



ʔAKISQ'NUK
FIRST NATION

FESBC
WILDFIRE RISK REDUCTION

ʔakisq'nuK First Nation Operational Fuel Treatment

Contact Information:

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F20 (2019-20) Project Proposal

Akisqnuq First Nation Operation Fuel Treatment (Slashing, Piling, Burning)

Background:

Most of the Akisqnuq Reserve and adjacent Crown Land is located in the Very Dry, Cold Interior Douglas-fir subzone (IDF_{ck}) biogeoclimatic zone (historically called IDF_{un}). Typical sites have grasslands of Bluebunch Wheatgrass, and Junegrass, with scattered Douglas-fir. However, forest ingrowth has created stands similar to those of higher elevations. Historically, these ecosystems classified as Natural Disturbance Type 4, saw frequent stand-maintaining fires and rarely stand-initiating crown fires. These fires were driven by periodic lightning caused fires and the historic use of prescribed fire by the Akisqnuq. These low intensity fires usually resulted in the consumption of woody surface fuels and thinned the younger stands, resulting in revitalization of the grass and shrub communities and increased the height of the live crown. This fire driven ecosystem has strayed away from its historical composition. A century of fire suppression has altered the fire regime of the Rocky Mountain Trench and the effects of this are evident on the Akisqnuq Reserve and the adjacent Crown Lands. Stands now commonly consist of high stem densities, high fuel loading, and continual conifer encroachment on grasslands.

Unit C2

Unit C2 (95 ha) is located immediately east of the Akisqnuq Reserve, on Crown land, along the Madias-Tately FSR. The area contains high density Douglas-fir stands which have captured the site and have accumulated high levels of fuel. The proposed unit is adjacent to 100 ha of previously and currently being treated units and will further efforts to reduce the risk of catastrophic wildfire to nearby communities. Unit C2 is within the Akisqnuq Wildland Urban Interface, near the community of Fairmont Hot Springs, along a Landscape Level Fuel Break, and has a fire behavior threat class of high.

Typically, these units have a Layer 1 of about 700-800 sph of mature Douglas-fir (with minor occurrences of Ponderosa Pine and Trembling Aspen). Layer 2 and 3 (under 12.5 cm DBH) are the most dense with about 1500 stems/ha of Douglas-fir. Operational fuel reduction will target the removal of non-merchantable stems using hand and mechanized techniques and prune remaining stems. Debris will be piled by hand and machine, and then burned or chipped and scattered. Maximum allowable rates for fine surface materials will insure mulched material is not a fire hazard.

Overall Treatment Objectives:

Objectives of the proposed fuel treatment are to lower the Wildfire Behavior Threat Class as listed on the Community Wildfire Protection Plan (CWPP) from "High" to "Moderate" by reducing surface fuels and canopy bulk density through the removal of excess ground fuels, ladder fuels and reducing tree crown connectivity. Unit C2 is planned for treatment with a target stems per hectare at 150 from the current estimated stems per hectare of 2500.

Complimentary objectives of the treatment include:

- To re-establish historic stand structure and ecological processes to enhance the health and vigour of the ecosystem;

- To ensure that wildlife habitat, especially critical ungulate winter range, is maintained in a healthy condition;
- To ensure critical habitat for known Red and Blue listed species, which were historically present, are maintained/restored;
- To promote the production of tall, large diameter conifers as a carbon sink and for both stand structure and wildlife habitat, current and future. Promotion of large diameter stems will ensure that high quality wildlife trees/snags, which are currently in short supply at the landscape level, are available in perpetuity;
- To complement and enhance ongoing NDT4 restoration activities within the Rocky Mountain Forest District;
- To minimize/reduce noxious weed infestations and spread.

Specific Treatment of Unit C2:

- Slash all coniferous stems in layers 3 and 4. Slash all layer 2 stems <15cm dbh. This includes all small seedlings. Ensure no live limbs on stumps. Stumps shall not exceed 20cm in height and shall be cut at no greater than a 10 degree angle (ie as flat as possible).
- Prune remaining stand to 4 meters along the landscape level fuel break and 3 meters in other zones.
- Where slash levels are low, remove branches from stems, lop and lay all slash directly on soil surface to promote prompt decomposition.
- Where slash levels are moderate to high, pile slash.
- Where soils and topography allow, mechanically treat areas and mulch/chip/shred material to reduce burning required and for nutrient cycling.
- Monitor mechanical treatment to insure fine surface fuels do not exceed .6 kg/m².
- Hand pile the majority of slash in small hand piles not to exceed 3m diameter by 3m in height. Pile in standard tee-pee fashion to promote good combustion of material.
- Allow all piles to cure for a minimum of 6 months prior to burning. Burn all piles, on frozen soils, within 24 months of creation.
- Rehabilitate burn rings through raking to break up hydrophobic layer, seed with native seed mix in consultation with P. Ag.
- Post treatment stocking is anticipated to be an open range structure with small, dispersed open to closed forest patches where layer 1 stocking exceeds 76 stems per hectare.

Wildlife Trees

- Major wildlife tree patches (WTP) will be created within the treatment areas to protect wildlife trees and to ensure worker safety. These patches are flagged in blue and are to be considered as “no work zones”.

- Additional wildlife trees, flagged as high value (blue flagging), are to be conserved.
- Other wildlife trees will be discovered during the course of treatment.
- All wildlife trees outside of WTP's are to be assessed by a qualified Wildlife Tree Assessor for safety prior to working in their proximity, if deemed safe. Alternatively, existing wildlife trees which are considered potential hazards can be felled by a qualified danger tree faller or maintained by creating "no work zones" of approximately 1.5 times the tree height around each tree/patch.
- Wildlife trees are to be assessed and the appropriate safe work procedures are to be implemented in the year of treatment.

Rare Plants

The rare plant *Sphaeralcea coccinea* (scarlet globemallow), 11U 57790 5586812 and the interesting plant *Asparagus officinalis* (wild asparagus) 11U 577747 5586941, which are shown on the SMP map, are to be located during the growing season and flagged out as "no work zones", similar to the various WTP's.

Project Risks

Invasive plant mitigation techniques will be used. Burning will only occur in favourable conditions.

Community Engagement and Communication Activities

Will be recognized in community newsletter and local print media will be invited to work site.

Project Timeline

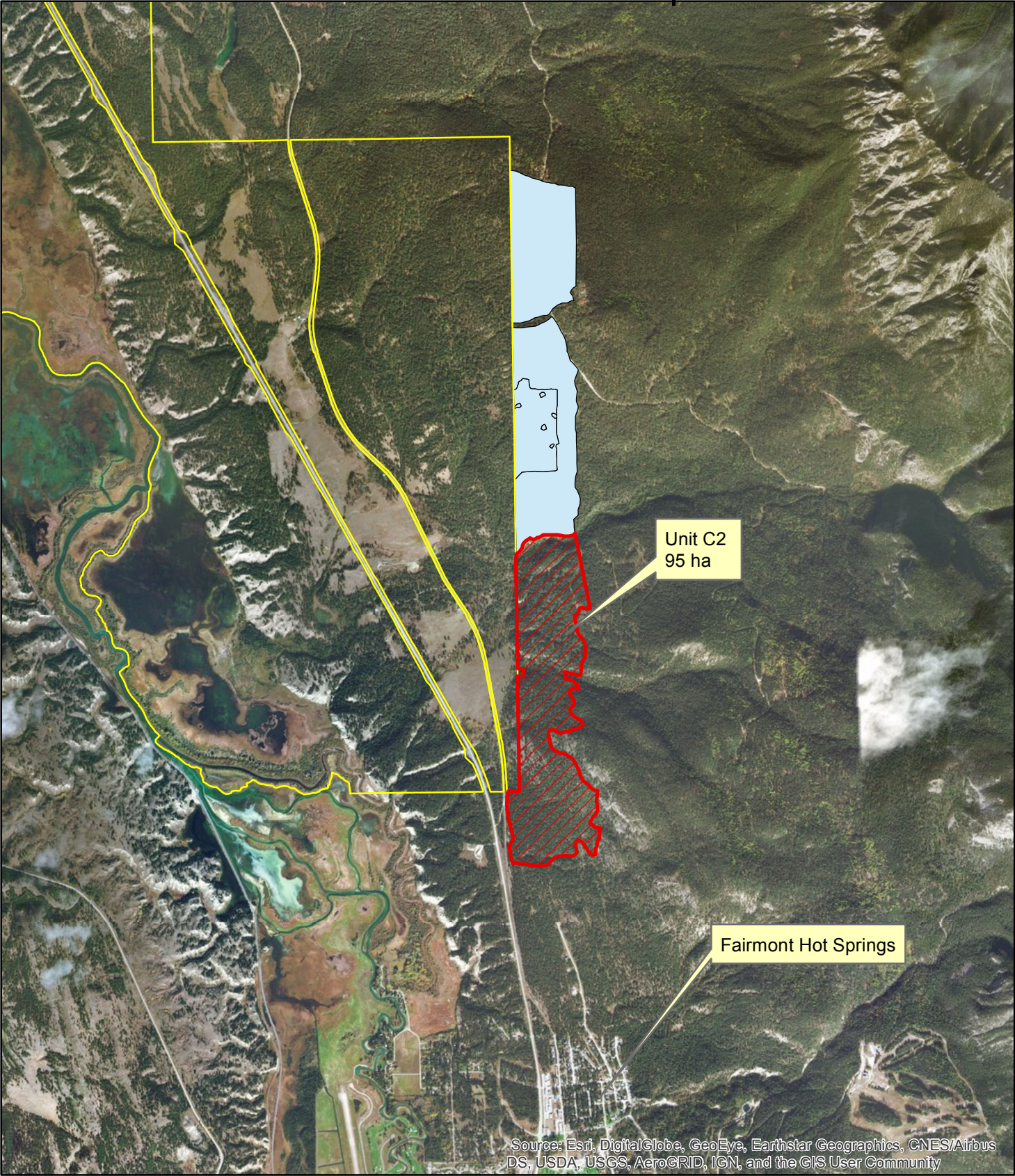
Work should be initiated in the Spring of 2019 and completed Fall 2020. Initiation date may change depending on sign off of the required Timber Permit.

