State of Alaska
Department of Natural Resources
Division of Forestry
Region III - Tok

DRAFT
Forest Land Use Plan
Tok Hazardous Fuels #2
NC-1170-T

June 7, 2019

Forest Land Use Plan for Rowland #1 Timber Sale

I. Introduction

Project File Number: NC-1170-T
Area Forester: Nick Carter
Forest Practices geographic region (AS 41.17.950): Region III

This Forest Land Use Plan (FLUP) covers proposed forest operations on approximately acres of land northwest of the Tok Junction located near the community of Tok. The purpose of this sale is to provide spruce fuelwood, sawtimber other forest products for the local forest industry and community. No new roads will need to be constructed to access the sale. The Alaska Division of Forestry has issued a Preliminary Best Interest Finding and Decision to be reviewed concurrently with this FLUP.

This FLUP is intended to provide the best available information regarding the proposed harvest of timber, and management of other non-timber uses in compliance with AS 38.05.112 and AS 41.17.060, and must be adopted by DNR before the proposed activity can occur.

The DNR Division of Forestry (DOF) is soliciting comments from affected agencies and the general public to ascertain impacts that may result from proposed timber resource activities detailed in this FLUP. Agency and public comments are being solicited simultaneously in order to expedite the delivery of this timber resource to the forest industry. Agency/ Public comments are being solicited in order to determine if any impacts from the proposed harvest of the timber resource in the described area have been overlooked or should be modified before harvest occurs.

After public and agency review of the draft FLUP, DOF will review comments, make changes as appropriate, and issued a final FLUP decision. A person affected by the final decision who provided timely written comment or public hearing testimony on the draft FLUP may appeal it, in accordance with 11 AAC 02 (see Appendix D) To be eligible to appeal this final decision, a person must have provided written comment by **July 19, 2019**.

The decision to offer timber for sale is being made through the best interest finding process, and is not subject to review under the FLUP.

Following adoption of the final FLUP, DOF will determine when to offer the timber for sale. Site-specific actions required by the FLUP will be incorporated into the timber sale contract.

[X] This Forest Land Use Plan is for timber sale(s) which have been determined to be in the best interest of the state pursuant to AS 38.05.035 (e) and 38.05.945; Tok Hazardous Fuels Preliminary Best Interest Finding Final.

[ ] This Forest Land Use Plan is for timber to be harvested that does not require a final finding pursuant to 38.05.035 (e) and notification under 38.05.945.

[X] Other Documents Referenced: Eastern Tanana Area Plan (ETAP)

The administrative record for this sale is maintained at the Division of Forestry Tok Area Office filed as NC-1170-T.

A. Legal description (see Map Appendix A): The sale is located in Section 12 Township 18 North, Range 12 East Copper River Meridian, Alaska.

B. Operational Period: Starting: Summer/Fall 2019
Estimated completion date: 2023

C. Timber Disposal

[X] Timber will be sold and will have a contract administrated by the State
[ ] Timber will be available to the public; permits obtained by the public will be issued by the State.
[ ] Other

D. Objectives and Summary

The Tok Area Office of the Division of Forestry has made a preliminary Finding and Decision to offer for commercial sale approximately 76,600 cubit feet and 2,128 tons of white spruce fuelwood and sawtimber. This sale would harvest approximately 56.9 acres of white spruce fuelwood and sawtimber from 1 harvest unit designated on State lands with "Settlement" designation north of the community near Red Fox Road.

Specific forest management guidance or intent for forest management activities covering the prosed sale area can be found in the ETAP, unit 22, management plan. Per the management plan, "Timber harvest prior to subdivision development for biomass supply and hazardous fuel reduction is considered appropriate…" Division of Forestry has consulted and continue to consult with DMLW Land Sales Section regarding harvest operations. All activities will be subject to the Alaska Forest Management Statutes and Regulations. All harvest activities will be subject to Alaska Forest Practices and Regulations and Alaska Best Management Practices for Timber Harvest Operations.

