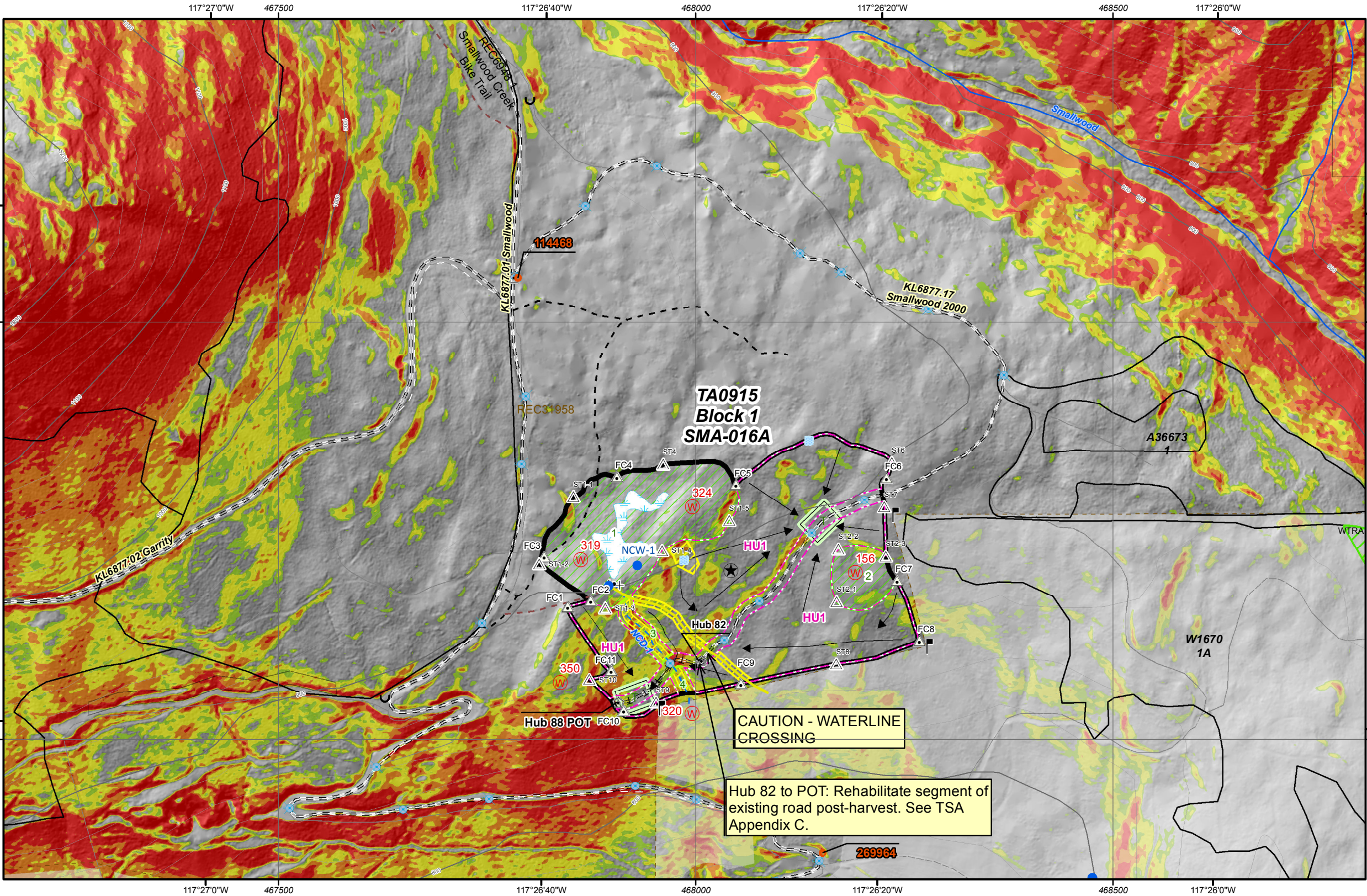




Harvest Plan Map

TSL TA0915	Block ID 1
Business Area Kootenay	UBI BF6GK
Operating Area North Kootenay Lake	Location Smallwood
Management Unit Kootenay Lake	FIZ G
Gross Block Area (ha) 10.3	Geographic Center Latitude 49 29 46 Longitude 117 26 29

BLOCK AREA SUMMARY (ha)			Non-Merch
Harvest Method	Harvest Unit	Area	Reserve
Ground	1.1	6.4	WTRA
WTRA		3.0	Right of Way
Reserve		0.2	
Roads		0.7	
TOTAL		10.3	

