



TENURE IDENTIFICATION

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A93355	-	CA110	BB3L4		Silverhope	Cantelon Cr	49 13 12 / 121 28 48

AREA UNDER THE PLAN

GROSS AREA (TAUP)	PAS	NP	WTRA / WTP	RESERVES	OTHER	NAR
22.6	1.8	0.2	1.4	0.0	0.0	19.2

ADDITIONAL COMMENTS

OTHER RESOURCES
<p>This block is located in the Silverhope Forest Development Unit. The long term management objectives for this opening will be consistent with the approved FSP (Approved March 29, 2007 amendment approved July 4, 2014) for BCTS (Chinook) in the Chilliwack Forest District.</p> <p>Standard Unit 1 occurs within the CWHms1 01(75%) and 05 (25%) biogeoclimatic zone, subzone and site series and consists of the entire Net Area to be Reforested (NAR) in Block CA110. The soils are primarily Sandy Loams. The understory is dominated by Vaccinium spp., however, where adjacent to NP Brush patches, the encroachment of Rubus, Ribes, Acer, Oplopanax horridus, and Sambucus racemosa is evident. The topography is characterized by short broken slopes that range from 5% to 75%. The elevation ranges from 820 to 1060 meters.</p>

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	5.0	0.0	25.0	7.0
SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING			

RESULTS AND STRATEGIES

Biodiversity Objectives	
Result or Strategy Description	<p>(1) The holder of the plan will adopt section 66d and 67c of the FPPR as a result or strategy in respect to wildlife tree retention.</p> <p>(2) The TSM will notify each holder of a timber sale licence or road permit to which the plan relates that Sections 66 and 67 of the FPPR apply to the holder's primary forest activities carried out during the term of the plan.</p> <p>c) harvest restriction</p> <p>d) WTR</p>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>The Wildlife Tree Retention Area (WTRA) associated with Block CA110 is made up of two polygons. The first is located along the eastern boundary of the block near Falling Corner #9; the second is located south of the southernmost boundary of the block. The WTRA is 1.4ha which represents 6.2% of the total area under prescription (TAUP) for the block (22.6 ha). The WTRA is representative of the preharvest condition of the block in terms of stand characteristics and ecology.</p> <p>Objective 2 for the Silverhope FDU states that 6% Wildlife Tree Retention is required across the CWHms zone.</p>
Result or Strategy Description	<p>(1) The holder of the plan will adopt sections 64a, and 65b of the FPPR as a result or strategy in respect of cut blocks within which the holder of the plan carries out or authorizes timber harvesting.</p> <p>(2) The TSM will notify each holder of a timber sale licence or road permit to which the plan relates that Sections 64 and 65 of the FPPR apply to the holder's primary forest activities carried out during the term of the plan.</p> <p>a) max cutblock size</p> <p>b) adjacency</p>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>The Net Area to be Reforested (NAR) in Block CA110 is 19.2ha. Openings A25811 Block 1 and A25824 Block 1 located to the north and northeast are Free Growing and Greened Up as per RESULTS Forest Cover data. Therefore, the total opening size associated with CA110 is 19.2ha, which is less than the maximum allowable cutblock size of 40ha as per FPPR Sections 64 and 65.</p>

Result or Strategy Description	<p>In respect of the "Order to Establish A Landscape Unit and Objectives",the holder of the plan will manage landscape level biological diversity and stand level structural diversity by:</p> <p>a) designing cut blocks and roads in a manner that is consistent with Objectives One and Two of the Order, (refer to Appendix C for each Objective by LU),</p> <p>b) carrying out forest practices only if the forest practices are consistent with the design for the cut block or road referred to in paragraph (a), and,</p> <p>c) in the case of BCTS only, entering into a timber sale licence, granting a road permit or applying for a cutting permit only if the license or permit is consistent with the design for the cut block or road referred to in (a).</p>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>The Wildlife Tree Retention Area (WTRA) associated with Block CA110 is made up of two polygons. The first is located along the eastern boundary of the block near Falling Corner #9; the second is located south of the southernmost boundary of the block. The WTRA is 1.4ha which represents 6.2% of the total area under prescription (TAUP) for the block (22.6 ha). The WTRA is representative of the preharvest condition of the block in terms of stand characteristics and ecology.</p> <p>Objective 2 for the Silverhope FDU states that 6% Wildlife Tree Retention is required across the CWHms zone.</p> <p>The nearest OGMA is located greater than 650m to the south of Block CA110.</p>
Result or Strategy Description	<p>In respect of the "Ministerial Order, dated February 4, 2013, to Establish A Landscape Unit and Objectives", the holder of the plan will manage landscape level biological diversity by:</p> <p>(a) designing cut blocks and roads in a manner that is consistent with Objectives of the Ministerial Order, (refer to Appendix C for each Objective by LU),</p> <p>(b) carrying out forest practices only if the forest practices are consistent with the design for the cut block or road referred to in paragraph (a), and,</p> <p>(c) in the case of BCTS only, entering into a timber sale licence, granting a road permit or applying for a cutting permit only if the license or permit is consistent with the design for the cut block or road referred to in (a).</p>
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not applicable as there is no harvesting within already established OGMAs.
Cultural Heritage Resources	
Result or Strategy Description	<p>(1) Subsections (2) to (6) apply to cultural heritage resources to which the objective in section 10 of the FPPR relates.</p> <p>(2) The holder of the plan will annually refer to applicable First Nations, areas identified for potential timber harvesting and road construction, if any, and request information respecting cultural heritage resources within the identified areas.</p> <p>(3) The holder of the plan will evaluate the nature and extent of possible site-specific cultural heritage resources identified within areas of potential timber harvesting and road construction activities, including making reasonable efforts to share information or consult with the applicable First Nation.</p> <p>(4) The holder of the plan, when designing a cut block or road, will identify</p> <p>(a) the portion of the area occupied by the cultural heritage resource,</p> <p>(b) the nature of the cultural heritage resource,</p> <p>(c) whether the cultural heritage resource is to be protected or conserved, and</p> <p>(d) if the cultural heritage resource is to be conserved, what constraints, if any, are to apply to the forest practices carried out on the area.</p> <p>(5) For each cultural heritage resource that has been identified under subsection (4) for protection, the holder of the plan will carry out or authorize a forest practice only to the extent that the forest practice does not damage or render ineffective the cultural heritage resource.</p> <p>(6) For each cultural heritage resource that has been identified under subsection (4) for being conserved, the holder of the plan will carry out or authorize a forest practice only to the extent that the forest practice is consistent with the constraints, if any, specified in the design for the cutblock or road.</p>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>First Nation consultation/information sharing has been completed for Block CA110 (and any related road systems) under Operational Plan 18 and PRRO #602279. Any comments or concerns brought forward by First Nation communities have been addressed to the satisfaction of the government. Consistent with legislative requirements, prior to the issuance of the Timber Sale License (TSL), the Timber Sales Manager will consider if previous consultation/information sharing remains sufficient, or, if any new information needs to be considered prior to TSL issuance.</p> <p>An Archaeological Impact Assessment (AIA) was performed by XXXXXX from Ursus Heritage Consulting Ltd. on Block CA110 and associated proposed roads on XXX, 2016. The final report indicated the following:</p> <p>No further archaeological assessment is warranted for Block CA110 and associated roads, provided that the proposed development plan is not altered from its current proposed area. The potential for locating undiscovered archaeological sites within Block CA110 is considered to be low.</p> <p>In the event that any unanticipated archaeological remains are discovered within these areas, it is recommended that the proponent halt all activities in the immediate vicinity of the previously unidentified site(s) and promptly inform BCTS representatives.</p>