II. Affected Land Owners/Management

A. State:

Activity on ownership:	Access Easement	Harvest	Written Representative Approval
[X] Department of Natural Resources	[X]	[X]	
[ ] University of Alaska	[ ]	[ ]	[ ]
[ ] Mental Health Trust	[ ]	[ ]	[ ]
[ ] School Trust	[ ]	[ ]	[ ]
B. Other Land Ownership	[ ]	[ ]	[ ]

Land Owner: _____

Land Owner Representative: _____

III. Harvest and Silvicultural Prescription

Forest operations will be designed to:

- Mitigate wildland fire hazards by removing the spruce and utilizing the wood for the benefit of the local industry/community.
- Manage for the other land uses and activities identified in AS 41.17.060 and the Best Interest Finding for this timber sale, and
- Ensure prompt reforestation and maintenance of site productivity in compliance with AS 41.17.060(c) and 11 AAC 95 .375-.390.
- Protect fish habitat and water quality in compliance with the best management practices in 11 AAC 95.260-.370,

A. Timber Stand History and Topography:

The forest stand within the unit is predominantly mature white spruce poletimber. Less than 10% mixed species of aspen, birch and poplar in the sale area. Portions of the sale area have white spruce saplings and regenerating areas beneath and in natural openings of the canopy.

The forested stands surrounding the sale areas are comprised of a variety of stand mixtures including mature white spruce, black spruce, birch, and aspen. The proposed sale is on nearly flat topography near the Red Fox Road. The elevation of the sale is roughly 1700' feet. The soil profile consists of a shallow layer of mineral soil on top of alluvial gravel.

B. Forest Products:

Primarily biomass and fuelwood products are expected to be produced from this timber sale. Manufactures' of value-added forest products may also be able to utilize a small amount of the limited volume of sawlogs from this sale. The probability of this timber being sold for its value as biomass should not be underestimated, due to the high heating costs and demand for wood chips by the Tok School.

The estimated sale volumes are detailed in Table 1. These volumes are estimates based on a DOF field cruise (2019); the stated harvest volumes are mutually exclusive; i.e. stated volume available includes all material in the unit that meets the unit utilization specification. Volume estimates are made using variable radius plot cruising techniques. Unit acreage was developed using recreational grade GPS units.

Table 1 – Estimated Harvest Unit Volumes

	Acre	Species	Gross CCF	Net CCF	Gross Tons
NC-1170-T	56.9	W. Spruce	851	766	2,364

C. Harvest and Silvicultural Methods:

a. Harvest Unit Design: The harvest area consists of a single unit of 56.9 acres. The boundaries of the unit are located along naturally occurring vegetative type changes as well as bordered to the south by an existing fireline trail. The harvest will be a clearcut with reserves.

The sale will allow the contractor to harvest spruce over 5" D.B.H. All aspen, birch and balsam poplars will be protected from damage during harvest. These trees both interior of the unit boundary and around the perimeter of the harvest unit will provide sources for future regeneration.

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b. Harvest Operations: Typical interior ground based harvesting systems will be utilized to harvest the timber sale units. Timber stand densities and tree size and orientation (standing or blown down) will likely determine the harvest equipment/method used. Soil compaction from ground based operations is not anticipated to be a concern. Table 2 details unit specific harvest activities.

c. Areas of Concern: All road and landing excavation will be the minimum necessary to minimize possible impacts to unknown cultural resources which may exist. Commercial harvests directly adjacent to or near the adjacent trail systems shall be monitored by DOF staff to ensure that harvest impacts do not public access.

[X] The Silvicultural actions are adequately described in this document, and no prescription was written or is necessary
[ ] A Silvicultural Prescription has been written and is attached to this document in Appendix ___

Table 2 -Timber Harvest Activity

Acres	**Topography** *(Relatively Flat Uniform Hillside Irregular/Complex Slopes*	**Silvicultural Action:** *Clearcut partial cut, salvage precommercial thinning Site preparation Chemical application Commercial thinning*	**Logging Method:** *(Ground-based Cable Helicopter)*	**Stand History**
56.9	Flat	Clear Cut with reserves	Ground	mature white spruce

D. Surface Water Protection:
[X] There are no streams or lakes abutting or within a harvest unit.
[ ] Surface waters, classifications and protection measures are described in the table below.
Locations are included in the operational map in the Appendices

E. Agency Review:
Surface waters listed above were reviewed by the Department of Fish and Game:
[X] During the timber sale planning process
[X] During the agency review conducted for the Best Interest Finding for this sale
[X] During the drafting of this Forest Land Use Plan
[ ] Stream Crossings (Title 16) Permits are needed per ADF&G Division of Habitat

Surface waters listed above were reviewed by the Department of Environmental Conservation:
[ ] During the timber sale planning process
[ ] During the agency review conducted for the Best Interest Finding for this sale

[ ] During the drafting of this Forest Land Use Plan

F. Wildlife Habitat:

[X] Wildlife species and allowances for their important habitats will be addressed in writing by the Department of Fish & Game during the Best Interest Finding review.

