

# Pre-Operations Report

**Operation Name: Big 3 Jct.**

**Legal: Portions of Sections 28, 29, 30, 31, 32 and 33, T4N, R7W,  
W.M., Clatsop County, Oregon**

**Management Basin: Lower Nehalem**

**SAH Status: None**

**FDF: 100% CSL: 0%**

**Tax Code: 8-01**

**Table 1. Operation Areas, Types and Acres**

Area	Type of Operation	Gross Acres	Net Acres <sup>1</sup>
1a	PC-Group Select	92	65
1b	MC		20
2	Modified Clearcut	89	84
3	PC – Group Select	112	94
4	Modified Clearcut	50	49
5	Snag and Down Wood Creation	15	15
Total		358	327

*1. The net acres are based on orthophotos and GIS and exclude roads and stream buffers..*

## **I. PHYSICAL DESCRIPTION OF OPERATION AREA:**

Slopes in Area 3 and Area 4 have mainly a northern aspect. Area 1, Area 2, and Area 5 have a southern aspect. Elevations range from 480 to 2040 feet and range from 5% to 80% slopes. The major soil types are Rye and Killam.

## II. CURRENT STAND CONDITION:

**Table 2. Stand Inventory Information<sup>3</sup>**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Net Acres <sup>2</sup>
1a	PC-M	501	DF,WH, RA	55	16	218	143	54	65
	Target	501	DF,WH, RA	55	18.8	120	62	28	65
1b	MC	502	RA, DF,WH	55	14.1	161	145	43	20
2	MC	503	RA, DF,WH	55	14.1	161	145	43	84
3	PC	504	DF,WH, RA	55	14.4	224	198	59	94
	Target	504	DF,WH, RA	55	17.5	120	72	29	94
4	MC	505	RA, DF,WH	55	14.5	185	162	49	49
5	GTR	506	DF,WH, RA	55/90	18	240	150	59	15

1. The source of stand inventory information is from SLI and cruise plots.

2. The net acres are based on orthophotos and GIS and exclude roads, and stream buffers, and non-required thinning areas. Modified clear cut acres are not contiguous and do not exceed 120 acres.

3. These numbers are based on plot data taken to this point and final numbers may differ significantly. The directive for minor and major modifications will be followed for further review.

The sale areas burned in the 1945 Salmonberry Fire and naturally regenerated and have had no prior stand management. Stand Level Inventory (SLI) has been completed on these sale areas and they all are classified as Understory (UDS).

Areas 1 and 3 are conifer stands with some alder that have a sword fern, salal, and vine maple understory. Area 1 is predominately hemlock with alder mixed throughout the area, both scattered and in patches. There are also scattered Douglas-fir and spruce trees in the area. In Area 3, the alder is mainly in the draws and lower portion of the slopes and Douglas-fir is found on the ridges and upper slopes. There are also pockets of large remnant hemlock, cedar, and Douglas-fir that did not burn in the 1945 fire; these are mainly in the draws and the lower portion of the slopes. The crown closure in the conifer is reaching 60% to 70%, causing the live crown ratios in the dominant trees to recede and mortality in the understory species. Due to stand age, the alder has poor height and diameter growth.

Area 2 and Area 4 are predominately alder stands that have small poorly stocked pockets of Douglas-fir. There are also pockets of large remnant hemlock, cedar, and Douglas-fir (less than 1 tree per acre), mainly in the draws and the lower portion of the slopes, that did not burn in the 1945 fire. Due to stand age in this area, the alder has poor height and diameter growth.

Area 5 is a mixed conifer and hardwood stand that is dominated by pockets of large remnant hemlock, cedar, and Douglas-fir that did not burn in the 1945 fire mixed in with alder and big leaf maple.

There are some large snags in various states of decay and some hard snags created from wind and tree mortality. Down wood consists of scattered large old logs (36"+) in Class 3 and 4 stages of decay and some windthrow in decay classes 1 and 2.

