

Pre-Operations Report

Operation Name: Minich Ridge
County: Tillamook
Management Basin: Miami

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres ¹
1	PC	81	73
2	RC	19	16
Total		100	89

1. The net acres are based on orthophotos and GIS and exclude roads, stream buffers, and reserve areas and non-required thinning areas.

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

Slopes have a northeast aspect and range from 5% to 60%. Elevations range from 160 to 1000 feet. The major soil type is Killam.

The landform is moderate ridge-line and side slope of tributaries between Minich Creek and Struby Creek above the Miami River. There is a very large scale landslide deposit feature mapped in the north portion of the Area 1. The underlying rocks are mostly sedimentary origin mudstones and sandstones of the Nestucca Formation and Sandstones of Garibaldi. The north and south portions of Area 2 are underlain by rock of igneous origin intrusive basalt sills.

II. CURRENT STAND CONDITION:

Table 2. Stand Inventory Information⁴

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Net Acres ²
1	PC	107	DF,WH SS	40	15.8	231	170	59	73
		Target ³	DF,WH SS		18.8	83	43	15	73
2	RC	107	DF,WH	35	14.7	136	116	36	16
		Target ³	WH		17.4	38	23	7	16

1. The source of stand inventory information is from field reconnaissance cruise plots taken in 2005.

2. The net acres are based on orthophotos and GIS and exclude roads, stream buffers, and reserve areas and non-required thinning areas.

3. *The Target identifies expected stand characteristics (DBH, BA, TPA and SDI) after harvesting has been completed.*
4. *These numbers are based on plot data taken to this point and final numbers may differ significantly from the actual conditions significantly. The directive for minor and major modifications will be followed for further review.*

Area 1 was harvested in the early 1960's, was planted in 1965, and has natural regeneration which has resulted in small pockets of dense hemlock intermixed with the planted Douglas-fir. There are also pockets of larger natural hemlock that were likely left from the previous harvest. The hemlock and Douglas-fir have grown at a very high density resulting in the loss of live crown ratios and very little understory conifer or shrub species. The dense pockets of hemlock also have lost diameter growth resulting in height to diameter ratio problems. The Douglas-fir in this area is showing symptoms of SNC. The live crown ratios on the smaller Douglas-fir are less than 35% and have poor needle retention resulting in slowed diameter and height growth. This area has had no prior stand management.

Area 2 was harvested in the early 1970's and was planted with Douglas-fir shortly after. This stand is approximately 30 to 35 years old and has some natural regeneration which has resulted in small pockets of hemlock intermixed with the planted Douglas-fir. In Area 2, the SNC symptoms seem to be more severe. The live crown ratios are less than 30% and have poor needle retention. The understory is made up of very dense salmonberry and is found throughout the entire unit. There has been no prior stand treatment in this area.

Approximately 52 acres of Area 1 has been inventoried using the Stand Level Inventory (SLI) procedure and the stand has been identified as UDS. The remaining portion of Area 1 and all of Area 2 was identified as CSC according to the district stand summary information (1999).

See Table 2 for specific stand data.

Down wood in the entire sale area consists of scattered large old logs (36"+) in Class 3 and 4 stages of decay and some windthrow suppression mortality in decay classes 1 and 2. The SLI measurements that represent Area 1 show that the down wood level in decay classes 1 and 2 is on average 720 cubic feet per acre. Total down wood levels in the same area is on average 2,562 cubic feet per acre. There are no down wood logs greater than 24 inches on the large end in decay classes 0, 1, and 2.

Area 2 has not been inventoried with SLI at this time so down wood information is unavailable. Due to the size of the trees in Area 2, it is unrealistic to expect that the down wood goals in the FMP will be met with this operation. During sale layout an assessment will be done to help determine the best prescription to help meet these goals in the future.

In all of the sale areas there are some large snags in various states of decay and some hard snags created from wind damage. The SLI measurements that represent Area 1 shows that the total snag level is on average 1 snag per acre greater than 12 inches DBH, of these approximately 1 snag per acre are greater than 24 inches DBH. There are no snags greater than 15 inches DBH and in decay classes 0, 1, and 2. Area 2 has not been inventoried with SLI at this time so snag information is unavailable.

