

# King Creek Timber Harvest Plan in the Watson Lake Annual Limit Region



## FOREST MANAGEMENT BRANCH

Submitted by  
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Forest Management Branch

Sept 12/13  
Date

Approved by  
Lyle Dinn, Director  
Forest Management Branch

Sept. 17, 2013  
Date

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## Executive Summary

This Timber Harvesting Plan (THP) has been prepared to meet the requirements of the Forest Resources Act (FRA) and associated Forest Resources Regulation (FRR).

A THP is required prior to the issuance of any timber harvesting licence or forest resources permit > 25 m<sup>3</sup>. (FRA, Section 29(4)(d)(ii).)

The King Creek THP is proposed, in order to meet the needs of fuelwood operators who have applied for volumes currently in excess of those available in the vicinity of Watson Lake. The area is located between 10 and 16 km on the Nahanni Range Road and contains in excess of 20,000 m<sup>3</sup> of fire killed timber. The THP is broken into 7 commercial fuelwood operating units and also allows for personal use fuelwood cutting along the highway corridor.

The THP is located within the 2009 Watson Lake #17 burn which is 7,362 hectares in size. The area was chosen due to its proximity to the Nahanni Range Road which provides easy access to the timber.

All applications for commercial fuelwood or personal use fuelwood permits will be considered on a case by case basis with proponents required to meet the submission requirements (FRR, Sec19(1)).

Prior to issuance of harvesting licences, notification is required to the affected First Nation and public in the area of the application. The First Nation and public may make representations to the Branch Director on the application for a period of no less than 30 days. (FRA, Section 18)

The Director of Forest Management Branch (FMB) will then, based on representations, make a decision to issue or refuse to issue the harvesting licence (FRA, Section 19).

Applications that trigger an assessment under the Yukon Environmental and Socio-economic Assessment Act will require submissions to the local Designated Office in Watson Lake. Activity triggers include road building and deactivation, timber harvesting permits greater than 1000m<sup>3</sup>, as well as burning of machine piled debris and use of off-road heavy equipment.

## **Introduction**

### **1.1 Background**

The King Creek THP has been prepared based on applications from fuelwood operators wanting to increase capacity in the fuelwood industry in the Watson lake area. The size of the proposed operations could not be met within currently planned THP's and the Nahanni Burn is the closest accessible dead timber salvage area that meets their needs.

The Liard and Ross River Dena First Nations affected by the THP planning were notified of the planning initiative in February of 2013.

Field assessments and reconnaissance of the area was conducted during snow free conditions in May and June 2013 by FMB staff.

### **1.2 Eco-region and Drainages**

The area lies within the Boreal-Cordillera Ecozone and comprises attributes of the Hyland Highland ecoregion.

This ecoregion in southeastern Yukon spans the boundary with British Columbia north of the Liard River. The mean annual temperature for the area is approximately -2°C with a summer mean of 10°C and a winter mean of -18°C. Precipitation varies 500–600 mm being greatest at higher elevations in the northern portion of the ecoregion.

Open stands of black and white spruce with an understory of dwarf birch, Labrador tea, lichen, and moss predominate the boreal forest. Drier and warmer sites tend to have more white spruce with lodgepole pine, paper birch, and some aspen. The ecoregion supports forests with considerable productivity. Wet sites are usually covered with bog or fen vegetation such as dwarf black spruce, larch, Labrador tea, ericaceous shrubs, sedges and mosses.

The ecoregion takes in parts of the Liard Plateau physiographic unit that is underlain mainly by Cretaceous shale. Many summits and hills are flat, but extensive remnants of former erosion surfaces are evident. Permafrost is sporadic, being confined to lower, north-facing slopes and some organic deposits primarily in the northwestern part of the ecoregion.

This ecoregion provides habitat for a wide range of wildlife species, including moose, bear, red fox, beaver, snowshoe hare, arctic ground squirrel, wolf, lynx, weasel, snowy owl, and various raptors.

Land uses include some forest harvesting, mineral exploration, big game hunting and guiding, subsistence hunting and trapping, and minor amounts of recreation and tourism.

The THP is located in the King Creek Drainage which flows west into the Frances River which in turn flows south for about 100 km and flows into the Liard River.

### 1.3 Socio-Economic Considerations

Watson Lake is a town of about 1200 people located in the SE corner of the Territory and is considered a hub city or “Gateway to the North”, positioned on the Alaska Highway at the junction of the Robert Campbell Highway north and close to the Junction of Hwy 37 south to BC.

Watson Lake is the regional service and business centre for the southeastern Yukon, and has a diversified economy. Business travel and commercial transportation are important as part of Watson Lake's role as a transportation hub, along with tourism which has been increasing in value.

During the 1990's, Watson lake was booming with forestry and mining activities, although during the past decade the economic downturn has affected the economic stability of the region.

The development of more secure and sustainable primary industries such as forestry, would provide long term support for the local economy.

*Information taken from:*

<http://www.yukoncommunities.yk.ca/communities/watsonlake/economy/>



## **2.0 Planning Area Identification**

The planning area covers an area of 1319 ha. along the Nahanni Range Road (NRR) between 10 and 17 km. Refer to Appendix A: Map.

In the southwest corner of the THP, and for mapping purposes, the existing Operating Unit WL-04 is included in this management area footprint. The standards for planning and operations in this unit are contained in the Watson Lake Fuelwood THP, 2011.

### **2.1 Ecosystem and Stand Composition**

The forested land-base was composed of a typical upland pine and black spruce mixed forest that has been burned and killed during the wildfire in 2009. The fire has reduced the duff layer of the forest floor (organics) in most areas leaving patches of exposed mineral soil where both spruce and pine regeneration can be found in varying degrees of abundance.

### **2.2 Wildlife**

Characteristic wildlife includes caribou, moose, grizzly and black bear, as well as numerous fur bearers and birds.

