



BCTS
BC Timber Sales
Kootenay

**SITE PLAN
KOOTENAY
BC TIMBER SALES**

Report Date 2021/06/23

TENURE IDENTIFICATION

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
TA0904	-	3	BF78Z		Lavington	Lavington Fire 1	50 03 40 / 116 01 35

AREA UNDER THE PLAN

GROSS AREA (TAUP)	PAS	NP	WTRA / WTP	RESERVES	OTHER	NAR
71.2	1.2	0.0	18.9	3.3	0.0	47.9

ADDITIONAL COMMENTS

CONSISTENCY STATEMENT
This site plan is consistent with the results and strategies identified in the BCTS Kootenay Business Area 2017-2022 Forest Stewardship Plan (#601). This block is identified within Operating plan 21-2.
SAFETY
This block has been damaged by wildfire. Sudden tree-fall as result of fire damage poses a hazard to workers.

SOIL DISTURBANCE

SOIL DISTURBANCE				
SU	Max. Allowable Soil Disturbance (%)	Max. Amount TAS May Exceed MASD Prior To Rehab (%)	Max. Allowable Soil Disturbance For Roadside Work Areas (%)	Maximum Permanent Access Structures (%)
1	10.0	5.0	25.0	7.0
2	10.0	5.0		
SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS. AND HOW THEY AFFECT THE TIMING			
1	<p>For All SUs:</p> <p>Avoid operating during periods of excessive soil moisture. Avoid operating during spring freshet or after periods of excessive rainfall.</p> <p>-Ensure natural drainage patterns are maintained during and after completion of operations. Ensure roads are left in a hydrologically stable state. During operations, monitor for sediment entering streams and take mitigative action immediately if observed.</p> <p>- No random crossing of streams is permitted. Only cross at designated crossings indicated on the HP/ SP map or alternatives determined by the harvesting supervisor. The number of crossing locations must be minimized. Crossings acceptable to BCTS must be used at all stream crossings.</p>			

RESULTS AND STRATEGIES

RESULT OR STRATEGY	HOW THE STRATEGY OR RESULT APPLIES TO THE SITE or RATIONALE (IF NOT APPLIED)
Biodiversity Emphasis	<p>Harvest of this block is consistent with the result and strategy for Biodiversity Emphasis as described in the BCTS Kootenay Business Area 2017-2022 FSP as applied through the results and strategies for old growth management areas (OGMA) and mature management areas (MMA).</p> <p>Development of this block does not encroach on any mapped non-legal OGMA's or MMA's.</p>
Community Watersheds	<p>This block is not within a community or domestic watershed.</p>
Consumptive Use Streams	<p>Harvest of this block will not impact any consumptive use streams. No intakes licensed for domestic use occur within 1km downstream of block 3. Intakes licensed for conservation and domestic uses occur further downstream, several km's away from the TSL. Water quality to these intakes is not anticipated to be impacted as result of their distance downstream.</p>
Cultural Heritage Resources	<p>This block has been referred to First Nations through Operating Plan 21-2. No new information regarding cultural heritage resources was received as result of referrals.</p> <p>This block does not overlap any mapped AOA polygons, therefore an archeological impact assessment (AIA) is not required.</p> <p>In the event that suspected cultural or archeological resources are discovered during operations, activities are to cease immediately and the Timber Sales Manager (TSM) or their designate are to be notified immediately. The TSM is to take the following steps:</p> <p>a) Record the location of the artifact/resource.</p> <p>b) Evaluate the direct impact of the activities on the artifact/resource.</p> <p>c) If the above evaluation determines it necessary, alter the design and/or prescription of the license, permit, or road to conserve, mitigate, or protect the artifact; and</p> <p>d) Communicate the outcome of the evaluation to the First Nation whose artifact may be affected and offer to meet with the First Nation.</p>