Measures for Preventing the Introduction or Spread of Invasive Plants	
Result or Strategy Description	<p>For the purposes of Section 47 of the FRPA, the measures are:</p> <p>The following measures will be taken by the holder of the plan to prevent the introduction or spread of invasive plants if such introduction or spread is likely to be the result of forest practices carried out under this FSP by the holder of the plan or a Timber Sales Licence Agreement Holder:</p> <p>(1) On an annual basis, on areas within the FDU, the area of known sites of invasive plants, and sites considered as high or extremely high risk to invasive plant establishment through forest practices, will be identified using information gathered from plan holder(s) staff, forest district staff, regional experts, or other agencies.</p> <p>(2) Within sites in subparagraph (1), contiguous areas of exposed mineral soil greater than 0.25 ha in areas of extremely high risk or greater than 0.5 ha in areas of high risk disturbed through a primary forest practice activity that are not to be reforested, will be seeded with grass and legumes within one year of disturbance, with the exclusion of the road surface of active roads or areas of non productive sites, such as, rock and talus.</p> <p>(3) Sites referred to in subparagraph (2) will be monitored over the year following seeding to ensure they are re-vegetated. Sites not re-vegetated will be re-seeded and further monitored.</p> <p>(4) The seed used for the purposes of subparagraph (2) will meet or exceed Common Number 1 Forage Mixture specifications as defined by the Canada Seeds Act. Grass used must be ecologically suitable or compatible to the sites being seeded.</p> <p>a: refers to areas related to primary forestry activities.</p>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>Invasive plant species were not observed directly within Block CA110. However, invasive plant species were found along the access route to the block including (and verified in the IAPP database):</p> <p>Bull thistle (BT), Canada thistle (CT) , Oxeye daisy (OD), Orange hawkweed (OH), Saint John's wart (SJ), Spotted knapweed (SK), & Common tansy (TC) Burdock Species (BU), Himalayan Blackberry (HL), Orange Hawkweed (OH), Tansy Ragwort (TR), Yellow Archangel (YA), and Japanese Knotweed (JK) on Silver Skagit Rd. and CA1000 Road to the blocks. No new occurrences of invasive species were documented during the field work.</p> <p>Result and Strategy CHC-1019 for Invasive Plant Best Management Practices apply. Grass seeding disturbed areas with a sod grass native seed or a coastal agronomic seed Mixture Common #1 Forage or better shall occur post harvest to eliminate potential invasive plant seed beds. Additionally, road construction material contaminated with invasive plants should not be used to limit the spread of invasive plant material.</p>
Range Resources	
Result or Strategy Description	<p>For the purposes of Section 48 of the Act, the measures are:</p> <p>(1) The holder of the plan will:</p> <p>(a) Each year under the term of this FSP, the areas within the applicable FDU(s) that are subject to or adjacent to agreements under the Range Act in respect of grazing of livestock will be updated from information gathered from Ministry of Forests, Lands and Natural Resource Operations' district range staff, or regional experts;</p> <p>(b) Inform each affected holder of an agreement under the Range Act of planned harvest and road construction within or adjacent to their agreement;</p> <p>(c) Where the affected holder of an agreement under the Range Act indicates that the planned harvest and road construction will remove or render ineffective a natural range barrier, the holder of the plan will carry out reasonable measures to mitigate the effect of the removal or ineffectiveness.</p> <p>(d) The TSM will notify each holder of a timber sale license or road permit of the necessary mitigative strategies in (c).</p>
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no range lands or Range Act agreements on or in the vicinity of the block.
Recreation Resources	
Result or Strategy Description	<p>The Regional Manager for the Coast Recreation Region, under Section 56 of the FRPA, on October 10th, 2012, established objectives for the following Recreation Trails:</p> <p>Baby Munday Mount McGuire Vedder Mountain Elk-Thurston Mount Rexford Williams Peak Ford Mountain Pierce Lake Williamson Lake Ling Lake Slesse Memorial Mount Cheam Slesse Mountain</p> <p>In respect of the established objectives for these trails, the holder of the plan will:</p> <p>1. Maintain the unique recreation experience of hiking through a forested and sub-alpine setting by:</p> <p>(a) Ensuring primary forest activities are designed and implemented to follow the targets/actions described in the 'Guidance Document for Established Trails with Legal Objectives in the Chilliwack River Valley' as provided by the Chilliwack Forest District Recreation Officer. For reference, this document is provided in Appendix D.</p> <p>(b) Obtaining recommendations from the Chilliwack Forest District Recreation Officer, should primary forest activities vary from the targets/actions as described in the 'Guidance Document for Established Trails with Legal Objectives in the Chilliwack River Valley',</p> <p>(c) implement the recommendations in (b), unless there is a conflict with other legal commitments.</p> <p>2. Avoid building access structures over the established recreation trail unless no other practicable alternative exists.</p> <p>3. Maintain any new access structures in a manner that makes the best effort to prevent all motorized vehicles from accessing the trail. The Chilliwack Forest District Recreation Officer will be consulted for guidance on access prevention measures.</p>
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no identified recreation trails in the vicinity of Block CA110.

