

# Modification Cover Memo

**SUBJECT:** SUMMARY OF MODIFICATIONS TO TILLISON RIDGE SINCE APPROVAL OF ANNUAL OPERATIONS PLAN (FY2009 AOP)

**FROM:** Kevin Boyd

**TO:** Andy White

**DATE:** May 20, 2010

**CC:** Operation File

Changes from the AOP:

- Due to internal policy changes regarding the desired future condition of stands, and Area 1 being predominantly Western Hemlock with poor height diameter ratios, the prescription has been changed from Partial Cut to Modified Clear Cut. Net acreage was reduced due to buffers, tree retention along the boundary edges, and removing a high landslide hazard location.
- Portions of Area 2 and all of Area 3 were dropped from the sale following Geotechnical review. This resulted in a net loss of 35 acres.

AOP Modifications Tillison Ridge				
Timber Sale	Net Acres	Prescription		Volume
		MC	PC	MBF
Original Tillison Ridge AOP	142		130	2,210
Revised Tillison Ridge AOP	88	58	30	1,594

*Andy White*  
Andy White, District Forester

*5/20/10*  
Date

# Pre-Operations Report

**Operation Name: Tillison Ridge**  
**Legal: Section 25 T1S, R9W**  
**County: Tillamook**  
**Management Basin: Wilson**  
**SAH Status: None**  
**FDF: 100% CSL: 0%**

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

Area	Type of Operation	Gross Acres	Net Acres <sup>1</sup>
1	Modified Clear Cut	68	58
2	Partial Cut	37	30
3	Down Wood Creation	18	0
Total		123	88

*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:**

Slopes in the sale are southern and southwest aspects with slopes varying from 10 to 85%. Elevations range from 1600 to 950 feet. The major soil type for Areas 1 and 2 are dominated by Killam soil type. Area 3 is dominated by Rye soil type.

## 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>
1	Modified Clear Cut	203	WH,SS,RA	40,60	19	232	117	48	58
	Target		WH, SS, RA		34		4		
2	Partial Cut	204	DF,WH,SS RA	40	15	206	170	47	30
	Target		DF, WH, SS		18	100	54	20	
3	Down Wood Creation	206	WH,SS,RA	60	19	244	117	67	0

1. The source of stand inventory information is from timber cruise data and stand level inventory.
2. The net acres are based on orthophotos and GIS and exclude roads, and stream buffers.
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 are naturally regenerated stands likely resulting from windstorm disturbance. No previous management has occurred in the sale areas.

### **Stand Structure**

According to SLI stand data, portions of Area 1 are classified as CSC and portions are UDS structure. The majority of Area 2 is classified as UDS structure.

Area 1 is comprised of two SLI polygons. Both polygon inventory datasets show over 4000 cubic feet of down wood but less than 50 cubic feet in decay class 1 and 2. The data also shows 13-25 snags/acre with 5-8 of those being over 24" DBH.

Area 2 SLI data shows almost 5000 cubic feet of down wood with 100 cubic feet of that in decay classes 1 and 2. The stand also has approximately 12 snags per acre over 24" DBH.

Area 3 data shows 5300 cubic feet of down wood but none of that in decay classes 1 or 2. There are also approximately 14 snags per acre over 24" DBH.

### **Stand Conditions**

Area 1 is a mixed conifer and hardwood stand. The conifer species are spruce, hemlock, and a small amount of Douglas-fir. The concentrations of alder vary from 1-2 acre pockets to the largest area of 20 acres.

Area 2 is a mixed species stand comprised of Douglas-fir, hemlock, and spruce with small pockets (1-2 acres) of alder.

Overall, the sale contains higher quality conifer and hardwoods. Hardwoods in the stand have straight boles and average log length of 35 feet. The growth of the red alder is beginning to slow in height growth due to the age of the stand.

Area 3 is an older conifer stand with hemlock and spruce. The stand is classified as OFS according the Stand Level Inventory data, however it lacks down wood in decay classes 1 and 2.

See Table 2 for specific stand data.

The brush component in the sale area is comprised primarily of sword fern, salmonberry, and small patches of vine maple.