### III. DESIRED STAND CONDITION AND VISION:

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Net Acres
1a	501	UDS	UDS	GEN	26
1a	501	UDS	UDS	LYR	39
1b	502	UDS	REG	GEN	6
1b	502	UDS	REG	LYR	14
2	503	UDS	REG	GEN	16
2	503	UDS	REG	LYR	68
3	504	UDS	UDS	LYR	27
3	504	UDS	UDS	OFS	67
4	505	UDS	REG	LYR	7
4	505	UDS	REG	OFS	42
5	506	UDS	UDS	LYR	15

*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 (DFC) goals.

#### **North Fork Cronin Creek Landscape View:**

The North Fork Cronin Creek is the furthest northeast portion of the district. The basin has had both thinning and clearcut operations in the last 5 years. Big 3 Junction will be accessed through private industry lands and roads. Much of the private lands in the sub-basin are on short rotations and managed using even-aged management methods.

**Areas 1 and 3** - The DFC for Area 1 is Layered (LYR) and General (GEN). The DFC for Area 3 is Layered (LYR) and Older Forest Structure (OFS).

**Short Term Vision:** This partial cut prescription will remove a portion of the slow growing alder in Area 1 and reduce the conifer stocking in both areas, which will maintain the crown ratios, stand vigor, and develop healthier and larger hemlock and Douglas-fir in the residual stand. The conifer SDI will be approximately 25% to 30%. In Area 1 there are four alder pockets, approximately 4 to 6 acres in size, (the actual size and location of these will be determined during sale prep)

which will be treated as modified clearcuts. These stands are on a pathway that maintains productivity and that provides for complex structure. Both areas will be managed for stand density by providing more growing space while capturing anticipated tree mortality in order to allow for individual tree growth as well as developing understory diversity.

**Long Term Vision:** The vision for these areas is to manage for stands of scattered Douglas-fir, western hemlock and alder. The stands will be composed of a mixture of species, size classes, and densities. A new cohort of western hemlock, alder, and spruce in the patch cuts and larger gaps will provide both horizontal and vertical diversity. In approximately 15 to 20 years after thinning, these stands will have a mixture of sizes, species and densities and likely be in a Layered condition. In Area 3, periodic thinning will produce a multilayered stand with some of the larger tree trees approaching 32 inches in diameter. In about 60 years there is a high probability that this stand will meet the requirements of OFS.

**Area 2 and 4** - The DFC for Area 2 is Layered (LYR) and General (GEN). The DFC for Area 4 is Layered (LYR) and Older Forest Structure (OFS).

**Short Term Vision:** Due to the current stand conditions (See Section II. Current Stand Condition) these areas are not good candidates for establishing a pathway that maintains productivity while moving towards the complex DFC. The regeneration harvest in these areas will remove the slow-growing alder and understocked conifer and be planted with western hemlock, Douglas-fir, and cedar. After the regeneration harvest these stands will be composed of legacy structures (conifer and hardwood green trees, snags, and down wood) retained from the present stand and a new cohort of planted mixed conifer species and naturally regenerated alder which will provide both horizontal and vertical diversity.

**Long Term Vision:** After an initial commercial thinning in the new stand (at approximately 30 to 40 years of age) it will have a mixture of sizes, species and densities. In approximately 60 years, after multiple entries for thinning, the combination of residual trees, multiple species and trees size will provide a Layered stand.

**Area 5** - The DFC for this area is Layered (LYR).

**Short Term Vision:** Due to logability issues this area will serve as a green tree retention area to supplement Area 2. Snag and Down wood creation will add additional structural diversity.

**Long Term Vision:** This area is expected to be in a LYR condition in the next 15 to 20 years. Managers will look at this stand in the future to determine if a Layered structure has been met and manage accordingly.

#### **IV. PROPOSED MANAGEMENT PRESCRIPTION AND PATHWAY:**

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

##### **PARTIAL CUT:**

###### **Area 1 and Area 3**

**Prescription:** A partial cut will thin the hemlock, Douglas-fir, and alder to a basal area range of 120ft<sup>2</sup> to 140 ft<sup>2</sup>. In Area 1, merchantable alder will be harvested in 4 small modified clearcut areas (4 to 6 acres). All other species (conifer and hardwood) will be reserved.

