

# Pre-Operations Report

**Operation Name: Point T Boot**

**County: Tillamook**

**Management Basin: Lower Nehalem and Kilchis**

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

Area	Type of Operation	Gross Acres	Net Acres <sup>1</sup>
1	Retention Cut	193	159
2	Partial cut - Moderate	183	174
3	Modified Clearcut	55	50
Total		431	383

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

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

The sale is located on steep to very steep slopes in the headwaters of three forks of the South Fork of Cook Creek.

There are steep to very steep side-slopes throughout all 3 Areas except for the northwest portion of Area 2. The sale is underlain by igneous origin rocks of the Tillamook Volcanics Formation. The northwest portion of Area 2 is mapped as "landslide deposit" (Wells et. al.). Refer to the Overview of Harvest Operations in the Summary document for information.

## **II. CURRENT STAND CONDITION:**

**Table 2. Stand Inventory Information<sup>4</sup>**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Net Acres <sup>2</sup>
1	RC	215	WH, DF, RA, NF	45	13.8	184	176	49	159
		Target <sup>3</sup>	WH, NF, DF	45	19.3	53	26	12	159
2	PC	216	WH, DF, NF, RA	40	13.7	276	271	75	174
		Target <sup>3</sup>	WH, DF, NF,	40	17.1	120	75	29	174
3	MC	225	WH, DF, NF, RA	40	12.8	207	231	57	50

*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. 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. The directive for minor and major modifications will be followed for further review.*

Tillamook District

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Final June 2007

All of the sale areas burned in the 1933 Tillamook Fire. Area 1, Area 2, and a small portion of Area 3 also burned in the 1945 Tillamook/Salmonberry Fire. Stand Level Inventory (SLI) has not been completed on the sale areas but it is classified as 100% Closed Single Canopy (CSC) according to the district stand summary information (1999). Area 1 and Area 3 will be further evaluated (as defined by the July 2004 guidance, "*Planned Sale Inventory Requirements – Alternative to Full Stand Level Inventory*"). See Table 2 for specific stand data.

Area 1 is a mixed species stand. A portion of this area was seeded in 1961. The remaining area naturally regenerated which has resulted in pockets of dense hemlock and alder dominated riparian areas and in small pockets (less than 2 acres) intermixed with the planted Douglas-fir. The Douglas-fir in this area is showing symptoms of SNC. The live crown ratios on the suppressed and intermediate Douglas-fir are less than 30% and have poor needle retention resulting in slowed diameter and height growth. Due to stand age, the alder in this stand has poor height and diameter growth. The understory in the Douglas-fir and alder portions of the stand is salmonberry. The hemlock portion of this stand has grown at a 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. This area has had no prior stand management.

Approximately 20 acres of Area 2 was planted in 1968. The remainder of the area was naturally regenerated with hemlock and a minor component of alder. This has resulted in a conifer stand that is a mix of dense hemlock, scattered noble fir and alder intermixed with the planted Douglas-fir. The conifer in the majority of this area is very dense (approx. 60% SDI) showing signs of stem exclusion and receding live crown ratios, resulting in poor height to diameter ratios in the smaller diameters, slowed diameter growth, and very little understory. This area was pre-commercially thinned approximately 15 years ago.

Area 3 is primarily a Douglas-fir plantation that was seeded in 1968 and has had natural regeneration which has resulted in small pockets of dense hemlock intermixed with the planted Douglas-fir. The Douglas-fir in this area is showing symptoms of SNC. The live crown ratios on the smaller Douglas-fir are less than 30% and have poor needle retention resulting in slowed diameter and height growth. The hemlock portion of this stand has grown at a high density resulting in the loss of live crown ratios and very little understory conifer or shrub species. This area has had no prior stand management. The understory in this stand is made up of swordfern, salmonberry, and salal. This area has had no prior stand management.

There are some large snags and down wood resulting from the Tillamook Fire and Wilson River/Salmonberry fire. The 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. There are also a few hard conifer and small alder snags scattered throughout the sale.

**III. DESIRED STAND CONDITION AND VISION:**

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Net Acres
1	215	CSC	REG	LYR	106
1	215	CSC	REG	OFS	53
2	216	CSC	UDS	GEN	60
2	216	CSC	UDS	OFS	114
3	225	CSC	REG	OFS	50

*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.

