

MAM003

☒ Site Plan

(Development Areas & Damaged Timber Salvage ≥1ha)

☐ Salvage Plan

(Damaged Timber Salvage <1ha)

A. Tenure Information

☒ Original:

11/28/2016

(mm/dd/yyyy)

Forest Region	Forest District	License	Cutblock or Road ID	
Coast	Haida Gwaii	TFL60	MAM003 and all in block roads MAM003-1 from 0+000 to 0+035 (specify whether specific roads/ sections are included)	
CP #	Timbermark(s)	Division	Geographic Location	
TBA	TBA	Haida Gwaii	New Main	
Authorizing FSP	Approval Date	Expiry Date	Amended Date	FDU
Haida Gwaii	November 18, 2011	November 18, 2016	As applicable on date of SP	A
Landscape Unit	Watershed ID	Sub Unit ID #		
Masset Inlet	Mamin River 2 & Blackwater	244 & 229		
Silviculture System				
☐ Clearcut ☒ Clearcut w/ Reserve ☐ Retention ☐ Other:				

B. Site Details

SU Description (Site Plan only)		
ID	NAR (ha)	Description (BEC, Site Series, Elevation, Slope position, aspect, etc.)
1	18.9	<p>CWHwh2-01₈₅05₁₅</p> <p>Stand composition/ timber type of the SU is mainly Hw with lesser amounts of Ss (11%) and Yc (8%). Volume within the stand type is average at 662m³/ha for a decedent old growth stand.</p> <p>The stand is predominantly 01 leading site series (ss) with a mosaic of the 05 in wet-rich depressions and seepages. The 05 sites are most prevalent along the perimeter of the block, and is transitional to the open ground near FC60 to FC64 and in the bowl area located in the NW of the block.</p> <p>Humus form is a compacted mor and the LFH is approximately 20-30cm. Major soils types derived from weathered bedrock are predominantly podzolic on well-draining sites with gleysols adjacent to riparian areas and on shallow benches. With the dominant podzols the B_{fj} layer is >30cm becoming more compacted as depth increases. A root restricting layer is shallow at approximately 60cm. Soil texture is a SiCL to SiL with 40% coarse fragment content consisting mainly of gravels and colluvium where located near rock outcrops.</p> <p>The block encompasses two areas separated by New Main located near the height of land that defines the watersheds. The terrain is generally steep and broken most notably below the end of MAM003-1 and the reserves area that splits the block.</p> <p>The SU has both a SE and NW aspect. The microtopography is uneven and mounded both due to historic windthrow. Significant areas of windfall are mapped. The elevation ranges from 440-610m.</p> <p>Understory vegetation is very sparse and consists mainly of scattered red huckleberry, deer fern, step moss (H), lanky moss (H), Oregon beaked moss (H) and Sphagnum moss (m). There are few other shrubs and indicators plants within the block due to extreme deer browse. Scattered Indian hellebore defines the extent of the 05ss.</p> <p>Site Class II, Site Index 20 (Hw), Severity Code/Vegetation Complex: L-M, Soil Moisture Regime: 4 and Nutrient Regime: C.</p>

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Stocking Standards (Site Plan only)		Soil Disturbance Limits	
SU	Stocking Standard ID#	Maximum Allowable Soil Disturbance within the NAR	Maximum Extent Soil Disturbance may be Temporarily Exceeded
1	1039592	5%	5%
Maximum allowable soil disturbance within NAR for roadside work area: 25%			
Special Forest Products Stocking Standards rationale: N/A			
Single Entry Dispersed Retention System Stocking Standards: (maximum level permitted is 10% of AAC each year): N/A			

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C. FSP Results & Strategies				
Results and Strategies Applicable to the Site (for amendments, the listed R/S apply only to the amended areas, unless otherwise stated. Refer to the original SP/ Salvage Plan to see how the R/S apply to the original harvest area).				
R/S ID#	R/S Title	Applicable (Y/N)		How Results or Strategies apply to the site (include rationale for not applicable, where required.)
Cedar Stewardship Areas (CSA)				
6.1	no harvesting	☐ Y	☒ N	There are no CSAs adjacent to the block.
Cultural Feature Identification				
6.3 and 6.4a	Cultural Feature Identification Survey	☒ Y	☐ N	<p><i>Required prior to commencing harvesting or road construction activities in a development area.</i></p> <p>A Cultural Features Identification Survey was completed for the harvest area and areas adjacent to MAM003 and includes areas beyond the development area/ TAUP. The report was completed by Stefan Winter and Cooper Wilson on October 6, 2015.</p> <p>The summary of the report is as follows:</p> <p>HTHFs: None</p> <p>HTFFs</p> <p>Class 1: 2 Devils club</p> <p>Class 2: 2700 Indian Hellebore</p> <p>Class 3: Labrador tea, old man's beard, Oregon beaked-moss, running club-moss and snake liverwort</p> <p>CMTs: None</p> <p>Monumental Cedar</p> <p><120cm dbh: None</p> <p>>120cm dbh: None</p> <p>Cultural cedar stands: None</p> <p>Yew Patches/Stems: None</p>
Haida Traditional Heritage Feature (HF)				
6.4b, c	potential HF – AIA required	☐ Y	☒ N	<p>☐ b. AIA completed; and</p> <p>☐ c. HF confirmed to be present and of continued importance</p> <p>Refer to R/S 6.5 and 6.6 for applicable requirements/ management requirements.</p> <p>An Archaeological Impact Assessment (AIA) was not completed based on the results of the CFI survey. No CMTs or Haida Traditional Heritage Features were identified.</p>
Haida Traditional Forest Features (FF)				
6.7	Class 1 FF – 1.0 tree length (avg. width) no harvest zone	☒ Y	☐ N	<p>A total of 2 Devil's Club were identified and are marked in the field with yellow ribbon and unique ID.</p> <p>All features are removed from the harvest area and maintained with an average 1TL no-harvest zone. Reserve averaging was used for both features.</p>
6.7	Class 1 FF – 1.0 tree length (avg. width) management zone	☒ Y	☐ N	<p>The 1.0 TL management zone surrounds all of the Class 1 forest features.</p>