**Snags:** Snags will be created in Area 1 (one per acre greater than 15 inches DBH) because the current stand average DBH is greater than 15 inches. Because the current stand size in Area 3 is less than 15 inches DBH, there will be no snag creation. In the future, snags may be created during the second thinning entry.

**Down Wood:** Some down wood is expected from harvest operations but no additional down wood will be created during this harvest entry. Additional down wood creation will be evaluated during the second entry thinning in these areas.

**Pathway:** The openings and gaps in these areas will allow for understory reinitiation of shrubs and tree species, creating horizontal and vertical diversity. Another thinning will likely be needed in both areas in 15 to 20 years to keep this stand on a trajectory to complex stand structure. At this time managers will review density stand health, snag and down wood levels, and landscape goals to decide future management prescriptions.

##### **MODIFIED CLEARCUT:**

###### **Area 2**

**Prescription:** Merchantable alder and Douglas-fir will be harvested. All other species will be reserved.

**Green Tree:** In Area 2, a diameter limit will be used to select an average of 2 to 3 trees (Douglas-fir and/or hemlock) per acre for green tree retention within the harvest unit. These green trees will be left scattered within the harvest unit and will be the largest conifer trees within the existing stands. A component of alder will be retained in stream buffers adjacent to and within the harvest unit. An additional 6 to 9 green trees per acre will be left adjacent to Area 2 in a green tree retention area (Area 5).

**Snags and Down Wood:** Due to the size of the trees in this area it is unrealistic to expect that the snag and down wood targets in the FMP will be met with this operation. During sale layout, approximately 6-9 additional green trees per acre will be left for future snag and down wood recruitment. These trees will either be scattered within or adjacent to Area 2 or within Area 5.

**Pathway:** This area will be reforested with a mixture of conifer species: western hemlock, SNC tolerant Douglas-fir, western red cedar and/or noble fir. A precommercial thinning is anticipated at 12 to 17 years when the crowns begin to close. A commercial thinning will then be planned at age 35 to 40. At this time managers will review density, stand health, and landscape goals to decide future management prescriptions. A commercial thinning at age 40 will produce a stand that has an average diameter of about 16 inches and 125 trees per acre. This will keep the stand on the desired trajectory, and produce revenue. Other treatments, such as the creation of small gaps, may be considered at this time to increase diversity. At about 60 years the stand will have an average diameter of 20 inches. At this time it will be evaluated for Layered characteristics and another thinning will likely be prescribed.

#### **Area 4**

**Prescription:** Merchantable alder, Douglas-fir, and hemlock will be harvested. All other species will be reserved.

**Green Tree:** In Area 4, a diameter limit will be used to select an average of 5 trees per acre for green tree retention and 6 green trees for snag and down wood recruitment. These trees will be scattered within the harvest unit and will be the largest conifer trees within the existing stands. A component of alder will be retained in stream buffers adjacent to and within the harvest unit. Additional trees (approximately 5 to 7 conifer trees per acre) will be left adjacent to the outer zone of the Type F streams, in headwalls and other high landslide hazard areas adjacent to the boundary of Area 4.

**Snags and Down Wood:** Due to the size of the trees in this area it is unrealistic to expect that the snag and down wood targets in the FMP will be met with this operation. Additional green trees are being left for future snag and down wood recruitment. (See Green Tree above) These trees will be either scattered or clumped inside the sale area, within buffers in the sale area, or adjacent to the harvest boundary in other areas identified for tree retention.

**Pathway:** This area will be reforested with a mixture of conifer species: western hemlock, SNC tolerant Douglas-fir, western red cedar and/or noble fir. A precommercial thinning is anticipated at 12 to 17 years when the crowns begin to close. A commercial thinning will then be planned at age 35 to 40. At this time managers will review density, stand health, and landscape goals to decide future management prescriptions. A commercial thinning at age 40 will produce a

stand that has an average diameter of about 16 inches and 125 trees per acre. This will keep the stand on the desired trajectory to LYR or OFS and produce revenue. Other treatments, such as the creation of small gaps, may be considered at this time to increase horizontal diversity. At about 60 years the stand will have an average diameter of 20 inches. At this time it will be evaluated for Layered characteristics and another thinning will likely be prescribed for portions of the stand to move them to OFS.