During timber reconnaissance and planning, moose and bear sign was noted, as well as the browsing of willows and other deciduous species.

No known wildlife critical areas have been identified. During further planning and operations the Wildlife Features Standards will be used to address site specific issues related to wildlife concerns within and adjacent to any proposed harvest area. Features identified will be reported to the Regional Biologist in Watson Lake.

A copy may be found at <http://www.emr.gov.yk.ca/forestry/442.html> .

### **2.3 Biodiversity**

Fire is prevalent in this boreal natural disturbance zone. Since the 2009 fire disturbance the area has reverted to early seral stage vegetative cover consisting of grasses, forbs and herbs with a developing tree cover of willows, aspen and patchy pine and spruce regeneration.

Proposed development will impact about 3% of the burn area and salvage will focus on the larger diameter timber, both standing and down. Typically small diameter stems, tops and branches will be left on site as coarse woody debris.

Few green patches of timber survived the fire but where surviving trees exist, the harvesting of green timber will not be permitted.

With natural processes dominating the majority of the burn area and the relatively small scale of salvage, biodiversity will be retained in the development area.

## **2.4 Riparian and Water Resources**

An assessment has been completed and determined that King Creek is a fish bearing Class 2 stream and Sequence Creek, which flows into King Creek near the eastern edge of the operating unit is a Class 3 stream which is assumed to be fish-bearing. The unnamed creek along the western boundary has not been classified, so must be assumed to be fish bearing. Riparian management areas have been established for all streams according to the Riparian Standards and no harvesting operations will occur in these areas. No creeks will be crossed during development.

All harvesting operations approved after public and First Nation review will meet the established riparian standards for best forest management practices. A copy of the standards may be found at <http://www.emr.gov.yk.ca/forestry/442.html>

## **2.5 Recreation and Visual Impact**

The Nahanni Range Road is not a primary tourist corridor, but is travelled by suppliers and employees of the Cantung Mine, highway maintenance crews as well as local hunters and recreational users.

Harvesting in the proposed areas of the burn is not expected to negatively impact the current natural view-scape.

## **2.6 Cultural Heritage and Archeological Sites**

An archeological overview assessment was completed for the planning area, in which several areas of high archeological potential were identified.

The Overview Assessment can be found in Appendix C.

A surface feature inventory was completed in August and two pre-historic lithic sites on surface were found. The areas have been marked and will be taken out of the operational area of the THP.

The Impact Assessment Report approved for public release can be found in Appendix D.

Any further archeological finds during harvesting operations will be marked off and operations in the area will cease. The SRNO in Watson Lake will be notified and work will not continue in the area until an Archeological Site Assessment has been completed.

## **2.7 Traditional Land Users**

Letters of notification of this draft THP have been forwarded to the trapping concession holder. There is no outfitting concession holder operating in the planning area. No other stakeholders have been identified. Other interests will be identified during the public THP review.

Interim Protected block LFN S-27B lies south of the Nahanni Range road and crosses King Creek. This protected land selection has been excluded from the THP.

Comments and representations received during the review period have been addressed in the THP.

## **2.8 Principles of Timber Management in the THP**

If a THP is not subject to a higher level Forest Resource Management Plan, the FRA requires the THP to take into account specific matters. Many are discussed in other sections of the THP, the following operational principles complete the list of required elements.

**2.8.1 Sustainability** - Historic timber harvest levels in the District are well below the 128,000 m<sup>3</sup> level set for the Watson Lake Annual Limit Region. Salvage harvesting of dead timber within this THP is not required to be accounted for in the Annual Cut. Harvesting of this THP will maintain sustainable harvest limits in the region.

**2.8.2 Integrated and Balanced Planning Approach** - All applications for timber harvesting will be reviewed both internally to meet best management practices and publically to integrate and balance other needs, interests and uses of the forest in the Traditional Territory.

**2.8.3 Higher Level Plans** - There are no higher level land use plans in the area.

**2.8.4 Fish and Wildlife Management Plans** – There are no known Fish and Wildlife or Habitat Protection Plans in the area.

**2.8.5 Harvesting Rights of First Nations** - The THP is not intended to impact the fish and wildlife harvesting rights of first nations as set out in Chapter 16 of a final agreement, neither is it intended to impact the asserted Aboriginal rights of first nations without a final agreement.



### 3.0 Harvesting Section

As indicated, the purpose of the THP is to support applications for fuelwood extraction that cannot be met by currently approved plans within the Watson Lake Annual Limit Region.

Applicants for timber harvesting licences will be required to submit a map and site plans outlining; pertinent ecological or wildlife site specific information; harvesting layout with any road and trail construction; reasons for seasonal constraints; timber products and any manufacturing details, and how the strategic goals and operational standards of this THP are being met.

Current license applications have been referred to the Liard and Ross River Dena First Nations as well as the public for review and comment. Future commercial applications will require the same notification process prior to a decision on approval and issuance of any harvesting permits.

Commercial fuelwood cutting will not be allowed in the areas designated as Personal Use Fuelwood. These areas are easily accessible off the Nahanni Range Road and are set aside for use by locals. A free Forest Resource Permit from the Client Services Office in Watson Lake is required to harvest in these areas.

#### 3.1 Operating Unit Summary

Please refer to the Overview Map, Appendix A, for distribution of operating units within the King Creek THP. WL-04 is considered independently, as part of the Watson Lake Fuelwood THP.

Table 1 shows the Area and Volume summaries with proposed operating seasons for the seven Operating Units in the THP.

Operating Units may be further divided into Harvest Blocks or reduced in size based on the needs of operators.