There are few large snags in various states of decay left from the fire history of the area. Down wood consists of scattered large old logs (36"+) in Class 3 and 4 stages of decay. The Stand Level Inventory data shows approximately 1 snag per acre greater than 24" DBH. The inventory also shows 2,682 cubic feet per acre of down wood with only 3.45 cubic feet in decay class 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
1	203	UDS	GEN	GEN	58
2	204	UDS	UDS	LYR	30
3	206	OFS	OFS	LYR <sup>2</sup>	0

- 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.*
- 2. This stand is currently in OFS condition. The DFC of the stand may be changed in the future as it will be managed to maintain OFS structure.*

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.

#### **Sub-basin**

This operation is located in the area of Green Peak and falls into the Wilson and Trask Basins. Past management involved several acres of clearcut harvest in the 1980's. In the past 10 years partial cutting has been completed on a small

number of acres. Other areas of the small sub-basins of Hughey Creek and Green Creek have older (over 70 years old) stands mixed with stands 30-50 years of age. Very little opportunity exists in the basin for additional harvest after this sale for another 10-15 years.

The DFC for Area 1 is General. The DFC for Area 2 is layered. Area 3 is currently in OFS condition. The DFC of Area 3 may be changed in the future since it is currently in OFS structure.

**Short term vision:**

The short term objective for Area 1 is to remove the existing stand through a regeneration harvest. After the regeneration harvest these stands will be composed of legacy structures retained from the present stand and have a young cohort of Douglas-fir and hemlock. A component of Red Alder will exist in along streams, in steep draws and some were posted outside of the boundary to remain on the landscape. The residual Hemlock, spruce, and Douglas-fir will serve as a source for future recruitment of larger snags and downed wood. The short term objective for Area 2 is to partial cut conifer and remove the alder to allow more understory tree establishment and continue overstory tree growth.

**Long term vision:**

The vision for Area 1 is to have a fully stocked mixed species stand that has both vertical and horizontal diversity. The stands will be pre-commercial thinned (PCT) 10-15 years after planting. At 35-40 years the stand will be commercially thinned to maintain productivity and to maximize revenues at final harvest.

The long term vision for Area 2 is to create complex stands with gaps of 1-10 acres in size with differing age classes, hemlock understory and a dominate conifer overstory. Hardwoods will be retained in headwalls and riparian areas adding to short term and long term decadence. The gaps and openings created by alder removal will be planted with conifer species. Hemlock and alder are also expected to seed back into the stand in the openings. The stand is expected to move toward a layered 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.**

**Prescription:**

Area 1 will be a modified clear cut by removing hemlock, spruce and alder. Douglas-fir will be reserved from harvesting since much of it originated from natural seed source and it averages one tree per acre. In addition a component of larger spruce and hemlock will be left on the landscape through leaving all trees greater than 34 inches DBH. This will result in 5 trees per acre.

Area 2 will harvest merchantable alder creating gaps 1-2 acres in size and partial cutting conifer to a basal area of 80-100 square feet. The majority of harvested conifer will be hemlock. Douglas-fir and spruce are also found in the stand but at lower levels and larger diameters. Spruce may be reserved from harvest.

Area 3 will not remove any trees for harvest.

**Snags**

The Stand Level Inventory shows a large amount of snags in each area, therefore no snag creation will be completed with the sale.

**Down Wood**

Areas 1 and 2 will have some down wood added to the stand through felling of snags as needed for safety and allowing long-butting in defected logs. The stand does have some defect due to mistletoe and wind damage that will require bucking-out defect. However, very little is planned for since the SLI data shows large amount of down wood in the stands.

Area 3 will not remove any trees for harvest. The area will require felling 24 trees over the 12 acres to create down wood in decay class 1 and 2 to add to the overall OFS structure. Trees selected for down wood creation are to be 20” DBH or greater.

**Pathway**

Each of the sale areas are expected to have one additional thinning to manage the second cohort and add snags and down wood as needed. Additional gaps may also be created to allow for additional layering depending on the future understory health and production. These stands will have long rotation ages and be managed for complex structure through partial cut.

**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)	1,256	338	1,594
Stumpage Value (\$/MBF)	\$81	\$200	
Estimated Gross Value	\$101007	\$67,600	\$168607
		Project Costs:	\$43,600
		Estimated Net Value:	\$125,007

## VI. HARVESTING AND ACCESS CONSIDERATIONS:

The sale areas are accessed via Mills Bridge Road to Tillison Ridge and Ginger Peak Road. All the main haul routes are surfaced with rock. Additional abandoned roads will be reopened and may be surfaced to access cable logging areas. Some use of dirt roads is likely for this sale.