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6.7a	Class 1 FF – reductions to management zone	☐ Y	☒ N	☐ a. up to 0.5 tree lengths, provided no net loss; or ☐ b. Intergovernmental Process required. Reduction required for road access, other infrastructure, or to address a safety concern and no other practicable option exists. Integrity of the FF must be maintained. The 1.0 TL management zone for all features is accounted for in the block.
6.8	Class 2 FF – retain >50% and maintain integrity	☒ Y	☐ N	Focus stand level retention areas on Class 2 FF, adjust operational boundaries or consider modifying harvest practices in the vicinity to protect integrity. The majority of occurrences of class 2 traditional forest features are located outside of the harvest area and therefore greater than 50% of the occurrences are being retained within the block. A total of 2700 Indian Hellebore were identified with 910 inside the harvest area and 1790 outside the harvest area.
6.9	Class 3 FF – retain and protect to extent practicable	☒ Y	☐ N	Five (5) types of class 3 forest features were found during the CFI survey: Labrador tea, old man's beard, Oregon beaked-moss, running club-moss and snake liverwort The species are also found within the reserves associated with the block.
	tree height method	☒ Y	☐ N	☒ a. Site series ☐ b. Tallest tree Tree heights are based on field verified BEC/Site Series and the corresponding LUO Schedule 5. CWHwh2 (01) Column A = 40m
Cedar Retention				
6.10, (i), (ii)	cedar retention required	☐ Y	☒ N	Where development areas are calculated per the FSP to be: ☐ (i) >10ha, pre-harvest cedar >30%; or ☐ (ii) ≤10ha, pre-harvest cedar >60% If (i) or (ii) applies, then refer to 6.10 a through d. No cedar retention is required as the pre-harvest cedar component is 8%.
6.10, a-d	retain 15% cedar composition	☐ Y	☒ N	☐ a. Prioritize allocation of retention requirements to no harvest zones, management zones and stand level retention areas designated for other objectives ☐ b. Additional areas are required beyond existing no harvest zones to meet the 15% requirement (if yes, refer to 6.10c and d). ☐ c. Minimum patch size is 1.0ha. Where practicable, cedar areas are large and contiguous. ☐ d. retain a range of pre-harvest diameters. Not applicable (see 6.10i and ii)
6.11	cedar regeneration – pre-harvest cedar >20%	☐ Y	☒ N	Pre-Harvest cedar is calculated using cruise compilation measured in percent of cedar sph, not including dead potential or dead useless. Where pre-harvest composition is >20%, the following regeneration strategies apply: ☐ Minimum post harvest cedar composition is based on the pre-harvest composition as calculated according to the FSP. ☐ a. strive to meet commitment through natural regen or planting ☐ b. Where deer browse hazard is mod-high, planted cedar will be protected ☐ c, d, e. these requirements are not applicable at the SP level, they refer to regeneration criteria, due dates, fill plant requirements, etc. Not applicable (see 6.10i and ii)
6.12	cedar regeneration – pre-harvest cedar >20%	☐ Y	☒ N	The cedar regeneration thresholds may be lower than those established in R/S 6.11 Table 9, provided the new requirement is consistent with the outcome of a completed intergovernmental process. Not applicable (see 6.10i and ii)
6.13	yew patches - stand level retention	☐ Y	☒ N	No individual yews or yew patches were identified.

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6.14	yew (not patches) – stand level retention	☐ Y	☒ N	<i>Incorporate retention of yew (not in patches) into existing retention areas, where practicable.</i> No individual yews or yew patches were identified.
Cultural Cedar Stands, CMTs & Monumental Cedar				
6.15	0.5 tree length no harvest zone	☐ Y	☒ N	No Cultural Cedar Stands, CMTs & Monumental Cedar were identified.
Type I Fish Habitat				
6.17	2.0 tree length no harvest zone	☐ Y	☒ N	There are no type I streams within or adjacent to MAM003.
Type II Fish Habitat				
6.18	1.0 tree length no harvest zone	☐ Y	☒ N	There are no type II streams within or adjacent to MAM003.
Active Fluvial Units				
6.20	1.5 tree length management zone	☐ Y	☒ N	There are no active fluvial units within or adjacent to MAM003.
Upland Stream Areas				
6.24 (a-c)	Plan Holder agreement	☒ Y	☐ N	<i>Prior to development activities within a sub-unit, Plan Holders form an agreement outlining analysis, harvesting allocations and tracking.</i> An agreement (Haida Gwaii Group FSP Implementation Agreement #2, dated March 2014) has been signed-off by the FSP Holders. The development area of MAM003 is within sub-unit 229 and 244 are entirely within Taan tenure (TFL60). Consistent with the Implementation Agreement #2, the Plan Holders agree to apportion the LUO targets, based on their respective operating areas/ AAC. Taan is responsible for completing analysis within TFL60.
6.23, a-c	watershed analysis for sub-unit and ≥70% hydrologically recovered	☒ Y	☐ N	☒ a. watershed analysis complete; and ☒ b. proposed harvest rates consistent with analysis and ≥70% forest (measured in ha) in upland stream area is hydrologically recovered; and ☒ c. group ledger reviewed (updated minimum annually). A watershed analysis was completed by Zimmfor Management Services Ltd. on September 4, 2015. Based on the analysis, sub-unit 229 has 1215.0ha as upland stream area of which 928.8ha is hydrological recovered equaling 76.4%. Based on these numbers 78.3ha are available for harvest. Within sub-unit 229 two blocks MAM002 (4.2ha) and MAM003 (7.7ha) are planned for harvest totaling 11.9ha including RoW external to the block. Based on the analysis, sub-unit 244 has 694.6ha as upland stream area of which 562.0ha is hydrological recovered equaling 81.4%. Based on these numbers 79.0ha are available for harvest. Within sub-unit 244 two blocks MAM002 (21.6ha) and MAM003 (12.4ha) are planned for harvest totaling 34ha including RoW external to the block. Harvest plans at the time of signing the Site Plan are within watershed limits.

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6.25 (a-d) 6.26 (a-c)	<70% hydrologically recovered	☐ Y	☒ N	<p>☐ 6.25 a-e. If proposing to reduce upland stream retention area within a watershed sub-unit to below 70% hydrologically recovered, Plan Holders form an agreement outlining responsibility for watershed assessment, allocation of harvest and tracking; and</p> <p>☐ 6.24 a-d. Intergovernmental process required. A Watershed Assessment is required, harvesting must be consistent with assessment and an adaptive management plan is completed, documented and implemented prior to reducing upland stream area below 70%.</p> <p>Not applicable (see 6.23 a-c)</p>
6.27	direct tributaries - stream bank and channel stability	☒ Y	☐ N	<p>Where upland streams are direct tributaries to Type I or Type II Fish Habitat, sufficient vegetation, which may include trees, are retained to maintain stream bank and channel stability.</p> <p>All water courses within the harvest area are not considered to be direct tributaries or are NCDs.</p> <p>All streams have a 7m MFZ established as part of the 'SOP – Operations' documentation. Stream management prescriptions are also identified within the Harvest Instructions.</p>
6.28	stream channels incised, steep gradients and high-humidity micro-climates	☒ Y	☐ N	<p>Retain sufficient trees and vegetation to maintain the plant communities.</p> <p>None of the streams within the block have a high humidity micro-climate.</p>
Sensitive Watersheds				
6.31	Plan Holder agreement	☒ Y	☐ N	<p>Prior to development activities within a Sensitive Watershed, Plan Holders will form an agreement that documents responsibility for watershed analysis and updates, allocation of harvest and tracking.</p> <p>The block is located within both the 'Mamin River 2' and the 'Blackwater' sensitive watershed.</p>
6.29 a, b	watershed analysis & group ledger	☒ Y	☐ N	<p>☒ a. Watershed analysis complete that indicates ECA condition.</p> <p>☒ b. Group ledger maintained on an on-going basis to track development activities and ensure current ECA.</p> <p>A watershed analysis was completed September 4, 2015 by Zimmfor Management Services Ltd. Based on the watershed analysis, the ECA for Mamin River 2 is 12.5% or 87.5% hydrologically recovered allowing for the harvest of 159.8ha. Proposed harvesting within Mamin River 2 includes: MAM002 (21.6ha).and MAM003 (12.4ha). The proposed harvesting will keep the ECA within the 20% limit.</p> <p>Based on the watershed analysis, the ECA for the Blackwater is 18.2% or 81.8% hydrologically recovered allowing for the harvest of 58.8ha.</p> <p>Proposed harvesting within the Blackwater includes: MAM002 (4.2ha).and MAM003 (7.7ha). The proposed harvesting will keep the ECA within the 20% limit.</p> <p>The ledger has been updated with the above information.</p>
6.30c	ECA ≥ 20%, no harvesting	☐ Y	☒ N	<p>No harvesting is permitted in SW if ECA is ≥ 20% (calculated under 6.28a and recorded in ledger under 6.28b).</p> <p>Not applicable (refer to 6.29 a, b)</p>
6.30a, b, d	ECA <20% - harvesting permitted	☒ Y	☐ N	<p>If ECA <20%:</p> <p>☒ a. watershed ≥ 500ha then up to 5% of the watershed may be harvested in a 5- year period; or</p> <p>☐ b. watershed <500ha, up to 10% of the watershed may be harvested in a 10-year period; and</p> <p>☐ d. proposed harvesting rates and ECA are consistent with the watershed analysis completed under R/S 6.28.</p>

