



SITE PLAN Gitxsan Forest Licence Inc.

(Silviculture system: Clear Cut)

A. TENURE IDENTIFICATION

LICENCE #	CUTTING PERMIT	BLOCK	OPENING NUMBER	LOCATION	Map Sheet Number
A16831	433	SWB005	TBA	Babine Slide 37km	93M012

CONTENTS REQUIRED BY LEGISLATION FOR THIS SITE PLAN AS DESCRIBED UNDER SECTION 34(1) OF THE FPPR AND SECTION 10(2) (c) OF THE FRPA.

B. AREA UNDER THE PLAN

SU	Gross Area (TAUP)	PAS (ha)	Rock	Swamp / wetland	Other NP (NCBr)	Right of Way	Reserves (WTP)	NAR
1	30.3	1.7	0.0	0.0	0.4	0.0	4.2	24.0
Total								

C. SOIL DISTURBANCE

SU	Max. Allowable Soil Disturbance (MASD) (%)	Max. Amount TAS May Exceed MASD Prior To Rehab (%)	Max. Allowable Soil Disturbance For Roadside Work Areas (%)	Maximum PAS (%)
1	5	5	25	Calc 5.6

(Total PAS is 1.7ha ÷ 30.3 ha = 5.6%).

SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING
1	The high water table, leading to a Very High Compaction Hazard, will impact harvesting operations. Due to the high water table, winter harvest should be considered.

D. STOCKING REQUIREMENTS

SU	NAR	FSP STANDARDS ID #	Other Performance Standards
1	24.0	1058747	N/A

E. FRPA section 10(2) (c) REQUIREMENT: "A Site Plan must identify how the intended results or strategies described in the forest stewardship plan apply to the site."

FSP Strategy / Result Reference #:	Comment(s)
2.1.2.1 Soils:	As per section 35 and 36 of the FPPR the maximum amount of soil disturbance allowable in SU 1 is 5% due to a high water table present. This block also does not exceed the FPPR permanent access structure threshold of 7% (it is calculated to be 5.6%)
2.1.2.2 Hydrologic function of soils:	This block is consistent with this strategy with respect to Watershed Hydrologic Integrity.
2.2.2.1 Timber and species composition:	This block will be reforested with ecologically suitable species in accordance with the approved Free Growing Stocking Standards.
2.3.1.2 Seral Stage & Patch Size Distribution	The addition of SWB005 will not have a material impact on the early seral and the mat+old seral targets for the Kispiox South Landscape Unit. The addition of this block will contribute a small sized patch to the patch size distribution of the Kispiox South Landscape Unit in the Kispiox FDU.
2.3.1.3 OGMA:	Not Applicable – no OGMA's will be infringed by the block, the closest OGMA is 600m away

Acronyms: **SU** = Standards Unit; **TAUP** = Total Area Under Prescription; **PAS** = Permanent Access Structures; **NP** = Non-Productive; **NCBr** = Non-Commercial Brush; **WTP** = Wildlife Tree Patch; **NAR** = Net Area to be Reforested; **MASD** = Maximum Allowable Site Disturbance; **TAS** = Temporary Access Structures; **FPPR** = Forest Planning and Practices Regulation; **FRPA** = Forest and Range Practices Act

