTRATION**PREPARATION**

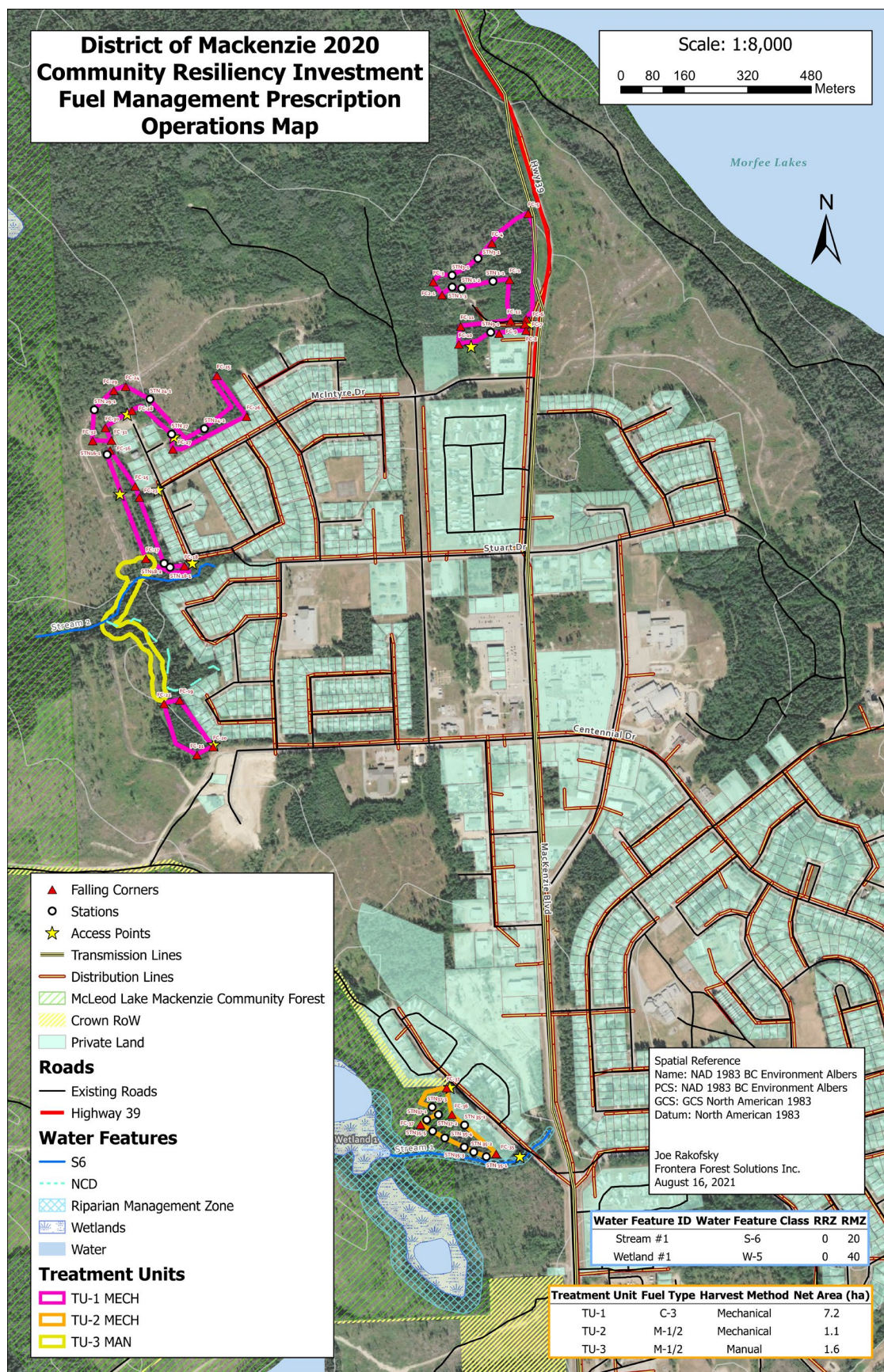
FOREST PROFESSIONAL NAME <i>(Printed)</i>	FOREST PROFESSIONAL SIGNATURE
Nicholas Soverel	
MEMBER NUMBER	
5062	August 16, 2021