III. DESIRED STAND CONDITION and VISION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Net Acres
1	107	CSC (21) UDS(52)	UDS(73)	GEN (69) LYR (4)	73
2	108	CSC	REG	GEN	16

1. The stand is expected to develop into this condition in the five to ten years after this operation is completed except in REG stands which occur after harvest.

See Section IV: Proposed Management Prescription for more information on Green Tree, Down Wood, and Snag Strategies during operation. Also refer to Landscape Design in the Summary document for more information on strategies to move the district toward Desired Future Condition goals.

Vision:

Area 1: This area has a DFC of GEN but will be managed towards a more complex structure. This a partial cut that is designed to treat the Douglas-fir and hemlock with poor live crown ratios and height to diameter ratio issues. This harvest will result in a mixed conifer stand with variable densities distributed across the area. Small patch cuts will be created with this prescription creating additional growing space. The need for reforestation in these areas will be determined after harvest. In 15 to 20 years this stand will be evaluated for future management opportunities and the desired future condition will be reassessed.

Area 2: This area also has a DFC of GEN. This area will be a regeneration harvest designed to treat SNC. Residual hemlock trees (approximately 20 to 25 per acre) will be left to provide a source for natural regeneration and future source for down wood and snags. A mix of conifer species will be planted. The planted areas combined with the residual trees will create a mixed conifer stand. As this stand grows, management opportunities such as pre-commercial thinning and commercial thinning may be used to keep this stand vigorous and healthy.

This timber sale combined with adjacent recently managed thinnings, regeneration harvests, future planned sales, and unmanaged stands will create a

mosaic across the landscape of openings, small gaps, variable densities, and a variety of stand structures.

IV. PROPOSED MANAGEMENT PRESCRIPTION AND ANTICIPATED PATHWAY:

The prescription described below is based on the current stand condition such as overall tree and stand growth, species mix, stand density, and stand health.

Partial Cut:

In Area 1, all merchantable Douglas-fir, hemlock, and spruce less than 20" will be harvested to improve the stand health by removing trees with poor height to diameter ratios. The remaining hemlock will be thinned to a basal area of 100ft² to 120 ft². All other conifer and hardwood are reserved. This area will have a stand density of 15% to 20% SDI, which will develop healthier larger trees and promote understory development. Small patch cuts will be created with this prescription, creating additional growing space and creating variable densities within the area. The need for reforestation in these areas will be determined after harvest

Retention Cut:

In Area 2, all merchantable Douglas-fir will be harvested. Hemlock less than 15" DBH will be removed and the remaining hemlock will be thinned to a basal area of 100ft² to 120 ft². All other conifer and hardwood species will be reserved. Approximately 20 to 25 trees per acre will be left within the sale area which will exceed the green tree retention requirements. These residual green trees will supplement the future stand by promoting growth of dominant/co-dominant leave trees. Small non-merchantable hardwood and conifer will also be retained where possible. These leave trees function as future source of snags and down wood recruitment across the landscape. This stand will be planted with a mixture of conifer species and it is anticipated that some natural regeneration will occur. Approximately 10 to 15 years after successful reforestation the area will be assessed for precommercial thinning opportunities. Approximately 30 to 40 years after successful reforestation the area will be assessed for commercial opportunities to ensure continued growth and stand health. At this point the desired future condition for this stand will be reassessed to determine if it should be put on a different pathway.

Green Tree, Down Wood and Snag Strategies

See also Section III: Desired Future Condition for long term strategies

Existing down wood will be left in the sale areas. Down wood recruitment is expected through mortality and windthrow of residual or leave trees, felled snags and tops left during harvest. Small non-merchantable hardwood and conifer will be retained where possible in harvest units with the expectation they will become short term snags and down wood. Tops resulting from ground yarding will be left

in the unit. During sale layout an assessment will be done to help determine if down wood creation is appropriate at this entry and to develop a prescription for this area if it is needed, in order to meet future FMP requirements.