Result or Strategy Description	<p>Under the authority of Section 56(1) of the Forest and Range Practices Act, the Regional Manager for the Coast Recreation Region established objectives on October 6, 2011 for the Mission Interpretive Forest Site (MIF)</p> <p>In respect of the established objectives for this Interpretive Forest Site, when BCTS plans to develop its apportionment in TFL-26, and it falls within the boundaries of the MIF, it will work collaboratively with the District of Mission to develop primary forest activities ensuring they are designed and implemented consistent with "Recreation Master Plan for the MIF."</p>
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Block CA110 is not located in the Mission Interpretive Forest or TFL 26.
Soil Objectives	
Result or Strategy Description	<p>(1) The holder of the plan will adopt Section 35a and 36b of the FPPR as a result or strategy in respect to primary forest activities carried out by the holder of the plan during the term of this plan.</p> <p>(2) The TSM will notify each holder of a timber sale licence or road permit to which the plan relates that Section 35a and 36b of the FPPR apply to the holder's primary forest activities carried out during the term of the plan.</p> <p>a) Soil Disturbance Limits b) Permanent access structure limits</p>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>As per FPPR Section 35a, soil disturbance on the net area to be reforested is not to exceed the following limits:</p> <p>5% of the area covered by the standards unit, excluding any area covered by a roadside work area as the standards unit is predominantly comprised of sensitive soils.</p> <p>25% of the area covered by a roadside work area.</p> <p>Permanent Access Structures (PAS) within Block CA110 total 1.8ha or 8% of the Total Area Under Plan (TAUP) and consists of an existing road, proposed road, and associated landings.</p> <p>Existing Road:</p> <p>CA1600:</p> <p>0+022 to 0+291 = 269m x 10m = 0.269ha 0+291 to 0+387 = 96m x 5m = 0.048ha 0+387 to 0+471 = 84m x 10m = 0.084ha 0+599 to 0+624 = 25m x 5m = 0.0125ha 0+886 to 0+901 = 15m x 5m = 0.0075ha 0+901 to 1+595 = 694m x 10m = 0.694ha</p> <p>7 landings at 0.04ha each = 0.28ha</p> <p>Existing Road Total = 1.4ha or 6.2% of the TAUP (22.6ha)</p> <p>New Construction:</p> <p>CA1601:</p> <p>0+000 to 0+355 = 355m x 10m = 0.355ha</p> <p>1 landing at 0.04ha</p> <p>New Construction Total = 0.4ha or 1.8% of the TAUP (22.6ha)</p> <p>Total PAS = 1.8ha or 8% of the TAUP (22.6ha)</p> <p>Permanent Access Structures (PAS) percent is above the 7% maximum allowable as outlined in Section 36(1) of the FPPR. However, the 7% maximum was exceeded as little as practicable. The majority of the PAS associated with Block CA110 is existing roads as described above. In addition, proposed roads were designed to access all timber associated with the block with the minimum possible amount of road. Road rehabilitation has been proposed on short spur roads to further minimize PAS.</p>
Visual Objectives	
Result or Strategy Description	<p>(1) The holder of the plan will not carry out or authorize timber harvesting or road construction in a scenic area unless the cutblock or road is consistent with the visual quality objective applicable to the area.</p> <p>(2) For the purposes of (1) above scenic areas are the areas as defined by the Chilliwack Forest District Manager in a letter to 'All Licensees'; dated October 1, 1999, and an amendment dated April 12, 2013, coming into effect April 18, 2013. Both letters are found in Appendix E.</p> <p>(3) For the purposes of (1) above, within the Mission Tree Farm Licence (MTFL) FDU the TSM will be consistent with Visual Quality Objectives(VQO) in accordance with Appendix G "Visual Quality Objectives Within TFL 26". These VQOs are indicated for each Visual Sensitivity Unit in TFL 26.</p> <p>(4) For the purpose of (1) above, the TSM will be consistent with the Order to Revise the Visual Quality Objectives and Scenic Areas within the Fraser Timber Supply Area, effective April 18, 2013.</p>
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Block CA110 does not occur in a visual polygon, a visual impact assessment was not required.

Water Management Objectives	
Result or Strategy Description	<p>(1) In respect to sections 8 and 12 (3) of the FPPR, to address retention of trees in a riparian management zone, the holder of the plan will:</p> <p>(a) ensure that retention levels within Riparian Management Zones (RMZs) are determined by a qualified professional through a riparian assessment that considers all factors listed in Schedule1(2) of the FPPR, and</p> <p>(b) design cutblocks and roads in a manner that is consistent with the retention levels as determined by the qualified professional as described in (a).</p>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>Riparian assessments were completed during engineering and site plan field work on all streams within and directly adjacent to the block. Based on findings from Habitat Wizard for fish occurrences in Cantelon Creek and uphill higher elevation streams, Aquaterra Environmental Ltd. was asked to assess for fish in several streams associated with Block CA110. Electro-fishing was used to assess for the presence of fish.</p> <p>Cantelon Creek, located to the south of Block CA110 and FSR CA1000, was found to be fish bearing. Based on the presence of fish in Cantelon Creek, uphill streams within and adjacent to Block CA110 were assessed for connectivity and potential for fish, the following are the findings and prescribed riparian managment prescriptions:</p> <p>Cantelon Creek, Stream A and Stream E were found to be fish bearing and classified S2. A 30m RRZ and 20m RMZ have been prescribed for these streams. The harvest area does not overlap the RRZ of these streams.</p> <p>Cantelon Creek RMZ overlap with Net Harvest Area is 1.2ha, remaining RMZ directly adjacent to the block is 0.26ha. Therefore, approximately 52% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 52% by area satisfies this retention requirement.</p> <p>Stream A RMZ overlap with the Net Harvest Area is 0.42ha, remaining RMZ directly adjacent to the block is 0.48ha. Therefore, approximately 53% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Stream E RMZ overlap with the Net Harvest Area is 0.06ha, remaining RMZ directly adjacent to the block is 0.034ha. Therefore, approximately 36% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 36% by area satisfies this retention requirement.</p> <p>Stream C is classified S3 and fish bearing. A 20m RRZ and 20m RMZ has been prescribed. The RRZ associated with this stream will not be harvested. 0.72ha of the RMZ will be harvested and 0.8ha will remain. Therefore, approximately 53% of the RMZ directly adjacent to Block CA110 will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S3 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Streams B, D, and F are fish bearing and classified S4. A 30m RMZ has been prescribed for these streams. The RMZs of Streams B and F will not be harvested. Stream D has been assigned a 10m Machine Free Zone, as per FPPR Section 52(2) stream bank stability will be sufficiently maintained as the portion of the RMZ closest to Stream D will be retained.</p> <p>Streams B, D1, D2, F, JJ, JB, JC, JD, KK, Y, Y1, and Z are classified S6. RMZs associated with these streams will be harvested where they overlap Block CA110.</p> <p>Non-Classified Drainages (NCDs) JE, 1B, B1, B2, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, and Z are associated with Block CA110. No management is proposed.</p> <p>The management strategies for the RMZs located within Block CA110 are anticipated to conserve, at the landscape level, the water quality, wildlife habitat, and biodiversity associated with those riparian areas. A fall away, yard away strategy is to be employed to ensure stream bank integrity and stream flow is maintained. Stream cleaning of debris introduced as a result of harvesting will be required if a change in stream morphology or natural drainage pattern occurs. Where designated crossings have been identified, crossing location can be selected at the discretion of the harvesting contractor; however, only one crossing location per stream.</p>