### Snag and Down Wood Creation

#### Area 5

**Prescription:** Due to logability and stand type this area will not be harvested but will have density management by felling co-dominate and intermediate trees for down wood or selecting them for snag creation. This area will be used as a green tree retention area for the adjacent modified clearcut.

**Snags and Down Wood:** The area is a snag and down wood creation unit with the objective of developing a layered (LYR) condition. A prescription will be developed during sale prep to create an average of 5 snags per acre and fell 5 trees for down wood per acre to help meet FMP requirements for this sub-basin.

#### Pathway:

The creation of snags and down wood within the sale area will release the dominate trees and allow the stand to move toward a Layered structure.

Refer to Green Tree, Snag and Down Wood Strategies in the Summary document for strategies used on every sale.

## V. ESTIMATED TIMBER AND REVENUE INFORMATION:

**Table 4. Timber and Revenue**

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%		X
Planned Quarter:		1	

	Conifer	Hardwood	Total
Net Volume (MBF)	2705	1407	4112
Stumpage Value (\$/MBF)*	\$100	\$194	
Estimated Gross Value	\$270,500	\$272,958	\$543,458
		Project Costs:	\$135,945
		Estimated Net Value:	\$407,513

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

**VI. HARVESTING AND ACCESS CONSIDERATIONS:**

The sale areas are accessed via Foss County Road and Four Seven Ridge Road which is all weather crushed rock road. An easement will be needed from Longview Timber Co. to use the Four-Seven Ridge Road. This road is currently gated at the Foss County Road junction. See maps for specific road locations and conditions.

Approximately 0.40 miles of blocked road will be improved. This includes grading, rocking, widening, sidecast pullback, and adding new culverts. This work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 1.65 mile of road will be constructed to provide access to cable yarding areas. Approximately 0.3 miles of this new construct will need to be built on Longview Timber Co. property to access portions of Area 2, Area 3, and Area 4. An access permit will be needed to build these roads. It is anticipated that 1.3 miles of the new construction will be closed after harvest and 0.40 miles of existing abandoned road will be vacated in Areas 3 and 4. Following reforestation the remaining roads within the sale areas will be reviewed for closure. See summary document for more information on road closure. The operation will be 95% cable yarding and 5% ground yarding.

**Table 5. Transportation Planning Summary (Miles)<sup>4</sup>**

Activity	Mainline	Collector	Rocked Spur <sup>1</sup>	Dirt Spur <sup>1</sup>
Construct			1.25	0.4
Improve				0.4
Maintain <sup>2</sup>				
Close/Block <sup>3</sup>			0.9	0.4
Vacate <sup>3</sup>				0.4

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:**

North Fork Cronin Creek and an unnamed tributary of North Fork Cronin Creek are large Type F streams that are adjacent to the sale areas. There are also unnamed Type N streams within the sale areas. These streams will be 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 before sale layout begins. Streams of unknown status will be treated as Type F until surveys are completed to verify fish use.

There are additional unnamed small Type N streams within the sale areas. These streams will be reviewed and protected appropriately during sale layout based on flow, topography, and terrain. The riparian areas within and adjacent to the sale areas are predominately hardwoods with salmonberry, hemlock, spruce, vine maple and devil's club in the understory. There are also pockets of large remnant hemlock, cedar, and Douglas-fir within the riparian areas that did not burn in the 1945 fire.

The inner and outer riparian zones of these Type N streams will be managed towards mature forest condition where feasible. In Areas 2 and 3 there is opportunity to partial cut (120 to 140 BA) within 100 feet of North Fork Cronin Creek. Snag and down wood creation prescriptions may also be utilized to help move this riparian area towards mature forest condition.

The other 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.

Refer to Aquatic Resource Protection Strategies in the Summary document for information on in the "in stream work period" road work and stream improvement projects.

