STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY
NORTHERN REGION

FAIRBANKS AREA

FOREST LAND USE PLAN

FOR A PROPOSED TIMBER SALE

FINAL REPORT AND BEST INTEREST FINDING

Loop Birch
NC-1542-F

ADL 419881

April 2013

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Resource Management Forester

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I. INTRODUCTION

A. Purpose

The purpose of this Forest Land Use Plan (FLUP) is to provide sufficient information for reviewers to ensure that the best interest of the State will be served by the Department of Natural Resources (DNR), Division of Forestry, Fairbanks Area, offering this proposed timber sale. This FLUP deals with site specific considerations of the sale. The boundaries and precise volume of the sale may be refined if and when the sale is developed. Site specific research has been completed on title considerations, land classifications, applicable land management plans, appropriate silvicultural techniques, regulatory and statutory requirements, and physical conditions that apply to the proposed sale area. The proposal is for the harvest of approximately (+/- 10%) 44.02 acres of land that is predicted to yield approximately (+/- 10%) 1143 CCF of birch fuel wood. The sale design may be altered to mitigate potential conflicts. It will be the responsibility of the Forester-In-Charge to ensure that any purchaser of this sale harvests timber per the sale design and sale contract provisions and adheres to Alaska Forest Resources and Practices Act (AFRPA) best management practices.

B. Five-Year Sale Schedule

The general area and timber type that this proposed sale occupies has been shown as a potential sale area in the current Five-Year Schedule of Timber Sales (FYSTS) for Fiscal Years 2012-2016 as required by AS 38.05.113. It has been listed in previous schedules.

C. Location

The proposed sale is located 40 miles west of Fairbanks within the Fairbanks North Star Borough and within the boundaries of the Tanana Valley State Forest. The proposed sale area is located within Section 8, Township 3 South Range 5 West, Fairbanks Meridian. The sale area is shown on the attached map and is within the United States Geological Survey 1:63,360 Quadrangle map titled Fairbanks C-4. The tract is accessed from Fairbanks by driving west on the Parks Highway to milepost 328 and then turning south onto Nenana Ridge logging road for 3.5 miles. At this point turn west onto an existing secondary road and travel an additional 1.25 miles. A new secondary road of 0.43 miles will need to be constructed in order to access the sale area.

D. Title, Classification and Other Active or Pending Interests

The acquisition for the land upon which the sale is proposed is based on General Selection 39. The title was transferred by patent 50-85-0137. There are no title restrictions on the area. The primary land classification for the area is Forestry per Classification Order NC-90-002. The proposed sale area is within Unit 5A of the Tanana Valley Sate Forest (TVSF).

E. General Timber Sale Program Objectives

1. Develop the State's Renewable Resources

To follow the DNR's constitutional mandate to encourage the development of the State's renewable resources, making them available for maximum use consistent with the public interest. Sustain and promote a healthy, long-term timber industry in the State, through providing a secure source of timber for harvest that produces raw materials for local manufacturing plants when practical while protecting other resources such as fish and wildlife.

2. **Improve the State's Economy**

   To help the State's economy by providing royalties to the State in the form of stumpage receipts, as well as contributions to local economies through wages, purchases, jobs, and business.

3. **Improve Forest Health**

   To improve forest growth and vigor by harvesting mature and or declining stands and replace them with new healthy regenerating stands. The stand replacement will be accomplished while protecting and maintaining other resource values. The actions authorized under this decision will follow the constitutional mandate of sustained yield and shall adhere to multiple use management as described in the Tanana Basin Area Plan.

4. **Improve Wildlife Habitat**

   Meet the statutory wildlife management objectives for the TVSF (AS 41.17.400(e)) that provides for the economic development of other natural resources while protecting habitat needs of wildlife resources necessary to maintain or enhance public use and economic benefits.

II. LEGAL AUTHORITY

The Division of Forestry is taking this action under the authority of AS 38.05.035 (e) (Best Interest Finding); AS 38.05.110-120 (Alaska Land Act Statutes); 11 AAC 71 (Timber Sale Statutes and Regulations); AS 41.17.010-.950 and 11 AAC 95 (Forest Resources and Practices Statutes and Regulations).

III. ADMINISTRATIVE RECORD

The case file ADL 419881 and the Tanana Basin Area Plan constitute the administrative record for this finding.