[X] Wildlife species and allowances for their important habitats Will be addressed in writing by the Department of Fish & Game during the drafting of this Forest Land Use Plan.

Silvicultural practices necessary for minimizing impacts to wildlife habitat or wildlife management:

[X] Timber retention - concentrations of timber surrounding harvest unit, or interspersed within harvest unit to provide cover.

[ ] Snag Retention- snags or isolated trees left for cavity nesting species.

[ ] Large Woody Debris – concentrations of downed timber or logging debris interspersed within harvest units to provide cover left on site.

[ ] Other actions

G. Slash Abatement:

[X] Potential for insect infestations caused by slash accumulations exists. Slash abatement for controlling infestations will be implemented as required by 11AAC 95.370.

[ ] Lop and scatter slash; accumulations will be kept to less than 2 feet in height.

[ ] Slash will be disposed of by the operator [ ] Slash will be disposed of by the State

[ ] Other - method of slash disposal: [ ] removal off site [ ] crushing or grinding [ ] burning

[ ] Burn permits necessary from DOF and DEC to be acquired.

[ ] The operator will contact the Division of Forestry local area office prior to ignition of debris.

H. Cultural and Historical Resource Protection:

[X] This project was reviewed by the State Historic and Preservation Office (SHPO).

[X] No artifacts have been reported within the project area(s).

[ ] Known or likely sites have been identified and a mitigation plan is in place. (Describe the mitigation actions.) Road and landing construction will be positioned, to the extent possible, away from terrain features where high probabilities for archaeological sites may exist, i.e. high promontories overlooking lowlands.

I. Other Affected Resources by Timber Harvest and Management:

List resources other than water, habitat or cultural resources potentially impacted by timber harvest, and indicate how impacts will be mitigated. Other affected resources could be, but are not limited to mining claims, scenic areas, mushing trails, recreational trails, etc.

Table 3 – Other Affected Resources.

Impacted Resource	Reviewing Agency	Impact/ Mitigation Actions
Recreational trails	Division of Mining, Land, and Water	Ensure operations allow for public access along the trail systems

J. Reforestation:

The Tok Area goal for this area involves regenerating harvest areas that are predominantly mature white spruce is to establish a mixed species forest of hardwoods. Old stands are to be rejuvenated to a fully stocked mixed stand of young healthy trees while retaining some residual trees resulting from leave trees left in the unit. Young forests provide future crop trees and food for wildlife. Residual leave trees provide some seed sources, nesting sites, and other benefits.

Portions of the sale may be scarified through normal harvest operations which will aid in warming the soil and improving regeneration of woody shrubs and deciduous trees for wildlife browse and cover. The forester will make a final determination for the need to scarify any particular area within the sale after the harvest is completed. Any areas that are expected to be deficient in meeting the Forest Practices Act standard of 450 trees established by the 7th year will be planted with white spruce seedlings, specifically landings, skid trails or permanently closed roads.

[X] Partial Harvest:
[ ] Region I: leaving more than 50% live basal area (11 AAC 95(b) (3))
[X] Region II/III: Relying on residual trees to result in a stocking level that meets standards of 11 AAC 95.375 (b 4).

Stocking levels will be calculated subject to the methods below:

SEEDLINGS REQUIRED

Percentage Under stocked = 100 – Total Residual Stocking %
Percentage Under stocked = 100 –_____% =_____%

Seedlings/ Acre Required = Percentage Understocked/100 x 450
Seedlings/ Acre Required =_____% /100 x 450 = _____

Table 4 – Stocking Level Requirements

Average DBH (Diameter at breast height)	Residual Trees (Trees / acre)	Minimum Stocking Standard(Trees/ acre)	Percent Stocking
> 9"		120	%
6" to 8"		170	%
1" to 5"		200	%
Total Residual Stocking			%

[X] Natural regeneration

List species: Birch, White Spruce, Aspen

[X] Coppice

List species: Aspen, Birch

[ ] Artificial regeneration

[ ] Seeding-source of seed (general vicinity location of seed source)

_____

[ ] Planting: Date of proposed planting: _____

Source of seedlings (location of seed source) _____

K. Site Preparation:

Minimal site preparation is expected. Normal ground-based harvesting operations are expected to provide adequate disturbance to stimulate regeneration.