The DFC for Area 1 is Layered (LYR) and Older Forest Structure (OFS). The vision is for a stand of scattered Douglas-fir, western hemlock and alder. The stand will be composed of a mixture of species, size classes, and densities. A new cohort of western hemlock, alder, spruce, and cedar in the alder clearcut areas and larger gaps will provide both horizontal and vertical diversity. After thinning in approximately 20-30 years the stand will have a mixture of sizes, species and densities and likely be in a Layered condition. Periodic thinnings 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.

The DFC for Area 2 is General (GEN) and OFS. The vision is for a stand of scattered Douglas-fir, western hemlock and alder. The stand will be composed of a mixture of species, size classes, and densities. A new cohort of western hemlock, alder, spruce, and cedar in the larger gaps and areas of low stand density will provide both horizontal and vertical diversity. This stand 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 was as developing understory diversity. After thinning in approximately 15 - 20 years the stand will have a mixture of sizes, species and densities and likely be in a Layered condition. Periodic thinnings 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.

The DFC for Area 3 is OFS. Because of small live crown ratios, slow growth rates, and symptoms of Swiss Needle cast; the present stand is not a good candidate for establishing a pathway that maintains productivity and reach the DFC in a reasonable amount of time.

After the regeneration harvest the stand will be composed of legacy structures retained from the present stand and a young cohort of Douglas-fir, western hemlock and alder trees. The green trees, including some hardwoods, retained on the site, provide a scattered overstory and also contribute to the down wood and snag recruitment as mortality occurs. In approximately 60 years the combination of residual trees, multiple species and trees size will provide a complex stand structure.

#### **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. **See table 2 for prescription targets.**

##### **Retention Cut:**

In Area 1, all merchantable alder will be harvested. A diameter limit (approx. 20 inches DBH) will be used to harvest the Douglas-fir that has symptoms of SNC and poor crown ratios. Hemlock less than 15" DBH will be removed and the remaining hemlock will be thinned to a basal area of 120ft<sup>2</sup> to 140 ft<sup>2</sup>. All other conifer and hardwood species will be reserved.

This retention cut prescription will remove the slow growing alder and the Douglas-fir the have small crown ratios and poor growth. The overstocked hemlock with be reduced to a SDI of 35-40% which will maintain the crown ratios, stand vigor, and develop healthier and larger hemlock in the residual stand. The overall stand SDI will be approximately 12%. The harvest prescription is designed to achieve variable densities throughout the area. There will be several Douglas-fir and alder clearcuts (less than 5 acres). There may be clearcuts that are larger than 5 acres. The actual size and location of these will be determined during sale prep and will be treated as modified clearcuts if they are larger than 5 acres.

The resulting stand will have hemlock thinning pockets of various sizes and large residual hemlock scattered within the gaps that will be created by the Douglas-fir and alder harvest. This is a first entry harvest that will begin to move the stand along the pathway to a more complex structure. The openings and gaps will allow for understory reinitiation of shrubs and tree species creating horizontal and vertical diversity. Another thinning will likely be needed in 20 years to keep this stand on a trajectory to complex stand structure. At this time managers will

review density stand health, and landscape goals to decide future management prescriptions

**Partial Cut:**

In Area 2, a diameter limit (approx. 14" DBH) will be used to harvest the hemlock and Douglas-fir that has poor height to diameter ratios and poor crown ratios. The remaining hemlock and Douglas-fir will be thinned to a basal area range of 120ft<sup>2</sup> to 140ft<sup>2</sup> in order to maintain good live crown ratios in the dominant trees and promote understory growth. Merchantable alder will also be harvested. All other conifer and hardwood species will be reserved. This harvest prescription is designed to achieve variable densities throughout the area.

This partial cut prescription will reduce the amount of overstocking. The resulting stand will have a stand density index of 25-30% which will maintain the crown ratios, stand vigor, and develop healthier and larger trees in the residual stand. This thinning will continue to move the stand along the pathway to more complex structure. Openings and gaps will allow for understory reinitiation of shrubs and tree species creating increased horizontal and vertical diversity. Another thinning will likely be needed in 10 to 15 years to keep this stand on a trajectory to complex stand structure. At this time managers will review density stand health, and landscape goals to decide future management prescriptions

**Modified Clearcut:**

In Area 3, a diameter limit (approx. 22" DBH) will be used to harvest the Douglas-fir, hemlock and noble fir. Merchantable alder will also be harvested. All other conifer and hardwood species will be reserved. Approximately 6 to 9 trees per acre will be left within the sale area. This stand will be planted with a mixture of conifer species and it is anticipated that some natural regeneration will occur.