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2.3.2.1 Wildlife Tree Retention:	The target required as wildlife tree retention within the ICHmc in the Middle Skeena South is 3%. SWB005 has 13.8 % of the gross area as WTRA				
2.3.3.1 Floodplain Ecosystem Integrity:	Not Applicable – SWB005 is not located within a low bench or middle bench floodplain ecosystem as identified in the Forest Stewardship Plan				
2.3.4.1 Rare Ecosystems:	Not applicable – no plant associations and rare ecosystems were noted within SWB005.				
2.4.1.1 Water and Riparian Areas:	The watercourses within and adjacent to the harvest area have been classified and managed to the FPPR and the FSP requirements.				
2.4.1.2 Hydrologic Integrity of Watersheds:	This block was not identified to lie within an area of interest within the Watershed Integrity Matrix.				
2.4.1.3 Designated Fisheries Sensitive Watershed	Not Applicable – no fisheries sensitive watersheds and temperature sensitive streams are within the Kispiox FDU.				
2.4.1.4 Sensitive Fish Habitat:	Not Applicable				
2.4.2.1 & 2.4.2.2 Water in Community Watersheds:	Not Applicable				
2.5.1.1 Mountain Goat:	Not Applicable – There is no Mountain Goat Winter Range in the vicinity of SWB005				
2.5.2.1 Moose:	There is low value moose winter range present in the South West section of the SWB005 as well as patches along the North Western edge. As per the FSP, brush cover and deciduous species will be retained within 10m of roads (unless there is an adverse impact to crop trees). In addition, Indicators and Thresholds/Measures for Biodiversity in Table 3 and Wildlife Tree Retention targets in Table 4 will be adopted.				
2.5.3.1 Mule Deer:	Not Applicable – There is no mule deer winter range in the vicinity of SWB005				
2.5.4.1 & 2.5.4.2 Grizzly Bear:	Not Applicable – There is no high value grizzly habitat in the vicinity of SWB005				
2.6.2.1 First Nations CHR:	A Cultural Heritage Resource Evaluation was completed during the course of fieldwork. No CHRs were identified in SWB005 during the course of development.				
2.6.2.2 Important traditional plant sites:	The achievement of the Results denoted in this section of the FSP for SWB005 addresses this Result.				
2.6.3.1 Dominion Telegraph:	Not Applicable				
2.6.3.2 & 2.6.3.3 Historic Features Associated with Skeena River Boat Traffic and Early Mineral Exploration:	Not Applicable				
2.7.1.1 Visuals:	SWB005 is not located within any known Visual Quality polygons.				
2.8.1.1 Public Access to Recreation Features:	Not Applicable – GFLI will not control access within the Kispiox FDU.				
2.8.1.2 Harvesting in the Vicinity of Recreational Trails:	Not Applicable – SWB005 is not located adjacent to any established recreation trails listed in Tables 9 or 11 of the Forest Stewardship Plan.				
2.8.1.3 Inclusion of Recreation Features in Retention Areas:	Not Applicable – no recreational features (Tables 10 or 11 of the Forest Stewardship Plan) are included in the harvest area.				

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2.8.2.1 East Kispiox/Kuldo SMZ:		Not Applicable –SWB005is not located within the East Kispiox/Kuldo Special Management Zone..			
2.8.2.2 Rocher Deboule SMZ:		Not Applicable –SWB005is not located within the Rocher Deboule Special Management Zone..			
2.8.2.4 Andimaul SMZ:		Not Applicable – SWB005 is not located within the Andimaul Lookout SMZ.			
2.8.3.1 Atna/Shelagyote SMZ:		Not Applicable –SWB005is not located within the Atna/Shelagyote SMZ.			
2.9.1.1 & 2.9.1.2 Wild Berries:		Refer to Seral Stage Strategy (2.3.1.3) as strategy for wild berries in the Kispiox FDU. Also, during brushing and spacing treatments carried out in the achievement of free growing obligations, the cutting of berry plants that are not directly impeding the survival or growth of well-spaced crop trees will be avoided.			
2.9.2.1 & 2.9.2.2 Mushroom Resources:		Refer to Seral Stage Strategy (2.3.1.3) as strategy for mushroom resources in the Kispiox FDU.			
2.9.2.3 Pine mushrooms:		Block SWB001 does not lie within identified pine mushroom terrain or timber types.			
2.10.1.1 Range Resources		Not Applicable			
5.1 Preventing the introduction or spread of invasive species		The licensee will adhere to the measures indicated to prevent the introduction or spread of invasive plants.			
5.2 Natural Range Barriers		Not Applicable – No natural range barriers were found in the vicinity of SWB005			
5.3.1.1 PSP & Research Installations		Not Applicable – no PSP or research installations were identified within SWB005			
F. ADMINISTRATION					
SITE PLAN PREPARED BY:		COMPANY SIGNING AUTHORITY:		RPF SIGNATURE:	
Molly Christiansen, RFT Tyhee Forestry Consultants Ltd.				Peter Tweedie	
Printed name		Printed name		Printed name	
					
Signature		Signature		RPF Signature & Seal	
June 27, 2019				June 27, 2019	
Date		Date		Date	

Attached map forms an integral part of the site plan.