When will site preparation be accomplished? If DOF determines that it is needed, site preparation will occur upon completion of the harvested area.

IV. Roads and Crossing Structures

A. Road Construction:

Any roads constructed will be designed and maintained to prevent significant adverse impacts on water quality and fish habitat (AS 41.17.060(b) (5)) and site productivity (AS 41.17.060(c) (5)). Roads will comply with the best management practices in the Forest Resources and Practices regulations (11 AAC 95), and follow the Northern Region forest road standards in Appendix F of the Tanana Valley State Forest Management Plan. Division of Forestry monitoring and inspections will be ongoing during harvest activities.

List the roads or other means required for the access and removal of this timber from the harvest area(s) or unit(s):

Road Designation: [ ] Permanent [ ] Temporary [ ] Other

[ ] Road will be constructed by the State [ ] Road will be constructed by the Operator

[ ] Road will be maintained by the State [ ] Road will be maintained by the Operator

[ ] New Construction [ ] Reconstruction [ ] Closure

[ ] Modified natural sub-grade with rock fill overlay.
[ ] Modified natural sub-grade with mineral soil overlay.
[ ] Winter Road: [ ] One winter only [ ] More than one winter
[ ] Unmodified natural sub-grade, natural running surface.
[ ] Reconstruction of one of the above methods.

B. Grades:

Maximum percent road grade: Adverse (<12%) ___N/A__Favorable (<18%) __N/A__

**Note: Roads must be less than 20% grade per 8 AAC 61.1060 Additional Logging Standards*

C. Side Slopes / Mass Wasting:

For slopes over 50%, identify indicators of unstable areas (landslide scars, jack-strawed trees, gullied or dissected slopes, high density of streams or zero-order basins, or evidence of soil

creep). Attach location specific road design that potentially mitigates identified areas of unstable soils.

[X] There are no indicators of unstable areas where roads will be constructed
[ ] Indicators of unstable areas were identified and will be mitigated by actions indicated below.

Are you removing or replacing drainage structures? [ ] YES [X] NO

General Erosion Control:
[ ] grass seeding [ ] erosion control mats [ ] wattle [ ] Other:

Maximum percent side slopes: __10%___
[ ] Full benching will be constructed to help ensure slope stability
[X] Full benching is not required for roads in this project
[ ] End hauling will be implemented to help ensure slope stability
[X] End hauling is not necessary for roads in this project.

D. Crossing Structures:
[X] No crossing structures are needed within the project area.
[ ] Crossing structures will be placed along access roads as described in the table below:

V. Other Affected Resources by Roads or Material Extraction

A. Roads:
List resources other than water, habitat or cultural resources potentially impacted by road construction, and indicate how impacts will be mitigated. Other affected resources could be, but are not limited to mining claims, scenic areas, recreational trails, etc.

B. Material Extraction:
[X] There will be no material extraction sites in the project area.
[ ] Material extraction and associated overburden disposal will be located outside of riparian areas and muskegs. Material extraction and disposal will be located as shown on the operation map, in a manner that prevents runoff from entering surface waters.

C. Road Use Restrictions:
Depending on resource needs and considerations; roads will remain open and converted to public use, subject to maintenance standards under 11 AAC 95. 315 or will be closed, subject to standards under 11 AAC 95.320.

VII. Approvals

This Forest Land Use Plan has been reviewed by the Division of Forestry and provides the information necessary to be adopted by the Department of Natural Resources as required by AS 38.05.112.

Tok/Copper River Area Forester	June 18, 2019 **Date**

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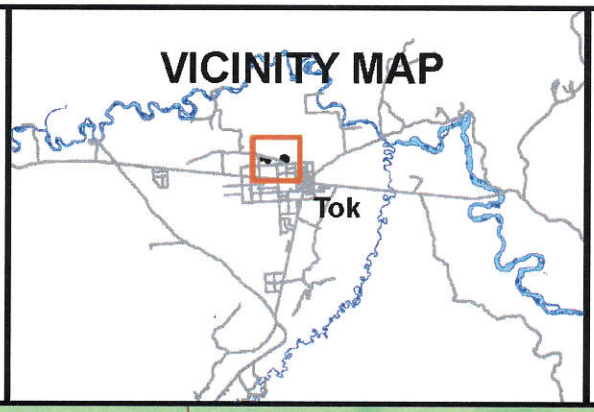
STATE OF ALASKA

Department of Natural Resources
Division of Forestry
NC-1169-T, NC-1170-T
Tok Hazardous Fuels #1 and #2
Sections 11, 12
T18N, R12E C.R.M.