BCTS All Blocks

Block of Interest

GPS Station

Block Bdy Hub

Falling Corners

Reference Trees

Block Centre

Woody Debris

Existing Permanent Landing

Proposed Temp. Landing

Slump/Slide Area

Stub Tree

Tower Settings

Fish Barrier

Reach Breaks

Road Barrier

Rock Outcrops

Gate

Pipeline Crossing

Prop Skid Bridge

Prop Skid Crossing

Minor Culvert

Proposed Culvert

Proposed Waterbar

Existing Waterbar

Prop. Cross-ditch

Existing Cross-ditch

Bridge

Cave/ Den

Nest

POD

Wildlife Habitat Feature

Land Survey Monument

BS

SK

FW

YD

Exist Perm Skid Trail

Prop Temp Forwarding Trail

Prop Temp Yarder Tr

Recreation Trail

Wildlife Trail

Deflection Line

Pipe Line

Seismic Line

Cultural/Heritage

Fence Line

Cliff

Swale

Embankment

Gully

Ridge

Seepage

Slope Break

Rest. Side Decking

Stubbed Boundary

Water Line

Skid/Yarding Direction

TRIM Features

River/Stream-Def

River/Stream-Indef

Contour - Index

Contour - Intermediate

Road Permit

Forest Service Road

Highway/Main/Paved Road

Gravel/Resource Road

Trail

Snow Shed (Railway)

Tunnel

Bridge

Airstrip

Rail Line

Pipeline / Wellsite

Area of Concern

Invasive Plant Site

Steep Slope in WTRA

Steep Slope

SAR Cliff

SAR Forested

SAR Rare Ecosystems

Special Forest Mgmt Area

Biodiversity, Mining and Tourism Areas

Private Land

Conservancy Areas

Recreation Area

OGMA

Lake/Watercourse

Marsh

Swamp

BCTS Roads - Road State

Deactivated Road

Existing Road

Proposed Road

Proposed Temp.

Existing Temp.

Riparian Features

MFZ / MSZ

RMZ

RRZ

Streamside Mgmt Zone

BCTS Streams Class

Unknown

INT;NCD

S1;S2;S3;S4

S5;S6

RPF PRINTED NAME

Richard Cane, RPF

DATE SIGNED

Jul 27, 2020

RPF SIGNATURE & SEAL

I certify that I have reviewed this document and, while I did not personally supervise the work described, I have determined that this work has been done to the standards expected of a member of the Association of British Columbia Forest Professionals.

LiDAR Legend

Slopes

0 - 35

35.1 - 40%

40.1 - 50%

50.1 - 60%

60% +

Hillshade

High : 255

Low : 0

FIELD MARKING STANDARDS			
Block Harvest Area: Boundary		Landings/Tower Settings	
Recce Lines		Deflection Lines	
Traverse Stations		Non-classified Drainage (NCD)	
Cruise strips		Stream	
Cruise plots		Riparian Management Zone	
Reference Trees/Posts		Reserve Zones and WTRA	
Road: P-Line		Riparian Reserve Zone	
Road: Centre Line		Management Zones	
Culverts		Single Reserve Trees	
Right-of-way		Treatment Unit Boundary	
Skid Trails		Machine Free Zones	