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				<p>The 5-yr max harvest in the Mamin River 2 Watershed remaining available is 69.2ha (refer to the watershed analysis indicated above).</p> <p>The 5-yr max harvest in the Blackwater Watershed remaining available is 162.5ha (refer to the watershed analysis indicated above).</p> <p>The total proposed harvesting in the watershed as indicated in 6.29 a, b and are within limitations.</p>
6.32a-d 6.33	ECA ≥ 20%, harvesting proposed	☐ Y	☒ N	<p>Despite R/S 6.29, In the event that harvesting is proposed that exceeds the allowable harvest rate and/ or ECA thresholds:</p> <p>☐ 6.32. Plan Holders form an agreement on who is responsible for completing required assessments and adaptive management plans, harvest rate allocation and tracking; and</p> <p>☐ 6.31 a-d. intergovernmental process completed, watershed sensitivity assessment completed and rate of harvest is consistent with assessment, and an adaptive management plan is developed, documented and implemented prior to increasing the rate/ ECA.</p> <p>Not applicable (see analysis within 6.30 a, d)</p>
Forested Swamps ≥0.25ha <i>Forested Swamps refer to the following BEC types: CWH wh1 – 12; CWH wh2 – 06; CWH wh2 – 13 (referred to as western redcedar-Sitka spruce/ skunk cabbage ecological communities under the LUO</i>				
6.34	1.5 tree length (avg. width) management zone	☐ Y	☒ N	There are no forested swamps within or adjacent to MAM003.
Ecological Representation				
6.37b (i-iv)	Plan Holder agreement	☒ Y	☐ N	<p>Prior to development activities, Plan Holders will form an agreement outlining who is responsible to complete the ecological analysis, allocation of retention and recruitment across each LU and tracking.</p> <p>An agreement (Haida Gwaii Group FSP Implementation Agreement #2, dated March 2014) has been signed off by the FSP Holders.</p>
6.37a, c	ecological representation analysis & group ledger	☒ Y	☐ N	<p>☒ a. Analysis indicates current inventory of old forest by site series and LU</p> <p>☒ c. Group ledger updated annually (minimum) to track depletions and additions to the old forest inventory by site series and LU.</p> <p>The Eco-Rep Analysis (September 4, 2015) indicates the eco-rep status as follows:</p> <p>The block consists of a single site series being the 01 within the CWHwh2 and in an old growth age class.</p> <p>In regards to 'old forest' the following is noted:</p> <p>Masset Inlet – CWHwh2-01: LUO target is 1 591 ha. There are currently 1 202 ha of CWHwh2-01 captured in reserved areas thus requiring an additional 389ha for recruitment. There is another 3 031ha of old available to meet recruitment goals and the LU target.</p> <p>The group ledger has been updated with the above information.</p>
6.38	rare or common site series targets	☒ Y	☐ N	<p>Retain an amount (in hectares) of old forest greater than or equal to the applicable target listed for the identified site series consistent with R/S 6.36.</p> <p>Based on the Eco-Rep analysis September 2015, sufficient old forest for the applicable eco-type is available (see 6.37 a, c).</p>
6.39	consideration of wildlife habitat	☒ Y	☐ N	<p>Where practicable, when establishing ecological representation areas, consider wildlife habitat for species at risk and regionally important wildlife, including but not limited to northern goshawk nesting and foraging habitat, MAMU or great blue heron nesting habitat, northern saw-whet owl core nesting areas and bear dens/ habitat.</p>

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				<p>In 2013, Taan completed a landscape level planning exercise to establish eco-rep Management Zones to meet targets across the tenure as a whole including those noted in 6.37 above. Sufficient area has been retained to meet the targets and considers the above noted features.</p> <p>EcoRep areas are established within the block and will not affect the ability to meet old targets. These areas will be accounted for and replaced within the 2016 analysis.</p>
6.40a, b	recruitment strategies	☐ Y	☒ N	<p><i>Where insufficient old forest available to meet ecological representation targets, identify, retain and recruit old forest by: choosing older stands given priority over younger stands; identifying mature stands of appropriate site series already constrained for other reasons and designating for ecological representation; and if not enough mature stands constrained for other reasons, select other suitable unconstrained areas.</i></p> <p>Not applicable (see 6.37 a, c)</p>
6.40 (i, ii)	recruitment intervention	☐ Y	☒ N	<p><i>Where mature stands are set aside for recruitment, consider fertilization of stand thinning treatments to promote old forest characteristics.</i></p> <p>Not applicable (see 6.37 a, c)</p>
Red and Blue Listed Ecological Communities ≥0.25ha				
6.41	retain all areas >0.25ha red and blue listed	☐ Y	☒ N	<p>There are no red or blue listed ecological communities identified within or adjacent to the block.</p>
Black Bear Dens				
6.44	20m no harvest zone	☐ Y	☒ N	<p>There are no black bear dens identified within or adjacent to MAM003.</p>
Marbled Murrelet Nesting Habitat				
6.49, a-b	nesting habitat inventory analysis and agreement	☒ Y	☐ N	<p><i>Prior to development activities:</i></p> <ul style="list-style-type: none"> ☒ a. a nesting habitat retention inventory will be completed; and ☒ b. Plan Holders will form an agreement that documents how the nesting habitat retention will be allocated and tracking. <p>A MAMU nesting habitat inventory was completed on September 4, 2015 by Zimmfor Management Services Ltd.</p> <p>An agreement (Haida Gwaii Group FSP Implementation Agreement #2, dated March 2014) has been signed off by the FSP Holders. Consistent with the Implementation Agreement #2 the Plan Holders agree to apportion the LUO targets, based on their respective operating areas/ AAC.</p>
6.48 (a-c)	retain nesting habitat	☒ Y	☐ N	<p><i>Within each LU where development areas are proposed:</i></p> <ul style="list-style-type: none"> ☒ a. retain an amount of nesting habitat within each LU ≥ LU Target; and ☒ b. ensure the nesting habitat is within the areas shown in Sched. 11; or ☒ c. group ledger is maintained that tracks depletions and additions to nesting habitat inventories (updated minimum annually). <p>According to the MAMU nesting habitat inventory as indicated in 6.49 above, the LUO target within the Masset Inlet LU is 4881 ha. Currently there are 6476 ha of MAMU habitat Class 1 and Class 2 on the landbase within the Masset Inlet LU. There are 4879 ha of MAMU habitat located in reserves/LUO constrained areas. An additional 2ha is required for recruitment outside of existing LUO reserve and constraints.</p> <p>MAM003 does not overlap any with Class 1 or Class 2 MAMU habitat polygons as indicated in Schedule 11. MAMU habitat is identified adjacent to the block near FC66 to FC68C.</p>