Existing snags not determined to be a safety hazard will be retained and any felled snags will be left for down wood. Creation of snags is expected during harvest activities rub trees, lift trees, and tail trees and over time by natural processes. In Area 1 a snag assessment will be done during sale layout to determine approximate levels which will be used to help develop a prescription for this area. Due to the size of the trees in Area 2, it is unrealistic to expect that the snag targets in the FMP will be met with this operation. During sale layout an assessment will be done to help determine the best green tree retention prescription to help meet these goals in the future.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%	<input type="checkbox"/>	X
Planned Quarter:		3	

	Conifer	Hardwood	Total
Net Volume (MBF)	1041	0	1041
Stumpage Value (\$/MBF)*	\$180	0	
Estimated Gross Value	\$187,380	0	\$187,380
		Project Costs:	\$59,790
		Estimated Net Value:	\$127,590

****Combined Douglas-fir and hemlock stumpage values based on harvest type.***

VI. HARVESTING AND ACCESS CONSIDERATIONS:

The sale areas are accessed via Minich Creek Road and Minich Ridge Road. These are currently all weather crushed rock roads. See maps for specific road locations and conditions.

Approximately 3.35 miles of existing surfaced and .25 miles of legacy roads will be improved which includes grading, rocking, culvert replacement, spot rocking, and potential sidecast pullback. This work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 0.15 miles of road will be constructed in order to provide access for cable yarding areas. Following harvest, roads within the sale areas will be

reviewed for closure. Ground yarding roads will be closed and water-barred following harvest. See summary document for more information on this topic.

A combination of cable yarding systems (70%) and ground yarding (30%) will be used. Ground yarding will generally be limited to slopes under 35%.

Table 5. Transportation Planning Summary (Miles)⁴

Activity	Mainline	Collector	Rocked Spur ¹	Dirt Spur ¹
Construct			.15	
Improve			3.35	.25
Maintain ²				
Close/Block ³				
Vacate ³				

1. *Additional roads may be built by the operator at the time of harvest and will be approved by the State through the Operations Plan. These will be short dead end spurs and closed or blocked after harvest*
2. *All roads accessing the sale area will be maintained during the life of the timber sale contract. Maintenance miles in the table are those roads not being constructed or improved.*
3. *Roads not closed/blocked or vacated at the end of the sale will be reviewed for closure after reforestation is established.*
4. *The numbers in this table reflect planned Project Work associated with the sale.*

VII. AQUATIC RESOURCES AND WATER QUALITY:

A watershed analysis has been completed for the Miami basin. Watershed analysis action items will be reviewed during sale layout.

There are no known Type F streams within or directly adjacent to the sale areas. There are potentially additional unnamed small Type N streams within both of the sale areas. These streams will be located, reviewed, and protected appropriately during sale layout based on flow, topography, and terrain.

Oregon Department of Fish and Wildlife (ODFW) will be requested to complete stream surveys prior to sale layout. Streams of unknown status will be treated as Type F until surveys are completed to verify fish use.

Stream buffers within or adjacent to harvest unit boundaries will be managed according to *Forest Management Plan* Riparian Strategies. The riparian areas will be reviewed during sale layout for current stand conditions and/or operational constraints for implementing FMP strategies.

Both of the sale areas are within the Miami sub-basin. This sub-basin has been identified as Salmon Anchor Habitat (SAH) Basins and the most current SAH Basin Strategies will be used at the time of contract development.

This sale was identified as part of the Salmon Anchor Habitat Basin Plans approved in June 2005. See Salmon Anchor Summary Table for tracking of acres managed in each basin and list of sales in Basin Plans.

In order to protect water quality during active operations, a variety of methods will be used to prevent sediment from entering live streams. These methods include (but are not limited to) maintaining culverts and other road drainage structures, using sediment control devices in road ditches when necessary, and monitoring logging and hauling operations. Culvert installment and replacement in live streams will be conducted between July 1 and September 15. Operations outside of this period will be reviewed with ODFW.

VIII. T&E SPECIES CONSIDERATIONS:

The sale areas have been reviewed with the ODF Northwest Oregon Area Biologist.