Result or Strategy Description	<p>(1) The holder of the plan will adopt sections 47a to 51b, 52(2)c and 53d of the FPPR as a result or strategy in respect to primary forest activities carried out by the timber sales manager during the term of this plan.</p> <p>(2) The TSM will notify each holder of a timber sale licence or road permit to which the plan relates that Sections 47 to 51, 52(2) and 53 of the FPPR apply to the holder's primary forest activities carried out during the term of the plan.</p> <p>a) riparian class b) RRZ restrictions c) trees in RMZ d) temp sensitive streams</p>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>Riparian assessments were completed during engineering and site plan field work on all streams within and directly adjacent to the block. Based on findings from Habitat Wizard for fish occurrences in Cantelon Creek and uphill higher elevation streams, Aquaterra Environmental Ltd. was asked to assess for fish in several streams associated with Block CA110. Electro-fishing was used to assess for the presence of fish.</p> <p>Cantelon Creek, located to the south of Block CA110 and FSR CA1000, was found to be fish bearing. Based on the presence of fish in Cantelon Creek, uphill streams within and adjacent to Block CA110 were assessed for connectivity and potential for fish, the following are the findings and prescribed riparian managment prescriptions:</p> <p>Cantelon Creek, Stream A and Stream E were found to be fish bearing and classified S2. A 30m RRZ and 20m RMZ have been prescribed for these streams. The harvest area does not overlap the RRZ of these streams.</p> <p>Cantelon Creek RMZ overlap with Net Harvest Area is 1.2ha, remaining RMZ directly adjacent to the block is 0.26ha. Therefore, approximately 52% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 52% by area satisfies this retention requirement.</p> <p>Stream A RMZ overlap with the Net Harvest Area is 0.42ha, remaining RMZ directly adjacent to the block is 0.48ha. Therefore, approximately 53% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Stream E RMZ overlap with the Net Harvest Area is 0.06ha, remaining RMZ directly adjacent to the block is 0.034ha. Therefore, approximately 36% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 36% by area satisfies this retention requirement.</p> <p>Stream C is classified S3 and fish bearing. A 20m RRZ and 20m RMZ has been prescribed. The RRZ associated with this stream will not be harvested. 0.72ha of the RMZ will be harvested and 0.8ha will remain. Therefore, approximately 53% of the RMZ directly adjacent to Block CA110 will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S3 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Streams B, D, and F are fish bearing and classified S4. A 30m RMZ has been prescribed for these streams. The RMZs of Streams B and F will not be harvested. Stream D has been assigned a 10m Machine Free Zone, as per FPPR Section 52(2) stream bank stability will be sufficiently maintained as the portion of the RMZ closest to Stream D will be retained.</p> <p>Streams B, D1, D2, F, JJ, JB, JC, JD, KK, Y, Y1, and Z are classified S6. RMZs associated with these streams will be harvested where they overlap Block CA110.</p> <p>Non-Classified Drainages (NCDs) JE, 1B, B1, B2, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, and Z are associated with Block CA110. No management is proposed.</p> <p>The management strategies for the RMZs located within Block CA110 are anticipated to conserve, at the landscape level, the water quality, wildlife habitat, and biodiversity associated with those riparian areas. A fall away, yard away strategy is to be employed to ensure stream bank integrity and stream flow is maintained. Stream cleaning of debris introduced as a result of harvesting will be required if a change in stream morphology or natural drainage pattern occurs. Where designated crossings have been identified, crossing location can be selected at the discretion of the harvesting contractor; however, only one crossing location per stream.</p>
Result or Strategy Description	<p>(1) Prior to conducting primary forest activities within a community watershed to which section8.2 of the FPPR applies, the holder of the plan will:</p> <p>(a) In conjunction with the other potentially affected forest agreement holders, and preceeding the commencement of primary forest activities, engage a qualified professional to conduct a Hydrologic Assessment for the community watershed in which the activities are proposed. Subsequent assessments will be conducted at least once every5 years, unless no primary forest activities have occurred or determined otherwise by a qualified professional(s).</p> <p>(b) Ensure that the hydrological assessment considers potential impacts on water quality, water quantity, including risks to public health, and timing of water flows.</p> <p>(c) Engage a qualified professional to conduct a Terrain Stability Field Assessment(TSFA) for potential primary forest activities within a community watershed that overlap with terrain mapped as Class IV or V; or that overlap with terrain that has slope gradients greater than 60%.</p> <p>(d) Ensure that planned primary forest activities are designed and implemented to be consistent with the results and recommendations in the Hydrologic Assessment and, if required, the Terrain Stability Field Assessment.</p>
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Block CA110 does not occur in a community watershed.

Wildlife Objectives	
Result or Strategy Description	<p>Pacific Water Shrew (PWS) (Sorex bendirii):</p> <p>In respect of the Notice entitled "Indicators of the amount, distribution and attributes of wildlife habitat required for the survival of species at risk in the Chilliwack Forest District" dated December 2004. The holder of the plan will:</p> <p>(1) manage the applicable, approved Wildlife Habitat Areas (WHA)'s, identified on the Forest Stewardship Plan Map(s), according to Schedule #1 (General Wildlife Measures) of the Order that established WHAs #2-140, 2-144 & 2-147.</p> <p>(2) until such time the Notice "Indicators of the amount, distribution and attributes of wildlife habitat required for the survival of species at risk in the Chilliwack Forest District" dated December 2004, is no longer in effect, collaborate with the minister in charge of the administration of the Wildlife Act, to meet the requirements of the Notice, provided that PWS is known to inhabit the area and the amount of habitat has not been met to date.</p> <p>(3) retain a Qualified Professional to provide guidance when there is potential for PWS to exist before completing forest activities development. Any recommendation will be considered and the Site Plans will reflect how they have been addressed.</p>
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Pacific Water Shrew - No Wildlife Habitat Areas or proposed Wildlife Habitat Areas in the vicinity of the block. No specimens were observed during field work associated with this block.

STOCKING REQUIREMENTS

SU	NAR	STANDARDS ID #	OTHER PERFORMANCE STANDARDS
1	19.2	1009586	(SX13)Sx-restricted to upper elevations of biogeoclimatic unit; (SX18)Sx-restricted to eastern portion of biogeoclimatic unit in region; (HW10)Hw-restricted to northerly aspects; (HW13)Hw-restricted to upper elevations of biogeoclimatic unit; (BA10)Ba-restricted to northerly aspects; (BA13)Ba-restricted to upper elevations of biogeoclimatic unit; (ALL612)ALL SPECIES-These include colluvial sites, hygric or subhygric sites, and sites where stump avoidance strategies are employed to manage root rot; (ALL623)ALL SPECIES-The crop tree height to brush ratio in a fireweed complex can be lowered to 100% for Fd and PI and 80% for other species.yThe Minimum Inter Tree Distance (MITD) can be reduced to 1.5metres for any site series where productive and plantable sites are limited by site characteristics and/or where site conditions, such as clumpy stem distribution, is a desired stand characteristic.
COMMENTS	Planting prescription: SU1 (19.2ha) : Fdc 75% Cw 25% 1200sph = 17280 Fdc and 5760 Cw seedlings. Total = 23,040 trees		
	Concentrate Fd in higher elevation areas of the block. A combination of Fd and Cw to be planted in mid to lower elevation areas. Hw and Ba are expected to ingress naturally.		

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2016 10 18	YES

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
Lori Bartsch	
DATE SIGNED	
2016/10/18	
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.	

Map attached forms an integral part of the site plan.