IV. DISCUSSION OF ISSUES

A. Physical Characteristic of the Sale Area

1. **Topography**

   This site is on a hillside with a south to southwest aspect and a slope of 10 to 25%. The elevation ranges from 650 to 850 feet. The terrain is generally rolling with small hogback of varying directions with an average grade of 25 to 35 percent

2. **Soils**

   Soils in the sale area are classified as either Fairbanks silt loam or Fairbanks-Steese complex. The Fairbanks series consists of very deep well drained soils formed in coarse silty micaceous loess. The Fairbanks-Steese soils are a mixture of Fairbanks

and Steese series. The Steese series are moderately deep well drained soils formed in loess overlying highly weathered schist bedrock. Both these soils are on hillsides, mountainsides, and ridge tops. These soils are typically well drained and prone to medium to rapid runoff and moderate permeability. The principal tree species which occur on these soil types are white spruce, paper birch, and quaking aspen.

3. **Waterbodies**

There is one small seasonal stream in the W1/4 of Section 8, which is over 1500 feet from the proposed sale. There are no defined drainages within the proposed unit boundaries. Because of gentle slopes and the location of the transportation and harvest activities, there is expected to be no impact on nearby wetlands and surface waters. The sale area presents no obstacles that would prevent implementation of the best management practices of the AFRPA in order to maintain water quality.

4. **Stand Conditions**

This is a mixed species stand. The stand make up is 90% birch, 5% aspen, and 5% white spruce of approximately 90 years of age. Patches of white spruce advanced regeneration are present in the small openings of the stand. The birch trees are mature at this time, but are beginning to show signs of defect in the form of rot indicators and crown flattening. White spruce pole-timber and reproduction is of good form and are likely to release from stand opening. The scattered aspen is rougher form than the birch with greater evidence of rot. Understory vegetation includes high bush cranberry, rose, and some willow and alder. The grass component is moderate in this stand and is estimated to cover approximately 15 percent of the area. There is an estimated 15% defect in the birch. The birch component of the stand ≥ 6" diameter breast height (dbh) has about 200 trees/acre, an average dbh of 9.8" and an average height of 73'. Basal area per acre is 114 square feet/acre. Residual birch trees that are less than 6" dbh, and the spruce and aspen average about 30 trees per acre.

B. Historic and Current Land Use

The historic uses of the land in the general area have been logging, hunting, trapping, and general trail use. The current uses of the area are recreation, wood cutting, hunting and trapping.

C. Wildlife Habitat

Wildlife typical of the interior can be found in this area and during ground reconnaissance moose, grouse, and hares were observed. Moose damage in the form of bark stripping on some of the aspen trees was also observed. No raptor nests were observed within the proposed sale area. Should an eagle nest tree be discovered in the sale area, the nest tree will be marked on the ground and a 330 foot no-harvest radius will be established in order to protect the tree. No critical habitat has been identified for this area (TVSF Management Plan), nor has any become apparent during ground reconnaissance.

Treatments proposed for this stand are projected to enhance habitat conditions for ruffed grouse, moose, voles, hares, and ultimately, lynx, marten and fox. In the past, Alaska Department of Fish and Game, Division of Wildlife Conservation (ADFG) and now the DNR Office of Habitat Management and Permitting (OHMP) have recommended managing for as much diversity as possible when prescribing harvest

unit size, shape and position to mimic the results of wildfire or other stand replacement phases such as insect outbreaks or flood events. To accomplish these objectives, snags will be retained to provide late-successional wildlife habitat for hole nesting birds, woodpeckers, small mammals, and other species requiring perching habitat. The units will be laid out with uneven edges along and between timber types. This layout design will create varied edge effects which are beneficial to many wildlife species.

D. Fisheries and Water Quality

Best management practices will be implemented to ensure water quality standards in all water courses. During review of the FY 2012-2016 FYSTS, ADF&G Division of Habitat did not have particular fish or wildlife concerns with the proposed road or harvest area. There is no expectation that this harvest will have negative impacts on the Tanana River.

Approximately 0.43 miles of new all season secondary road will be required for this sale. Construction and maintenance of this road set to the BMP standards outlined in the AFRPA will be required. Erosion within the unit will be mitigated by backfilling skid trails with debris and through the installation of water bars if necessary.

E. Subsistence

The sale area lies within the Fairbanks Non-subsistence Area. The proposed sale of timber is anticipated to have no deleterious effects on subsistence activities. Subsistence activities of fishing, trapping, hunting and gathering of berries and other non timber forest products may occur on State owned lands.