This will remove the overstocked Douglas-fir and slow growing alder. Due to difficult topography this prescription has been designed to facilitate logging. The resulting stand will have residual trees either clumped or scattered. These residual trees will provide future down wood and/or snags. The area will be reforested with a mixture of conifer species: western hemlock, SNC tolerant Douglas-fir and western red cedar. A pre-commercial 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.

**Green Tree, Down Wood and Snag Strategies**

A variety of methods will be used to achieve green tree retention requirements in Areas 1 and 3. 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. Green trees will be left on precipitous slopes, headwalls, and those areas not reached by conventional logging methods.

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. Obvious defect in conifer logs will be bucked out in all harvest areas to enhance down wood levels. 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 also be left in the unit.

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, or tail trees) and over time by natural processes. Snags will be created in Area. A prescription will be developed after the cruise has been completed.

Due to the size of the trees In Area 1 and Area 3, it is unrealistic to expect that the snag and down wood 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:		2	

	Conifer	Hardwood	Total
Net Volume (MBF)	4693	429	5122
Stumpage Value (\$/MBF)*	\$100	\$200	
Estimated Gross Value	\$469,300	\$858,000	\$555,100
		Project Costs:	\$136,885
		Estimated Net Value:	\$418,215

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

**VI. HARVESTING AND ACCESS CONSIDERATIONS:**

The sale areas are accessed via Cook Creek Road, South Fork Cook Creek Road, Beyer Road, Smith Wright Road, and the West Fork of the Wilson Road. These are currently all weather crushed rock or pit run roads. See maps for specific road locations and conditions.

Approximately 3.9 miles of existing surfaced road and 0.1 miles of legacy roads will be improved which includes grading, rocking, spot rocking, and adding new culverts. This work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 0.75 miles of road will be constructed to provide access to cable yarding areas. It is anticipated that 0.5 miles of new construction will be closed after harvest. 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 85% cable yarding and 15% 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			.075	
Improve		3.9	0.1	
Maintain <sup>2</sup>	6	14		
Close/Block <sup>3</sup>			0.5	
Vacate <sup>3</sup>				

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:**

There are no known Type F streams within or adjacent to the sale areas. There are additional 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. The inner and outer riparian zones of these Type N streams will be managed towards mature forest condition where feasible.

Stream buffers within and 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.

All of the sale areas are within the Cook Creek sub-basin. This sub-basin has been identified as a Salmon Anchor Habitat (SAH) Basin. The riparian SAH

Basin Strategies will be used in addition to the FMP Riparian Strategies at the time of sale layout and contract development. See the Salmon Anchor Summary Table for tracking of acres managed in each basin.

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 there is potential marbled murrelet habitat within and/or 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 2006 survey season there have been no marbled murrelet detections.

Surveys for northern spotted owls are not required due to the absence of potentially suitable habitat.

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).

Threatened/Endangered plants – A listed plant was found adjacent to the sale areas. The Oregon Department of Agriculture (ODA) will be consulted during sale layout to determine appropriate level of protection and to determine if there are any plants located within the sale boundary. Sale boundary locations, road improvement, and cable corridor and landing locations may be restricted adjacent to plant locations.

### **IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:**

There are steep and very steep side-slopes in all Areas. The initial risk assessment by the geotechnical specialist for the sale is high. The geotechnical specialist will be consulted during sale layout field work. The landslide deposit shown on the geology map (Wells et al.) is not expected to be significant to the sale, due to the deep seated nature of the deposit, however if during sale layout fieldwork any indications of active movement are observed the geotechnical specialist will be consulted.

The sale areas have been identified as SAH Basin and the most current slope stability SAH Strategies will be used at the time of contract development. See the Summary Document for more information.

**X. RECREATION RESOURCES:**

The sale areas are designated as Motorized in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). This sale has been reviewed by the District Recreation Coordinator. Recreational use common to this area includes hiking and hunting.