Enhanced Resource Development Zones		<p>TA0904 Block 3 is within an Enhanced Resource Development Zone for timber as described within the Kootenay Boundary Higher Level Plan.</p> <p>As per sec 5.2.2. of the 2017-2022 BCTS Kootenay Business Area FSP (#601), the Timber Sales Manager (TSM) will enter into an agreement that authorizes timber harvesting only if consistent with the practice requirements set out in sec 65 of the FPPR (adjacency) except that green up height is reduced to 2.5m from 3m.</p> <p>As per sec 65(4) of the FPPR, adjacency requirements do not apply in instances where timber is harvested to recover timber damaged by insects or fire. TA0904 Block 3 is being harvested to salvage fire damaged timber therefore adjacency requirements and patch size requirements do not apply.</p>
Fire Maintained Ecosystems		This block is not within a Fire-Maintained (NDT4) ecosystem.
Fisheries Sensitive Watersheds		This block is not within a fisheries sensitive watershed.
Green-Up		This block is planned for salvage of fire-damaged timber. As per sec 64 (2) of the FPPR, patch size requirements do not apply where timber harvesting is to recover timber damaged by wildfire.
Invasive Plants		<p>This block is susceptible to ingress of invasive plants as result of the wildfire.</p> <p>The following measures to prevent spread of invasive plants will apply to agreement holders carrying out harvesting and road building activities:</p> <ol style="list-style-type: none"> 1. Vehicles, mechanized equipment; and new infrastructure brought onto site such as culverts, bridges, and cattleguards must be inspected for the presence of soil and plant material, including documentation on inspection forms, prior to being transported to or from worksites. If present, soil and plant materials are to be removed. 2. In order to reduce seedbeds available for invasive plants, grass seed exposed mineral soils on: cut and fill slopes of new roads; new trails and landings; and deactivated or rehabilitated areas; during the first available spring or fall after the completion of road construction and or rehab/deactivation activities and no later than 12 months following mineral soil exposure. This is also required as soil erosion hazard is high. 3. Where grass seeding is undertaken, utilize high quality seed (a mix recommended by a MFLNRO range specialist, if available; otherwise Canada Common #1 Forage mix or better grade) to ensure that the introduction of invasive plant seed is minimized. Obtain a certificate of analysis and provide to the TSM upon request, to ensure that invasive seed is not within the seed mix. 4. Where dry seeding methods are used, seed is to be applied at a rate of 30-50kg/ha. 4. Personnel completing post harvest surveys will be required to identify and report all new observed infestations.
Old and Mature Forests		This block does not encroach any mapped non-legal OGMA or MMA.
Other Resource Features		<p>This block does not contain any known resource features as identified under sec 5 of the Government Actions Regulation.</p> <p>Coarse Woody Debris: A a result of harvesting within the MS biogeoclimatic subzone, for all SU's within the net area to be reforested retain a minimum of 1.24m³/ha of coarse woody debris from a minimum of 4 logs/ha each being a minimum 2 meters in length, but 5 meters greater in length if available, and with a minimum of 20cm diameter at one end. To reduce the potential for build-up of Douglas-Fir Beetle and Spruce Beetle, to the extent practicable: select dead and dry over green material, retain material from species other than Douglas-Fir and Spruce, and leave Douglas-Fir and Spruce Stumps as low to the ground as possible.</p>
Range		No range infrastructure is present within this block. Harvest of this block will not have any adverse impacts on natural range barriers.
Recreation Sites & Trails		Harvest of this block will not have adverse impacts on any recreation site, interpretive site, trails, or any other recreation values.