## **VIII. T&E SPECIES CONSIDERATIONS:**

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

It was determined that in the sale areas there is potential marbled murrelet habitat within or adjacent to the sale boundary. Surveys have been and will be conducted during the 2007 and 2008 survey season for marbled murrelets. All surveys for marbled murrelet were and will be conducted in accordance with Pacific Seabird Group (PSG) protocol. There have been no marble murrelet detections during the 2007 survey season.

It was determined that in the sale areas there is potential northern spotted owl habitat within or adjacent to the sale boundary. Surveys have been and will be conducted during the 2007 and 2008 survey season for northern spotted owl. All northern spotted owl surveys were and will be conducted in accordance with USFWS endorsed protocol. There have been no northern spotted owl detections during the 2007 survey season.

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:**

This assessment is based on analysis of USGS 1:24,000 topographic maps.

There are high landslide hazard locations scattered throughout the sale. The northern portion of Area 1 drains into an unnamed tributary of the Nehalem River. The remainder of the sale drains into the North Fork of Cronin Creek. The risk of landslides delivering directly from the sale to the unnamed tributary of the Nehalem River is low and to the North Fork of Cronin Creek is high. The northern portion of Area 1 and the western portion of Area 3 appear to be located on large, deep-seated landslide landforms.

The geotechnical specialist will be consulted if evidence of recent landslide activity is identified during sale layout.

#### **X. RECREATION RESOURCES:**

The sale areas are 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.

#### **XI. CULTURAL RESOURCES:**

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

#### **XII. SCENIC RESOURCES:**

The sale areas have a visual classification of Level 3, low sensitivity. No scenic impact is expected.

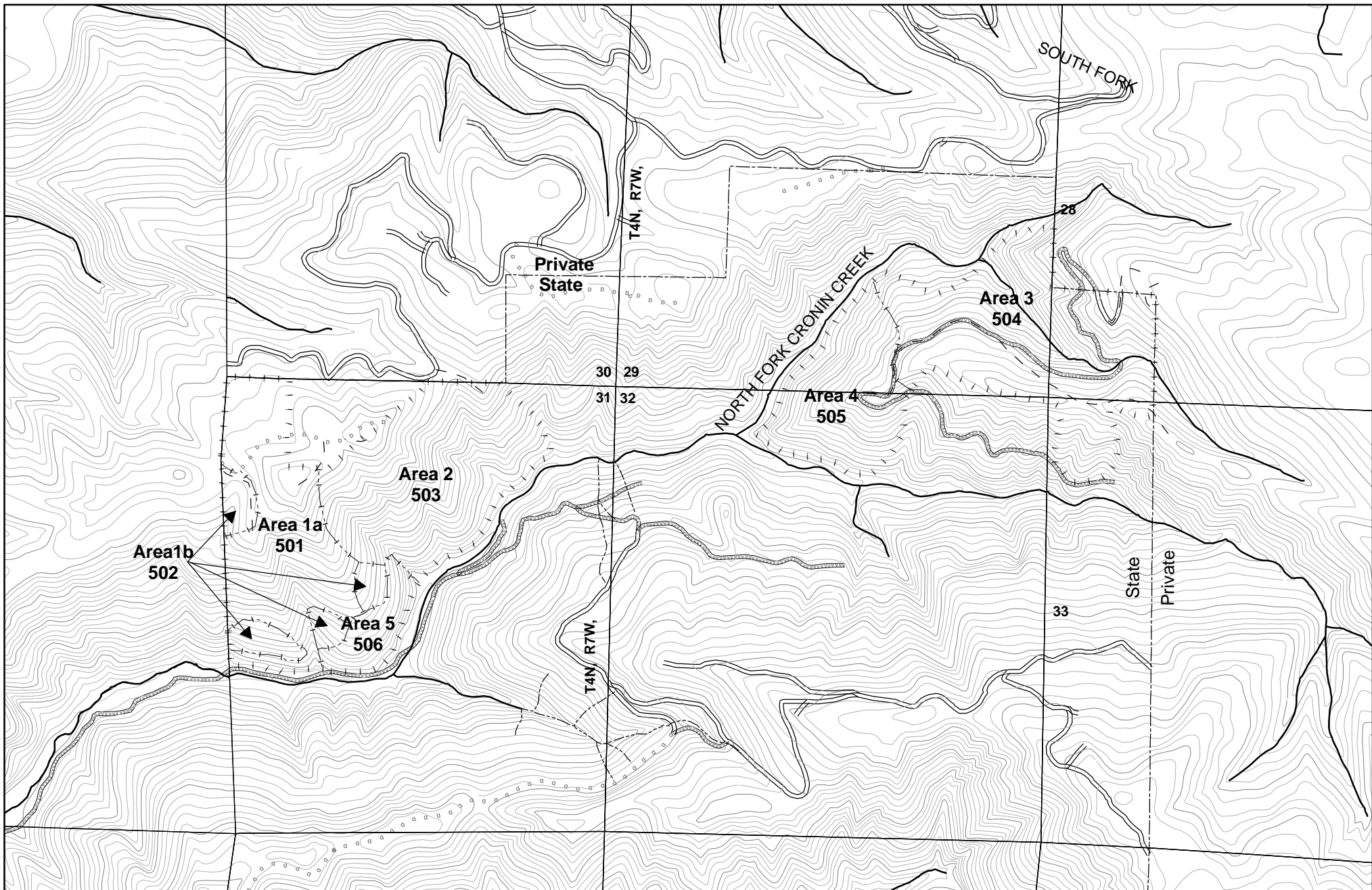
**XIII. OTHER RESOURCE CONSIDERATIONS:**