**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.

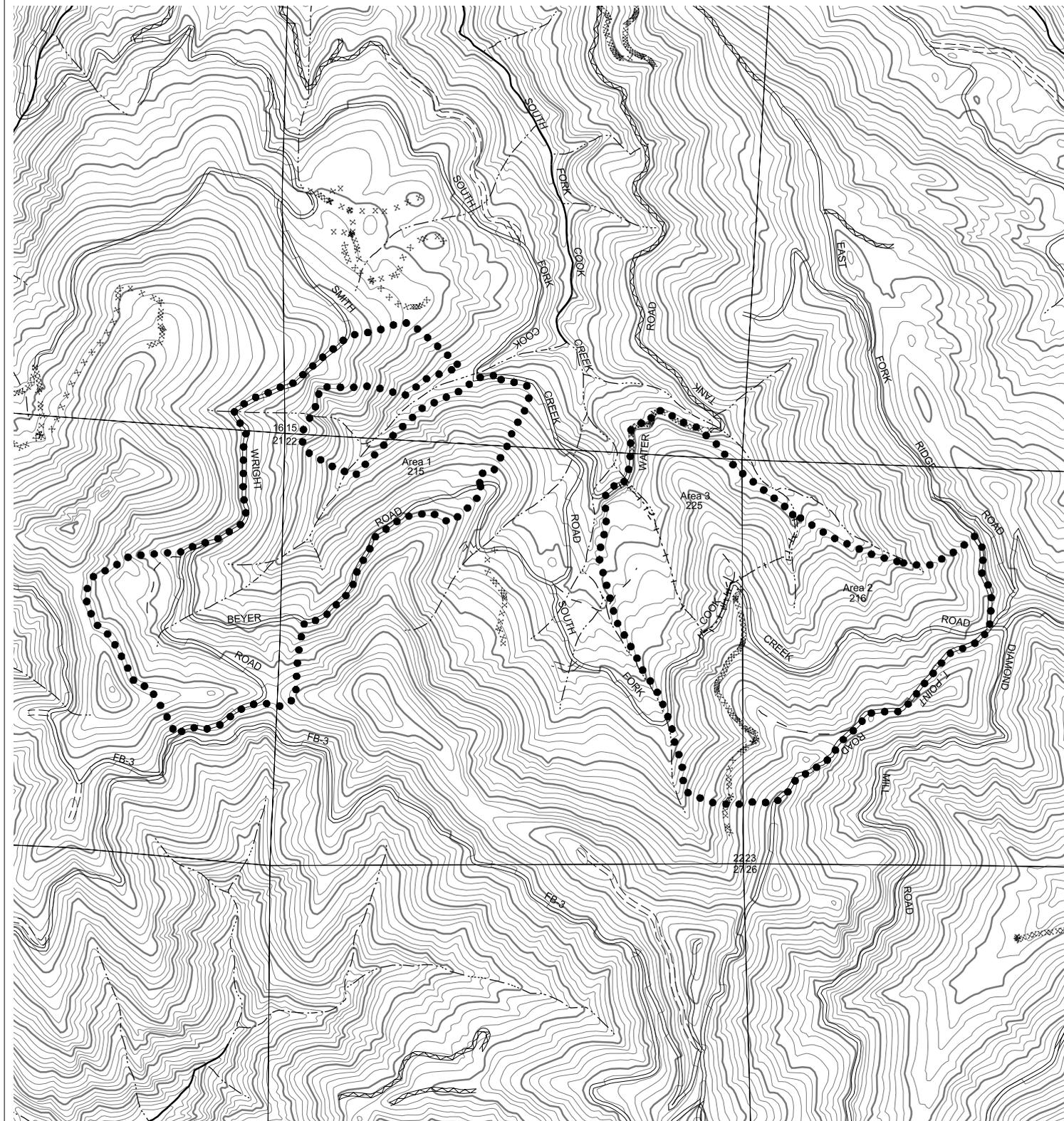
**XIII. OTHER RESOURCE CONSIDERATIONS:**

None known.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

The sale areas contain Focused and Special, Aquatic and Riparian Habitat (See Section VII, Aquatic Resources and Water Quality). The sale areas also contain Focused, Wildlife Habitat (See section VII. Aquatic Resources and Water Quality Area 1 contains Special, Operationally Limited (See Section IX, Slope Stability and Geotechnical Issues) and Area 2 contains Special, Plants (See Section VIII, T&E Species Considerations).