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Northern Goshawk Habitat				
6.50	reserve areas	☒ Y	☐ N	<p>Retain all reserves per Sched. 12.</p> <p>No Goshawk reserves (Schedule 12) have been identified within or adjacent to MAM003.</p>
6.51, a, b, d	nests identified outside of reserve areas	☒ Y	☐ N	<p>Where discover a potential nest outside of the Sched. 12 reserves:</p> <p>☒ a. cease harvesting and road-building activities within 800m of the potential nest immediately and report the location of the potential nest to the Council of the Haida Nation and the Province of BC as soon as practicable; and</p> <p>☒ b. have the nest and surrounding area assessed by a qualified professional; and</p> <p>☒ d the location of the confirmed nest will be reported to the Council of the Haida Nation and the Province of BC as soon as practicable.</p> <p>Instructions regarding identification of new nests are located on Road and Harvest maps.</p>
Great Blue Heron Nesting Habitat				
6.54 a, b, d	potential nest sites	☒ Y	☐ N	<p>Where a plan holder identifies a potential nest site:</p> <p>☒ a. cease harvesting and road-building activities within a 350m radius of the potential nest immediately and report the location of the potential nest to the CHN and the Province of BC as soon as practicable; and</p> <p>☒ b. have the nest and surrounding area assessed by a qualified professional; and</p> <p>☒ d. report the location of the confirmed nest to the CHN and province of BC as soon as practicable</p> <p>Instructions regarding identification of new nests and current restrictions noted above are located on Road and Harvest maps and instructions. No nests have been identified during field engineering or Site Plan field review.</p>
Northern Saw-whet Owl Habitat				
6.55	reserve areas	☒ Y	☐ N	<p>Retain all reserves per Sched. 12.</p> <p>No Northern Saw-whet Owl reserves (Schedule 12) have been identified within or adjacent to MAM003.</p>
6.55, a, b, d	nests identified outside of reserve areas	☒ Y	☐ N	<p>Where discover a potential nest outside of the Sched. 12 reserves:</p> <p>☒ a. cease harvesting and road-building activities within 180m of the potential nest immediately and report the location of the potential nest to the Council of the Haida Nation and the Province of BC as soon as practicable; and</p> <p>☒ b. have the nest and surrounding area assessed by a qualified professional; and</p> <p>☒ d the location of the confirmed nest will be reported to the Council of the Haida Nation and the Province of BC as soon as practicable.</p> <p>Instructions regarding identification of new nests are located on Road and Harvest maps.</p>
6.56 c 6.57	10ha no harvest zone, centered on nest site	☐ Y	☒ N	<p>Where the qualified professional determines the nest to be a Northern Saw-whet owl nest:</p> <p>☐ c. a 10ha no harvest zone is established and is centered around the nest site.</p> <p>Not applicable (see 6.55)</p>
6.57	core nesting areas	☒ Y	☐ N	<p>Where practicable, Northern Saw-whet Owl core nesting areas will be identified and retained within stand level retention and other no-harvest or management zone areas and distributed across the landscape, with a target maximum inter-patch spacing of 1,400m.</p> <p>The WTRA and other reserve area allocated to this block are not generally suitable for Northern Saw-whet Owl core nesting area as they are not low elevation and located in a riparian environment.</p>

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Forest Reserves				
6.58	reserves	☒ Y	☐ N	<p>Retain all forest reserves per Sched. 8</p> <p>The nearest forest reserve is located approximately immediately adjacent to the block near FC66 to FC68C. Approximately the same polygon is classified as MAMU habitat. No harvesting or removal is planned.</p>
Recruitment				
6.61	recruitment in no harvest zones, management zones and stand level retention areas	☐ Y	☒ N	<p>Where some or all of the not harvest zones, management zones or stand level retention requirements under the LUO (cross ref R/S 6.4, 6.6-6.9, 6.14, 6.16, 6.17, 6.19, 6.33, 6.49, 6.50) have been previously altered or harvested, Plan Holders will provide for recruitment of mature and old forest through passive or active treatments (refer to the FSP and table 8 for details):</p> <p> ☐ Class 1 HF ☐ Class 2 HF ☐ Class 1 FF ☐ Class 2 FF ☐ Class 3 FF ☐ Cultural cedar stand, CMT, Monumental Cedar (90% mature and old forest) ☐ Type I Fish Habitat ☐ Type II Fish Habitat ☐ Active Fluvial Unit ☐ Forested Swamps ☐ Northern Goshawk Reserves ☐ New Northern Goshawk nests </p> <p>Not Applicable - this is an old growth block no previous harvesting has occurred.</p>
Annual Reporting and Data Submission				
6.62	annual reporting and data submission	☒ Y	☐ N	<p>Annual reporting and data submissions are required for many R/S refer to FSP Table 9, cross ref R/S 6.4, 6.6-6.9, 6.11-6.21, 6.33, 6.37, 6.40-6.43, 6.58, 6.59.</p> <p>Note: at the Site Plan level, the only applicable item related to this R/S is as follows:</p> <p>☒ GIS Layers properly identified</p> <p>All spatial data will be submitted at the time of CP submission.</p>
FPPR Practice Requirements				
6.63	soils (FPPR 35, 36)	☒ Y	☐ N	<p>☒ s35. Soil disturbance limits for each SU are listed on page 1.</p> <p>☒ s36. Permanent access limits $\leq 7\%$; or</p> <p>The PAS for this block is calculated at 1.2ha or 3.6% of the 32.7ha TAUP.</p>
6.64	wetlands (FPPR 48)	☒ Y	☐ N	<p>Wetlands not classified as Type I or Type II fish habitat are managed per FPPR classes and minimum reserve and management zone widths.</p> <p>There is one W3 wetland identified adjacent to MAM003. A 0m reserve zone and a 30m management zone has been applied to the wetlands.</p>
6.65	lakes (FPPR 49)	☐ Y	☒ N	<p>Lakes not classified as Type I or Type II fish habitat are managed per FPPR classes and minimum reserve and management zone widths.</p> <p>There are no lakes within or adjacent to MAM003.</p>
6.66	restrictions in RMA (FPPR 50)	☒ Y	☐ N	<p>Upland streams, wetlands and lakes not classified as Type I or Type II habitat, are managed per FPPR 50 restrictions in an RMA:</p> <p>For the purposes of Upland streams, the applicable RMZ is 30m.</p> <p>No roads are planned for construction within the RMA of an upland stream or wetland.</p>

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6.67	restrictions in wetland or lake reserve zone (FPPR 51)	☐ Y	☒ N	Lakes not classified as Type I or Type II fish habitat are managed per FPPR classes and minimum reserve and management zone widths. There are no lakes within or adjacent to MAM003.
6.68 b, c	retention of trees within RMZ (FPPR 12(3))	☐ Y	☒ N	For the purposes of Upland streams, the applicable RMZ is 30m. Upland stream BA retention 0-100%. For wetlands and lakes not classified as Type I or Type II habitat BA retention ranges from 0-100%, considering potential for windthrow damage to feature or reserve zone. Where the RMZ is located within the harvest area there will be 0% BA retention.
6.70	community watersheds (FPPR 8(2))	☐ Y	☒ N	Prior to development activities within a community watershed, Plan Holders will form an agreement that documents who is responsible for completing watershed assessments and any updates that might be required; allocation of harvesting rates and tracking. MAM003 is not within a community watershed.
6.69 a-d	community watersheds (FPPR 8(2))	☐ Y	☒ N	Proposed harvesting is within one of the following CWs: ☐ Honna River ☐ Slarkedus Creek ☐ Tarundl Creek ☐ QC City ☐ a. watershed assessment completed by qualified professional ☐ b. primary forest activities are consistent with the recommendations of the assessment ☐ c. assessment is updated every 5-years by qualified professional, unless no additional primary forest activities are proposed. ☐ d. group ledger is maintained (updated minimum annually) to track development activities. MAM003 is not within a community watershed.
6.71	maximum cutblock size (FPPR 64)	☒ Y	☐ N	☒ Net Area to be Reforested (NAR) ≤40ha; or ☐ harvesting is to recover timber damaged by fire, insect infestation, wind or other similar event and is designed to be consistent with natural disturbance; or ☐ Basal area retention is ≥40%; or ☐ no point in the cutblock is >two tree lengths from boundary, retention patch >0.25ha; or ☐ not point in the cutblock is more than one tree length from group of trees in patches <0.25ha. Block MAM003 is designed with a Net Area to be Reforested (NAR) of 18.9ha within a single opening.
6.72	adjacency (FPPR 65)	☐ Y	☒ N	Must not harvest timber on a new area unless the existing cutblocks meet the green-up requirements specified in FPPR 65 (3) or the combined area of the existing cutblock, including any areas not greened up, have NAR ≤40ha. There are no adjacency issues with MAM003. An old opening NML12 located to the east is >3m in height.
6.73	adjacency (FPPR 65)	☐ Y	☒ N	This R/S only applies to the Eden Lake Landscape Unit which is not located in Taan's tenure areas.
6.74	wildlife tree retention (FPPR 66, 67)	☒ Y	☐ N	Each block minimum 3.5%, 12-month average of blocks minimum of 7%. Each licensee is responsible for tracking. A WTRA may relate to multiple cutblocks if collectively, they meet the requirements. No harvesting within a WTRA unless the NAR to which the WTRA relates have developed attributes consistent with mature seral condition. A 1.5ha WTRA has been established along the riparian area of Stream 5, 5B and 5A. The WTRA area equals 7.2% based on a net harvest area of 20.7ha.
6.75	cultural heritage resources – information sharing (FPPR 10)	☒ Y	☐ N	A minimum of once annually, FSP holders will provide the CHN with opportunity to share information regarding cultural heritage resources: proposed activities, request information, keep records and document management activities to accommodate or rationale why efforts to accommodate not made. The CHN was provide with maps for the development area on October 5 th , 2015