**TABLE 1: AREA AND VOLUME SUMMARIES WITH OPERATING SEASON.**

<b>OPERATING UNIT</b>	<b>AREA (HA)</b>	<b>EST. VOL m3/HA</b>	<b>GROSS VOLUME</b>	<b>OPERATING SEASON</b>
KC01	86.6	100	8660	DRY OR FROZEN
KC02	58.9	110	6479	DRY OR FROZEN
KC03	15.7	78	1225	FROZEN
KC04	8	70	560	DRY OR FROZEN
KC05	7.7	96	739	DRY OR FROZEN
KC06	24.8	70	1736	DRY OR FROZEN
KC07	24.9	115	2864	DRY OR FROZEN
<b>TOTAL</b>	<b>227</b>		<b>22262</b>	

### **3.2 Harvest Scheduling and Season**

The operating season for Unit KC-03 is restricted to frozen conditions, because the required access from KC-04 or KC-05 must cross a fen wetland with saturated soils.

Harvest scheduling will be dictated by proponent applications and needs. Restrictions on harvesting will occur during spring break-up or extended rain events where ground conditions are too wet to operate. Soil conservation standards and hazard assessments provide guidelines for establishing harvest schedules in order to minimize the impact of disturbance on soil productivity.

These standards can be found at:

[http://www.emr.gov.yk.ca/forestry/pdf/planning\\_standards\\_soil\\_conservation.pdf](http://www.emr.gov.yk.ca/forestry/pdf/planning_standards_soil_conservation.pdf)

### **3.3 Silviculture System**

As the timber proposed for harvesting has already been killed by natural causes, the silviculture system has been naturally established as an even-aged management system. Regeneration that establishes naturally within the next decade will create the next forest.

Natural regeneration of the site has already begun with Pine and Black Spruce already showing up where the organic layer (duff) on the soil has been reduced in depth by the fire. This reduced duff depth allows the germinating trees to get roots into mineral soil and maintain moisture balance thought the generally hot and dry summer.

In this timber salvage situation, the harvesting system, equipment and style of harvesting being used will have direct implications on the regeneration success of the new forest.

An applicant must submit Site Plan (SP), as part of the application, and each applicant will be required to detail how they will protect the established natural regeneration during their harvesting operations. The protection of the newly regenerating forest will ensure that a fully stocked stand will remain after salvage operations are completed.

## **4.0 Access Management**

The Nahanni Range Road runs through the THP. Access permits, from Highways and Public Works will be required from this primary road to access all commercial Operating Units. Applicants will be required to obtain permits, construct and remove access points according to the permit standards.

Table 2 shows the proposed roads and landings for each operating unit and area of disturbance anticipated. Refer to Appendix B: Map, for proposed location of roads and landings. Alternate configurations may be considered upon client application, depending on equipment, but soil disturbance standards will still need to be met.

**TABLE 2: PROPOSED LANDING AND ROAD CONSTRUCTION WITH DISTURBANCE**

OPERATING UNIT	GROSS AREA	DISTURBANCE TYPE/NAME	NUMBER	LENGTH (m)	WIDTH (m)	AREA (HA)	DIST % OF GROSS
KC01	86.6	ROAD - KC1 BRANCH		1317	5	0.7	
		LANDINGS	4	50	50	1.0	
		Total Area				1.7	1.9%
KC02	58.9	ROAD - KC2 BRANCH E		956	5	0.5	
		ROAD - KC2 BRANCH W		1241	5	0.6	
		LANDINGS	7	50	50	1.8	
		Total Area				2.8	4.8%
KC03	15.7	WINTER ROAD - KC3 SPUR		400	5	0.2	
		LANDINGS	1	50	50	0.3	
		Total Area				0.5	3.1%
KC04	8	ROAD - KC4 SPUR		150	5	0.1	
		LANDINGS	1	50	50	0.3	
		Total Area				0.3	4.1%
KC05	7.7	ROAD - KC5 SPUR		270	5	0.1	
		LANDINGS	1	50	50	0.3	
		Total Area				0.4	5.0%
KC06	24.8	ROAD - KC6 SPUR RIGHT		260	5	0.1	
		ROAD - KC6 SPUR LEFT		190	5	0.1	
		LANDINGS	2	50	50	0.5	
		Total Area				0.7	2.9%
KC07	24.9	ROAD KC7 BRANCH		1120	5	0.6	
		LANDINGS	3	50	50	0.8	
		Total Area				1.3	5.3%

NOTE: THE TABLE OUTLINES PROPOSED ROAD LAYOUT AND AREAS, WHICH MAY CHANGE DEPENDING ON APPLICANT NEEDS AND EQUIPMENT. REGARDLESS, THE SOIL DISTURBANCE STANDARDS WILL DETERMINE THE NEED FOR POST-HARVEST REHABILITATION BASED ON DISTURBANCE WITHIN OPERATING (BLOCK) AREAS.

Road construction standards will follow the Timber Harvest Planning and Operating Guidebook, (THPOG, 99) or new standards that are in force at the time of operations. All roads will be single lane seasonal (dry weather or frozen) to minimize environmental impacts. Operators may also choose to use road side harvest systems where, landings could be eliminated and site disturbance further reduced.