VICINITY MAP

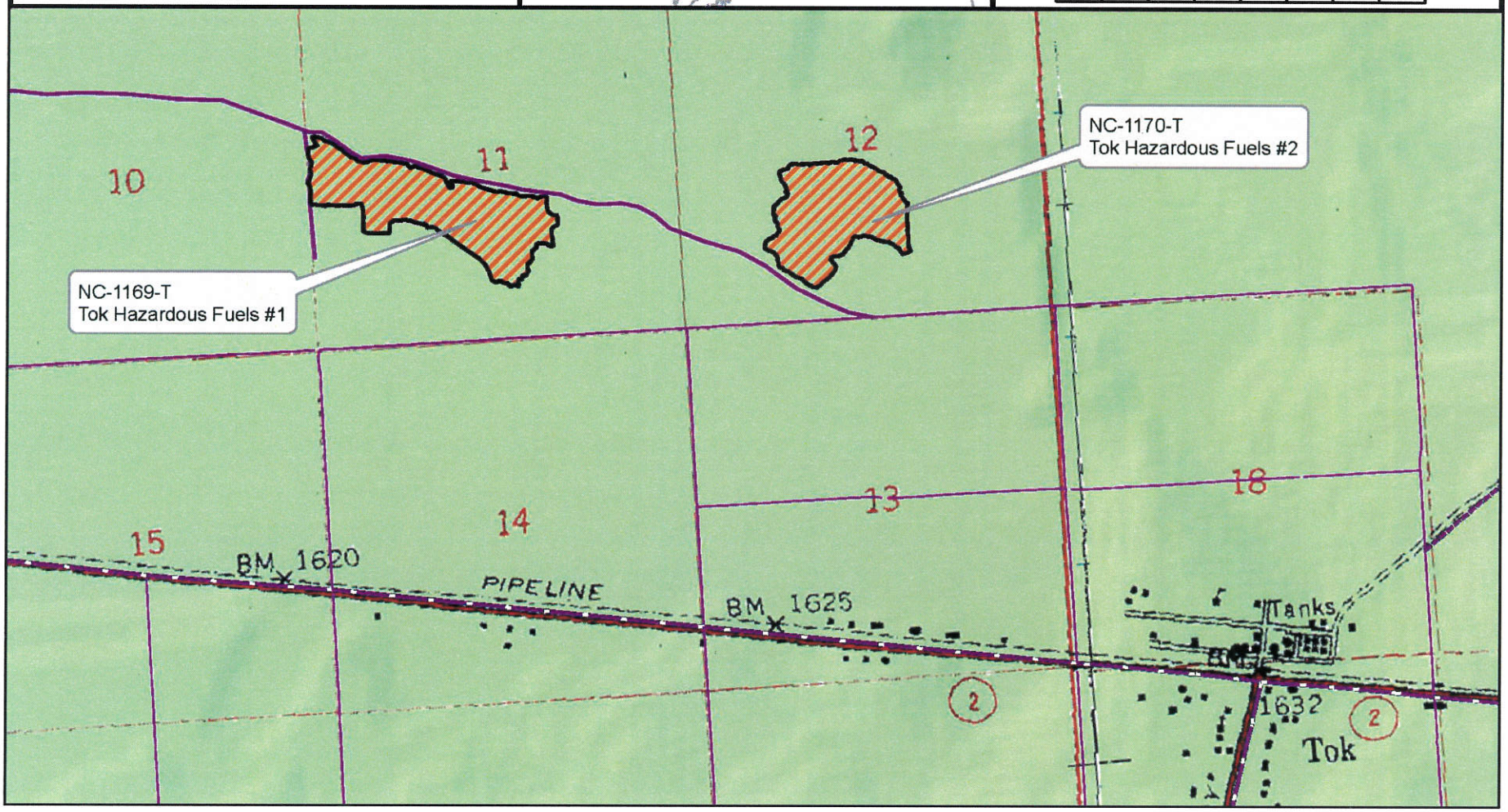


Legend

- Timber harvest Area
- Forest Primary
- Forest Secondary
- Forest Spur
- Highway
- Major
- Minor Road
- Proposed Road

0 0.25 0.5 1 Miles

N



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