(Any other attachments are provided for information only and do not form part of the Site Plan)

Site Plan Attachment

The following information is attached for information only and does not form part of a site plan

PLANNING – Site Plan Attachment sections 1 & 2

LICENCE #	CUTTING PERMIT	BLOCK	OPENING NUMBER	LOCATION	Map Sheet Number
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1. ASSESSMENTS

1.1 VISUAL IMPACT ASSESSMENT

COMMENTS	SWB005 is not located in a scenic area. No Visual Impact Assessment was required.
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1.2 FOREST HEALTH

1.2.1 BIOTIC FACTORS

PEST CODE	PEST INCIDENCE OR RATING
COMMENTS	<i>Phaeolus schweinitzii</i> was seen scattered throughout the block at a low incidence.. Management for species diversity will mitigate the risk of future pest damage.

1.2.2 ABIOTIC FACTORS

Windthrow	None were identified.
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1.3 ARCHAEOLOGICAL IMPACT ASSESSMENT / CULTURAL HERITAGE RESOURCES

COMMENTS	None were identified.	
DATE	CONSULTANT	RECOMMENDATIONS
N/A	N/A	N/A

1.4 TERRAIN STABILITY, GULLEY, AND AVALANCHE ASSESSMENTS

COMMENTS	No Terrain stability issues were noted in this block; therefore a Terrain Stability Field Assessment was not completed.	
DATE	CONSULTANT	RECOMMENDATIONS
N/A	N/A	N/A

1.6 SOIL ASSESSMENT

HAZARD RATINGS				SOIL CHARACTERISTICS			
SU	Soil Comp	Soil Erosion	Soil Disp	Depth To Unfavourable Subsoil Min(cm) Max(cm)		Type Of Unfavourable Subsoil	Sediment Delivery Risk (Community Watersheds)
1	VH	H	M	21	90	Seepage	
COMMENTS		Seepage was noted at 21cm average throughout the block. This SP was done some days after a rain or snow event which may have triggered a high water table					

1.7 OTHER ASSESSMENTS

COMMENTS	N/A
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2.0 OTHER INFORMATION

2.1 RESERVES

Wildlife Tree Retention Areas / Wildlife Tree Patches (inside or attributed to the block)

I.D.#	Area (ha)	Timber type label (age, height, merch class, crown closure and site index, CWD)
WTRA	4.2	HwEpS 545-0/19 and HwS(Ep) 535-0/15

Block	Gross Cutblock area (ha)	WTP (ha)	WTP %	target %	BEC	Block Area (ha)	Perm Access (ha)	%
SWB005	30.3	4.2	13.8	3	ICHmc2	24.0	1.7	5.6
TOTAL	30.3	4.2	13.8	3	ICHmc2	24.0	1.7	5.6

Other reserve areas inside the block

I.D.#	HA.	Timber type label (age, height, merch class, crown closure and site index, CWD)

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2.2 PERMANENT AND TEMPORARY ACCESS CALCULATION SUMMARY						
Description of Access Structure	S.U.	Dimensions Length x Width	Temporary		Permanent	
			Area (ha)	% of NAR	Area (ha)	% Gross
Existing construction						
In Block Spur Road	1	1442 x 12	N/A	N/A	1.7	
Total Temporary						
Total Permanent					1.7	5.6
2.3 PATCH and SERAL DISTRIBUTION						
The numerical values for the Seral / Patch 'Actuals' was obtained from 2013 KHLP Seral Objective 1. The analysis provides a snapshot of the early seral, the mat+old seral and the patch size distribution in the Middle Skeena South Landscape Unit. Harvesting of SWB005will not have a material impact on the early seral or the mat+old seral targets. SWB005, given its small patch size, will assist in moving the small patch distribution towards its target						
Landscape Unit:	Middle Skeena South		NDT:	2	BEC:	ICHmc2
	Early Seral	Mat+Old Seral		Small patch	Mid-sized patch	Large patch
Target	22%	36%		30-40% of LU	30-40% of LU	20-40% of LU
Actual (2013)	4.2%	83%		3.8%	5.4%	16.7%
	Okay	Okay		Low	Low	Low
Impact of SWB005 Patch distribution conclusion				Towards target	No impact	No Impact
				Okay	N/A	N/A

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FIELD PLAN – Site Plan Attachment Section 3 and 4

LICENCE #	CUTTING PERMIT	BLOCK	OPENING NUMBER	LOCATION	Map Sheet Number
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3.0. SAFETY

Describe specific safety issues related to the block

Roads:	Ensure adequate signage for the connection with the Babine Slide mainline.
Harvesting:	No concerns.
Post-harvest:	There are some rotten Birch snags scattered throughout.