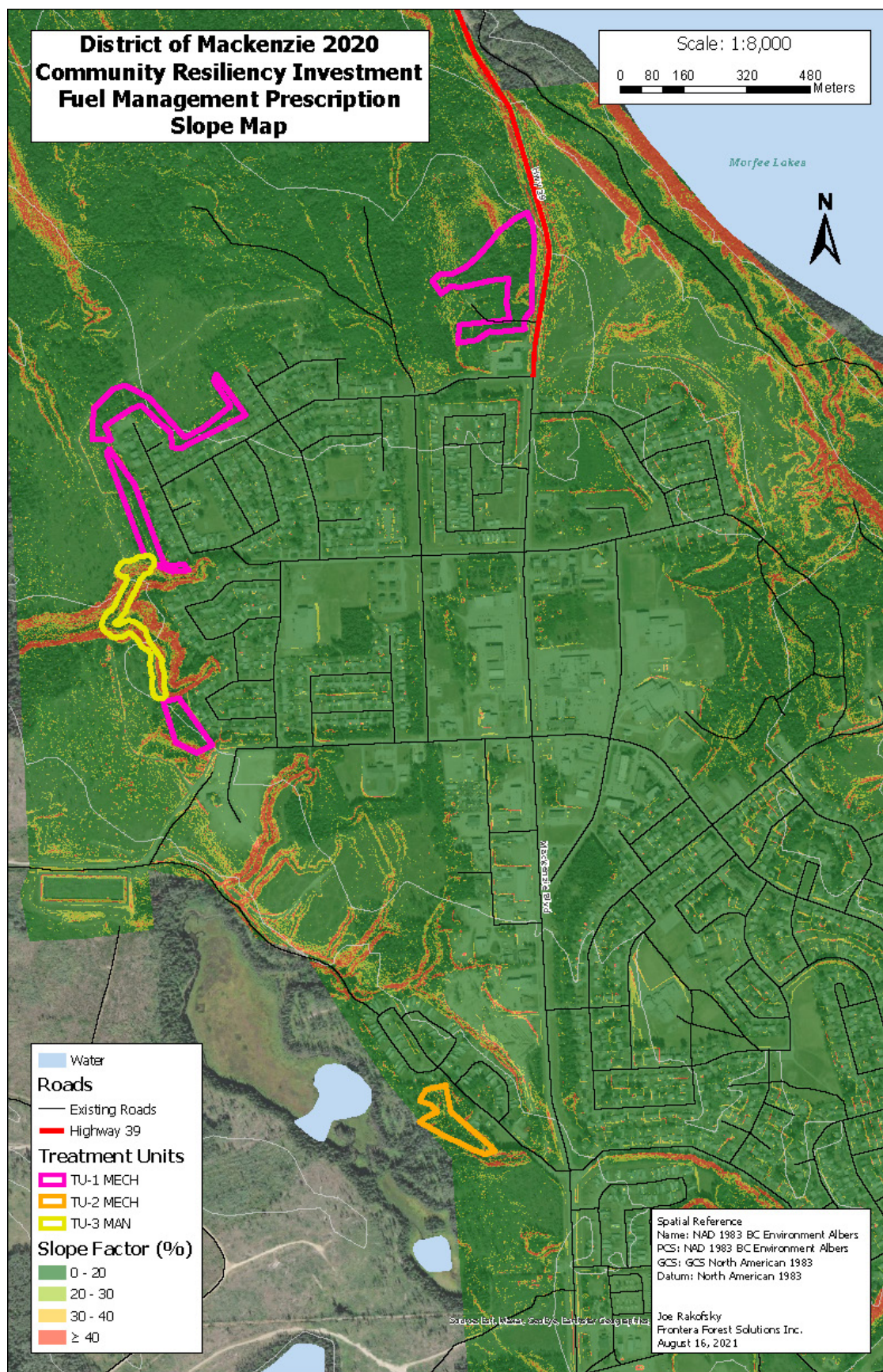
M. ATTACHMENTS

MAPS:	Yes <input checked="" type="checkbox"/> No	FIELD DATA CARDS:	Yes No <input checked="" type="checkbox"/>
WUI WTA Plots and Photos:	Yes <input checked="" type="checkbox"/> No	CRUISE DATA:	Yes No <input checked="" type="checkbox"/>
AIR PHOTOS/IMAGERY:	Yes No <input checked="" type="checkbox"/>	BURN PLAN:	Yes No <input checked="" type="checkbox"/>
MODELING/DATA ANALYSIS:	Yes <input checked="" type="checkbox"/> No	OTHER:	N/A
BROWNS TRANSECT:	Yes No <input checked="" type="checkbox"/>		
TERRAIN STABILITY ASSESSMENT	Yes No <input checked="" type="checkbox"/>	VISUAL IMPACT ASSESSMENT	Yes No <input checked="" type="checkbox"/>
Completed By:		Completed By:	
Date:		Date:	
ARCHAEOLOGY IMPACT ASSESSMENT	Yes No <input checked="" type="checkbox"/>	BIOLOGIST ASSESSMENT	Yes No <input checked="" type="checkbox"/>
Completed By:		Completed By:	
Date:		Date:	
ADDITIONAL COMMENTS: N/A			