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
- xxxxxx Blocked road
- - - Road construction
- County road
- T T Transmission line

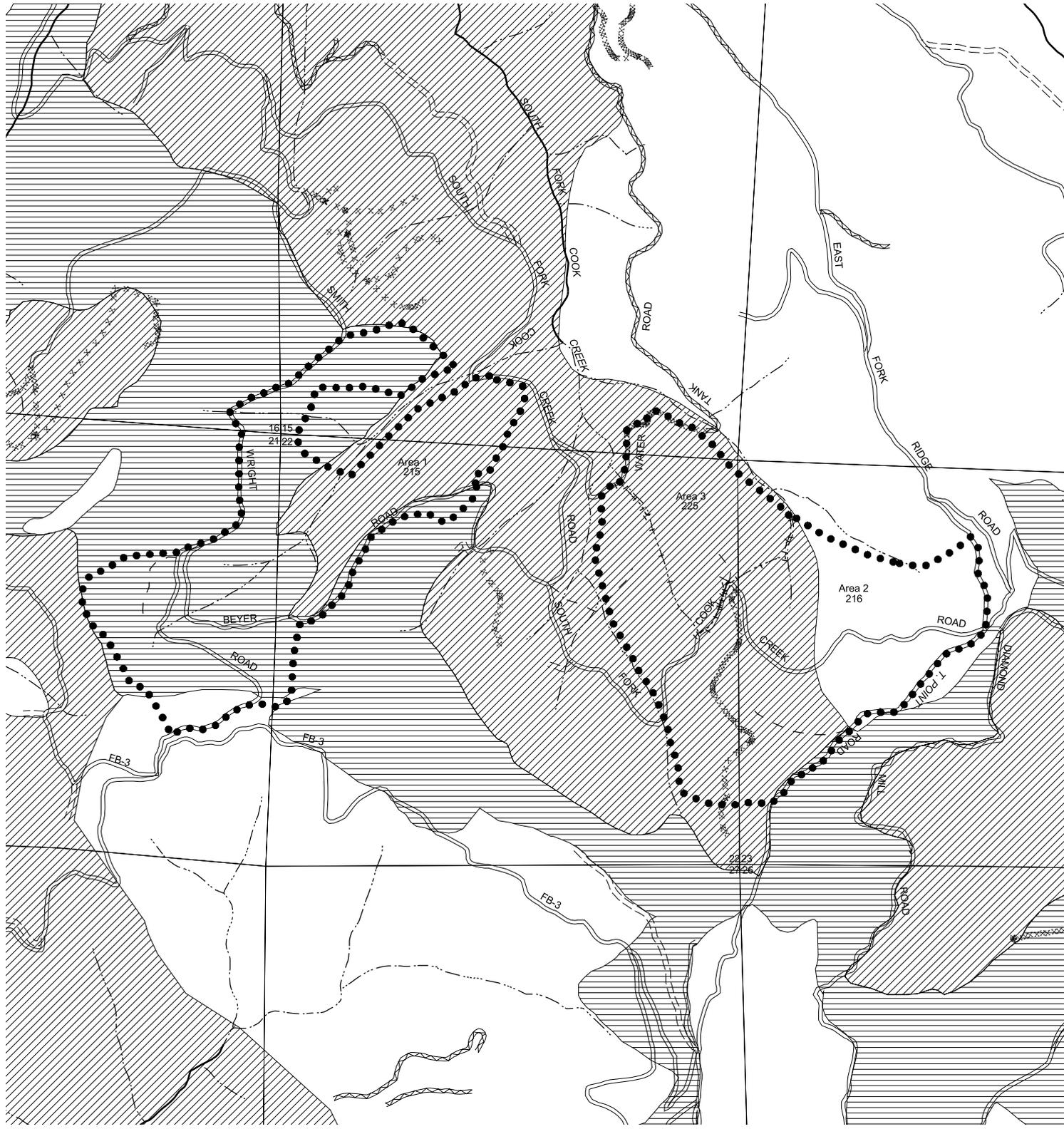
**Point T. Boot**  
**-- Topography --**  
**2008 SALE PLAN**  
**TILLAMOOK DISTRICT**  
 Portions of Sections 15, 16, 21, 22, and 23,  
 T2N, R8W, W. M.  
 Tillamook County, Oregon

Area	Type of Operation
1	RC
2	PC
3	MC



Tillamook District GIS  
 Jan. 2007  
 This product is for informational use and  
 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



- 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
  - Blocked road
  - Road construction
  - County road
  - Transmission line