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6.76	development area referral (FPPR 10)	☒ Y	☐ N	FSP Holders will submit maps for all proposed development areas to the CHN 30 days prior to cutting authority submission. The CHN was provide with maps for the development area on October 5 th , 2015
Government Action Regulation (GAR) requirements				
6.77, a-b	visual quality (GAR 7(2), FRPA 180, 181)	☒ Y	☐ N	Block MAM003 is not located within a scenic area/ visual polygon.
6.78	recreation resources/ trails (FRPA 180, 181)	☐ Y	☒ N	Proposed harvesting or road construction adjacent to a designated recreation site or trail, Plan Holder will consult with agency responsible to ensure proposed activity conducted in accordance with established objectives. Rec Sites: ☐ Rennel Sound ☐ Kagan Bay ☐ Clapp Basin ☐ Small Lake ☐ Moresby Trail: ☐ Riley Beach ☐ Five Mile Beach ☐ Slatechuck Mountain ☐ Sleeping Beauty The block is not located near or adjacent to any of the recreation sites or trails.
6.79	recreation resources/ trails (FRPA 180, 181)	☐ Y	☒ N	☐ established objective is for "non-motorized access";and ☐ proposed new road construction will provide motorized access to the recreation site or trail Plan holder will deactivate the road within one year following completion of primary activities or obtain written approval from the government agency to maintain access and access will be established per the approval. Not applicable (see 6.79)
6.80	Karst (GAR 5)	☐ Y	☒ N	☐ Resource Features include karst caves, significant surface karst feature and very high or high vulnerability karst terrain (and Class 2 HF under LUO). Management strategies will follow R/S 6.6; and regardless of the outcome of an intergovernmental process, Karst Resource Features will not be damaged or rendered ineffective. The Assessment of Forest Karst Resources of Haida Gwaii: A Strategic Overview completed March 2009 by Paul Griffiths and Carol Ramsey identified karst potential polygons. These polygons do not overlap and are not adjacent to MAM003. No karst features were identified within, or adjacent to MAM003.
6.81	WHA-MAMU (FPPR 9, 69)	☐ Y	☒ N	Plan Holders will comply with the established General Wildlife Measures under the Order (6-041 and 6-046): including variance required to build road, operational timing restrictions, constraints to recreation and silviculture, including salvage activities, fire protection priority and stand treatments in 2 nd growth stands to promote old growth characteristics. There are no established MAMU-WHA's within or adjacent to MAM003. There is mapped class 1 and 2 habitat located immediately adjacent to the block near FC66 to 68C.
6.82	WHA-QC/Northern Goshawk (FPPR 9, 69)	☐ Y	☒ N	Plan Holders will comply with the established General Wildlife Measures under the Order (6-001 and 6-002): including seasonal constraints to activities in vicinity, no road construction within 200m of active nest unless variance approved, no blasting within 1km of active nest during breeding season as determined and confirmed with MoE, no harvesting or salvage within QHA except stand treatments to promote old growth characteristics. Also some specific restrictions for foraging areas (variable retention harvesting, maintain CWD, etc). There are no established QC/Northern Goshawk WHA's within or adjacent to MAM003.
Measures – Invasive Plants				
7.1	training	☒ Y	☐ N	The SP Forester (David M. Brown, RPF) who conducted the field work was trained in the identification of invasive plants on August 31, 2012.

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7.2	monitoring & reporting	☒ Y	☐ N	<p>Monitor for the presence of invasive plant species during forest development fieldwork, silviculture surveys, routine inspections and general travel. Where new invasive plant incidences are identified, they will be reported within 30 days to the NWIPC, or by filing a report in the IAPP application directly.</p> <p>Identification of previously unidentified invasive plants will be made known to Taan Representatives by surveyors, forest technicians, foresters or other trained personnel during site surveys and other silviculture or additional fieldwork within or around the area.</p>
7.3	monitoring & reporting	☒ Y	☐ N	<p>Where new occurrences of invasive plants are detected (either a newly introduced plant species, or a new location of a plant species known to already exist within the Plan Area), the site will be assessed by trained personnel. Where practicable, an appropriate action plan will be prepared and implemented to address the invasive plant occurrence. Action plans may include working with government agencies to develop and implement an eradication or management plan.</p> <p>Indication of previously unidentified invasive plants will be made known to Taan Representatives by surveyors, forest technicians, foresters or other trained personnel during site surveys and other silviculture or additional fieldwork within or around the area. Taan will follow the assessment and action plan procedures indicated above.</p>
7.4	sanitation and disposal	☒ Y	☐ N	<p>Recommend their logging and road building contractors to inspect vehicles and equipment, particularly tracks and undercarriages, for the presence of plant parts and that equipment be cleaned prior to leaving an area that is known to contain priority invasive plant species.</p> <p>Contractors, road builders, brushers and other logging contractors are encouraged to wash equipment before moving from an area of known invasive plants before moving into a new area (refer to Harvest Instructions, Road Instructions and/or Salvage Instructions for details).</p>
7.5	sanitation and disposal	☒ Y	☐ N	<p>Where invasive plant material is disposed of it will be disposed of in a landfill or by burning, to the extent practicable</p> <p>Where plant parts are actually removed from machines it is encouraged that the plant parts be disposed of by burning to avoid spread in land fill areas. (refer to Harvest Instructions, Road Instructions and/or Salvage Instructions for details).</p>
7.6 a-c	re-vegetation	☒ Y	☐ N	<p>For newly developed areas (roads and cutblocks) that result in exposed mineral soils (where contiguous area is greater than 0.1ha, with a contiguous minimum width of 5m, excluding the running surface of a road), the Plan Holder will do the following:</p> <p>☒ a. re-vegetate the exposed area as climatic and soil conditions allow and within one year of disturbance, if:</p> <ul style="list-style-type: none"> -the disturbed area is not to be reforested and is not the running surface of a road; and -the soil disturbance is likely to result in the introduction or spread of the established invasive plants; and -re-vegetating the site will materially reduce that likelihood of the spread of the invasive plants. <p>☒ b. monitor the seeded areas for one year from the date of initial seeding to determine if the seed germinates to the extent necessary to occupy the areas of exposed soil; and</p> <p>☒ c. if within one year of the area being initially seeded, the seed does not germinate to the extent necessary to occupy the areas of exposed soil, the Plan Holder will re-seed the area as soon as practicable. Where seeding alone is not successful, fertilization and scarification treatments will be considered, where feasible</p> <p>Cut blocks are planned in Cengea for grass seeding of exposed soils from logging activities. The cut block is first</p>