Appendix A: Maps



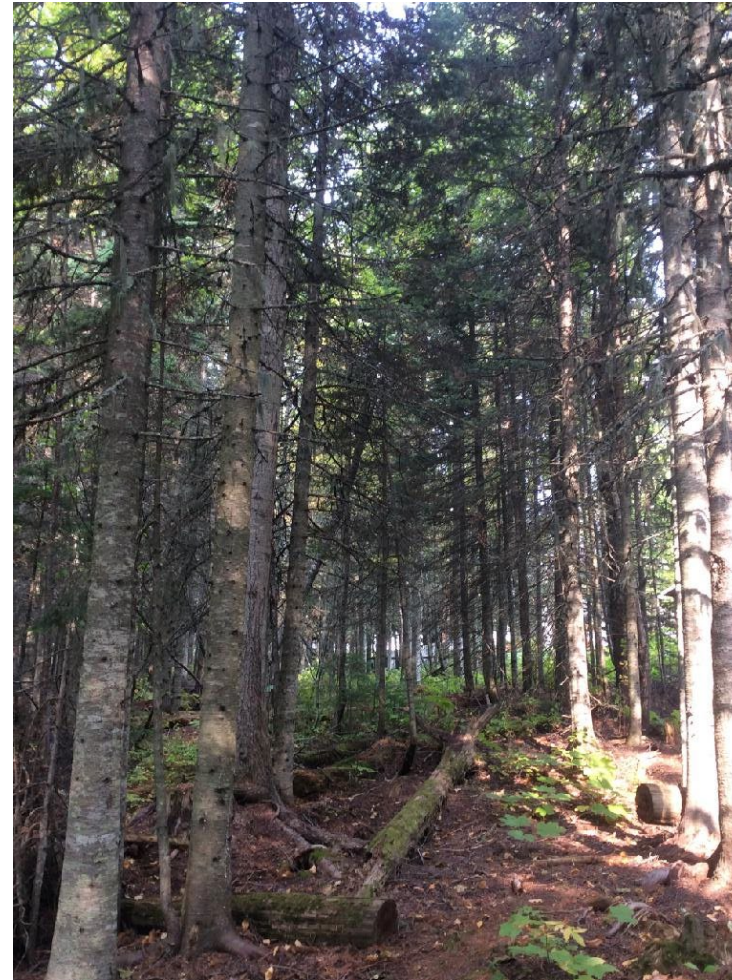




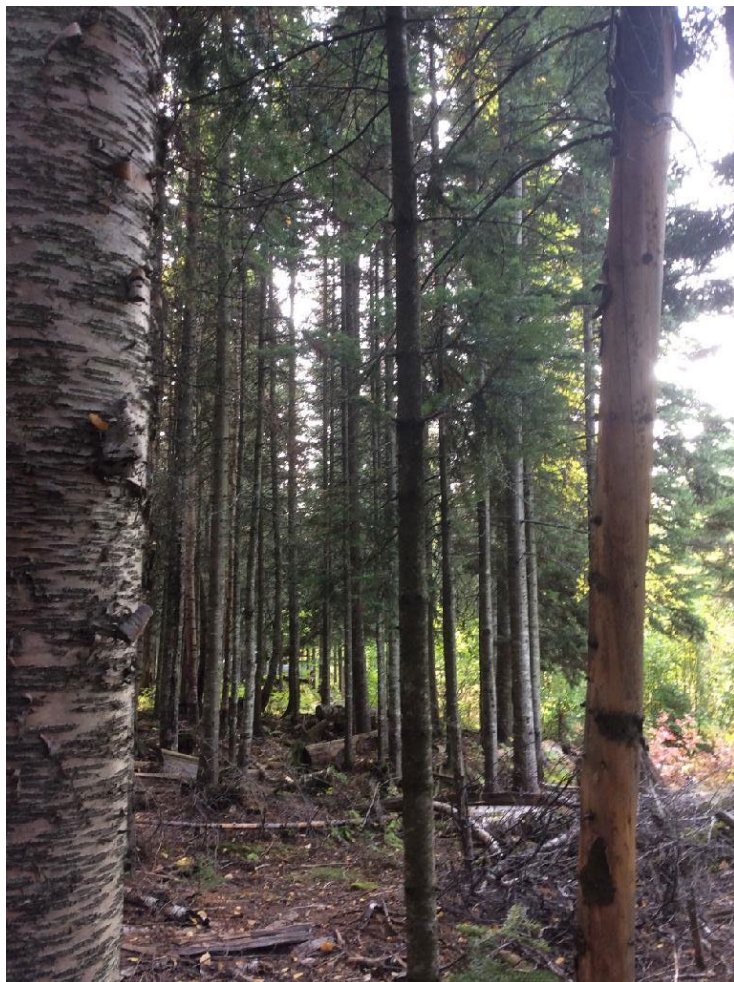
Appendix B: Representative Photos

1-MECH (DC-C Mech, DC-E, DC-F)

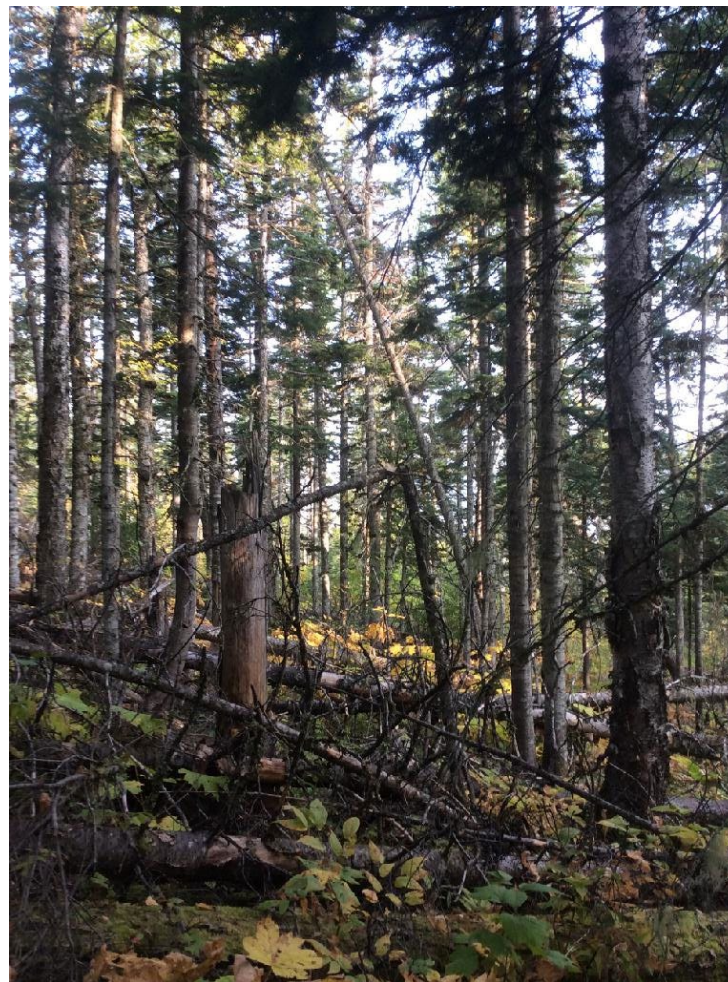
Plot 105: within treatment polygon DC-C-North/South, young stand of subalpine fir leading:



Plot 215: within treatment polygon DC-C-North/South. Pockets of heavily disturbed areas with L2, L3 stems:



Plot 341: within treatment polygon DC-E-Mech



TU-2-MECH (DC-H-Mech):

Plot 20: Greater proportion of deciduous trees in the overstory



TU-3-MAN (DC-C-Man):