See maps for specific road locations and conditions.

Approximately 0.4 mile of abandoned road will be improved which includes clearing, grading and some rocking. All areas will have some portions of reconstructed roads and short stretches of new construction. All of these roads are to access cable landing for partial cut operations.

A new construction road has no stream crossings and portions will be closed after harvest. Project work will bring all roads up to standards described in the *Forest Roads Manual*. The roads are ridgetop roads with no stream crossings.

Rock for the haul routes will come from existing stockpiles in the area. If additional rock is needed beyond the stockpiles, the rock will be purchased from a local source.

The operation will be 100% cable yarding. The yarding distances are 500-800 feet with good deflection across Hughey Creek. Some intermediate supports may be needed for Area 2.

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

Activity	Mainline	Collector	Rocked Spur <sup>1</sup>	Dirt Spur <sup>1</sup>
Construct			0.41	.82
Improve			0.41	
Maintain <sup>2</sup>		2.3		
Close/Block <sup>3</sup>				.82
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:**

A watershed analysis is being completed for the Wilson basin and is completed for the Trask basin. The streams within and adjacent to the sale boundary are not priorities for habitat projects. Portions of Hughey Creek have OFS stands along the riparian areas already.

Streams within and adjacent to the sale area have been surveyed for fish presence (see exhibits for additional information on location). Hughey Creek is a small fish bearing stream. In addition, there are unnamed Type N streams with the sale areas. These streams will be reviewed and posted with appropriate buffers during sale layout. All stream buffers within or adjacent to harvest unit boundaries will be managed according to *Forest Management Plan Riparian Strategies*.

There are several domestic water systems downstream of the sale area. Water right permit holders were notified of the planned sale in March. All FPA regulations will be followed for domestic water streams.

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

The sale has been reviewed with the ODF Northwest Oregon Area Biologist. Surveys for marbled murrelets and northern spotted owls have taken place in 2007 and 2008. Surveys did not result in detections for either species.

T&E Plant Species: The sale areas were checked against the Oregon National 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 1:24000 topographic maps.

There are high landslide hazard locations throughout the sale. Area 1 and portions of Area 2 drain into Hughey Creek. The rest of Area 2 drains into Green Creek.

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

**X. RECREATION RESOURCES:**

The sale area is designated as Non-motorized in the Tillamook State Forest Comprehensive Recreation Plan (1993). This sale will be reviewed by the District Recreation Coordinator before sale prep begins.

No recreation trails or sites are located within or in the vicinity of the sale boundary.

**XI. CULTURAL RESOURCES:**

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

**XII. SCENIC RESOURCES:**

Area 1 will be visible from City of Tillamook. The prescription in this area is modified clear cut and result in 5-6 trees per acre retention, in addition to riparian buffers.