4.0. SILVICULTURAL/ HARVEST SYSTEMS

4.1 SILVICULTURAL SYSTEMS

SU	SYSTEM	VARIANT	RESERVE TYPE
1	Clearcut	Reserves	WTRA

Silvicultural Constraints	Since the block should fall under winter harvest, quad access may be necessary to get trees and planters in. There is a section to the furthest south east portion of the block that borders the reserve which has very saturated soils and areas of pooling water.
Harvesting Constraints	Due to seepage throughout the block, consider winter harvest to limit the amount of disturbance on this sensitive site.

4.2 LEAVE TREE SPECIES AND FUNCTIONS

SU	Species Pref.	Species Accept	Minimum Leave Tree Characteristics Including Form, Health And Vigour
1	As per stocking standard	As per stocking standard	Due to lack of suitable understorey structure, there are no minimum leave tree requirements prescribed.

COMMENTS & COARSE WOODY DEBRIS (CWD)	<p>Danger trees outside the block or within WTPs or RMAs that are required to be felled for compliance with Work Safe BC Regulations may be felled.</p> <p>Habitat within and adjacent to the block provide attributes for stand level biodiversity. The block and adjacent uncut stands will provide thermal and protective cover for resident wildlife.</p> <p>CWD targets will be met through inputs from decay, waste, and breakage during harvesting, as well as inputs from other natural causes such as windthrow.</p>
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4.3 SOIL DISTURBANCE AND PAS

SU	Sensitive Soils (Y/N)	Max. Allowable Soil Disturbance (MASD %)	Max. Amount TAS May Exceed MASD Prior To Rehab (%)	Max. Allowable Soil Disturbance for Roadside Work Areas	Permanent Access Structure (%)
1	Y	5	5	25	5.6 (calc)

COMMENTS:	A variety of coarse textured soils were found throughout the block (L, LS, and SCL). The average coarse fragment content mixed in with these soils was 30%.
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4.4 RIPARIAN RETENTION AREA SUMMARY

Riparian ID	Class	RMZ Width (m)	RRZ Width (m)	BA or SPH Retained	Comments (indicate if in a community watershed)
No streams within block require retention					

4.5 DEFINITIONS

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References to FRPA and the FPPR is the legislation as of March 2008

"Sensitive soils" means soils that, because of their slope gradient, texture class, moisture regime, or organic matter content have the following risk of displacement, surface erosion or compaction: for the Interior, a very high hazard.

"Soil disturbance" means disturbance to the soil in the net area to be reforested in a cutblock because of: (a) temporary access structures, (b) gouges, ruts and scalps, or (c) compacted areas, but does not include the effect on the soil of rehabilitating an area in accordance with section 35 of the Forest Planning and Practices Regulations (FPPR).

"Roadside work area" means the area adjacent to a road where one or both of the following are carried out: (a) decking, processing or loading timber; and (b) piling or disposing of logging debris.

"Temporary Access Structure (TAS)" means an access structure that: (a) is in a cutblock, and (b) does not conform to the criteria described in paragraph (a) or (b) of the definition of "permanent access structure" and does not include a pit or quarry.

"wildlife trees" means a tree or group of trees that:

- (a) provide wildlife habitat, and
- (b) assist in the conservation of stand level biodiversity

"wildlife tree retention area" means an area occupied by wildlife trees that is located:

- (a) in a cutblock;
- (b) in an area that is contiguous to a cutblock, or
- (c) in an area that is sufficiently close to the cutblock that the wildlife trees could directly impact on, or be directly impacted by, a forest practice carried out in the cutblock.