F. Recreation and Tourism

Recreation use of this area is moderate but, not inconsistent with a timber sale. Primarily it consists of hunting and trapping activity, as well as some recreational snowmachining, ATV riding and dogmushing. Cross trails will be kept free of either snow filled or brush filled berms.

G. Scenic Resources

The Nenana Ridge forest road is in visual range of the Parks Highway. The impact of the sale on the viewscape from the highway was considered during layout. Leave trees of white spruce, aspen, and smaller diameter birch will somewhat obscure the harvest area and help blend the cut border with the existing landscape.

H. Cultural Resources

The TVSF Management Plan does not list any historic cultural or archaeological sites in the vicinity of the proposed harvest. The State Office of History and Archaeology (OHA) do not list any sites on its inventory. During the course of activities associated with this timber sale, cultural and/or paleontological resources may be inadvertently discovered. Should such discovery occur, these sites shall be protected from further disturbance and OHA will be contacted immediately so that compliance with state laws governing cultural resources may begin.

Under the Alaska Historic Preservation Act (AS 41.35), all burials on state land are protected. If burials or human remains are found, all land altering activities that

would disturb the burial or remains shall cease and measures taken to protect it in place. OHA and a law enforcement officer will be notified immediately to ensure that proper procedures for dealing with human remains are followed.

I. Sustained Yield and Allowable Cut

The Alaska Forest Resources and Practices Act (AS 41.17.060 (c)) and Article VIII Sec. 4 of the State Constitution require that the State forest land be managed on a sustained yield basis. Sustained yield is defined in the Alaska Forest Resources and Practices Act (AS 41.17.950(25)):

> "Sustained Yield" means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of forest land and water without significant impairment of the productivity of the land and water, but does not require that timber be harvested in a non-declining yield basis over a rotation period.

The Annual Allowable Cut (AAC) is the amount that can be harvested from forest land managed for forestry purposes in a year under sustained yield management. The AAC in the Fairbanks Area is based on a ten-year average as determined by the Parsons and Associates, Inc. report titled "Tanana State Forestry Lands Periodic Sustained Yield Analysis". This sale complies with sustained yield/allowable cut principles outlined in the Fairbanks Area Five-Year Schedule of Timber Sales for FY 2012-2016. The AAC for the Fairbanks Management Area is approximately 6,260 acres. The AAC will not be exceeded for this proposed sale.

J. Silvicultural Prescription

1. Stand Silvics

The merchantable tree species here is birch. Data and research on regeneration and growth characteristics of these species are compiled within the Resource Analysis of the Tanana Valley State Forest (TVSF) Management Plan. The harvest and reforestations systems available in Interior Alaska are also reviewed and listed in the Resource Analysis. The results of the public and agency discussions for harvest and reforestation are discussed in the TVSF Management Plan. Silvicultural harvest systems that facilitate even-aged (natural) management are generally preferred. They mimic the ecological impact of wildfire and other disturbances and result in the greatest increase in site productivity. Even-aged management is normally accomplished through clear-cuts, patch cuts, and heavy partial cuts (such as seed tree or shelterwood systems) which open up the site to maximum solar gain. This management system results in the greatest production of both young hardwood, that is important to wildlife, and the spruce understory which is valuable years later as timber. Even-aged management techniques are utilized to provide young, vigorously growing stands in juxtaposition to older, undisturbed stands. Such placement of harvest units can optimize natural seeding and the edge effect.

2. Specific Management Objectives

Attempt to improve vigor by replacing the aging birch with younger faster growing trees. Utilize the current commercial value of this timber stand. Protect residual spruce from logging damage which will allow them to release once the over story is

removed. Allow snags (wildlife trees) to be left on site. The overall stand currently is approximately 95% hardwood and 5% spruce. It is expected that post harvest the spruce will likely increase due to canopy opening. The harvest will likely return the site to a productive, naturally even-aged, diverse mixed species stand at an equal or greater basal area than which currently exists. The residual hardwoods will provide cover for wildlife and scenic resources and provide for an increase in recreational activities. It is reasonable to assume that these objectives will be realized under the recommended prescription with some supplemental planting of white spruce if necessary.

3. **Harvest Methods**

The sale will be harvested using the seed tree silvicultural system. Birch trees of 6" dbh and larger will be removed. Snags, residual birch, white spruce, and aspen will not be cut. Residual trees will be protected from damage during harvest operations. Aspen trees may be used as bumper trees to protect patches of advanced spruce regeneration. Harvesting will be by the whole tree yarding system. Slash disposal at the landings will be by burning and or salvage for fuel-wood use.