SUPPORT DOCUMENT

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A93355	-	CA110	BB3L4		Silverhope	Cantelon Cr	49 13 12 / 121 28 48

ASSESSMENTS

VISUAL IMPACT ASSESSMENT INFORMATION
Block CA110 does not occur in a visual polygon, a visual impact assessment was not required.
PEST INCIDENCE SURVEY INFORMATION
Pest Specific Comments
No pests were noted during Site Plan field work.
Forest Health Comments
Hemlock Mistletoe was noted during Site Plan field work. Levels were endemic, no management is proposed.
ARCHAEOLOGICAL IMPACT ASSESSMENT INFORMATION
First Nation consultation/information sharing has been completed for Block CA110 (and any related road systems) under Operational Plan 18 and PRRO #602279. Any comments or concerns brought forward by First Nation communities have been addressed to the satisfaction of the government. Consistent with legislative requirements, prior to the issuance of the Timber Sale License (TSL), the Timber Sales Manager will consider if previous consultation/information sharing remains sufficient, or, if any new information needs to be considered prior to TSL issuance.
An Archaeological Impact Assessment (AIA) was performed by XXXXXX from Ursus Heritage Consulting Ltd. on Block CA110 and associated proposed roads on XXX, 2016. The final report indicated the following:
No further archaeological assessment is warranted for Block CA110 and associated roads, provided that the proposed development plan is not altered from its current proposed area. The potential for locating undiscovered archaeological sites within Block CA110 is considered to be low.
In the event that any unanticipated archaeological remains are discovered within these areas, it is recommended that the proponent halt all activities in the immediate vicinity of the previously unidentified site(s) and promptly inform BCTS representatives.
TERRAIN STABILITY FIELD AND GULLY ASSESSMENTS INFORMATION
Terrain Stability Comments
A Terrain Hazard Assessment was not completed for Block CA110 as most of the roads associated with the block are existing and where road construction is required, it is not on steep terrain. Proposed steeper areas will be harvested by cable and are located on bedrock controlled terrain.
Gully Comments
There are no gullies associated with Block CA110.
VEGETATION
SU1 Severity Rating: Moderate Anticipated Vegetation Complex: Ericaceous Shrub/Devil's club/vine maple Action Prescribed: Monitor competing vegetation at the time of scheduled silviculture surveys. Planting is anticipated to meet free to grow requirements with partial vegetation management treatments similar to adjacent Openings A25811 Block 1 and A25824 Block 1 located to the north and northeast which required partial treatment. CA110 should be monitored for appropriate timing at schedule surveys and walkthroughs. Block CA110 should be planted as soon as possible following harvesting to limit the effect of competition on the regenerating stand.

RIPARIAN ASSESSMENTS
Management Strategies
<p>Riparian assessments were completed during engineering and site plan field work on all streams within and directly adjacent to the block. Based on findings from Habitat Wizard for fish occurrences in Cantelon Creek and uphill higher elevation streams, Aquaterra Environmental Ltd. was asked to assess for fish in several streams associated with Block CA110. Electro-fishing was used to assess for the presence of fish.</p> <p>Cantelon Creek, located to the south of Block CA110 and FSR CA1000, was found to be fish bearing. Based on the presence of fish in Cantelon Creek, uphill streams within and adjacent to Block CA110 were assessed for connectivity and potential for fish, the following are the findings and prescribed riparian management prescriptions:</p> <p>Cantelon Creek, Stream A and Stream E were found to be fish bearing and classified S2. A 30m RRZ and 20m RMZ have been prescribed for these streams. The harvest area does not overlap the RRZ of these streams.</p> <p>Cantelon Creek RMZ overlap with Net Harvest Area is 1.2ha, remaining RMZ directly adjacent to the block is 0.26ha. Therefore, approximately 52% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 52% by area satisfies this retention requirement.</p> <p>Stream A RMZ overlap with the Net Harvest Area is 0.42ha, remaining RMZ directly adjacent to the block is 0.48ha. Therefore, approximately 53% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Stream E RMZ overlap with the Net Harvest Area is 0.06ha, remaining RMZ directly adjacent to the block is 0.034ha. Therefore, approximately 36% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 36% by area satisfies this retention requirement.</p> <p>Stream C is classified S3 and fish bearing. A 20m RRZ and 20m RMZ has been prescribed. The RRZ associated with this stream will not be harvested. 0.72ha of the RMZ will be harvested and 0.8ha will remain. Therefore, approximately 53% of the RMZ directly adjacent to Block CA110 will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S3 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Streams B, D, and F are fish bearing and classified S4. A 30m RMZ has been prescribed for these streams. The RMZs of Streams B and F will not be harvested. Stream D has been assigned a 10m Machine Free Zone, as per FPPR Section 52(2) stream bank stability will be sufficiently maintained as the portion of the RMZ closest to Stream D will be retained.</p> <p>Streams B, D1, D2, F, JJ, JB, JC, JD, KK, Y, Y1, and Z are classified S6. RMZs associated with these streams will be harvested where they overlap Block CA110.</p> <p>Non-Classified Drainages (NCDs) JE, 1B, B1, B2, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, and Z are associated with Block CA110. No management is proposed.</p> <p>The management strategies for the RMZs located within Block CA110 are anticipated to conserve, at the landscape level, the water quality, wildlife habitat, and biodiversity associated with those riparian areas. A fall away, yard away strategy is to be employed to ensure stream bank integrity and stream flow is maintained. Stream cleaning of debris introduced as a result of harvesting will be required if a change in stream morphology or natural drainage pattern occurs. Where designated crossings have been identified, crossing location can be selected at the discretion of the harvesting contractor; however, only one crossing location per stream.</p>

RESERVE / RETENTION INFORMATION

WTRA / WTP (INSIDE OR ATTRIBUTED TO THE BLOCK)						
I.D.#	Area	Description				
WTRA	1.4	<p>The Wildlife Tree Retention Area (WTRA) associated with Block CA110 consists of two patches. The first patch is located south of Block CA110 surrounded and isolated by the RMZ of several converging fish bearing streams. The second patch is located along the eastern edge of Block CA110 adjacent to Falling Corner #9. The WTRA totals 1.4 ha which represents 6.2% of the total area under prescription (TAUP) for the block (22.6 ha). The WTRA is representative of the preharvest condition of the block in terms of stand characteristics and ecology.</p> <p>Objective 2 for the Silverhope FDU states that 6% Wildlife Tree Retention is required across the CWHms zone.</p> <p>Hw75Ba10Fd10Ca5-Height30 Age50 650 stems/ha - 85% CC- Site Index 20 from VRI</p>				
GROUP WTRA / WTP AND SITE DEG. CALCULATION (to be retained on the first block of the Permit only)						
Block	Gross Cutblock Area	WTRA / WTP	%	BEC	Perm Access	%
CA110	22.6	1.4	6.2	CWH/ms/1	1.8	8.0
CA123	6.3	0.4	6.3	CWH/ms/1	0.6	9.5
CA124	27.3	1.7	6.4	CWH/ms/1	1.9	7.0
Total # of Blocks: 3	56.3	3.5	6.3		4.3	7.6