RPF SIGNATURE and SEAL Site Plan Attachments 1, 2, 3, and 4	
<p>This Document prepared by: Molly Christiansen, RFT Tyhee Forestry Consultants Ltd.</p>  <p>_____ Signature</p> <p>Date: <u>June 27, 2019</u></p>	<p>RPF SIGNATURE:</p>  <p>RPF Signature & Seal</p> <p>Date: <u>June 27, 2019</u></p>

Site Plan Attachment

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SILVICULTURE PLAN – Site Plan Attachment Sections 5 & 6

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5.0 STOCKING STANDARDS

5.1 ECOLOGICAL INFORMATION

Standard Unit	Area (NAR)	Zone	Subzone	Variant/ Phase	Site Series (series - %)	Elevation			Slope position	Soil Texture
						Min	Max	Avg		
1	24.0	ICH	mc	2	03 ₁₀	450	520	480	Lower	LS(L)

Comments: SU1 encompasses all of SWB005. The stand is dominated by Cw and Sx with a variety of tree species scattered throughout such as Hw, Bl, Ep, (At), and (Ac). The understory is dominated mostly by Cw and some Hw. Soils are coarse textured (L, LS, and SCL) and are comprised of morainal till with a high water table. SU1 has a poorly developed shrub and herb layer where there is more Cw in the overstorey. In areas where the stand opens up and more deciduous is scattered throughout, the shrub and herb layer is moderately developed. At first glance this block may seem like it is an 01 site due to the vegetation which doesn't represent what the soils are reflecting. SU1 has a very high water table and is an 03 site.

5.1.1 RATIONALE FOR STOCKING STANDARD FSP ID SELECTION

STANDARDS UNIT FSP ID #	CHANGE FROM STANDARD PRACTICE (for example moving Pref. to Accept or change in MITD)	COMMENT: (for example forest health (DRA) or rocky site)
1058747	N/A	N/A

5.2 Stocking Requirements

Assessment Dates

Standard unit	Stocking Standards ID	Regen Delay (yrs)	Free Growing Early (yrs)	Free Growing Late (yrs)
1	1058747	4	See minimum heights	20

SU 1 : Regeneration Layer

Preferred Species			Acceptable Species			Well Spaced Trees (sph)			
Species	Min Hgt (m)	Foot- notes	Species	Min Hgt (m)	Foot- notes	Target Pref / Acc	Minimum Pref / Acc	Minimum Pref	Min Horizontal Dist. Pref / Acc (m)
Cw	1.0	32	Pl	2.0	72	1200	700	600	
Hw	1.0	32	Ba	1.0	50				
Sx	1.0	35							
Bl	1.0								
						Height Relative to Competition (%)			150

Footnotes :

32 Limited by growing-season frost

35 Risk of weevil damage

72 Risk of ongoing Dothistroma infection in Pl regenerated in cold-air ponding sites and areas of higher relative humidity.

50 Restricted to those sites and site series where the species occurs as a major species (>20% of dominant and co-dominant sph) in the pre-harvest, natural stand and on transitional site series as an acceptable species

6.0 SILVICULTURE TREATMENT

6.1 SITE PREPARATION

SU	TECHNIQUE (S) / LIMITING FACTORS
1	Preferred: No site preparation. Manual screef to humus layer during planting.

6.2 REGENERATION

SU	TECHNIQUE (S) / LIMITING FACTORS
1	Preferred: Direct plant, mixed bag species. No specific planting prescription or techniques recommended.

SU	Area	SPZ	Regen Method*	Species	Age	Stock Type	Season	Stems/Ha	Total Stems
1	24.0	NST	Plant	Cw Sx	1+0	PSB412	Spring	1200	28800

LIMITING FACTORS / COMMENTS:

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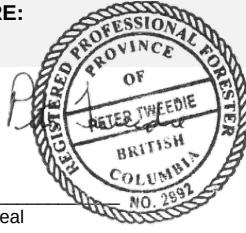
No limiting factors identified regarding planting.

MIN-MAX ELEVATION / REGIME: 450m to 520m

6.3 BRUSHING / STAND TENDING

SU	TECHNIQUE (S) / LIMITING FACTORS
1	There is a lot of Ep in the stand. Consider monitoring for Ep saplings that may need brushing before the FG survey.

RPF'S SIGNATURE and SEAL Site Plan Attachments 5 & 6

<p>This Document prepared by: Molly Christiansen, RFT Tyhee Forestry Consultants Ltd.</p> <p></p> <p>_____ Signature</p> <p>Date: <u>June 27, 2019</u></p>	<p>RPF SIGNATURE:</p> <p></p> <p>_____ RPF Signature & Seal</p> <p>Date: <u>June 27, 2019</u></p>
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