Forest cover within manual-only treatment area:



Appendix C: Fire Behaviour Modeling

LINKS TO INFORMATION ABOUT SOFTWARE PROGRAMS:										
Fuelcalc:		https://www.firelab.org/project/fuelcalc-canopy-fuel-calculator-and-model								
Crown Fire Initiation and Spread (CFIS) Model:		https://www.frames.gov/catalog/7374								
Critical Surface Intensity Worksheet:		https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/vegetation-and-fuel-management/fire-fuel-management/fuel-management								
Canadian Conifer Pyrometrics:		https://fireresearch.ca/conifer-pyrometrics/								
Block & Stratum	RESULTS (PRE-TREATMENT)						FuelCalcBC-Generated Factors (PRE-TREATMENT)			Compiled Surface Fuel Load Plot Data
	likelihood crown fire (%)	fire type	ROS (m/min)	Critical Surface Fire Intensity (kW/m)	Wildfire Intensity (kW/m)	Flame Length (m)	Crown Bulk Density (kg/m ³)	Canopy Base Height (m)	Canopy Fuel Load (kg/m ²)	Surface Fuel Consumption Class (SFC) (low-med-high)
TU-1-MECH	78	Passive Crown	9.6	69	2570	2.87	0.083	0.63	1.69	0.47
TU-2-MECH	98	Passive Crown	9.9	26	4452	3.70	0.073	0.33	1.83	0.95
TU-3-MAN	98	Passive Crown	9.9	26	4452	3.70	0.073	0.33	1.83	0.95
<p>NOTE: Results produced from CFIS (Canopy Fire Initiation and Spread model) and Critical Surface Intensity Worksheet (CSI) using FuelCalcBC and Weather/Site Factors. If surface fire is predicted, then Canadian Conifer Pyrometrics model is used to determine rate of spread.</p> <p>TU 1 : According to CCP: at 14.8 km/hr wind, approx. 25 % of canopy and a max of 0.47 kg/m² of surface fuel is involved in a passive fire. Based on comparing measured fuel loads with CCP estimates of SFC which use BUI percentile.</p> <p>TU 2 and 3: According to CCP: at 14.8 km/hr wind, approx. 30 % of canopy and a max of 0.95 kg/m² of surface fuel is involved in a passive fire. Based on comparing measured fuel loads with CCP estimates of SFC which use BUI percentile.</p>							<p>NOTE: Both overstory and understory trees included in calculations EXCEPT Layer 4 of understory (<1.3 m)</p>	<p>NOTE: CBH was used in place of Fuel Strata Gap (FSG) for CFIS predictions</p>	<p>NOTE: for crown fires, CFL is used in Wildfire Intensity calculation</p>	<p>NOTE: low class (labelled green) is < 1 kg/m² of total fuel load (both fine and medium fuels) medium is 1 - 2 kg/m² (orange), and high is > 2 kg/m² (red)</p>

Block & Stratum	Surface Fuel Consumption Class (SFC) (low-med-high)	CFIS RESULTS (POST)		Canadian Conifer Pyrometrics Results (POST)	CSI Results (POST)		FUELCALC AND CSI RESULTS (POST)			
		likelihood of crown fire (%)	fire type	ROS (m/min)	Wildfire Intensity (kW/m)	Flame Length (m)	CrownBulkDensity (kg/m ³)	Canopy Base Height (m)	Canopy Fuel Load (kg/m ²)	Critical Surface Fire Intensity (kW/m)
TU-1-MECH	0.9	5	Surface	2.2	586	1.45	0.027	7.09	0.54	2608
TU-2-MECH	0.9	7	Surface	2.2	586	1.45	0.034	6.49	0.84	2284
TU-3-MAN	0.9	7	Surface	2.2	586	1.45	0.038	6.49	0.94	2284
NOTE: low class (labelled green) is < 1 kg/m ² of total fuel load (both fine and medium fuels) medium is 1 - 2 kg/m ² (orange), and high is > 2 kg/m ² (red)		NOTE: Results produced from CFIS (Canopy Fire Initiation and Spread model), Critical Surface Intensity Worksheet, and Canadian Conifer Pyrometrics, using FuelCalcBC and Weather/Site Factors				NOTE: Both overstory and understory trees included in calculations EXCEPT Layer 4 of understory (<1.3 m)	NOTE: CBH was used in place of Fuel Strata Gap (FSG) for CFIS predictions	NOTE: for crown fires, CFL is used in Wildfire Intensity calculation		