4. **Regeneration**

Mechanized crushing of vegetation during normal mechanical logging activities should be adequate to prepare a useable mineral soil seed bed. No additional scarification is proposed. Under this harvest system, natural regeneration of hardwoods should be increased due to increased light and soil temperatures. Birch and aspen, either as residuals from within the unit or adjacent trees outside of the unit, will provide abundant seed. The harvested birch trees are young enough to produce stump sprouts to augment natural regeneration from seeds. Additionally, mechanical crushing stimulates re-sprouting of trees and shrubs. White spruce will provide also provide a seed source. A regeneration survey will be conducted three years after any harvest. If the survey indicates inadequately stocked areas greater than 0.5 acres or totaling 6 acres then hand planting of white spruce seedlings will be performed on non-stocked areas. The goal for regeneration is to achieve a minimum of 450 stems per acre of mixed species. It is expected that the residual trees left on the site will provide 25% of this total amount.

K. Transportation

The planned access to the proposed sale is by all season roads extending from the Parks Highway originating at milepost 328. At this point, travel south on Nenana Ridge logging road for 3.5 miles and then west on an existing secondary road for an additional 1.25 miles until the terminates at a former timber sale (ADL415732). A new secondary road of 0.43 miles will need to be constructed in order to access the sale area. Access routes will be maintained to the standards set out in the AFRPA.

L. Erosion

There are two soil erosion concerns: surface erosion and mass wasting of soil and debris. Road construction and poor maintenance of roads primarily causes surface erosion. To avoid erosion, debris will be placed back onto skid trails and water bars installed if necessary. Harvesting will be suspended during periods of thawing soil conditions to assure there is minimal soil disturbance. The location of skid trails will

optimize skidding distances and provide for adequate landing areas. The other aspect of erosion (mass wasting and debris avalanches) normally occurs on slopes of more than 70 percent therefore is not a particular concern because the proposed timber sale is on mostly flat ground.

M. Mining

This sub-unit of the TVSF has minimal mineral potential however; there are no mining claims within the sale boundary or proposed access routes. More detailed information on subsurface resource use is found in the TVSF Management Plan. Other than providing access, and sharing some of the same access roads, this sale will have no impact on the potential mining resources or mining activity in this area.

N. Materials

No rock materials will be required for the construction of access roads.

O. Economics

In addition to generating royalties to the State's general fund, the proposed sale will create economic benefits to the Fairbanks North Star Borough and to other locations in Alaska. The Borough business community will receive direct economic benefits from providing support services for the operators through sales of fuel, food, housing, medical and miscellaneous supplies. The sale is expected to benefit the local economy by providing jobs. The Residents of the Borough will receive an indirect benefit through taxes paid to cities and the Borough by the operator and employees during the course of the timber harvest operation.

The sale is expected to benefit the local economy by providing jobs. It will have a positive impact on local employment by generating significant man-hours of work associated with the harvest and transportation of wood products from this sale. Additionally the public may benefit from access to additional personal use fuel wood areas.

V. MARKET CONDITIONS

Interior Alaska has a growing demand for biomass and firewood and a sustainable market for saw timber. Heating oil continues to be more costly in the interior than the national average therefore residents are looking for an alternative and the only affordable one is wood. Local businesses are currently producing wood pellets as an alternative to traditional firewood. This market addresses an ongoing air quality issue in the Fairbanks area because these manufactured pellets produce almost no emissions. As this market continues to grow, the demand for material will increase. Other businesses are also looking into the use of biomass as a feedstock for producing electricity and heating alternatives in rural Alaska.

With improvements in wood stove technology for reducing emissions, firewood is also a viable alternative to high cost heating oil. The demand for firewood has steadily increased in the past few years and will likely continue to increase. Local suppliers of firewood continue to have a demand for accessible timber sales to deliver their product.

Residential construction and commercial operations throughout Alaska still need sawn products to support their operations. Local businesses that produce these products continue to pay for the delivered material.

These three markets create jobs in the forest products industry. Loggers, log truck drivers, commercial firewood cutters and mill workers all benefit from a sustainable timber market. This sale will provide the material needed to sustain these industries. As the economy continues to rebound there will be more demand for the products that this sector of the labor force provides.