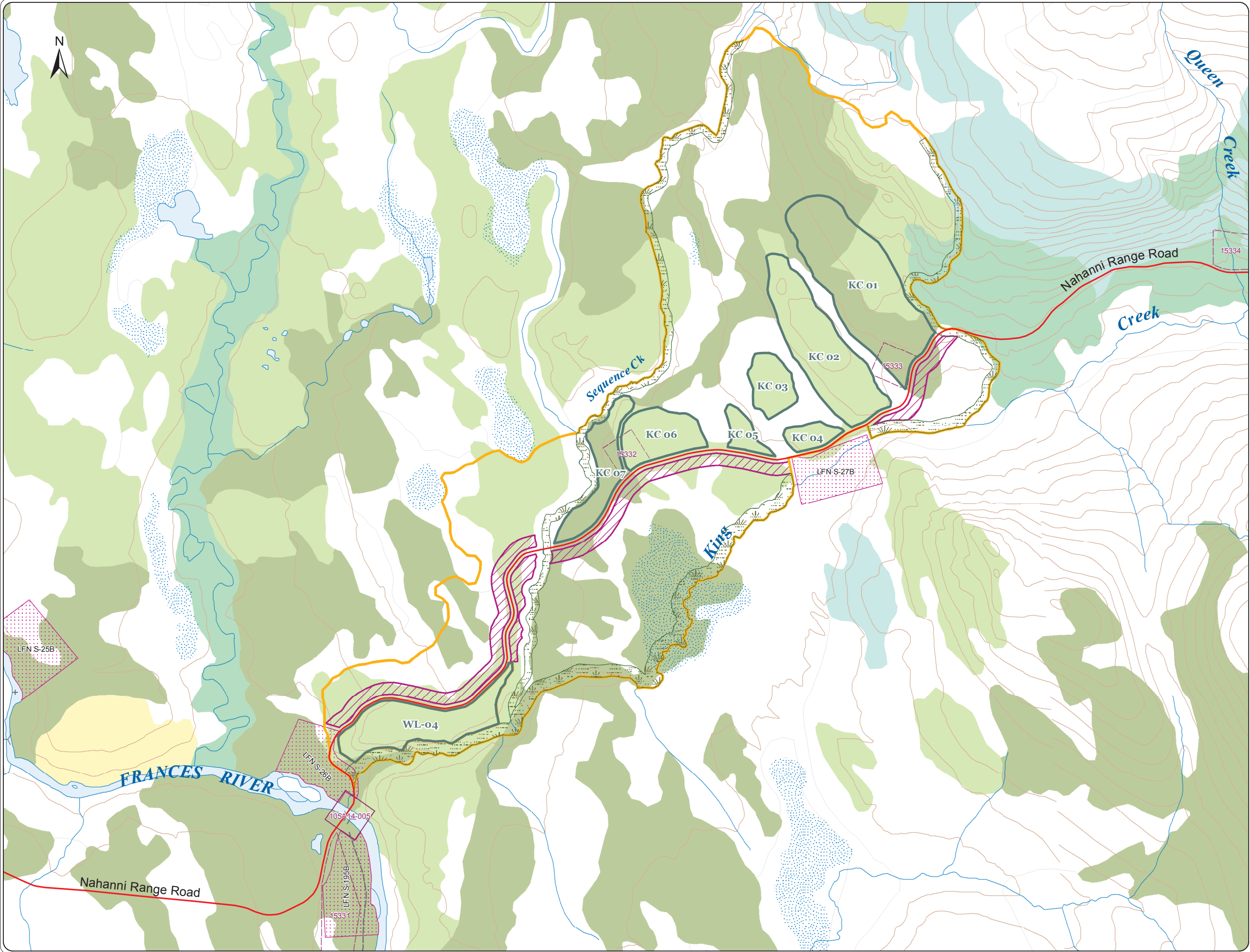
As indicated in Section 3.2, Soil disturbance standards will be enforced and site disturbance over 5% of operating units will require rehabilitation.

## 5.0 Research and Monitoring

There is no formal research planned for any operations within this THP. Monitoring of activities will be conducted during the operational period by Client Services and Inspections where local Forest Officers inspect permits and enforce terms and conditions.

## **APPENDIX A**

### **1:30,000 Overview Map**



**King Creek  
Timber Harvest Plan Area**

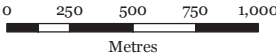
**Tintina District  
Ross River / Faro**

For more timber harvest information

Web: [www.emr.gov.yk.ca/forestry](http://www.emr.gov.yk.ca/forestry)

Phone: 1.867.456.3999

Date: July 16, 2013



1:30,000

Yukon Albers  
NAD 83

Forestry spatial data managed and maintained by the Forest Management Branch, Yukon Government. All other spatial data provided by Geomatics Yukon.

**Project Specific Features**

- Operating Units
- Riparian Management Area
- Proposed Personal Use Fuel Wood
- Timber Harvest Plan

**Land Administration**

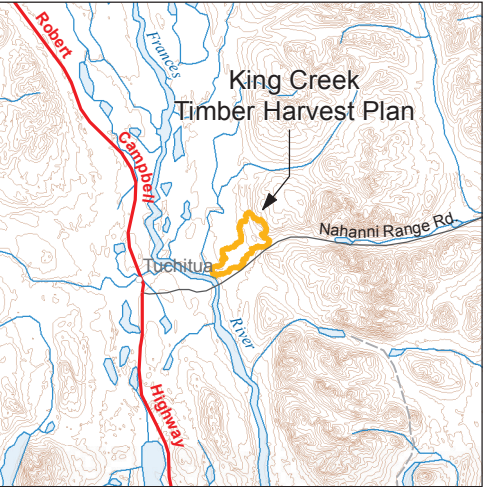
- Active Land Applications
- Land Dispositions
- Surveyed Land Parcels

**First Nation Administration**

- A: Surface and Subsurface Rights
- B: Surface Rights
- FS: Fee Simple
- Unsurveyed FN Settlement Lands
- Unsurveyed Interim Protected FN Lands