Weather and Site Factors									
Block & Stratum	Estimated Fine Fuel Moisture (%)	Wind Speed (km/hr)	Air Temp (°C)	Relative Humidity (%)	Month	Time of Day	Slope (mean %)	Aspect (mean degrees)	Crown Closure (%)
TU-1-MECH	10	14.8	23.9	43	July	1300-1500	6.9	183 (South)	41
TU-2-MECH & TU-3-MAN							9.7	207 (South-Southwest)	27
<p>NOTE: Moisture of fine fuels estimated using weather and site variables for CFIS. Used weather station data to obtain percentiles of relevant variables</p> <p>LINK TO THE WEBSITE SHOWING WEATHER STATION NETWORK DATA THAT WAS UTILIZED: https://data.pacificclimate.org/portal/pcds/map/</p> <p>NOTE: assumed to be south if no aspect measured (regard highest risk for precautionary estimates)</p>									
Block & Stratum	Percentile used for weather data	Wx station used	Wx station Season and Annual Range	Wx station elevation (m ASL)	Wx station coordinates (lat, long)	Foliar Moisture Content (%)			
ALL TUs	90	MACKENZIE FS	May 1 - Oct 31; 2006 - 2020	690	lat: 55.3042 lon: -123.1347	85.1			
NOTE for Critical Surface Fire: Intensity, FMC calculator from CCP is used (taking Wx station elevation and latitude and percentile date)									

Appendix D: FireSmart Recommendations

Background on FireSmart

There are numerous structures located around the proposed treatment areas. These structures are at risk from an approaching wildfire but they also pose a risk as a possible ignition source for wildfires spreading from the camp to the surrounding forests and beyond. FireSmart principles are currently the most accepted forestry practice to protect such structures within the Wildland Urban Interface.

This area is both heavily forested and there are numerous high-value structures, the prescribing foresters recommend that FireSmart principles be employed to all areas surrounding these structures. It is recommended that these FireSmart treatment activities be completed simultaneously to this FMP's treatment activities. However, before any FireSmart treatment commences, a trained Local FireSmart Representative (LFR) will conduct LFR assessments and determine specific recommendations for each structure.

Broad FireSmart Recommendations

The prescribing foresters do not provide any building material recommendations within this Appendix as it is outside the scope of this prescription document. A full assessment by a qualified Local FireSmart Representative will need to be completed in order to make specific recommendations. More information on building materials can be found within the manual: 'FireSmart Begins at Home Manual'¹⁰. This manual provides information on the vegetation management aspect of FireSmart.

As a helpful guide outlined in text below and in Figure 1, the prescribing foresters provide a broad description of recommended activities for areas surrounding structures, based on the FireSmart manual. The manual states the following vegetation management zones (measured from the footprint of each structure):

Non-Combustible Zone (0-1.5 m) – see Figure 1:

A non-combustible surface should surround the structure including gravel, brick or concrete placed in this Zone. No vegetation is allowed within this Zone.