VI. ALTERNATIVE ACTIONS

There are four possible alternatives to consider for this sale. A discussion of each of the four alternatives follows:

1. **To continue the sale(s) as proposed.**

   This alternative meets the objectives of the Five-Year Schedule of Timber Sales and DNR'S constitutional mandate. It also meets the silvicultural objective of improving forest vigor, provides for a value-added end product and creates additional jobs in Alaska due to the combination of road building, logging, and trucking. This alternative also complies with the management objectives of the TVSF Management Plan for Unit 5A.

2. **To modify the sale(s) by making them smaller or larger.**

   The proposed sale unit is a logical setting for typical commercial logging equipment in Interior Alaska. The size of the sale is designed to be large enough to be economically viable considering access development and mobilization costs and distance to processing facilities. Sales of this size are appropriately balanced to maintain other resource values as well as provide economic benefits to the Tanana Valley.

3. **Defer the sale of this timber to a later date.**

   Deferring harvest to a later date would fail to meet many of the objectives of the sale program. One of the main objectives is to make State-owned timber consistently available to the timber industry.

4. **Do not offer this timber for sale.**

   This alternative would result in not meeting any of the objectives outlined for this management action. Utilization of the forest resource would not be achieved. There would be no significant contribution to the State and local economies. This alternative would delay the management objectives planned for the area, deny making a source of raw materials available to the local wood products industry, and would delay the harvest of mature trees, prior to the onset of disease or insect infestation.

VII. FINAL FINDING AND DECISION

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY
BEST INTEREST FINDING

Loop Birch
NC-1542-F

I. Formal review and response to objections, comments, or alternatives (summarized):

The Agency and Public review of the Forest Land Use Plan (FLUP) started on February 20, 2013 and ended on March 22, 2013. The FLUP review advertisement was posted on the Department of Natural Resources, Division of Forestry web site on February 20, 2013. In addition, requests for comments were either e-mailed or sent to various agencies, organizations and members of the public.

The Division of Agriculture and the Office of History and Archaeology had no comment. The Alaska Department of Environmental Conservation had no particular concerns or comments to offer for the protection of water quality, particularly since the unit contains no perennial surface waters. The Forester-In-Charge ensures that any purchaser of this sale harvests timber per the sale design and sale contract provisions and adheres to AFRPA best management practices. The sale has been laid out to be screened from the view from the Parks Highway.

II. Final Finding and Decision:

The purpose of this decision is to determine if the Department of Natural Resources, Division of Forestry, shall make available 44.02 acres of birch fuel wood located in Section 8, Township 3 South Range 5 West, Fairbanks Meridian, Alaska.

1. The sale meets the objectives of the Five-Year Schedule of Timber Sales and DNR'S constitutional mandate.
2. The sale meets the silvicultural objective of improving forest vigor, provides for a value-added end product and creates additional jobs in Alaska due to the combination of road building, logging, and trucking.
3. The sale complies with the management objectives of the Tanana Valley State Forest (TVSF) Unit 5A, which allows for commercial and personal use timber production while protecting important wildlife habitat values.
4. Sale layout and design adhere with Region-III Riparian Standards. This sale is consistent with all statutes and plans.
5. The sale has undergone agency and public review and concerns have been resolved in the preparation, documentation and design of the sale.

The finding presented above has been reviewed and considered. The case file has been found to be complete. The requirements of all applicable statutes have been satisfied. Therefore, it is the finding of the Director that it **is in the best interest of the state** to approve this action under the authority of AS 38.05.035(e) and AS 38.05.110-120.

A person affected by this decision who provided timely written comment may appeal it, in accordance with 11 AAC 71.002. Any appeal must be received by May 14, 2013, and may be mailed or delivered to Dan Sullivan, Commissioner, Department of Natural Resources,

550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918, or sent by electronic mail to dnr.appeals@alaska.gov. If no appeal is filed by that date, this decision goes into effect as a final order and decision on May 14, 2013. An eligible person must first appeal this decision in accordance with 11 AAC 71.002 before appealing this decision to Superior Court. A copy of 11 AAC 71.002 may be obtained from any regional information office of the Department of Natural Resources. It is the Division of Forestry's intent to offer this timber sale by auction on or after May 15, 2013. If no qualified bid is received within the time specified during the auction, the Division of Forestry may offer the sale for purchase over-the-counter without re-advertisement for not less than the advertised minimum bid.