SUPPORTING INFORMATION

HLP/FSP CONSIDERATIONS
Wildlife/Endangered Species Comments
<p>The Chilliwack Forest District's Forest Stewardship Plan states Results and Strategies for Species At Risk.</p> <p>The following Species At Risk have been identified in the FSP:</p> <p>Pacific Water Shrew - No Wildlife Habitat Areas or proposed Wildlife Habitat Areas in the vicinity of the block. No specimens were observed during field work associated with this block.</p> <p>As per the 'Conservation Data Center' database (http://www.env.gov.bc.ca/cdc/), two masked sensitive occurrences for Spotted Owl (<i>Strix occidentalis</i>) were identified over 400m to the east of Block CA110. CDC provided identificaiton of the Species at Risk associated with these masked occurrences. Greg George RPBio Section Head - Terrestrial Wildlife Resources (MFLNRO) South Coast, requested that we contact their Spotted Owl Biologist Joel Gillis to communicate plans with him. Brian Sye, FIT Practices Forester at BCTS was in contact with Joel Gillis who indicated the following:</p> <p>The occurrences in Cantelon were visual observations and not indicative of a nest. Occurences were located outside of the Owl Habitat Areas in Cantelon and proposed blocks do not overlap these Habitat Areas.</p> <p>In addition, no Spotted Owls, nests, and other signs were seen or heard during field engineering or Site Plan field work for this block.</p> <p>No other SAR, as per the 'BC Species and Ecosystems Explorer' website(http://www.env.gov.bc.ca/atrisk/toolintro.html) and the Chinook Business Area SAR list, were observed within the proposed opening during field engineering or while collecting data for the preparation of this Site Plan.</p>
Range Comments
<p>There are no range use tenures in the vicinity of this block.</p>
Fisheries Comments
<p>Riparian assessments were completed during engineering and site plan field work on all streams within and directly adjacent to the block. Based on findings from Habitat Wizard for fish occurrences in Cantelon Creek and uphill higher elevation streams, Aquaterra Environmental Ltd. was asked to assess for fish in several streams associated with Block CA110. Electro-fishing was used to assess for the presence of fish.</p> <p>Cantelon Creek, located to the south of Block CA110 and FSR CA1000, was found to be fish bearing. Based on the presence of fish in Cantelon Creek, uphill streams within and adjacent to Block CA110 were assessed for connectivity and potential for fish, the following are the findings and prescribed riparian managment prescriptions:</p> <p>Cantelon Creek, Stream A and Stream E were found to be fish bearing and classified S2. A 30m RRZ and 20m RMZ have been prescribed for these streams. The harvest area does not overlap the RRZ of these streams.</p> <p>Cantelon Creek RMZ overlap with Net Harvest Area is 1.2ha, remaining RMZ directly adjacent to the block is 0.26ha. Therefore, approximately 52% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 52% by area satisfies this retention requirement.</p> <p>Stream A RMZ overlap with the Net Harvest Area is 0.42ha, remaining RMZ directly adjacent to the block is 0.48ha. Therefore, approximately 53% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Stream E RMZ overlap with the Net Harvest Area is 0.06ha, remaining RMZ directly adjacent to the block is 0.034ha. Therefore, approximately 36% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 36% by area satisfies this retention requirement.</p> <p>Stream C is classified S3 and fish bearing. A 20m RRZ and 20m RMZ has been prescribed. The RRZ associated with this stream will not be harvested. 0.72ha of the RMZ will be harvested and 0.8ha will remain. Therefore, approximately 53% of the RMZ directly adjacent to Block CA110 will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S3 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Streams B, D, and F are fish bearing and classified S4. A 30m RMZ has been prescribed for these streams. The RMZs of Streams B and F will not be harvested. Stream D has been assigned a 10m Machine Free Zone, as per FPPR Section 52(2) stream bank stability will be sufficiently maintained as the portion of the RMZ closest to Stream D will be retained.</p> <p>Streams B, D1, D2, F, JJ, JB, JC, JD, KK, Y, Y1, and Z are classified S6. RMZs associated with these streams will be harvested where they overlap Block CA110.</p> <p>Non-Classified Drainages (NCDs) JE, 1B, B1, B2, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, and Z are associated with Block CA110. No management is proposed.</p> <p>The management strategies for the RMZs located within Block CA110 are anticipated to conserve, at the landscape level, the water quality, wildlife habitat, and biodiversity associated with those riparian areas. A fall away, yard away strategy is to be employed to ensure stream bank integrity and stream flow is maintained. Stream cleaning of debris introduced as a result of harvesting will be required if a change in stream morphology or natural drainage pattern occurs. Where designated crossings have been identified, crossing location can be selected at the discretion of the harvesting contractor; however, only one crossing location per stream.</p>
Watersheds/Hydro Assessments Comments
<p>Block CA110 is located within a Watershed Reserve (Crown Lands File 2405722) purpose: Managing the winter and summer runs of steelhead in Cantelon Creek which is tributary to Silverhope Creek. James Davies PEng, Regional Hydrologist at MFLNRO indicated that the person to contact about this Watershed Reserve is Kristina Robbins (Lensky) - Fish and Aquatic Wildlife Resources Section Head. I called and emailed on September 19, 2016 and called again every few days but did not receive an answer. Brian Sye FIT, Practices Forester at BCTS also tried to contact Ms. Robbins (Lensky). The goal was to obtain more information about the Watershed Reserve to incorporate in our Site and Harvest Plans.</p> <p>Due diligence has been satisfied with regard to Watershed Tenure through information sharing of Operational Plan18 with Water Stewardship and Lands Departments in 2015. No concerns were expressed with plans to work in the Cantelon Valley.</p> <p>All requirements as per FPPR and current BCTS FSP have been satisfied for streams associated with Block CA110. See Fisheries, Riparian, and Water Management sections of this Site Plan for details.</p>
Sensitive Areas Comments
<p>No Sensitive Areas were identified during Site Plan data collection.</p>
Recreation Comments
<p>Block CA110 overlaps the following recreation polygons:</p> <p>Recreation Feature Inventory Polygon # 34515 Opportunity Spectrum: Semi-primitive Motorized Sensitivity Code: L Feature Significance: M</p> <p>Recreation Feature Inventory Polygon # 35250 Opportunity Spectrum: Semi-primitive Motorized Sensitivity Code: L Feature Significance: L</p>