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				entered as part of the silviculture regime. This is completed by Taan's Operations Forester.
7.7	re-vegetation	☒ Y	☐ N	<p><i>Use Common No. 1 Forage Mixture (according to Canada's seed regulations). Or better.</i></p> <p>All grass seed ordered will be Canada # 1 Forage or better.</p>
7.8	roadside brushing	☒ Y	☐ N	<p><i>Where practicable, Plan Holders will modify roadside brushing treatment methods/ procedures to minimize the spread of established invasive plants (e.g., alter timing or method).</i></p> <p><i>Invasive Plants found in the area?</i> ☐ Yes ☒ No</p> <p>Where scotch broom is present: schedule brushing mainline roadsides leading to the block(s) for winter/ early spring (before broom flowers). This will help reduce the amount of seed matured and spread.</p> <p>Where bull thistle is present: avoid brushing during times when seed can become airborne (generally mid to late summer).</p>

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D. FSC Certification Requirements

FSC certification requirements do not form part of the legal Site Plan content, commitments are voluntary under third party certification.

The following is provided for informational/ planning purposes and does not form part of the legal content of the Site Plan.

FSC Requirement ID	Title	Applicable?		Description
FSC 1	conflicts with LUO/ FSP	☐ Y	☒ N	<p><i>Note, that legal requirements under the LUO and the FSP take precedence over FSC certification requirements. In the event of an identified conflict between legal requirements and FSC, notify a member of the Planning Team promptly.</i></p> <p>N/A - the FSC Management Plan notes that there are no identified conflicts.</p>
FSC 2	consultation	☐ Y	☒ N	<p><i>LWI, Community Watersheds</i></p> <p><i>RE: planning notifications when proposed operations are in the vicinity of known LWIs or CW. In the event that any concerns raised can't be successfully resolved with the other party, contact the CMS Administrator promptly to initiate the FSC Dispute Resolution Process.</i></p> <p>MAM003 is not located within or adjacent to a community watershed or licensed water intake.</p> <p><i>Mount Moresby Adventure Camp (MMAC) – Mosquito Lake area: Planning notifications and consultation when proposed operations are in the vicinity. Review GIS layers for key sites identified as important to MMAC (e.g., visuals, karsts, bear dens, rare plants, trails, campsites, historical sites, old growth, etc.)</i></p> <p>MAM003 is not located in the vicinity of MMAC.</p>
FSC 3	riparian budgets	☒ Y	☐ N	<p><i>FSC Riparian Budgets Tracking Sheet completed and budgets met (rationale documented).</i></p> <p>Riparian budgets meet of FSC requirements based solely on the TAUP area. The Riparian Tracker was completed by David M. Brown RPF on October 25, 2016. The balance by stream class is as follows:</p> <p>S5a: 0.00 ha S5b: 0.00 ha S6a: 0.00 ha S6b: 1.87ha</p>
FSC 4	stand level retention	☒ Y	☐ N	<p><i>Within each cutblock area (>200 m wide or 100 ha in aggregate), the retention of dominant and co-dominant green trees and snags as patches and/or single trees, and exceeds the following minimum levels (stems/ha, of which a minimum of 25% are snags where present): NDT 1 – 8 stems per hectare</i></p> <p><i>Confirm whether LUO reserve areas meet the FSC requirement, establish additional reserves where required.</i></p> <p>The net harvest area for the block is 20.7ha including the Right of Way external to the falling boundary. As such, 166 stems of dominant and co-dominant are required for retention across the block.</p> <p>Retention: 846 stems = 282 sph (from cruise) * 0.25 (25% of sph as co.dom & dom) * 12ha of various retention.</p> <p>Note: for the retention calculation, the retention, WTRA and reserves/ man. zone on CFI features and Type I & II streams are of similar or better composition and wood quality than the harvest area.</p> <p>Snags: (min. req'd = 2sph). This is very decadent old growth stand with 50 snags/ha estimated base on stand type. Where an old growth</p>

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				component is being harvested timber of similar quality including snags and wildfire habitat is located external to the harvest area.
		☐ Y	☒ N	For the Skidegate LU , the target is to achieve an average of at least 20% stand level retention (in long term retention areas), as measured on an annual basis. The block is not located within the Skidegate LU
FSC 5	stand level retention inventory	☒ Y	☐ N	Provide a description of all reserves and retention patches associated with the proposed development area: -species representation (%) and dbh (min, max and average). Include in the description the percent representation of live wildlife trees and snags in general. -% of <u>large snags</u> (large snag is ≥30cm dbh and ≥10m height within the patch and compared to the % in the proposed harvest area (e.g., 20%/30%) -estimated # of pieces/ ha large CWD (≥20cm dbh and ≥10m long) within retention area and compared to the estimated occurrence in proposed harvest area (e.g., 10/12). Description: The block retains 5.7ha in WTRA and LUO reserves/ management zones within a mixed species Hw(81)Ss(11)Yc(8) stand. Additionally, there is 6.3ha in no harvest areas within the TAUP. Generally, there is a subtle type change between the harvest area and the reserves. Portions of the boundary are located based on unstable terrain and at LUO reserves vs. a timber type change. <u>Patch ID – WTRA at Str 5, 5A and 5B (Riparian mixed species)</u> Spp% & dbh avg (min-max): Hw(81)Ss(11)Yc(8)– avg. DBH 58cm (20cm-175cm) % live wildlife trees & % snags: 25%/10% % Large snags vs. harvest area: 100%/100% (numerous snag at 50sph) CWD # vs. harvest area: 25/25 (natural windfall and succession debris) DP from cruise. <u>Patch ID – Devils Club reserves</u> Spp% & dbh avg (min-max): Hw(81)Ss(11)Yc(8)– avg. DBH 58cm (20cm-175cm) % live wildlife trees & % snags: 25%/10% % Large snags vs. harvest area: 100%/100% (numerous snag at 50sph) CWD # vs. harvest area: 25/25 (natural windfall and succession debris) DP from cruise.
FSC 6	HCVF – unique ecosystems	☐ Y	☒ N	FSC MP - Sitka Spruce Riparian Forest, Sitka Spruce Sea Spray/ Fog Forest, Limestone Areas: No high conservation value forests were noted within or adjacent to the block.
FSC 7	HCVF – species at risk	☐ Y	☒ N	FSC MP – high priority species not addressed under LUO: Barrow's goldeneye, Brown creeper, Steller's jay, Hairy woodpecker, ancient murrelet, keen's myotis, Western cowbane, Sphagnum subobesum, Haida Gwaii slug: HCVF-species at risk were not identified within or adjacent to MAM003. A total of 5.7ha of reserves are allocated to the block.
FSC 8	HCVF – large intact forests	☐ Y	☒ N	Where proposed development area is located within one of the identified HCVF Large Landscape Intact Forest polygons, the existing plus proposed development (cutblock and road area) are within the established thresholds. MAM003 is not located within or adjacent to HCVF-large intact forests.