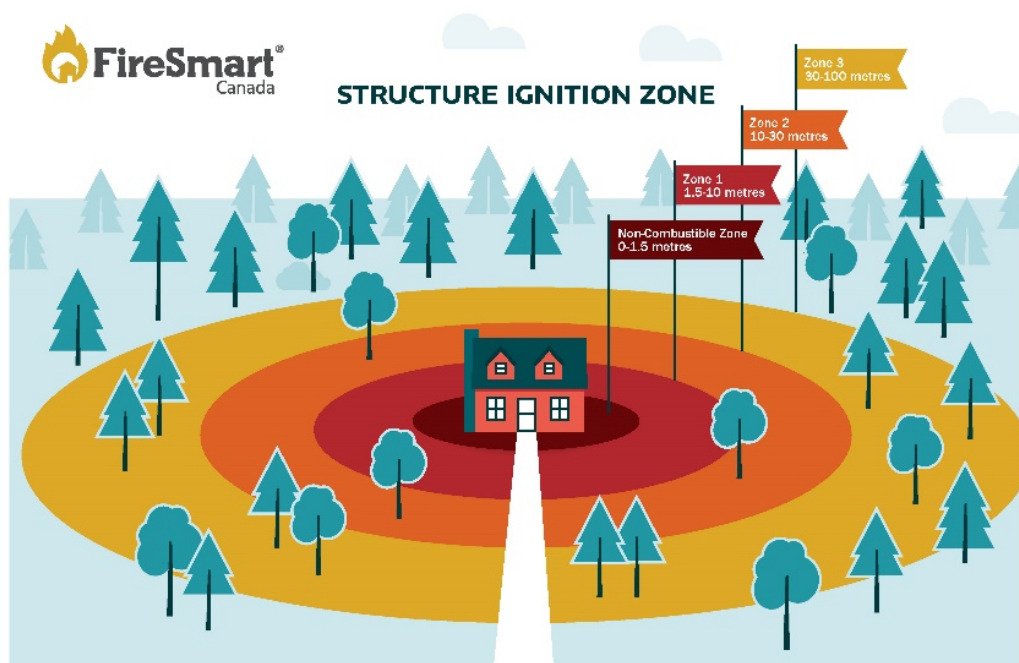
Priority Zone 1: (1.5 – 10 m) – see Figure 1:

This Zone must only contain deciduous tree or shrubs and very little conifer tree cover. Any conifers retained within this zone will be pruned. Any outbuildings should be built or retrofitted with fire resistant building materials.

Priority Zone 2: (10 – 30 m) and Priority Zone 3: (30 – 100m) -- see Figure 1:

As many of these zones overlap onto Crown land, the recommendations within this Fuel Management Prescription should be sufficient for both Zones 2 and 3.

¹⁰https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/wildfire-status/prevention/prevention-home-community/bcws_homeowner_firesmart_manual.pdf



Work with your neighbours in any overlapping priority zones!

Non-combustible Zone (0-1.5 metres)	<p>Reduce the chance of wind-blown embers igniting materials near your home. A non-combustible surface should extend around the entire home and any attachments, such as decks. Creating a non-combustible surface can be as easy as clearing vegetation and combustible material down to mineral soil. To add to your landscape design, use non-combustible materials such as gravel, brick, or concrete in this critical area adjacent to your home. Woody shrubs, trees or tree branches should be avoided in this zone, any that are present should be properly mitigated.</p>
Zone 1 (1.5-10 metres)	<p>Create a landscape that will not easily transmit fire to the home. A FireSmart yard includes making smart choices for your plants, shrubs, grass and mulch. Selecting fire-resistant plants and materials can increase the likelihood of your home surviving a wildfire. Plant a low density of fire-resistant plants and shrubs. Avoid having any woody debris, including mulch, as it provides potential places for fires to start. Storing items such as firewood piles, construction materials, patio furniture, tools and decorative pieces against or near a house is a major fire hazard. Move firewood piles, trailers/ recreational vehicles, storage sheds and other combustible structures out of this zone and into Zone 2. If unable to move, store firewood inside your mitigated garage, shed or other ember resistant structures, create a non-combustible zone underneath and for 1.5 metres around trailers/ vehicles and mitigate sheds and other structures to the same standards as those of your home.</p>
Zone 2 (10-30 metres)	<p>If your property extends out to this zone, thin and prune evergreen trees to reduce hazard in this area. Within 30 metres of your home, selectively remove evergreen trees to create at least 3 metres of horizontal space between the single or grouped tree crowns and remove all branches to a height of 2 metres from the ground on the remaining evergreen trees. If possible, pruning trees up to 100 metres from your home (Zone 3) is recommended. Regularly clean up accumulations of fallen branches, dry grass and needles from on the ground to eliminate potential surface fuels. Consider seeking the guidance of a forest professional with wildland fire knowledge on appropriate management options for this zone.</p>
Zone 3 (30-100 metres)	<p>Taking FireSmart actions in Zone 3 on your property will influence how a wildfire approaches your home. You can change the dynamics of wildfire behaviour by managing vegetation within this zone. Look for opportunities to create a fire break by creating space between trees and other potentially flammable vegetation. Thinning and pruning is effective here as well. These actions will help reduce the intensity of a wildfire. Consider seeking the guidance of a forest professional with wildland fire knowledge on appropriate management options for this zone.</p>

Figure 1.