Budget

A total of **\$525,020.00** has been allocated for this project:

- \$410,000.00 for the Slashing and Piling
- \$95,000.00 for pile burning
- \$10,000 for professional forester fees, danger tree assessments and treatment of danger trees
- \$10,000 for administration and field monitoring

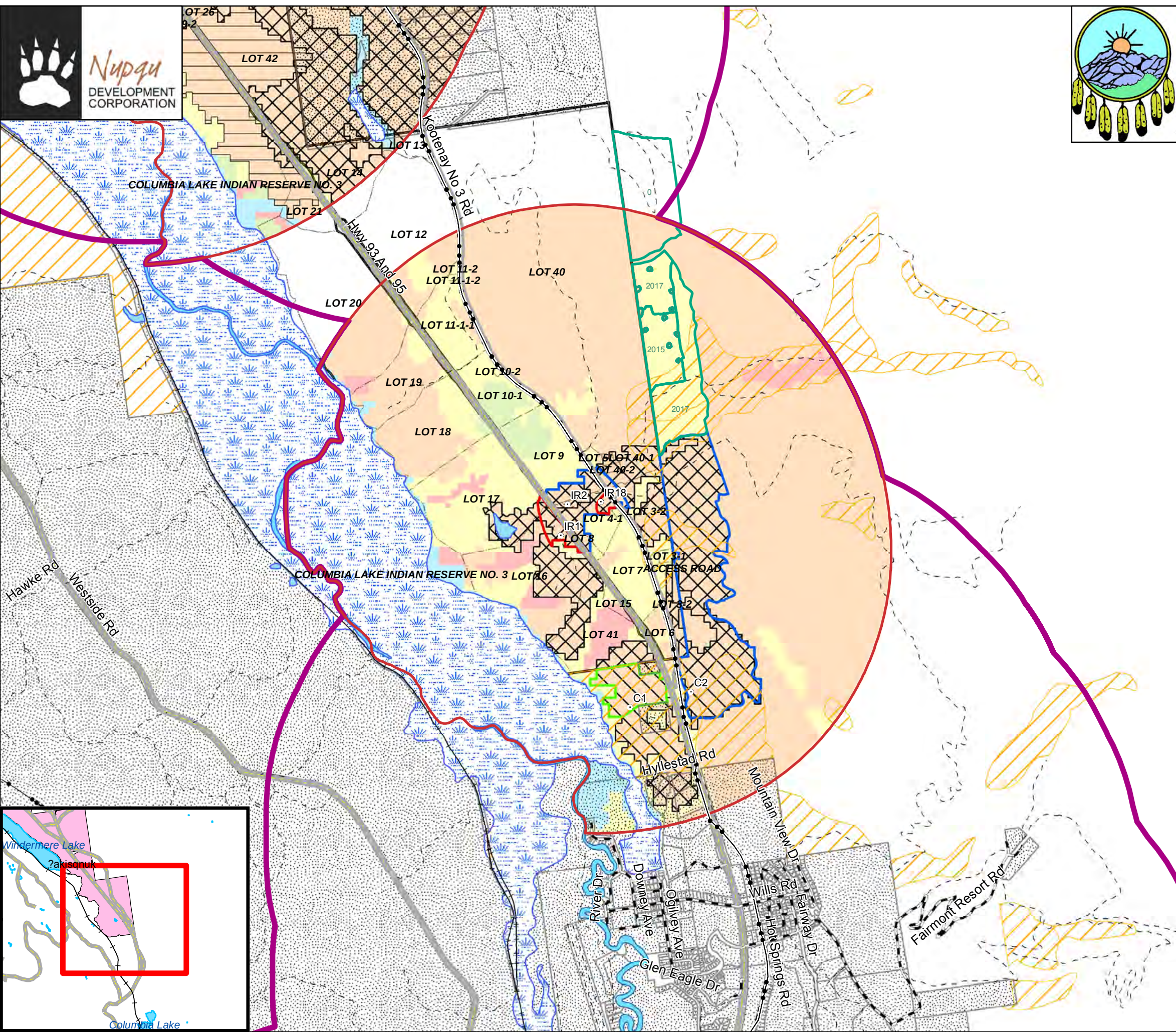
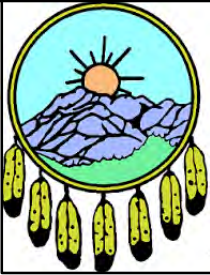
Akisqnuq Natural Resources Manager will GPS the boundary to determine the area completed when requested. Upon completion of the project the forestry professional will complete a final area calculation and inspection as meeting the requirements of the prescription.