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FSC 9	NTFP	☐ Y	☒ N	Mushroom study and habitat mapping reviewed and considered in block planning/ layout (e.g., Skidegate Lake and Mosquito Lake areas). The block is not located within any of the Mosquito Lake or Skidegate Lake mushroom management areas.
		☐ Y	☒ N	Notification to Haida regarding potential cedar bark stripping areas prior to harvesting (preferably after roads are constructed): ☐ Marlene Liddle – marlene.liddle@mhtv.ca The block is not suitable for Cedar bark stripping.
FSC 10	access management	☒ Y	☐ N	Consider access management and potential or deactivation to limit access to sensitive areas (e.g., WHAs, sensitive wildlife habitat, LWIs, Community Watersheds, etc). There are no sensitive areas noted with this block. In regards to deactivation all roads within the block will be deactivated.
		☒ Y	☐ N	Minimize new road construction and use existing roads to the best extent practicable in the following LUs: Skidegate & Masset Road construction has been kept to a minimum and utilizes old grade where practicable.
FSC 11	max ECA 25%	☒ Y	☐ N	Despite LUO requirements for Sensitive Watersheds and Upland Streams, the maximum permitted ECA under FSC is 25% (unless a hydrological assessment is completed that permits otherwise, and the assessment is publically available). 'Mamin Creek 2' and the 'Blackwater' watershed ECAs will be <25% post-harvest and are limited by the more restrictive LUO sensitive watershed requirements. A watershed analysis was completed by Zimmfor Management Services Ltd. on September 4, 2015. Based on the watershed analysis, the ECA for Mamin River 2 is 12.5% or 87.5% hydrologically recovered allowing for the harvest of 159.8ha. Proposed harvesting within Mamin River 2 includes: : MAM002 (21.6ha).and MAM003 (12.4ha). The proposed harvesting will keep the ECA within the 25% limit. Based on the watershed analysis, the ECA for the Blackwater is 18.2% or 81.8% hydrologically recovered allowing for the harvest of 58.8ha. Proposed harvesting within the Blackwater includes: MAM002 (4.2ha).and MAM003 (7.7ha). The proposed harvesting will keep the ECA within the 25% limit. Harvest plans at the time of signing the Site Plan are within watershed limits. The proposed harvesting will keep the ECA within FSC's 25% limit.
FSC 12	forest influence	☒ Y	☐ N	Report the forest influence for the proposed cutblock. A forest influence map has been prepared for the block and is based on forest cover tree heights. Forest influence is calculated to be 63%.
FSC 13	landscape level connectivity	☐ Y	☒ N	Considerations for landscape level connectivity within the Sewell and Honna LUs (e.g., consideration of connections for stand level reserves to adjacent forested area or reserve networks): Not applicable, MAM003 not within the Sewell or Honna Landscape Units.
FSC 14	important recreation areas	☐ Y	☒ N	Considerations for key recreation sites of importance to locals and the Haida: ☐ Massett Inlet ☐ Papa Johns ☐ Mosquito Lake The block is not located near any of the above noted recreation sites.

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FSC 15	important bird areas	☐ Y	☒ N	<p>Considerations if any Important Bird Areas (refer to GIS layers) are located in the vicinity of the proposed development.</p> <p>☐ IBA 147 Lawn Point ☐ IBA 145 Skidegate Inlet ☐ IBA 144 Cumshewa Inlet to Sheldens Bay</p> <p>The block is not located near to the above noted sites.</p>
FSC 16	landslide hazard	☒ Y	☐ N	<p>Typically, "likelihood" is noted as "hazard" in TSFAs.</p> <p>Road Construction and Harvesting not permitted:</p> <p>☒ High likelihood landslide</p> <p>☐ Very high potential for snow avalanche</p> <p><i>*If appropriate measures can be applied that reduce the high likelihood/ very high potential, then harvesting and road construction may occur.</i></p> <p>Measures to reduce likelihood: TSA polygon 9 was dropped from the final harvest configuration.</p> <p>Operations permitted IF measures implemented to reduce risk or prevent sedimentation and erosion:</p> <p>☐ Moderate likelihood landslide and high-very high landslide induced stream sedimentation hazard</p> <p>☐ Moderate likelihood of landslide and high-very high likelihood of reaching areas of human habitation</p> <p>☐ High potential for snow avalanche initiation</p> <p>☒ High-very high road/ditch/surface erosion hazard and high-very high sediment delivery</p> <p>Measures to reduce risk: Terrain polygon 5 located on the lower reach of stream 5B is incised and was identified as high risk for sloughing and low risk for landslides. Sloughing or a very small to small slide would deposit within stream 5B. A fall away yard away prescription has been added to the harvest instructions for this portion of the stream reach.</p> <p>☒ Harvesting adjacent to areas of high likelihood of landslide or within/ adjacent to areas with moderate likelihood of landslide initiation does not significantly increase windthrow hazard in those areas.</p> <p>A Terrain Stability Field Assessment (TSFA) was completed for the block by Geoforestry Consulting on October, 2015.</p> <p>The TSFA identified 13 terrain polygons in MAM003 with a very low to high potential for post-harvest landslides.</p> <p>Polygon 8, located below MAM003-1 and related jump spurs, is identified as having a moderate potential for post-harvest landslides and no specific recommendations are made. A landslide would likely be small to very small and travel less than 100m</p> <p>Polygon 9 is identified as having a high potential for post-harvest landslides and has been removed for the harvest area. Additionally, there are two bedrock fault-rift features within the proposed cutblock. The largest of these extends from an incised portion of Stream 5B up to near FC70. There is some stream flow along this feature. The deep-seated feature should not be affected by harvesting, but excessive road drainage could accelerate sloughing within the feature. The other feature is located in Polygon 11 and this area will not be harvested. Mitigation measures regarding tree crown modification and worker safety and awareness have been noted in the Harvest and Road instructions.</p>
FSC 17	permanent sample plots	☐ Y	☒ N	<p>Are there any known PSPs in the vicinity of the planned development that will be impacted and if so, provide sufficient rationale to support the development (e.g., harvesting approved by MFLNRO, PSP is not deemed to be required, etc.)</p> <p>No PSPs are located within or adjacent (500m) to MAM003.</p>

MAM003

E. Supporting Information								
Soil Assessment:								
Hazard Ratings					Soil Characteristics			
SU	Soil Comp.	Soil Displ.	Surface Erosion	Forest Floor Displ.	Depth to Unfavorable Subsoil		Type of Unfavorable Subsoil	Sediment Delivery Risk (Community Watershed)
					Min (cm)	Max (cm)		
1	H	VH	H	M	60	80	Till	N/A
Amendment Description/ Notes: ☐ N/A								
Attachments: <i>(completed and reviewed, results incorporated into plans)</i>								
Site Plan or Salvage Plan Map:							☒	
Other (specify):							☐	
Assessments:								
Riparian - Y ☒ / Not req. ☐			Terrain - Y ☒ / Not req. ☐					
Fish - Y ☐ / Not req. ☒			Visual - Y ☐ / Not req. ☒					
Windthrow - Y ☒ / Not req. ☐			Cultural Features ID - Y ☒			Arch. - Y ☐ / Not req. ☒		
Gully - Y ☐ / Not req. ☒			Karst - Y ☐ / Not req. ☒					
Administration:								
Prepared By: David M. Brown Name (Printed)					 <p>Digitally signed by David M. Brown DN: cn=David M. Brown, o, ou=Zimmfor, email=dave@zimmfor.com, c=CA Date: 2016.11.30 10:20:11 -08'00'</p>			
Signing RPF: David M. Brown RPF Name (Printed)								
11/28/2016 4169 Date Signed RPF Number (mm/dd/yyyy)								
					RPF Signature and Seal			
☒ "I certify that the work described herein fulfills the standards expected of a member of the Association of British Columbia Forest Professionals and that I did personally supervise the work."								