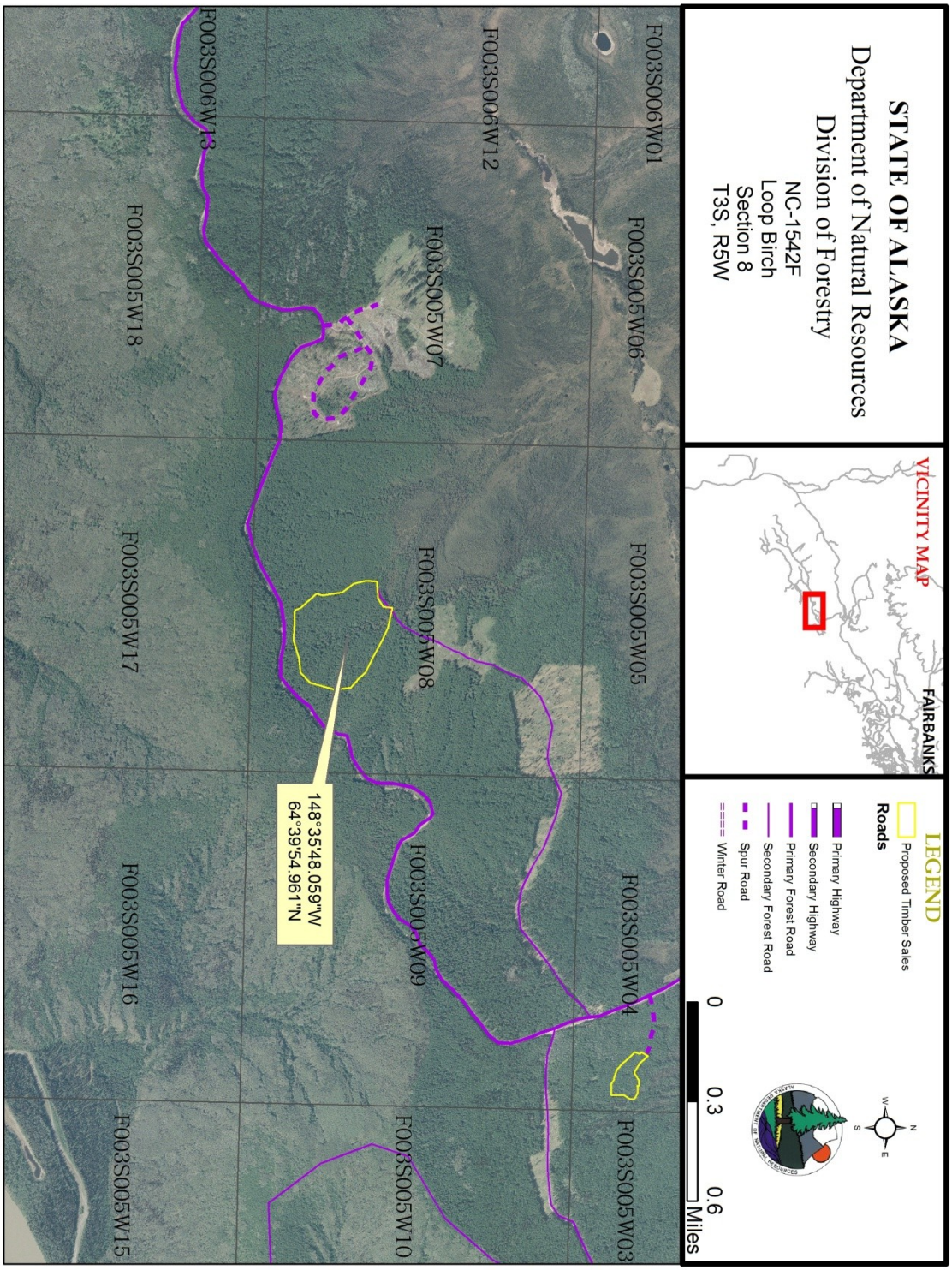
Prepared and Recommended by: Brian Young, Resource Management Forester

Concur (X) Do Not Concur ( )

Kathryn S Pyne

Kathryn Pyne
Fairbanks Area Forester

4/15/13
(Date)


STATE OF ALASKA
Department of Natural Resources
Division of Forestry
NC-1542F
Loop Birch
Section 8
T3S, R5W
VICINITY MAP
FAIRBANKS
LEGEND
Proposed Timber Sales
Roads
Primary Highway
Secondary Highway
Primary Forest Road
Secondary Forest Road
Spur Road
Winter Road
0
0.3
0.6
Miles
F003S006W01
F003S005W06
F003S005W05
F003S005W04
F003S005W03
F003S006W12
F003S005W07
F003S005W08
F003S005W09
F003S005W10
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F003S005W15
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