Riparian		<p>Several reaches have been identified within block 3. Details of each reach are provided in the support document. Riparian management within these reaches are consistent with the results and strategies within the 2017-2022 FSP.</p> <p>Completion of stream and RMZ assessments revealed that in the case of all identified reaches, timber within RMZs is damaged by wildfire. Severity of damage is variable, however in all cases, both safety and blowdown concerns were noted. Throughout the block, many trees have damaged roots systems resulting in poor stability and high risk of windthrow. Safety of workers is of concern as trees may fall suddenly. Windthrow resulting from fire damage was noted by layout crews throughout the block.</p> <p>To mitigate the hazard to workers and the possibility of damage to stream channels as result of adjacent trees being windthrown, minimal retention within the RMZ's of all identified S6 reaches is prescribed. All damaged overstory trees within the RMZ's are to be removed. Where roots are embedded into the stream channel, trees are to be stubbed to reduce the risk of windthrow where safe to do so. Where available retain all green-topped Lw and/or Fd within 20m of all S6 streams where structurally sound and >50% of the root systems are intact.</p> <p>As per strategy 2f, all S6 reaches and NCDs have a minimum 5m Machine-Free Zone established. Machinery must not enter these zones except where designated crossings are established. Portable skid bridges are to be used at all crossings.</p> <p>Felling and skidding of timber must be away from streams unless a safety hazard dictates otherwise or it is not practicable.</p> <p>Pre-existing course woody debris adjacent to streams should be left to the extent possible to provide protection against erosion and sedimentation.</p> <p>Reach 8 and 9 are within flagged reserves and been classified as S4 reaches due to absence of a permanent or topographic barrier to upstream fish passage.</p> <p>Where debris enters a stream as result of logging/processing, it must be removed as per requirements described in the support document.</p> <p>Designated Crossings: Streams are to be crossed at indicated designated crossing locations only. Harvesting supervisors are to confirm that locations remain suitable prior to commencement of operations and alter as appropriate. The number of crossings is to be kept to the minimum necessary for efficient and safe operations.</p>
Road Site Plan		<p>Revegetation following Road Construction and Deactivation:</p> <p>As soil hazard assessments for this block indicate a high risk of soil erosion, upon completion of road construction and deactivation/rehabilitation activities, exposed mineral soils on cut and fill slopes of new roads; landings; and deactivated and rehabilitated areas are to be grass seeded.</p> <p>Seeding is to be completed during the first spring or fall after the completion of road construction, and rehabilitation/deactivation activities and no later than 12 months following mineral soil exposure. If using a dry seeding method, seed shall be applied at a rate of 30-50 kg/ha and grass seeding will utilize high quality seed (a mix recommended by a MFLNRORD range specialist, otherwise Canada Common #1 Forage mix or better). A certificate of Analysis is to be obtained, providing a copy to the TSM upon request.</p>
Soils		<p>Harvesting operations are to be avoided during periods of excessive soil moisture such as spring freshet or after periods of excessive rainfall.</p> <p>All temporary trails and temporary roads are to be rehabilitated where soil conditions permit at completion of operations. If trails/ roads cannot be fully rehabilitated due to unfavorable soil conditions, they must be left in a hydrologically stable state. Where rehabilitation occurs, scatter large woody debris and/or logging slash on rehabbed corridors to reduce soil erosion.</p> <p>As result of safety concerns for field crews, soil characteristics have been inferred from those found in adjacent blocks. Soils information from A45925-3 show that soils consist primarily of well drained silt loams with medium to high percentages of coarse fragments. Heavy surface rock of varying sizes was observed during layout so coarse fragment content is believed to be around 60% with localized areas of higher content.</p> <p>Taking adjacent soil data, and applying other site characteristics, no soils were determined to be sensitive. Therefore the maximum allowable soil disturbance limits for SU 1 and SU2 are as follows:</p> <p>SU1: 10% of the net area reforested (NAR) for the SU.</p> <p>SU2: 10% of the NAR for the SU.</p> <p>Roadside work areas: Soil disturbance must not exceed 25% of the area covered by roadside work areas.</p> <p>Temporary Access Structures: The maximum soil disturbance limit within each productive SU may be temporarily exceeded by 5% for the purpose of constructing temporary access structures, excluding the area covered by a roadside work area. Temporary access structures must be rehabilitated by the completion of harvest to a level not exceeding the maximum allowable soil disturbance limit for each SU.</p> <p>Permanent Access Structures: Maximum allowable PAS for this cutblock is 7% of the gross cutblock area 5.0 ha. PAS for this block is 1.4 ha.</p> <p>No bladed trails on slopes >60% are anticipated for this block.</p>
Visual Quality		<p>This block is not subject to Visual Quality Objectives (VQO's).</p>