**Forest Cover - Leading Species**

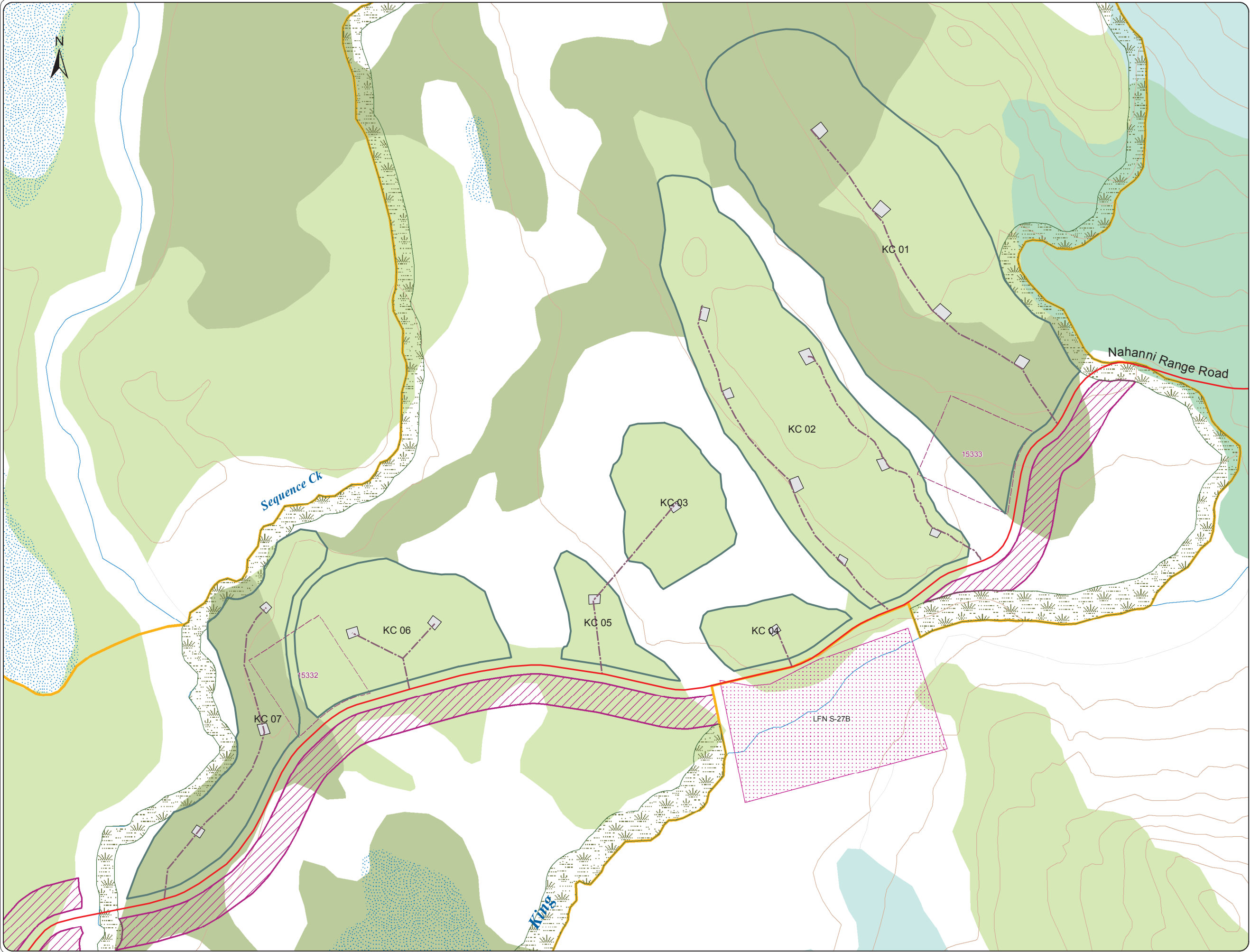
- Black Spruce
- White Spruce
- Subalpine Fir
- Lodgepole Pine
- Balsam Poplar
- Birch
- Larch
- Trembling Aspen
- Non-Forested



## **APPENDIX B**

**1:12,000 Proposed Development**





# King Creek Road Development Map

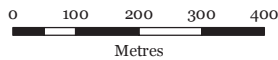
Tintina District  
Ross River / Faro

For more timber harvest information

Web: [www.emr.gov.yk.ca/forestry](http://www.emr.gov.yk.ca/forestry)

Phone: 1.867.456.3999

Date: July 24, 2013



1:12,000

Yukon Albers  
NAD 83

Forestry spatial data managed and maintained by the Forest Management Branch, Yukon Government. All other spatial data provided by Geomatics Yukon.

## Project Specific Features

- Active Access
- Inactive Access
- Riparian Management Area
- Proposed Personal Use Fuel Wood
- Timber Harvest Plan

## Land Administration

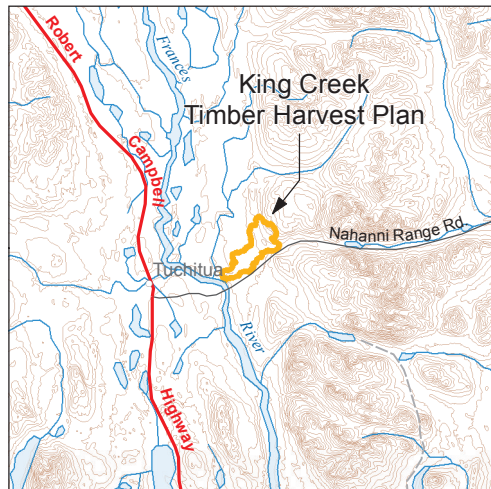
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- A: Surface and Subsurface Rights
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## Forest Cover - Leading Species

- Black Spruce
- White Spruce
- Subalpine Fir
- Lodgepole Pine
- Balsam Poplar
- Birch
- Larch
- Trembling Aspen
- Non-Forested



## **APPENDIX C**

### **Heritage Overview Assessment**



# HERITAGE RESOURCES OVERVIEW ASSESSMENT REPORT

ADMINISTRATION			
<b>Permit Number</b>	N/A	<b>Report Author</b>	James Mooney
<b>Ecofor EPN</b>	2013-1391-004	<b>Report Editor</b>	Holly Smith
<b>Ecofor Contact</b>	James Mooney Yukon Sr. Archaeologist	<b>Contact Information</b>	(867) 668-6600 james@ecofor.ca

PROJECT INFORMATION			
<b>Type</b>	Potential Forest Blocks	<b>Name</b>	King Creek THP Blocks
<b>Proponent</b>	Greg Cowman Forest Management Branch Energy Mines & Resources	<b>Contact</b>	P.O. Box 2703 (K-918) Whitehorse, YT (867) 335-9068 greg.cowman@gov.yk.ca