Legend

-  Proposed Fuel Treatment C2
-  Akisqnuq First Nation Reserve
-  Completed / Active Treatment





?Akisq'nuk Community Wildfire Protection Plan 2016 Update

CWPP Wildfire Threat

○ THREAT PLOT

--- Secondary Road

== Primary Road

●●● Transmission Line

—+— Railway

— Paved Road

▭ Federal Reserve

▨ Wetland

■ Lake

■ River

▭ AOI

▨ Land Parcel

▨ Private Land

▭ Treated Area

▨ AOA Polygons

▭ WUI

TREATMENT PRIORITY

▭ Low

▭ Moderate

▭ High

WUI THREAT CLASS

▨ Extreme

▭ High

Fire Behaviour Threat Class

▭ Very Low

▭ Low

▭ Moderate

▭ High

▭ Extreme

Fire Behaviour Threat Class	Total Area (ha)	WUI Threat Class	Total Area (ha)
Extreme	98.5	Extreme	944.0
High	3172.4	High	209.5
Moderate	1626.18	*Areas summarized over entire AOI*	
Low	1072.6		
Very Low	901.6		

0 0.25 0.5 0.75 1 km 1:30,000



Nupqu Development Corporation			
Date: November/16/2016		Drawn By:	Yvan Kathriner, RPF
Sheet No: 82J		Contact:	ykathriner@nupqu.com
Map Grid: None			250-489-5762
Coordinate System: NAD 1983 BC Environment Albers			

FIRE_BEHAVIOUR THREAT_CLASS	DESCRIPTION
Very Low	These are lakes and water bodies that do not have any forest or grassland fuels. These areas cannot pose a wildfire threat and are not assessed.
Low	This is developed and undeveloped land that will not support significant wildfire spread.
Moderate	This is developed and undeveloped land that will support surface fires only. Homes and structures could be threatened.
High	Landscapes or stands that: ?are forested with continuous surface fuels that will support regular candling, intermittent crown and/or continuous crown fires; ?often include steeper slopes, rough or broken terrain with generally southerly and/or westerly aspects; ?can include a high incidence of dead and downed conifers; ?are areas where fuel modification does not meet an established standard.
Extreme	Consists of forested land with continuous surface fuels that will support intermittent or continuous crown fires. Polygons may also consist of continuous surface and coniferous crown fuels. The area is often one of steep slopes, difficult terrain and usually a southerly or westerly aspect.