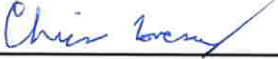
Wildlife - Species at Risk		<p>WHAs: This block does not overlap any wildlife habitat area (WHA).</p> <p>Wildlife Habitat Features: No wildlife habitat features as specified under Ministerial Order M213 "Wildlife Habitat Features in the Kootenay Boundary Region" are known to be present in this block based on observations at time of layout or based on current available BCTS mapping.</p> <p>Conservation Data Center (CDC): Publically available mapping by the BC Conservation Data Center (CDC) does not indicate any overlap with the known habitat of any regionally important species or species of management concern.</p> <p>Williamson Sapsucker: This block is outside of the East Kootenay Area of Occupation for Williamson Sapsucker as identified in "Best Management Practices for Timber Harvesting, Roads, and Silviculture for Williamson Sapsucker in British Columbia- East Kootenay Area of Occupancy". BMP's for Williamson Sapsucker do not apply to this block.</p> <p>Species of Management Concern: No species of Management Concern or their habitat as identified in "Species of Management Concern in the Kootenay Business Area" (VAST 2014) were observed or readily identified within this block at time of layout.</p> <p>Fish: Fish are present downstream of the TSL. Operations must be monitored for the presence/occurrence of sedimentation resulting from road construction and if necessary corrective actions taken to ensure that sediment is not transported downstream to fish bearing waters.</p> <p>In the event that a known species of risk or species of management concern is identified in the field during harvesting or road building activities: stop all primary forest activities and report the wildlife habitat feature to the project supervisor and the BCTS representative. Determine a course of action considering existing management strategies, BMPs, professional guidance documents and/or recommendations from a QRP; and document decisions made with rationale through an updated or amended project plan before proceeding with any primary forest activities in accordance with the updated or amended project plan.</p>
Wildlife - Caribou		<p>Blocks and road sections forming this TSL are within area designated as provincial Caribou "Matrix" habitat. The document "Interim Guidance for Operating in Southern Caribou Core and Matrix Habitat- BCTS Kootenay Business Area" provides guidance for when working in matrix habitat. Suggested practices include block aggregation, creating larger blocks, and increasing the frequency of larger patches. As this TSL is to salvage timber damaged by wildfire, larger blocks are planned creating large areas of early seral habitat with reduced cover for elk, moose, and deer consistent with these guidelines. No specific management practices in addition to what is stated in this site plan are required.</p>
Wildlife - Grizzly Bear Habitat		<p>This block is not within a WHA or specified area established for grizzly bear.</p> <p>Despite this, for the entirety of the TSL, where possible, hedging of green vegetation such as alder and advanced natural regen >1.3m tall is to be left along permanent road sections to provide visual screening into harvested areas. The exception is on landing locations.</p> <p>Coarse woody debris is to be left in all SU's to provide habitat for insects and possible foraging for grizzly bears. Operators are to leave large diameter (>20cm dbh at one end and min 2m in length) non-merchantable logs onsite. Minimum target is 4 pieces/ha.</p>
Wildlife - Ungulate Winter Range		<p>This block does not overlap any Ungulate Winter Range polygons as established un UWR Order U-4-008.</p>
Wildlife - Wildlife Tree Retention		<p>Four WTRA have been identified for this block, totalling 18.9ha. This is equivalent to 26.5% of the gross cutblock area, therefore exceeding the cutblock-level WTRA requirement of 3.5% specified by legislation and the BCTS Kootenay Business Area 2017-2022 FSP.</p> <p>Two areas with small diameter Pine and heavy boulders have been designated as reserve -other.</p>