**OTHER RESOURCE CONSIDERATIONS:**

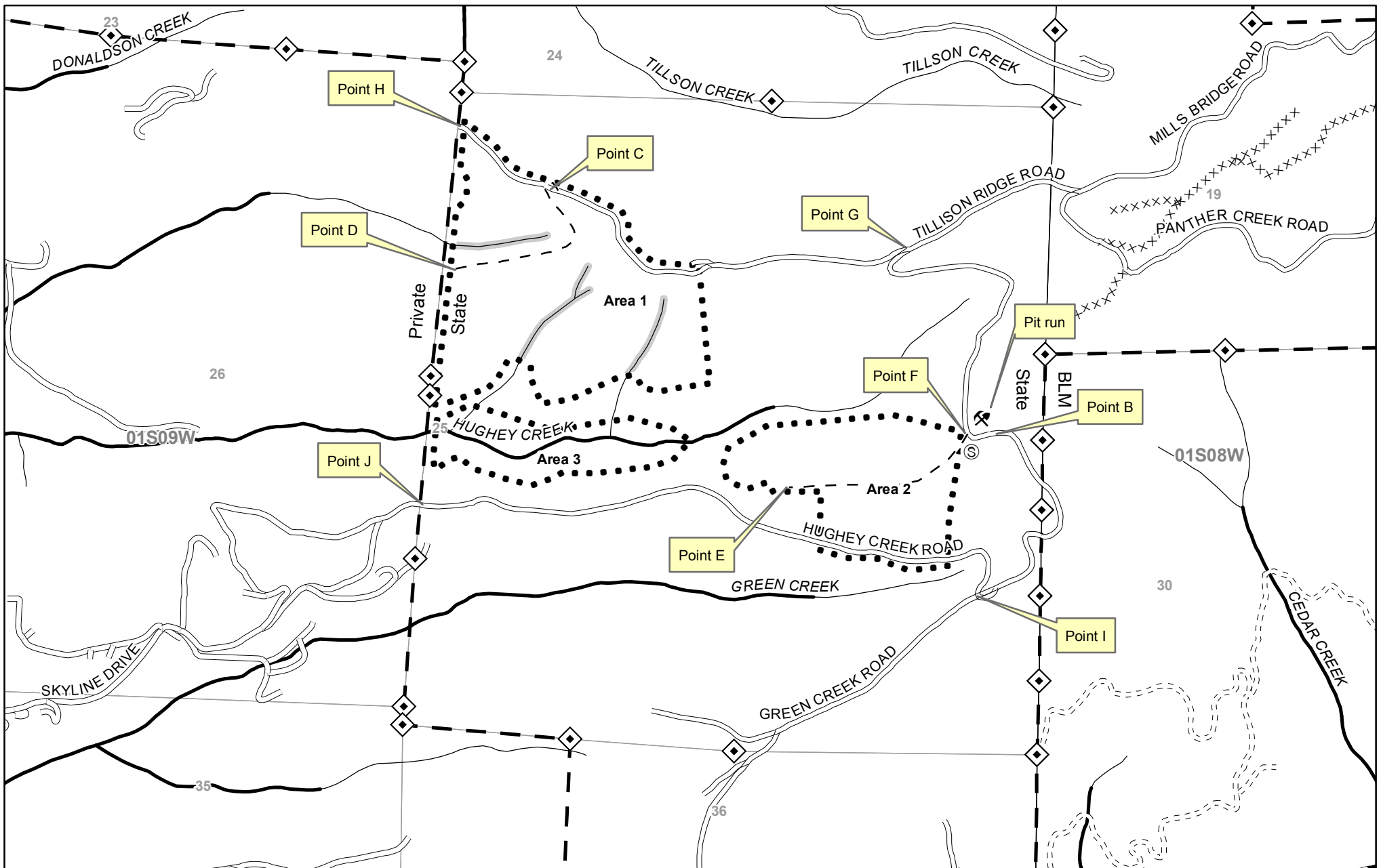
Area 1 boundary is adjacent to private landowners on the western boundaries. The property lines will be established by the district land surveyor before sale prep begins.

Area 1 contains a permanent plot established by ODF to measure stand growth and structure over time. The guidance provided for protection and reestablishment of the permanent plot will be followed during sale prep and harvest.

**XIII. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

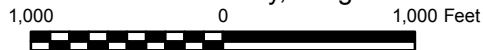
The sale area contains Focused and Special, Aquatic and Riparian Habitat designation. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

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



- ⚡ Rock source
- Ⓢ Stock pile
- Ⓜ Waste area
- ⚖ Bridge
- ⚓ Gate
- ◇ Survey corner
- Ⓧ Domestic water supply intake
- Ⓒ Cultural site
- Buffer
- ⊠ Green tree retention area
- ◆◆ Area boundary
- Sale boundary
- Ownership boundary
- Perennial Type-F stream
- Perennial Type-N stream
- Unsurfaced road
- Surfaced road
- Paved road
- ⋯ Abandoned road
- XXXX Blocked road
- Road construction
- ⋯ OHV trail
- ⋯ Non-motorized trail
- Ⓣ-Ⓣ Transmission line
- ++++ Railroad

**EXHIBIT A**  
 Timber Sale Contract No. 341-11-20  
 Tillison Ridge  
 Portions of Section 25  
 T1S, R9W, W.M.,  
 Tillamook County, Oregon



Area	Type of Operation	Acres	
		Gross	Net
1	Modified clearcut	63	58
2	Partial	31	30
3	Down wood creation	18	0
<b>Total</b>		<b>112</b>	<b>88</b>

Tillamook District GIS  
 April 26, 2010  
 This product is for informational use and may not have been prepared or suitable for legal, engineering, or surveying purposes.