0 50 100 150 200 250

Meters

1:5,000

Date 23Jul2020

User RVANDENB

Template Name HarvestPlanMap_11x17L

Coordinate System NAD 1983 UTM Zone 11N

HARVEST PLAN: TA0915 - Block 1											
Refer to the TSL Document, Site Plan, Support Document, Forest Stewardship Plan, Assessments, and Schedules for additional information.											
HARVEST UNITS											
HU	Harvest Method	Predominant Slope Range	Mean Slope	Slopes >35% but ≤ 60%	Slopes >60%						
1	Ground	15-45%	30%	About 1/4 of HU. Trails allowed except across waterline. No trails marked in field.	Slopes extremely rare within HU. Trails possible. None planned. If additional trails are needed, an assessment re: soil conservation by a qualified professional is required beforehand.						
Steep Slopes: Limit machine use on slopes as per WorkSafe BC OHS Reg Part 26-16 (slope limitations). Refer to LiDAR slopes map. A safe work plan must be developed when working on steep slopes. Areas with shallow soils, rock outcrops and/or surficial rock may require hand falling.											
Riparian Management Practices:											
1. Follow recommendations from the Terrain Stability Assessment and Soil Erosion Assessment Report (Section 5.0).											
2. Follow recommendations from the Hydrologic Assessment Report.											
Waterline:											
Do not enter MFZ around waterline with machinery. Do not allow debris to fall on waterline.											
Reserves: Refer to Support Document Section “2(a). Reserves (Inside or attributed to the block)” for detailed operational requirements regarding extraction of IBD green-attack Fd stems.											
LEAVE TREE SPECIFICATIONS											
Table 1. - Layer 1 Reserved Timber ^{5,6}											
Merchantable											
Block	HU	Selection Priority ^{1, 5}	Species	Size	Stems per Hectare			Distribution ^{2, 3}			
				DBH Class(cm)	Target	Min	Max	S	G	I	R
1	All	1 - All	Py	≥ 20	17 BA ⁷	15 BA	20 BA	Pref	Acc	Acc	Pref
		2	Fd	≥ 70							
			Lw								
			Pw								
			Cw								
			Bg								
			Hw								
			Pl								
		3	Fd	≥ 35 but ≤ 65							
			Lw								
			Pw								
			Cw								
			Bg								
			Hw								
			Pl								
		1 - All	At, Ep	≥ 20							
Table 2. - Other Reserved Timber ^{5,6}											
Non-Merchantable											
Block	HU	Location			Species	Layer		Stems per Hectare			
								Target	Min		
1	All	- Within 3m of all reserve trees - Within 5m of NCDs & streams			All	2, 3, 4		All existing		N/A	
Dead Trees to be Stubbed (where Mechanical Falling is utilized) ⁵											
Block	HU	Species	DBH Class (cm)	Stubbing Height	Stems per Hectare			Distribution ³			
					Target	Min	Max	S	G	I	R
1	All	Any	≥12.5	2-5m	4	0	6	X	X	X	X
Coarse Woody Debris											
Block	HU	Species	Size		Number per Ha		Distribution ³				
					Target	Min	S	G	I	R	
1	All	Any ¹²	Logs ≥2m in length & ≥7.5cm diameter at one end ¹¹		10 ⁴	4 ¹¹	X	X	X	X	

Table 1 & Table 2 Additional Requirements:

¹ Preference for leave trees must be given to larger diameter, fire resistant, more windfirm stems, free of obvious signs of health issues (bark beetle attack, thinning or yellowing crowns, mistletoe, or evidence of root rot). Preference for leave tree location adjacent to NCDs.

² Where groups of reserve trees are retained, lower-ranked and non-target species may be included, provided that the majority of trees retained are in accordance with the selection priority.

³ Distribution Types: S: Single Trees, G: Groups of Trees, I: Irregularly, R: Regularly.

⁴ Selection priority for larger diameter CWD to meet Chief Forester Guidance. Logs ≥10m in length & ≥20cm diameter at one end recommended. Refer to Silviculture Plan CWD Management Strategy Information.

⁵ Safety is a priority when conducting operations near reserved timber. Refer to TSL Schedule “A”, Section 2.00 regarding Dangerous Trees.

⁶ Refer to Schedule B Appendix I - 1.00 Table of Reserve Timber Abbreviations and Definitions.

⁷ Target stems have been marked in the field with blue paint. Except for skid trails, where removal is required for operational and safety requirements, marked trees should be exchanged for other leave trees meeting retention criteria on a 1:1 basis. Marking has been done to a slightly higher retention to accommodate for skid trails however minimum BA retention still needs to be met. Skid trail corridors should be kept to a minimum in terms of length, width, and placement.

⁸ Three examples of different group distribution, roughly achieving the Target of 35st/ha:

2 groups/ha (with 17.5st/group) = Target approx. 70m between group centres.

6 groups/ha (with 6st/group) = Target approx. 40m between group centres.

10 groups/ha (with 3.5st/group) = Target approx. 30m between group centres.

⁹ The intent is to leave all (95%) of the trees meeting the specified criteria, except where precluded by operations or safety.

¹⁰ The intent is to leave nearly all (90%) of the trees meeting the specified criteria, except where precluded by operations or safety, acknowledging that cable yarding systems have more restrictive operating requirements than ground yarding systems.

¹¹ FPPR Section 68 requirements. Refer to Silviculture Plan CWD Management Strategy Information.

¹² Active IBD infestation in TSL. Do not retain green-attack Fd impacted stems as CWD. Avoid retaining larger green Fd stems as CWD to mitigate risk of perpetuating IBD infestation. Refer to Silviculture Plan CWD Management Strategy Information.