Cultural Heritage Comments
<p>First Nation consultation/information sharing has been completed for Block CA110 (and any related road systems) under Operational Plan 18 and PRRO #602279. Any comments or concerns brought forward by First Nation communities have been addressed to the satisfaction of the government. Consistent with legislative requirements, prior to the issuance of the Timber Sale License(TSL), the Timber Sales Manager will consider if previous consultation/information sharing remains sufficient, or, if any new information needs to be considered prior to TSL issuance.</p> <p>An Archaeological Impact Assessment (AIA) was performed by XXXXXX from Ursus Heritage Consulting Ltd. on Block CA110 and associated proposed roads on XXX, 2016. The final report indicated the following:</p> <p>No further archaeological assessment is warranted for Block CA110 and associated roads, provided that the proposed development plan is not altered from its current proposed area. The potential for locating undiscovered archaeological sites within Block CA110 is considered to be low.</p> <p>In the event that any unanticipated archaeological remains are discovered within these areas, it is recommended that the proponent halt all activities in the immediate vicinity of the previously unidentified site(s) and promptly inform BCTS representatives.</p>
Biodiversity Emphasis/L.U. Comments
<p>The Wildlife Tree Retention Area (WTRA) associated with Block CA110 is made up of two polygons. The first is located along the eastern boundary of the block near Falling Corner #9; the second is located south of the southernmost boundary of the block. The WTRA is 1.4ha which represents 6.2% of the total area under prescription (TAUP) for the block (22.6 ha). The WTRA is representative of the preharvest condition of the block in terms of stand characteristics and ecology.</p> <p>Objective 2 for the Silverhope FDU states that 6% Wildlife Tree Retention is required across the CWHms zone.</p>
Other Resources Comments
<p>As per the Windthrow Assessment for Block CA110, the windthrow hazard is low resulting from the harvest of the block.</p>
ADDITIONAL COMMENTS:

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2016 10 18	YES

SOIL MANAGEMENT COMMENTS

Soil Conservation

<p>As per FPPR Section 35a, soil disturbance on the net area to be reforested is not to exceed the following limits:</p> <p>5% of the area covered by the standards unit, excluding any area covered by a roadside work area as the standards unit is predominantly comprised of sensitive soils.</p> <p>25% of the area covered by a roadside work area.</p> <p>Permanent Access Structures (PAS) within Block CA110 total 1.8ha or 8% of the Total Area Under Plan (TAUP) and consists of an existing road, proposed road, and associated landings.</p> <p>Existing Road:</p> <p>CA1600:</p> <p>0+022 to 0+291 = 269m x 10m = 0.269ha 0+291 to 0+387 = 96m x 5m = 0.048ha 0+387 to 0+471 = 84m x 10m = 0.084ha 0+599 to 0+624 = 25m x 5m = 0.0125ha 0+886 to 0+901 = 15m x 5m = 0.0075ha 0+901 to 1+595 = 694m x 10m = 0.694ha</p> <p>7 landings at 0.04ha each = 0.28ha</p> <p>Existing Road Total = 1.4ha or 6.2% of the TAUP (22.6ha)</p> <p>New Construction:</p> <p>CA1601:</p> <p>0+000 to 0+355 = 355m x 10m = 0.355ha</p> <p>1 landing at 0.04ha</p> <p>New Construction Total = 0.4ha or 1.8% of the TAUP (22.6ha)</p> <p>Total PAS = 1.8ha or 8% of the TAUP (22.6ha)</p> <p>Permanent Access Structures (PAS) percent is above the 7% maximum allowable as outlined in Section 36(1) of the FPPR. However, the 7% maximum was exceeded as little as practicable. The majority of the PAS associated with Block CA110 is existing roads as described above. In addition, proposed roads were designed to access all timber associated with the block with the minimum possible amount of road. Road rehabilitation has been proposed on short spur roads to further minimize PAS.</p>
Temporary Access
<p>Temporary Access Structures associated with Block CA110 include in-block roads CA1601A, CA1601B, and CA1610 as well as their associated landings. In order to reduce the amount of PAS in Block CA110, these small spur roads and landings will be rehabilitated and reforested as part of the NAR for the block.</p> <p>CA1601A = 0+000 to 0+075 = 0.075ha CA1601B = 0+000 to 0+056 = 0.056ha CA1610 = 0+000 to 0+063 = 0.063ha</p> <p>3 landings at 0.04ha each = 0.12ha</p> <p>Total TAS = 0.314ha or 1.6% of the Net Area to be Reforested (NAR=19.1ha).</p> <p>Temporary Access Structures will not exceed the 5% soil disturbance limit in the NAR. The road will be rehabilitated and reforested along with the rest of the NAR.</p> <p>Temporary access structur are to be rehabilitated immediatley post harvest by de-compacting soils, replacing displaced surface soils, retrievable sidecast, and berm materials. To reduce the risk of erosion of exposed soil, rehabilitation will include placing woody debris on exposed soils, grass seeding using native seed mix, and contouring to avoid concentration of moisture/precipitation to allow for proper drainage. In addition, reforestation should occur as soon as possible post harvest.</p>
Slope Instability
<p>A Terrain Hazard Assessment was not completed for Block CA110 as most of the roads associated with the block are existing and where road construction is required, it is not on steep terrain. Proposed steeper areas will be harvested by cable and are located on bedrock controlled terrain.</p>

RIPARIAN ASSESSMENTS
Management Strategies
<p>Riparian assessments were completed during engineering and site plan field work on all streams within and directly adjacent to the block. Based on findings from Habitat Wizard for fish occurrences in Cantelon Creek and uphill higher elevation streams, Aquaterra Environmental Ltd. was asked to assess for fish in several streams associated with Block CA110. Electro-fishing was used to assess for the presence of fish.</p> <p>Cantelon Creek, located to the south of Block CA110 and FSR CA1000, was found to be fish bearing. Based on the presence of fish in Cantelon Creek, uphill streams within and adjacent to Block CA110 were assessed for connectivity and potential for fish, the following are the findings and prescribed riparian managment prescriptions:</p> <p>Cantelon Creek, Stream A and Stream E were found to be fish bearing and classified S2. A 30m RRZ and 20m RMZ have been prescribed for these streams. The harvest area does not overlap the RRZ of these streams.</p> <p>Cantelon Creek RMZ overlap with Net Harvest Area is 1.2ha, remaining RMZ directly adjacent to the block is 0.26ha. Therefore, approximately 52% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 52% by area satisfies this retention requirement.</p> <p>Stream A RMZ overlap with the Net Harvest Area is 0.42ha, remaining RMZ directly adjacent to the block is 0.48ha. Therefore, approximately 53% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Stream E RMZ overlap with the Net Harvest Area is 0.06ha, remaining RMZ directly adjacent to the block is 0.034ha. Therefore, approximately 36% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 36% by area satisfies this retention requirement.</p> <p>Stream C is classified S3 and fish bearing. A 20m RRZ and 20m RMZ has been prescribed. The RRZ associated with this stream will not be harvested. 0.72ha of the RMZ will be harvested and 0.8ha will remain. Therefore, approximately 53% of the RMZ directly adjacent to Block CA110 will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S3 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Streams B, D, and F are fish bearing and classified S4. A 30m RMZ has been prescribed for these streams. The RMZs of Streams B and F will not be harvested. Stream D has been assigned a 10m Machine Free Zone, as per FPPR Section 52(2) stream bank stability will be sufficiently maintained as the portion of the RMZ closest to Stream D will be retained.</p> <p>Streams B, D1, D2, F, JJ, JB, JC, JD, KK, Y, Y1, and Z are classified S6. RMZs associated with these streams will be harvested where they overlap Block CA110.</p> <p>Non-Classified Drainages (NCDs) JE, 1B, B1, B2, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, and Z are associated with Block CA110. No management is proposed.</p> <p>The management strategies for the RMZs located within Block CA110 are anticipated to conserve, at the landscape level, the water quality, wildlife habitat, and biodiversity associated with those riparian areas. A fall away, yard away strategy is to be employed to ensure stream bank integrity and stream flow is maintained. Stream cleaning of debris introduced as a result of harvesting will be required if a change in stream morphology or natural drainage pattern occurs. Where designated crossings have been identified, crossing location can be selected at the discretion of the harvesting contractor; however, only one crossing location per stream.</p>

Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)
B, D, F S4	RMZ	A	30.0		Streams B, D, and F are fish bearing and classified S4. A 30m RMZ has been prescribed for these streams. The RMZs of Streams B and F will not be harvested. Stream D has been assigned a 10m Machine Free Zone, as per FPPR Section 52(2) stream bank stability will be sufficiently maintained as the portion of the RMZ closest to Stream D will be retained.
B, D1, D2, F, JJ, JB, JC, JD, KK, Y, Y1, Z S6	RMZ	A	20.0		Streams B, D1, D2, F, JJ, JB, JC, JD, KK, Y, Y1, and Z are classified S6. RMZs associated with these streams will be harvested where they overlap Block CA110.
B1,B2,JE,1 B,4,5,6,7,1 0,12,13,14, 15,16,17,1 8,19,F,Z NCD	RMZ	A	0.0		Non-Classified Drainages (NCDs) JE, 1B, B1, B2, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, and Z are associated with Block CA110. No management is proposed.
Cantelon Creek, A, and E S2	RMZ		20.0		<p>Cantelon Creek, Stream A and Stream E were found to be fish bearing and classified S2. A 30m RRZ and 20m RMZ have been prescribed for these streams. The harvest area does not overlap the RRZ of these streams.</p> <p>Cantelon Creek RMZ overlap with Net Harvest Area is 1.2ha, remaining RMZ directly adjacent to the block is 0.26ha. Therefore, approximately 52% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 52% by area satisfies this retention requirement.</p> <p>Stream A RMZ overlap with the Net Harvest Area is 0.42ha, remaining RMZ directly adjacent to the block is 0.48ha. Therefore, approximately 53% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 53% by area satisfies this retention requirement.</p> <p>Stream E RMZ overlap with the Net Harvest Area is 0.06ha, remaining RMZ directly adjacent to the block is 0.034ha. Therefore, approximately 36% of the RMZ will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S2 Stream must be retained. The remaining 36% by area satisfies this retention requirement.</p>
	RRZ		30.0		Cantelon Creek, Stream A and Stream E were found to be fish bearing and classified S2. A 30m RRZ and 20m RMZ have been prescribed for these streams. The harvest area does not overlap the RRZ of these streams.
C S3	RMZ	A	20.0		Stream C is classified S3 and fish bearing. A 20m RRZ and 20m RMZ has been prescribed. The RRZ associated with this stream will not be harvested. 0.72ha of the RMZ will be harvested and 0.8ha will remain. Therefore, approximately 53% of the RMZ directly adjacent to Block CA110 will be retained. As per FPPR Section 52(1), greater than or equal to 20% of the Basal Area of the RMZ of an S3 Stream must be retained. The remaining 53% by area satisfies this retention requirement.
	RRZ		20.0		Stream C is classified S3 and fish bearing. A 20m RRZ and 20m RMZ has been prescribed. The RRZ associated with this stream will not be harvested.

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION		
The coarse woody debris left within the Block must be consistent with Section 68 of the FPPR: a minimum of 4 logs per hectare, each being a minimum of 5 m in length and 30 cm in diameter at one end.		
Performance Std. (%) :	Block Target (%):	Coarse Woody Debris (m3/ha):

DEFINITIONS

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2016 10 18	YES

Print off the PAS/TAS table located as an attachment on the Block Details Screen and attach to this prescription.

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
Lori Bartsch	
DATE SIGNED	
2016/10/18	
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.	

SILVICULTURE PLAN

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A93355	-	CA110	BB3L4		Silverhope	Cantelon Cr	49 13 12 / 121 28 48

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	A	19.2	CWH	ms	1	01-75 05-25	940	40	SE	Middle Slope		SiL

STOCKING REQUIREMENTS				
ASSESSMENT DATES				
Standard Unit	Standards ID	Regen Delay (yrs)	Freegrow Early (yrs)	Freegrow Late (yrs)
1	1009586	3		20
Min/Max Elevation Regime: 820 / 1060				

SU : 1 REGENERATION LAYER									
PREFRERRED SPECIES			ACCEPTABLE SPECIES			POST SPACING DENSITY(sph)		MAX CONIFEROUS (sph)	
Species	Min Ht. (m)	Footnotes	Species	Min Ht. (m)	Footnotes	Min		Max	
						WELL SPACED TREES (sph)			
Fdc Douglas Fir - Coastal	2.3		Yc Yellow Cedar	1.5		Target Pref/Acc		Minimum Pref/Acc	Minimum Pref
Hw Western Hemlock	1.5								Min Horizontal Dist. Pref/Acc (m)
Cw Western Red Cedar	1.5					900		500	400
Ba Amabilis Fir	0.8							Height Relative to Competition (%)	
Sx Hybrid Spruce (SE x SW)	1.0							150	

OTHER REQUIRED STOCKING INFORMATION
Planting prescription: SU1 (19.2ha) : Fdc 75% Cw 25% 1200sph = 17280 Fdc and 5760 Cw seedlings. Total = 23,040 trees Concentrate Fd in higher elevation areas of the block. A combination of Fd and Cw to be planted in mid to lower elevation areas. Hw and Ba are expected to ingress naturally.

ACTIVITIES

PLANTING						
Planting(Container) 2018/09/20 SEASON:						
AREA	PLANTING UNIT	UNIT AREA	SPECIES	COMMENTS	STEMS / HA	TOTAL STEMS
19.2	1	19.2	Douglas Fir - Coastal		900	17280
			Western Red Cedar		300	5760
			LIMITING FACTORS / COMMENTS			

BRUSHING / STAND TENDING	
Ground Chemical Admin 2020/09/20	
AREA	TECHNIQUE(S) / LIMITING FACTOR
19.21	
Chemical Brushing Ground (Lavout) 2021/09/20	
AREA	TECHNIQUE(S) / LIMITING FACTOR
19.21	
Chemical Brushing(Back Pack Application - 50%)-VM 2022/09/20	
AREA	TECHNIQUE(S) / LIMITING FACTOR
9.60	

SILVICULTURE ACTIVITY COMMENTS	
ACTIVITY	COMMENT

MANAGEMENT STRATEGY

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION		
The coarse woody debris left within the Block must be consistent with Section68 of the FPPR: a minimum of 4 logs per hectare, each being a minimum of 5 m in length and 30 cm in diameter at one end.		
Performance Std. (%):	Block Target (%):	Coarse Woody Debris (m3/ha):

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2016 10 18	YES

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
Lori Bartsch	
DATE SIGNED	
2016/10/18	
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.	