ASSESSMENT DESCRIPTION			
<b>Assessment Date(s)</b>	July 1 - 7, 2013	<b>Survey Type</b>	Overview Assessment
<b>Development Type:</b>	Forestry – Timber Harvesting		

TRADITIONAL TERRITORY			
<b>First Nation(s)</b>	Liard First Nation	<b>Contact(s)</b>	Lands and Resources Manager
	Ross River Dena Council		Lands and Resources Manager

GEOGRAPHIC REFERENCE			
<b>Ecoregion</b>	Selwyn Mountains	<b>Map(s) Attached</b>	yes
<b>NTS Map sheet</b>	105A/14	<b>Area (ha)</b>	1,311 ha
<b>UTM (NAD 83)</b>	8 V 0494830 6754296	<b>Elevation (m)</b>	730 - 1100 m
<b>Location:</b> The proposed development is located in southeast Yukon in the Watson Lake District, 324 km east (83°) of Whitehorse, 98.1 km northwest (346°) of the village of Watson Lake and 7.9 km east (83°) of the junction of Robert Campbell Highway and Nahanni Range Road.			

MANAGEMENT SUMMARY
An overview assessment of the potential forestry block – King Creek Timber Harvest Plan (THP) Blocks – has resulted in the identification of areas of high to moderate potential for historic and pre-historic sites.

POTENTIAL IMPACTS
The project proposes to cut timber throughout the project area. Impacts to heritage resources can be categorized as surficial in nature and would only negatively impact resources on or above the ground. These would include culturally modified trees (CMTs), historic structures, or features. It is rare that subsurface resources, such as buried archaeological sites, would be impacted by timber harvesting. However, if new roads or landings are developed in the areas of high archaeological potential, those activities could potentially impact these heritage resources.

## ARCHAEOLOGICAL POTENTIAL METHODOLOGY

Heritage resources potential was determined by identifying site presence indicators using a variety of resources including spatial mapping of water bodies, wetlands, and watercourses, as well as topographic mapping, Yukon Archaeological Sites Database, Yukon Historic Sites Inventory, aerial photographs, and orthographic images where possible. The Archaeological and Historic sites databases were used to determine if sites were located in or near the project area. Spatial mapping was used to locate water bodies, watercourses, and wetlands and define areas or corridors that may have higher potential for sites. Project development areas within 100 m of water have a higher heritage resource potential than areas further than 100 m of water. Aerial photographs, topographic maps, and orthographic images were used to determine prominent topography with high potential for heritage resources.

## EVALUATION

**Known Sites/ Previous Work:** A review of the Archaeological and Historic Sites Databases indicates that no previously identified archaeological sites are located in the King Creek THP Blocks project area, or within 10 km. In addition there are no recorded Historic Structures in the entire map sheet of 105A/14.

The south-western portion of the THP (Block Nahanni - 4) underwent a Heritage Resources Impact Assessment by Matrix in 2011 (Heffner 2011). During the assessment two areas of high potential were identified and one was tested with four shovel tests, however no new sites were identified. The area north of the highway and east of the has not yet received any studies or testing.

**Heritage Resource Potential:** Elevated potential for the presence of archaeological sites is located along the ridges, knolls, and elevated landforms overlooking drainages across the project area. The geology of the block provides numerous ridges that overlook Sequence Creek and King Creek as well as other unnamed drainages. Many of the ridge peaks and knolls scattered along the high ground offer good vantage points. Some of the steeper break in slopes in the northern region offer good vistas. Overall the rounded slopes and steep side slopes offer little heritage potential.

**Previous Disturbances / Exposures:** The block is located on either side of the Nahanni Range Road, to the east of the Robert Campbell Highway. Minor disturbances are associated with the road development but overall the area has had little prior disturbance.

## RECOMMENDATIONS

A surface feature inventory is recommended if timber harvesting (or any Level 1 impacts) is conducted in areas with elevated potential for the presence of heritage resources. If road construction, road improvement, or further subsurface development (or any Level 2 impacts) is planned within areas of elevated heritage resource potential, a heritage resource impact assessment is recommended. Please refer to Section 9 of the "Heritage Potential Mapping Study for the Champagne and Aishihik Traditional Territory: Forestry Planning" for descriptions of levels of impact (Thomas 2006).

Signed:

  
James Mooney, MA, RPA, RPCA

Cultural Resources Specialist

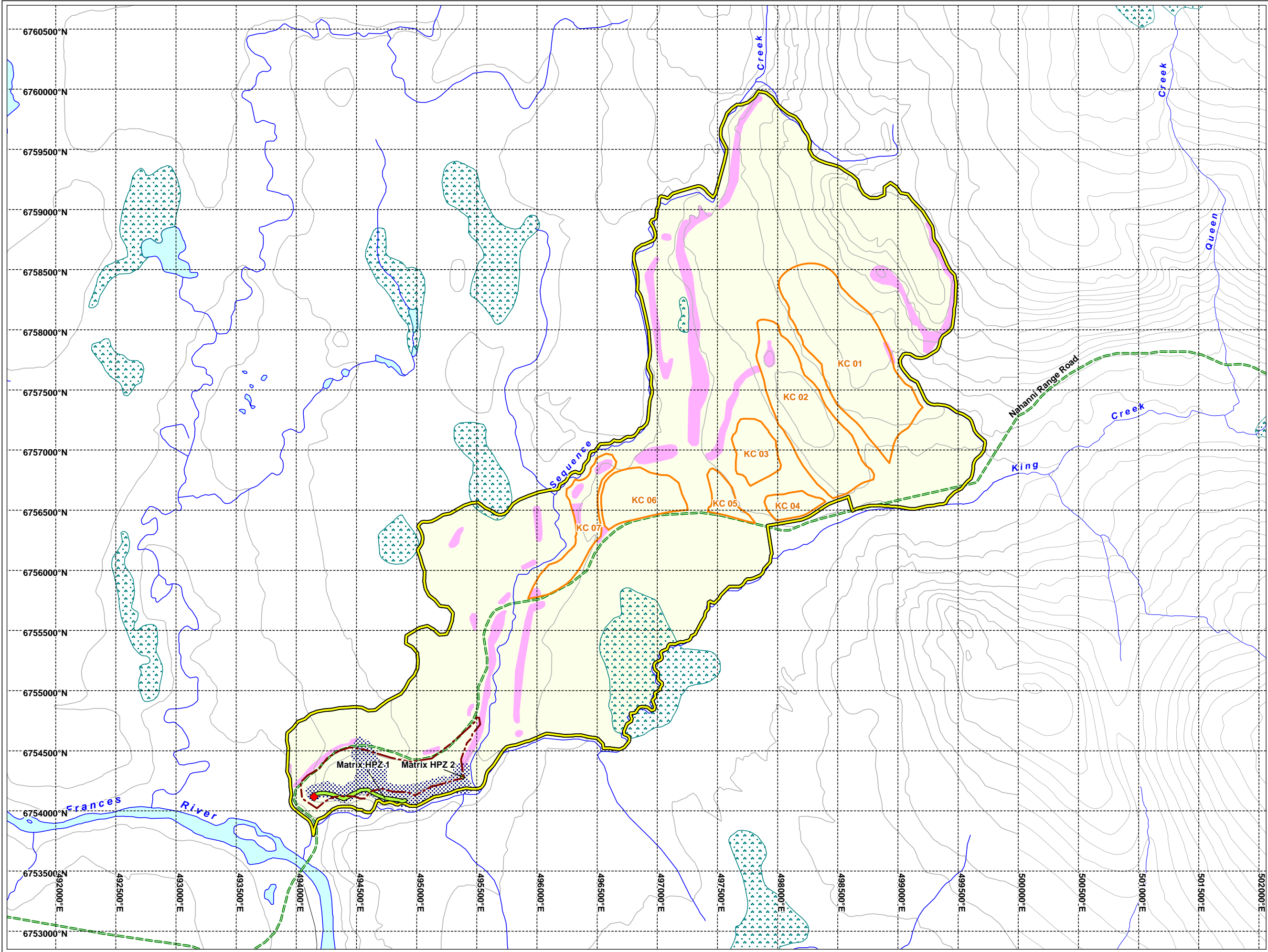
Ecofor Consulting Ltd.

Whitehorse, Yukon

Phone: (867) 668-6600

Fax: (867) 668-6601 Email: james@ecofor.ca

Mail: #3 – 102 Gold Road, Whitehorse, Yukon Y1A 2B0



Energy, Mines and Resources  
Forest Management Branch

### KING CREEK TIMBER HARVEST PLAN HROA MAP

Map Projection: NAD 83, UTM Zone 9  
Date: July 5, 2013



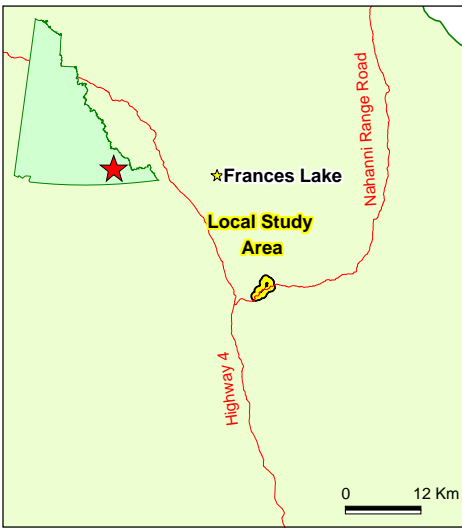
300 0 300 600 900  
Meters

Scale: 1:30,000

#### LEGEND

- Timber Harvest Plan-1311 ha
- Waterbody
- Wetland
- Stream
- Contour
- Road
- Operating Units
- Areas of High Potential Identified by Ecofor
- High Potential Zones Identified by Matrix
- Shovel Test Location by Matrix 4(-) Tests
- Nahanni 4 - Development Area
- Area Surveyed by Matrix

Disclaimer:  
This product is for informational purposes only and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. The base data layers have been obtained from the National Topographic Database (NTDB) and its features may display the data with +/- 30m accuracy.



EPN: 2013-1391-004 (EG)

## **APPENDIX D**

### **Heritage Impact Assessment**

# HERITAGE RESOURCES IMPACT ASSESSMENT

## INTERIM REPORT - KING CREEK TIMBER HARVEST PLAN

ADMINISTRATION			
<b>Permit Number</b>	13-20ASR	<b>Report Author</b>	James Mooney
<b>Ecofor EPN</b>	2013-1391-006	<b>Report Editor</b>	Holly Smith
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PROJECT INFORMATION			
<b>Type</b>	Timber Harvest Area HRIA	<b>Name</b>	King Creek HRIA
<b>Proponent</b>	Yukon Government Forest Management Branch	<b>Contact</b>	Greg Cowman Box 2703 (K-918) Whitehorse, Yukon Y1A 2C6 Phone: (867) 456-3805

ASSESSMENT DESCRIPTION			
<b>Assessment Date(s)</b>	August 5-7, 2013	<b>Survey Type</b>	Impact Assessment
<b>Development Type:</b>	Forestry - Timber Harvesting		

TRADITIONAL TERRITORY			
<b>First Nation(s)</b>	Liard First Nation	<b>Contact(s)</b>	Chief Liard McMillan Phone: (867) 536-7901
	Ross River Dena Council		Chief Brian Ladue Phone: (867) 969-2277

GEOGRAPHIC REFERENCE			
<b>Ecoregion(s)</b>	Selwyn Mountains	<b>Map(s) Attached</b>	no
<b>NTS Map sheet</b>	105A/14	<b>Area (ha)</b>	~ 500 ha
<b>UTM (NAD 83)</b>	9V 0496500 6756500	<b>Elevation (m)</b>	~ 730 - 1100 m asl
<b>Location:</b> The proposed development is located approximately 4 km northeast of the bridge crossing of the Frances River on the Nahanni Range Road approximately 8 km east of the junction of the Robert Campbell Highway and Nahanni Range Road.			