It was determined that there is potential marbled murrelet habitat within and adjacent to the sale boundary. Surveys have been and will be conducted during the 2005 and 2006 survey season for marbled murrelets. All surveys for marbled murrelet were and will be conducted in accordance with Pacific Seabird Group (PSG) protocol. At the completion of the 2005 survey season there have been no marbled murrelet detections.

It was determined that there is potential northern spotted owl habitat within and adjacent to the sale boundary. Surveys have been and will be conducted during the 2005 and 2006 survey season for northern spotted owls. All northern spotted owl surveys were and will be conducted in accordance with USFWS endorsed protocol. At the completion of the 2005 survey season there have been no northern spotted owl detections.

T & E Fish species: See Sections VII, and IX for listed fish protection measures.

T & E Plant species: The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known threatened or endangered listed plant locations as well as local records in the Land Management Classification System (LMCS). No listed plants were identified within or adjacent to the sale areas.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

There are only a few steep slopes in the Sale area 2 and larger band of steep slopes in Area 1 with a significant leave area below. There does not appear to be significant down slope risk to waters of the State. The initial hazard and risk assessment from the geotechnical specialist is moderate. The geotechnical specialist will be consulted during field to determine if a field visit is needed.

The sale areas are located in the Miami SAH Basin and the most current SAH Strategies will be used at the time of contract development. See the Summary Document for more information.

X. RECREATION RESOURCES:

The sale area is designated as non-motorized in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). This sale has been reviewed by the District Recreation Coordinator. No OHV trails were identified within or adjacent to the sale areas. Recreational use common to this area includes hiking and hunting.

XI. CULTURAL RESOURCES:

The *Tillamook State Cultural Assessment* does not list any cultural sites within or adjacent to the proposed sale boundary.

XII. SCENIC RESOURCES:

The sale areas have a visual classification of Level 2, moderate sensitivity. The sale will be reviewed by the Public Use Coordinator to determine methods to minimize visual impact. Visual impact in Area 1 will be minimal due to the amount of residual trees being left in the sale area because this sale is a partial cut. There will be some visual impact in Area 2 until green up occurs.

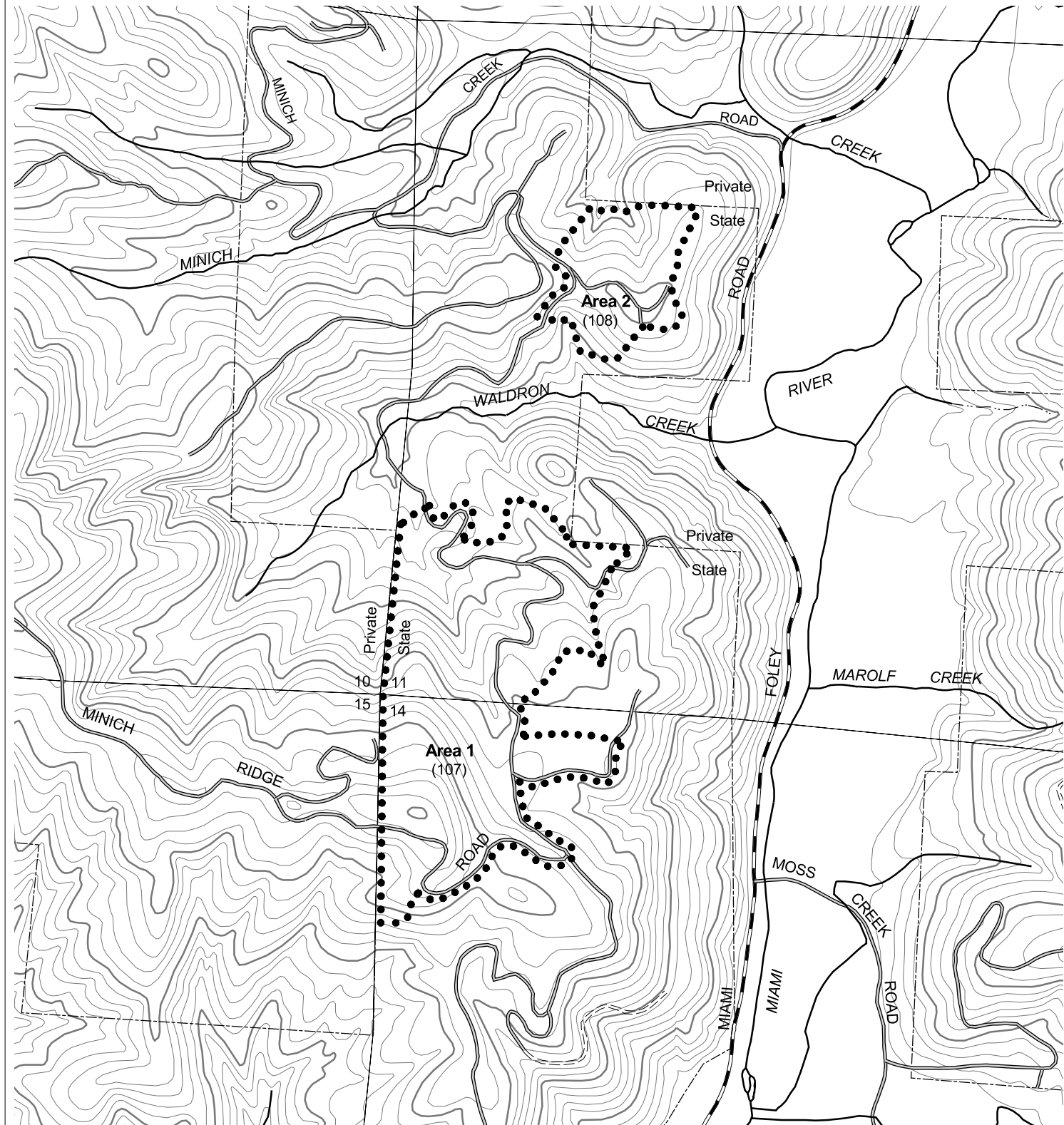
XIII. OTHER RESOURCE CONSIDERATIONS:

There is a property line on the east portion of the Area 1 sale boundary and there is a property line to the north, west, and south sides of the Area 2 boundary. There are also 5 corners. Both the property lines and the corners will be attempted to field located and all will be protected from harvesting operations.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

These areas contain Focused Stewardship and Special Stewardship, Aquatic and Riparian Habitat. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

These areas also contain Focused Stewardship, Wildlife Habitat, which in this case identifies that the sale is in a Salmon Anchor Habitat basin. Refer to sections Section VII, Aquatic Resources and Water Quality and Section IX, for management guidelines to be utilized.



- Area boundary
- Sale boundary
- Contour Interval 40'
- Ownership boundary
- Perennial Type-F stream *
- Perennial Type-N stream *
- === Unsurfaced road
- ==== Surfaced road
- State/Federal highway
- ▨ Legacy road
- - Road construction
- County road

MINICH RIDGE TIMBER SALE
-- Topography --
2007 SALE PLAN
TILLAMOOK DISTRICT

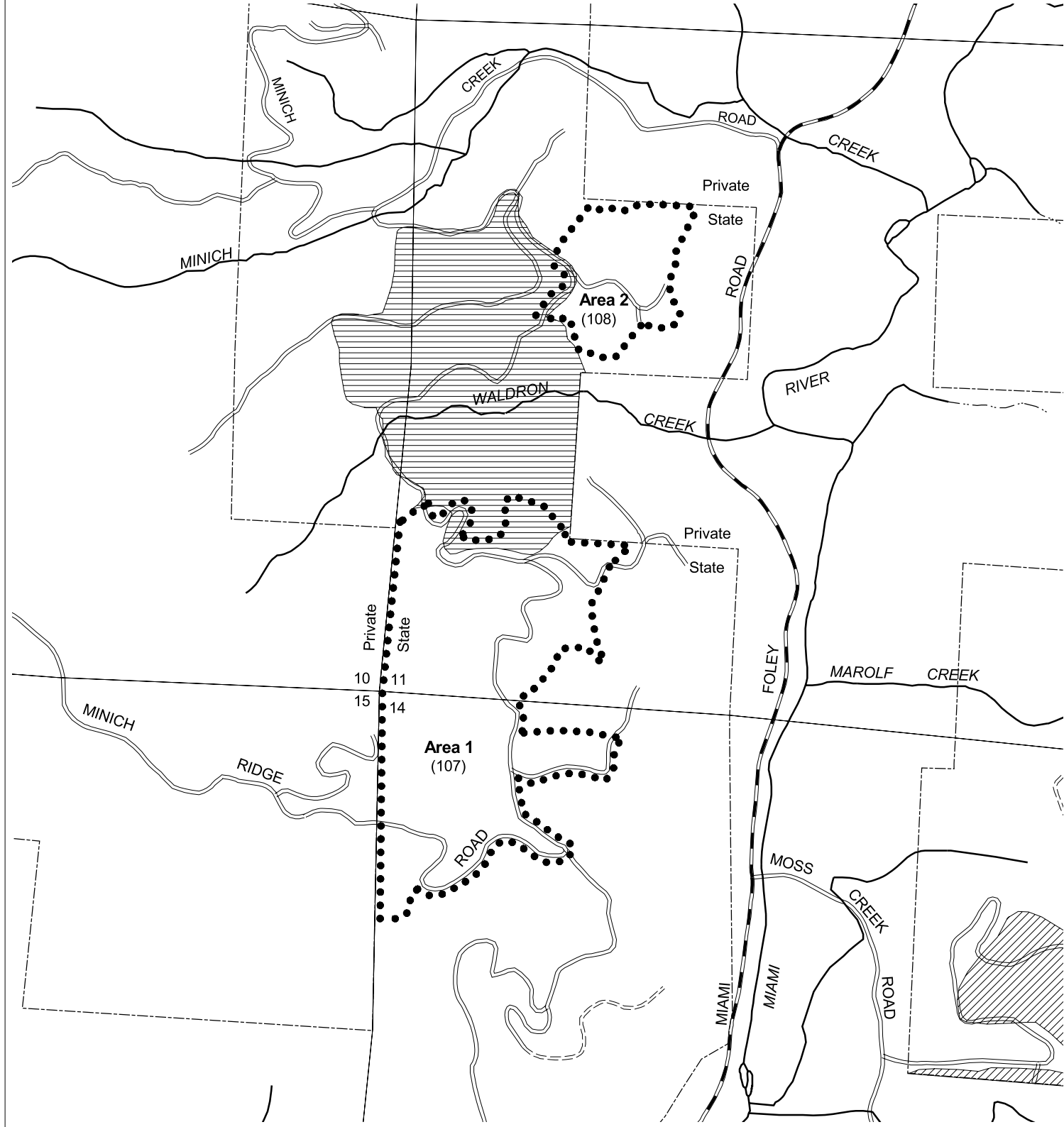
Portions of Sections 11 and 14,
 T1N, R10W, W. M.
 Tillamook County, Oregon

Area	Type of Operation
1	Partial cut
2	Retention cut



Tillamook District GIS
 10-10-2005
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 may not have been prepared for, or suitable
 for legal, engineering, or surveying purposes.

* Streams of unknown
 fish presence are not
 shown but will be surveyed
 prior to the sale