In order to harvest this sale area, an easement and an access permit need to be obtained from Longview Timber Co. There is a property line between the state and private property on Area 1, Area 2, and Area 3 which needs to be clearly identified. A permit will also need to be obtained if guyline trees and/or tailholds are needed on the adjacent landowner, Longview Timber Co.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

The sale areas contain Focused and Special, Aquatic and Riparian Habitat. See section VII. Aquatic Resources and Water Quality, for the management guidelines to be utilized.

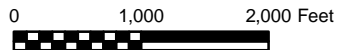
Boundary lines depicted on Attachment C are approximate; exact locations and site specific management activities will be determined during the sale preparation process.



Contour Interval 40'

- Area boundary
- ! ! Sale boundary
- Ownership boundary
- Perennial Type-F stream\*
- - - Perennial Type-N stream\*
- == Unsurfaced road
- Surfaced road
- State/Federal highway

- Legacy road
- o o o Blocked road
- - - Road construction
- County road
- ;; Transmission line



**3**

**Big 3 Junction  
-- Topography --  
2009 SALE PLAN  
TILLAMOOK DISTRICT**

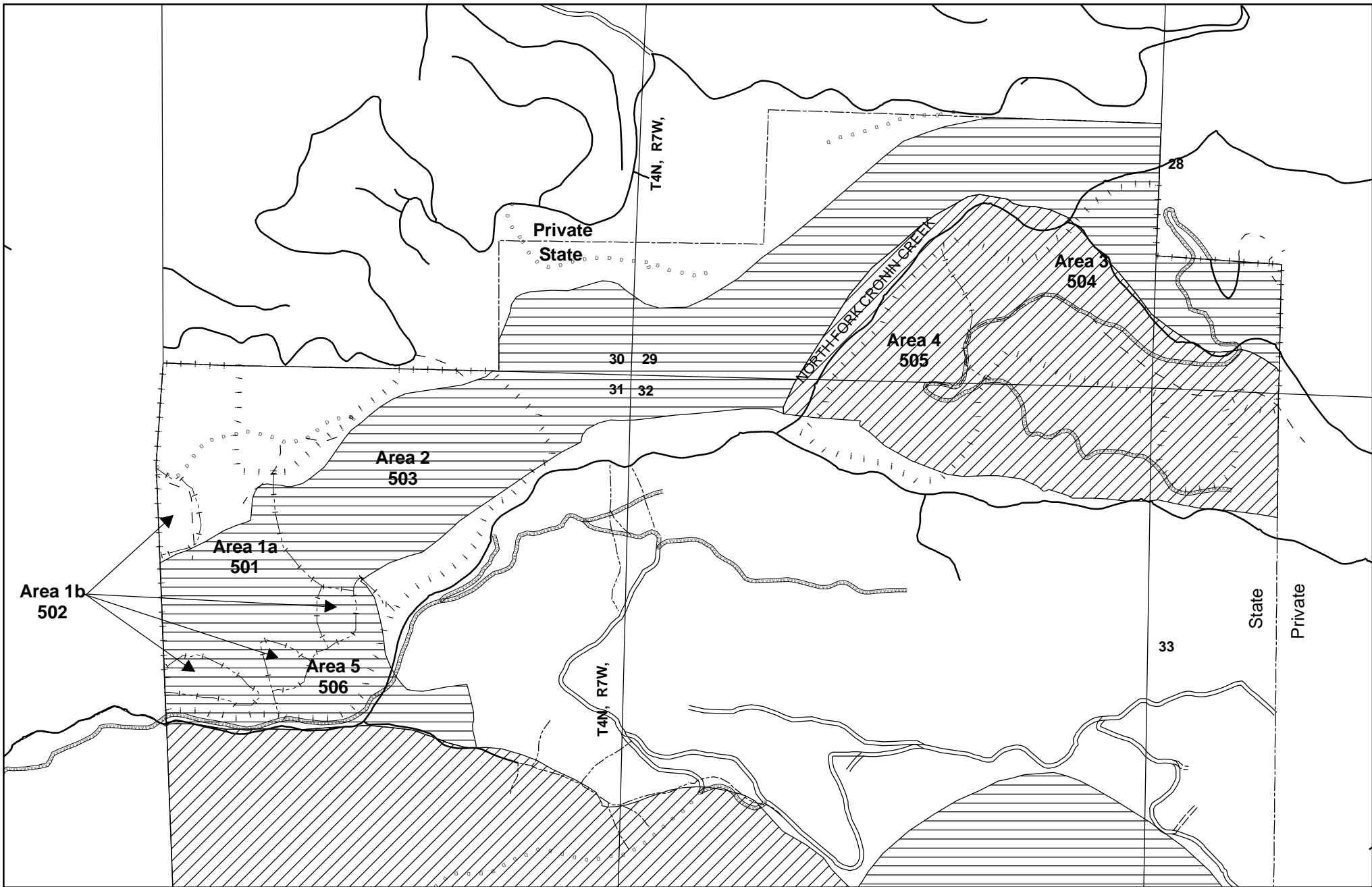
Portions of Sections 28, 29, 30, 31, 32, 33  
T4N, R7W, W.M.,  
Tillamook County, Oregon

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

Tillamook District GIS  
10/27/2007

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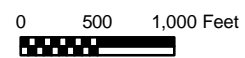
Area	Type of Operation
1a	Partial Cut-M
1b	Modified Clearcut
2	Modified Clearcut
3	Partial Cut
4	Modified Clearcut
5	Green Tree Retention



Desired future condition  
 Layered  
 Older forest

- - - Area boundary  
 ! ! ! Sale boundary  
 - - - Ownership boundary  
 — Perennial Type-F stream\*  
 - - - Perennial Type-N stream\*  
 = = = Unsurfaced road  
 — Surfaced road  
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Legacy road  
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**3**