- Legend
- Boundaries

Falling Corner

Falling Boundary

Adjacent Proposed Block

Tenure Boundary

TAUP/Development Area
- Harvest Method / Features

Stream Crossing

Hoe / Backspar Trail
- Management Features

Tree Crown Modification

Wildlife Tree Retention Area

Retention Area

Machine Free Zone

Sensitive Soils
- Riparian Features

Type 1 Stream

Type 2 Stream

Upland Stream

Non-Classified Drainage

Unknown

Fish Sensitive Feature

Wet Ground/Swamp

Reach Break
- Lakes / Wetlands

Forested Swamp

Type 1 Habitat (Lake/Wetland)

Type 2 Habitat (Lake/Wetland)

Non-Fish (Lake/Wetland)

Unverified Lake/Wetland/Swamp
- Roads

Road Station (Hub)

Engineered Road

Existing Road

Recce Road

Adjacent Engineered Road

FSR Road

Old Grade

Old Skid Trail

De-activated Road
- Road Construction

Quarry
- Contours (10m interval)

Index Contour and Label

Intermediate Contour
- LUO Features

Devil's Club

Monumental Cedar(>120cm DBH)

Monumental Cedar(<120cm DBH)

Indian Hellebore

CMT

Pacific Crab Apple

Yew Tree (Single)

Yew Tree (Group)

Bear Den
- LUO Features within TAUP/Development Area

LUO Reserve

LUO Management Zone
- Other Features

Permanent Sample Plot

Dangerous Tree

Windthrow

Rock

Rock Bluff

Slide

Gully

Heli Pad

Heli Service Landing

Gate

Adjacent Retention

Adjacent WTRA

Greened Up Block

Non-Greened Up Block

Growth & Yield Plot Buffer
- LUO Schedules

Cedar Stewardship Area

Forest Reserve

Upland Stream Watershed Sub-Unit

Sensitive Watershed Boundary

Northern Goshawk Reserve

Northern Saw-Whet Owl Reserve

Marbled Murrelet Reserve (Class 1 & 2)
- Other Constraints

Park / Conservancy Area

Wildlife Habitat Area

MAM003 Area within:
Sub-basin# 229 - 7.7ha
Sub-basin# 244 - 12.4ha



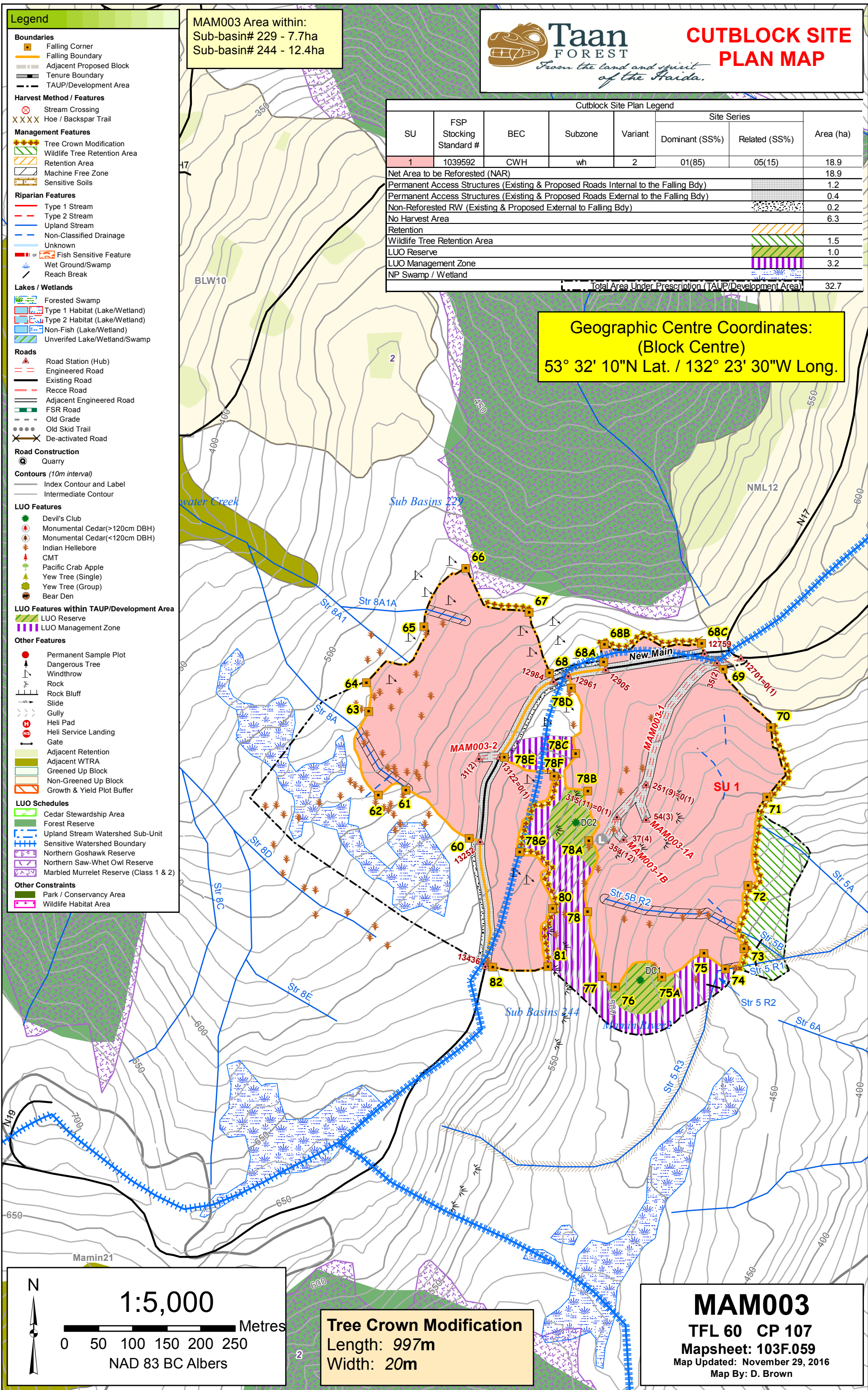
Taan
FOREST

*From the land and spirit
of the Haida.*

CUTBLOCK SITE PLAN MAP

Cutblock Site Plan Legend							
SU	FSP Stocking Standard #	BEC	Subzone	Variant	Site Series		Area (ha)
					Dominant (SS%)	Related (SS%)	
1	1039592	CWH	wh	2	01(85)	05(15)	18.9
Net Area to be Reforested (NAR)							18.9
Permanent Access Structures (Existing & Proposed Roads Internal to the Falling Bdy)							1.2
Permanent Access Structures (Existing & Proposed Roads External to the Falling Bdy)							0.4
Non-Reforested RW (Existing & Proposed External to Falling Bdy)							0.2
No Harvest Area							6.3
Retention							
Wildlife Tree Retention Area							1.5
LUO Reserve							1.0
LUO Management Zone							3.2
NP Swamp / Wetland							
Total Area Under Prescription (TAUP/Development Area)							32.7

Geographic Centre Coordinates:
(Block Centre)
53° 32' 10"N Lat. / 132° 23' 30"W Long.



1:5,000

0 50 100 150 200 250 Metres
NAD 83 BC Albers

Tree Crown Modification
Length: 997m
Width: 20m

MAM003

TFL 60 CP 107

Mapsheet: 103F.059

Map Updated: November 29, 2016

Map By: D. Brown