MANAGEMENT SUMMARY
The 2013 impact assessment efforts of three areas of interest within the Timber Harvest Plan resulted in the identification fifteen (15) areas of potential and two lithic sites found on surface. Each of the lithic sites were investigated by sub-surface shovel testing to better determine site size and only one was found to contain additional lithic materials below surface. These sites were recorded with temporary site numbers J1 and J2. These sites are both located within the western most of the three areas of interest identified by Forest Management Branch. No paleontological remains, human remains, or previously unrecorded historic structures were identified.

POTENTIAL IMPACTS
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The project proposes to develop these three areas which were previously evaluated to be likely to contain heritage resources for timber harvesting with Level 1 impacts. No Level 2 impacts are planned for these areas to be assessed.

#### ARCHAEOLOGICAL ASSESSMENT METHODOLOGY

Heritage resources potential was previously investigated and reported on within a Heritage Resources Overview Assessment for the King Creek THP. This effort identified potential for site presence using a variety of resources including spatial mapping of water bodies, wetlands, and watercourses, as well as topographic mapping, Yukon Archaeological Sites Database, Yukon Historic Sites Inventory, aerial photographs, and orthographic images where possible. Field assessment survey methods consisted of surface inspection by transects of two people roughly 5 to 15 m apart in areas of high potential and further in areas of low to moderate potential. Landforms and locations identified in the field as Areas of Potential (AOP's) were more closely inspected for cultural materials and their location was recorded by hand-held GPS unit and digital camera. Areas found to possess cultural resources on surface were tested with hand excavated shovel tests to determine site size. Sites identified were recorded and marked in the field with a 30 m buffer of yellow and black "No Work Zone" flagging tape.

**Known Sites/ Previous Work:** A review of the Archaeological and Historic Sites Databases indicates that no previously identified archaeological sites are located in the King Creek THP Blocks project area, or within 10 km. In addition there are no recorded Historic Structures in the entire map sheet of 105A/14. The southwestern portion of the THP underwent a Heritage Resources Impact Assessment by Matrix in 2011 (Heffner 2011). During the assessment two areas of high potential were identified and one was tested with four shovel tests, however no new sites were identified. The area north of the highway has not yet received any studies or testing. The Heritage Resources Overview Assessment conducted by Ecofor identified locations likely to have potential for heritage resources. The recommendations from this overview assessment included surface feature inventory for areas of predicted potential for areas planned for Level 1 timber harvesting type impacts. If areas with predicted potential were planned for Level 2 impacts then a heritage resource impact assessment with subsurface testing was recommended.

**Heritage Resource Assessment:** The three areas of interest identified by the Forest Management Branch were assessed on foot and fifteen (15) areas of potential and two lithic sites were identified and recorded. The two lithic sites identified by cultural lithic materials on surface were recorded with temporary site numbers J1 and J2. Locational data for areas of potential and lithic sites are presented in a separate table and are not to be included in YESAB submissions. No paleontological remains, human remains, or previously unrecorded historic structures were identified.

#### RECOMMENDATIONS

No further heritage assessment efforts are recommended for the three areas identified by Yukon Forest Management Branch. Ground disturbance and Level 2 impacts at the two newly recorded sites and the areas of interest are recommended to be avoided.

Signed:



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# **Appendix E: Representation Summary**

## ***King Creek THP Prepared: September 2013 Prepared by: Greg Cowman***

A total of 1 comment was received during the notification period on the King Creek THP held from July 31, 13 to Sept. 4, 2013.

Comments were received from:

- YG Department of Environment.

The following table contains a summary of the comments received, with responses to the comment and how the comment has been addressed.

# KING CREEK THP

July – Sept 2013

Topic <List Table of Content Sections>	Name/ Organization or person	Comment	Consultation Comment Response	How comment/s have been addressed.
WILDLIFE	Dept of Environment	There are no critical wildlife concerns for the area covered by the THP as it is primarily for post-fire timber salvage operations. There are no wildlife key areas, no known mineral licks or raptor nests, and it is all at lower elevations away from any sheep/goat habitat and their potential movement corridors. Should mineral licks, stick nests, or bear dens be encountered, they should be avoided and the local regional biologist should be contacted (Alain Fontaine, 867-536-3214).	Wildlife Standards will be followed and site specific habitat will be reported and buffered as necessary	Section 2.2 Include reporting requirement in THP text.
HABITAT	Dept of Environment	Standing trees and snags with occupied tree cavities should be maintained.	Required in Wildlife Standards.	Section 2.2 – no change required
		The Sequence Creek valley which abuts harvest block KC-07 is a corridor for wildlife of various species and a healthy riparian buffer should be maintained to protect that corridor.	Riparian corridor established along Sequence Creek. Burnt travel corridors may be better served by removing wind-thrown timber to improve walking conditions.	Section 2.4 – no change required
		Since much of this Harvest Plan area is dry soil, allowing for harvest to occur on frozen ground, some care should be taken to minimize damage to emerging vegetation.	Protection of natural regeneration.	Section 3.3 – protection of natural regen. No change required.
MITIGATION		Roads to be gated, with signage posted and decommissioned after use. Erosion controls to be implemented on disturbed areas. Spill reporting and clean-up equipment required. Care of and seasonal removal of bear attractants (fuel and waste) and proper disposal of such..	These are standard clauses under Best Management Practices or legislative requirements and are included in permits issued.	No change required in THP.