MINICH RIDGE TIMBER SALE

**-- Current and Future Condition --
2007 SALE PLAN
TILLAMOOK DISTRICT**

Portions of Sections 11 and 14,
T1N, R10W, W. M.
Tillamook County, Oregon

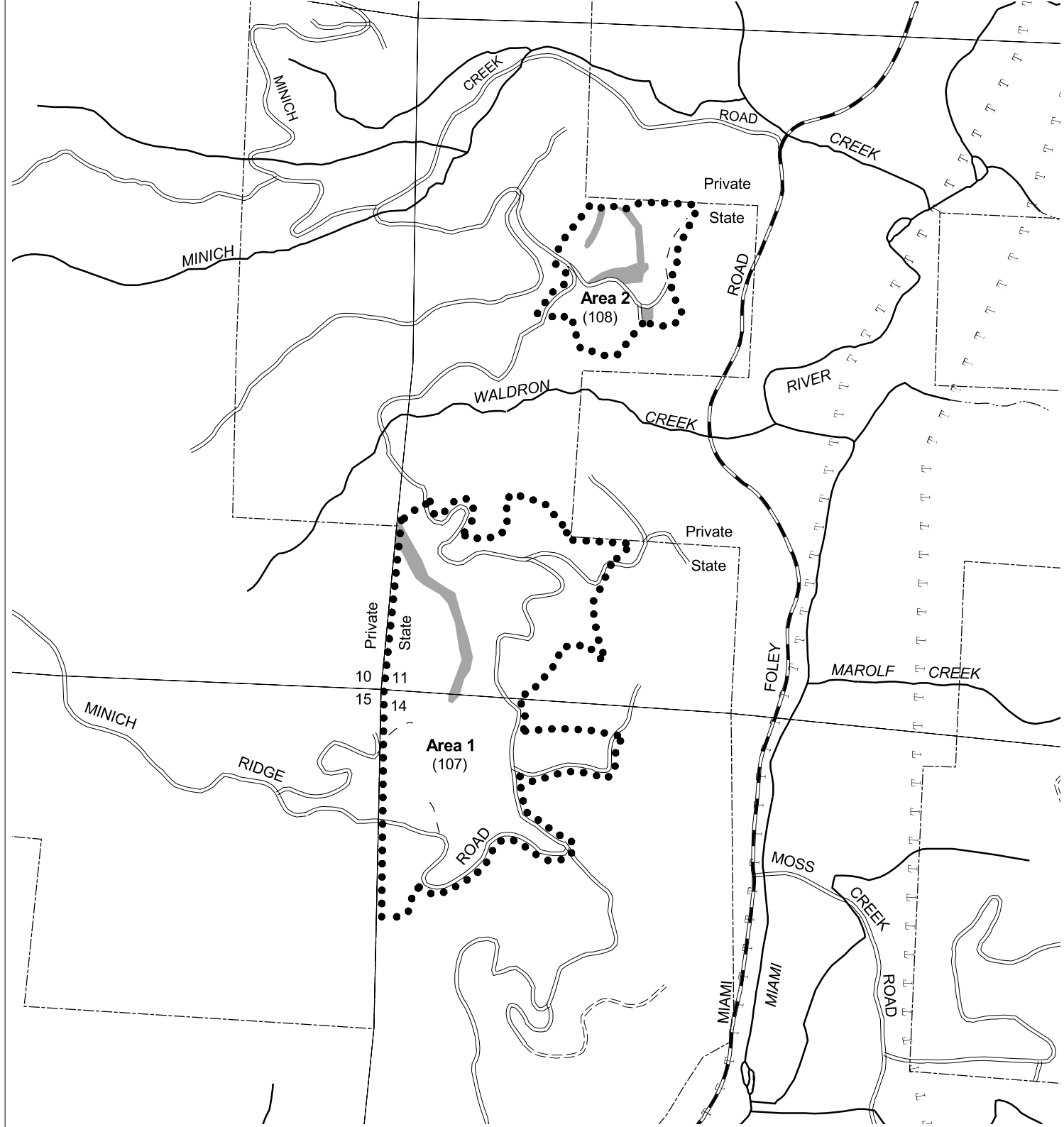
- Desired future condition
- Layered
 - Older forest
 - Area boundary
 - Sale boundary
 - Ownership boundary
 - Perennial Type-F stream *
 - Perennial Type-N stream *
 - Unsurfaced road
 - Surfaced road
 - State/Federal highway
 - Legacy road
 - Road construction
 - County road














Area	Type of Operation
1	Partial cut
2	Retention cut



Tillamook District GIS
10-10-2005
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* Streams of unknown fish presence are not shown but will be surveyed prior to the sale



-  Buffer
-  Non-required thinning
-  Area boundary
-  Sale boundary
-  Ownership boundary
-  Perennial Type-F stream *
-  Perennial Type-N stream *
-  Unsurfaced road
-  Surfaced road
-  State/Federal highway
-  Legacy road
-  Road construction
-  County road
- Transmission line

MINICH RIDGE TIMBER SALE
-- Key Resources --
2007 SALE PLAN
TILLAMOOK DISTRICT

Portions of Sections 11 and 14,
 T1N, R10W, W. M.
 Tillamook County, Oregon



Area	Type of Operation
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