STOCKING REQUIREMENTS

SU	NAR	STANDARDS ID #	OTHER PERFORMANCE STANDARDS
1	33.6	1062261	BL #208- refer to specific advance regeneration requirements; PI #200 -PI can be moved from Acceptable to Preferred, to the extent specified below, only on sites where there is a low risk of damage from forest health factors: ??a??A? where there is > 50% PI in the pre-harvest stand, PI can be moved to preferred; ??a??A? where there is 25-50% PI in the pre-harvest stand, PI can be moved to preferred to a maximum of 50% well-spaced stems. For areas with less than 25% PI in the pre-harvest stand, or where risk of damage from forest health factors is moderate or high, PI remains acceptable. **Additional information or requirements are contained in the text of the latest version of the approved Rocky Mountain Natural Resource District Stocking Standards and is the complete standard (more footnotes apply).
2	14.2	1062265	SX #201- Max 50% of pref & acc WS trees; BL #208- refer to specific advance regeneration requirements. **Additional information or requirements are contained in the text of the latest version of the approved Rocky Mountain Natural Resource District Stocking Standards and is the complete standard (more footnotes apply).

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL		

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
Chris Lovesey	
DATE SIGNED	
June 24, 2021	
I certify that the work described herein fulfils standards expected of a member of the Association of British Columbia Forest Professionals, and that I did personally supervise the work.	

Map attached forms an integral part of the site plan.

SILVICULTURE PLAN

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
TA0904	-	3	BF78Z		Lavington	Lavington Fire 1	50 03 40 / 116 01 35

ECOLOGICAL INFORMATION

SU	Ecology Unit	Area	Zone	Subzone	Variant / Phase	Site Series (series - %)	Elevation Avg (m)	Slope Avg (%)	Aspect	Slope Position	Rooting Depth (cm)	Soil Texture
1	1	33.65	MS	dw		101-100	1,408	30	N	Lower Slope	40	SIL
2	2	14.22	MS	dw		104-100	1,408	13	N	Lower Slope	40	SIL

STOCKING REQUIREMENTS				
ASSESSMENT DATES				
Standard Unit	Standards ID	Regen Delay (yrs)	Freegrow Early (yrs)	Freegrow Late (yrs)
1	1062261	7	0	20
2	1062265	7	0	20
Min/Max Elevation Regime: 1350 / 1545				

SU : 1 REGENERATION LAYER									
PREFERRED SPECIES			ACCEPTABLE SPECIES			POST SPACING DENSITY(sph)		MAX CONIFEROUS (sph)	
Species	Min Ht. (m)	Footnotes	Species	Min Ht. (m)	Footnotes	Min	3000	Max	4000
						WELL SPACED TREES (sph)			
Fdi Douglas Fir - Interior	0.8		Pli Lodgepole Pine - Interior	1.4		Target Pref/Acc	Minimum Pref/Acc	Minimum Pref	Min Horizontal Dist. Pref/Acc (m)
Sx Hybrid Spruce (SE x SW)	0.8		Bl Subalpine Fir	0.8		1200	700	600	2.0
Lw Western Larch	1.4					Height Relative to Competition (%)			
						125			

SU : 2 REGENERATION LAYER									
PREFERRED SPECIES			ACCEPTABLE SPECIES			POST SPACING DENSITY(sph)		MAX CONIFEROUS (sph)	
Species	Min Ht. (m)	Footnotes	Species	Min Ht. (m)	Footnotes	Min	3000	Max	4000
						WELL SPACED TREES (sph)			
Fdi Douglas Fir - Interior	0.8		Sx Hybrid Spruce (SE x SW)	0.8		Target Pref/Acc	Minimum Pref/Acc	Minimum Pref	Min Horizontal Dist. Pref/Acc (m)
Pli Lodgepole Pine - Interior	1.4		Bl Subalpine Fir	0.8		1200	700	600	2.0
Lw Western Larch	1.4					Height Relative to Competition (%)			
						125			

OTHER REQUIRED STOCKING INFORMATION

ACTIVITIES

SILVICULTURE ACTIVITY COMMENTS	
ACTIVITY	COMMENT

MANAGEMENT STRATEGY

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION		
Performance Std. (%):	Block Target (%):	Coarse Woody Debris (m3/ha):

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL		

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
Chris Lovesey	 Chris Lovesey
DATE SIGNED	
June 25 / 2021	
<p>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 standards acceptable of a Registered Professional Forester.</p>	