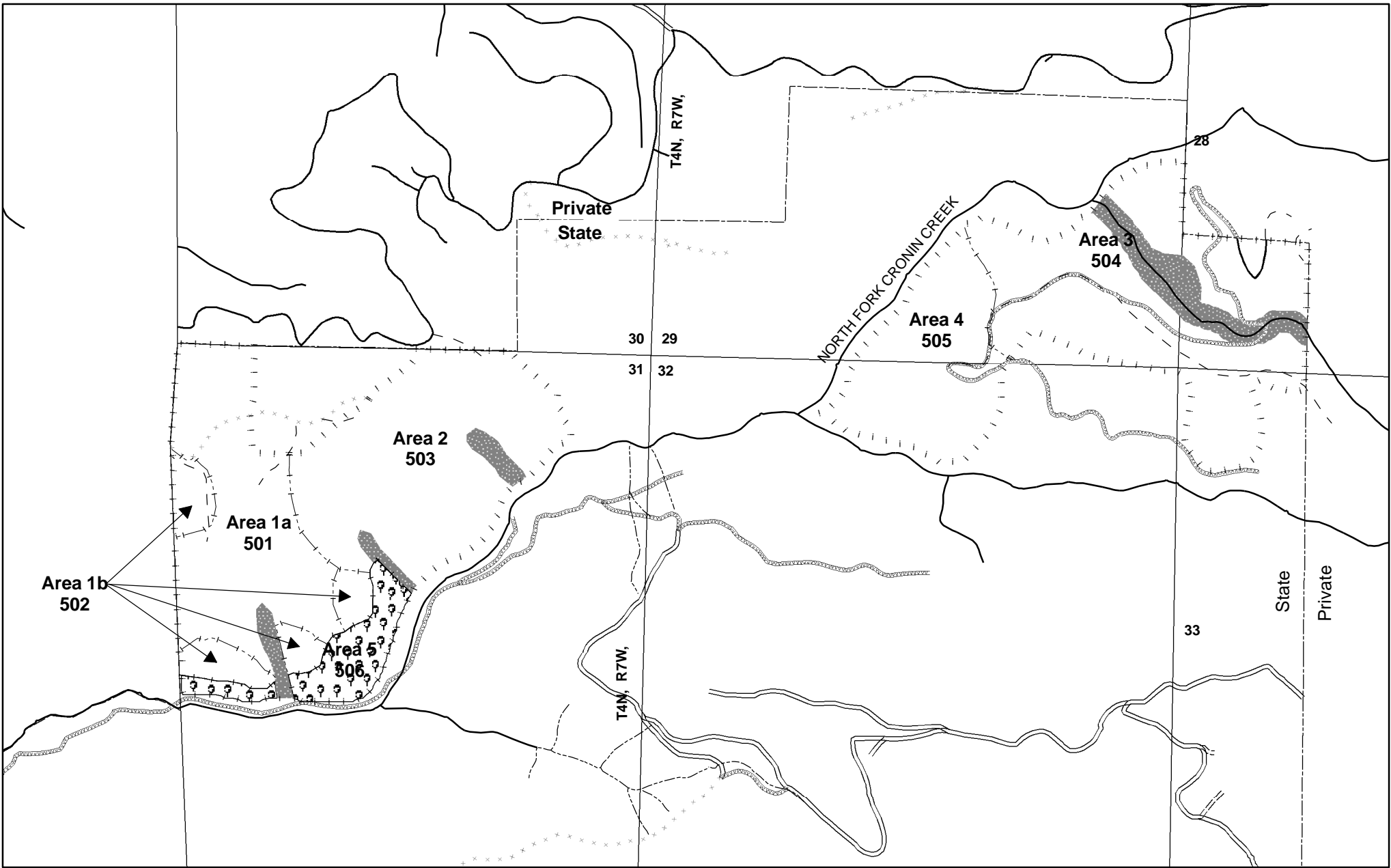
**Big 3 Junction**  
**-- Current and Future Condition --**  
**2009 SALE PLAN**  
**TILLAMOOK DISTRICT**  
 Portions of Sections 28,29,30,31,32,33  
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












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

Tillamook District GIS  
 01/08/2008

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Area	Type of Operation
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1b	Modified Clearcut
2	Modified Clearcut
3	Partial Cut
4	Modified Clearcut
5	Green Tree Retention

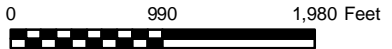


-  Buffer
-  Green Tree Retention
-  Non-required thinning
-  Area boundary
-  Sale boundary
-  Ownership boundary
-  Perennial Type-F stream\*
-  Perennial Type-N stream\*
-  Unsurfaced road
-  Surfaced road
-  State/Federal highway
-  Legacy road
-  Blocked road
-  Road construction
-  County road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

3

**Big 3 Junction  
-- Key Resources --  
2009 SALE PLAN  
TILLAMOOK DISTRICT**

Portions of Sections 28,29,30,31,32,33  
T4N, R7W, W.M.,  
Tillamook County, Oregon



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