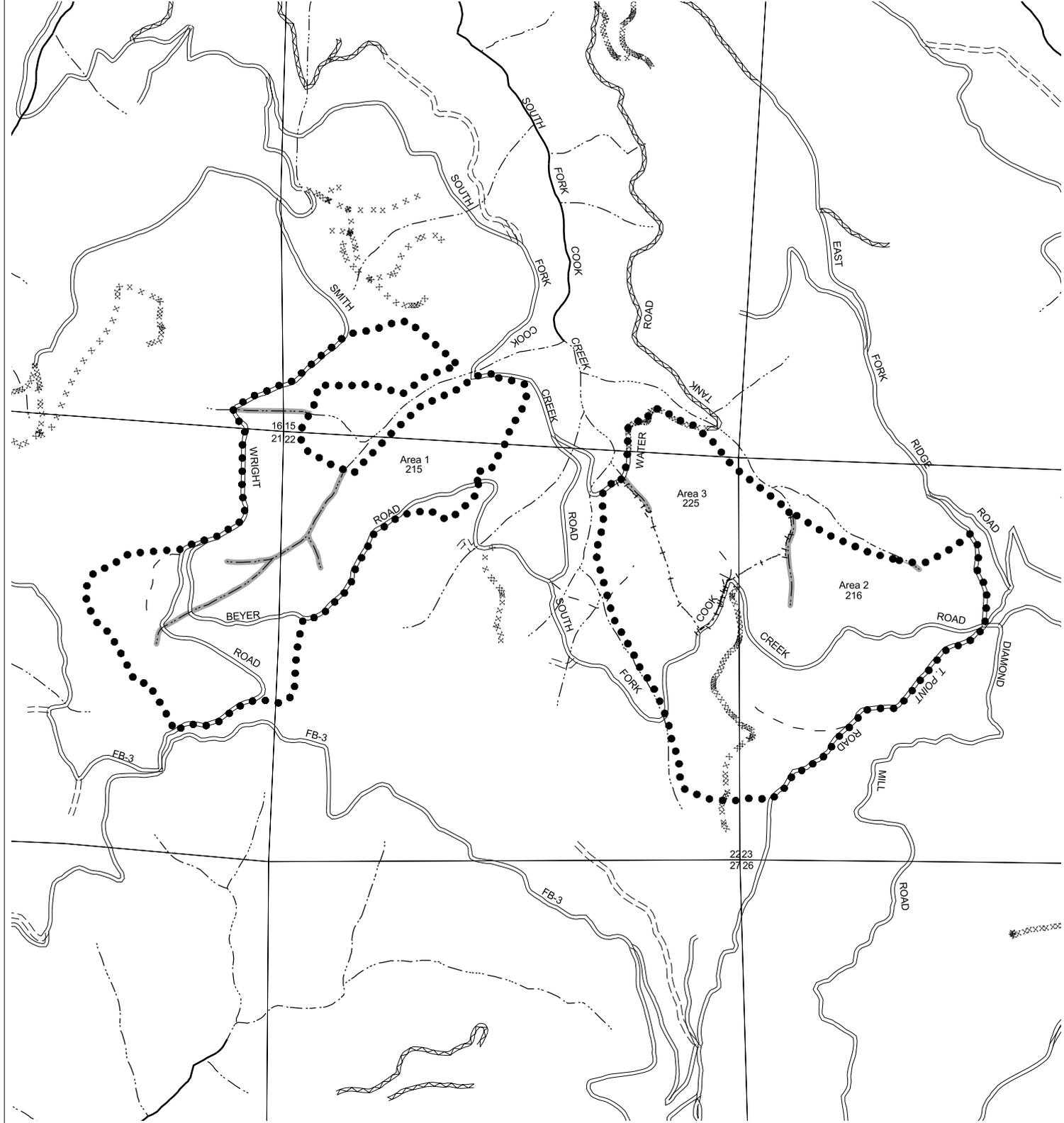
**Point T. Boot**  
**-- Current and Future Condition --**  
**2008 SALE PLAN**  
**TILLAMOOK DISTRICT**  
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**Point T. Boot**  
**-- Key Resources --**  
**2008 SALE PLAN**  
**TILLAMOOK DISTRICT**

Portions of Sections 15, 16, 21, 22, and 23,  
 T2N, R8W, W. M.  
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