



Timber Sale Appraisal  
Tilden Switchback  
Sale WL-341-2018-108-

District: Western Lane

Date: March 09, 2018

---

**Cost Summary**

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,499,364.91	\$89,194.60	\$2,588,559.51
		Project Work:	(\$387,032.00)
		Advertised Value:	\$2,201,527.51



# Timber Sale Appraisal Tilden Switchback Sale WL-341-2018-108-

**District: Western Lane**

**Date: March 09, 2018**

## Timber Description

**Location:** Portions of Section 29, T17S, R8W, W.M., Lane County, Oregon.

**Stand Stocking:** 60%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	19	0	97
Western Hemlock / Fir	17	0	97
Alder (Red)	12	0	96
Maple	14	0	96

Volume by Grade	2S	5" - 7"	8" - 11"	SM & Better	Camprun	Total
Douglas - Fir	2,643	213	1,109	298	0	4,263
Western Hemlock / Fir	429	61	385	0	0	875
Alder (Red)	0	0	0	0	273	273
Maple	0	0	0	0	55	55
<b>Total</b>	3,072	274	1,494	298	328	5,466

**Comments:** Pond Values Used: Local Pond Values, December 2017.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Costs:  
\$1,280/MBF = \$1,580/MBF - \$300/MBF

SCALING COST ALLOWANCE = \$5.00/MBF

BRANDING AND PAINTING COST ALLOWANCE = \$2.00/MBF

Fuel Cost Allowance = \$3.00/gallon

Hauling Cost Allowance = equivalent to \$780 daily truck cost.

Other Costs (With Profit & Risk to be added):  
None.

Other Costs (No Profit & Risk added):  
Final Road Maintenance = \$6,013  
Firewood Sorting = \$2,000  
TOTAL Other Costs (No Profit and Risk added) = \$8,013



Timber Sale Appraisal  
Tilden Switchback  
Sale WL-341-2018-108-

District: Western Lane

Date: March 09, 2018

---

**Logging Conditions**

**Combination#: 1**

Douglas - Fir	93.00%
Western Hemlock / Fir	93.00%
Alder (Red)	93.00%
Maple	93.00%

**Logging System:** Cable: Large Tower >=70      **Process:** Stroke Delimber

**yarding distance:** Long (1,500 ft)      **downhill yarding:** No

**tree size:** Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

**loads / day:** 6      **bd. ft / load:** 4200

**cost / mbf:** \$246.03

**machines:** Log Loader (A)  
Stroke Delimber (A)  
Tower Yarder (Large)

---

**Combination#: 2**

Douglas - Fir	7.00%
Western Hemlock / Fir	7.00%
Alder (Red)	7.00%
Maple	7.00%

**Logging System:** Shovel      **Process:** Harvester Head Delimbing

**yarding distance:** Short (400 ft)      **downhill yarding:** No

**tree size:** Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

**loads / day:** 8      **bd. ft / load:** 4200

**cost / mbf:** \$159.05

**machines:** Forwarder  
Harvester

---



Timber Sale Appraisal  
Tilden Switchback  
Sale WL-341-2018-108-

District: Western Lane

Date: March 09, 2018

### Logging Costs

Operating Seasons: 2.00	Profit Risk: 16%
Project Costs: \$387,032.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$8,013.00

#### Miles of Road

Road Maintenance: \$0.00

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	2.0	0.0	0.0

#### Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	4.2
Western Hemlock / Fir	\$0.00	3.0	4.0
Alder (Red)	\$0.00	2.0	3.5
Maple	\$0.00	2.0	3.0



Timber Sale Appraisal  
Tilden Switchback  
Sale WL-341-2018-108-

District: Western Lane

Date: March 09, 2018

**Logging Costs Breakdown**

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling / Brand & Paint	Other	Total
<b>Douglas - Fir</b>									
\$239.94	\$2.10	\$1.60	\$63.76	\$0.00	\$49.18	\$0.00	\$7.00	\$1.47	\$365.05
<b>Western Hemlock / Fir</b>									
\$239.94	\$2.10	\$1.60	\$66.95	\$0.00	\$49.69	\$0.00	\$7.00	\$1.47	\$368.75
<b>Alder (Red)</b>									
\$239.94	\$2.12	\$1.60	\$115.89	\$0.00	\$57.53	\$0.00	\$7.00	\$1.47	\$425.55
<b>Maple</b>									
\$239.94	\$2.12	\$1.60	\$135.20	\$0.00	\$60.62	\$0.00	\$7.00	\$1.47	\$447.95

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$890.62	\$525.57	\$0.00
Western Hemlock / Fir	\$0.00	\$664.59	\$295.84	\$0.00
Alder (Red)	\$0.00	\$744.00	\$318.45	\$0.00
Maple	\$0.00	\$489.00	\$41.05	\$0.00



Timber Sale Appraisal  
Tilden Switchback  
Sale WL-341-2018-108-

District: Western Lane

Date: March 09, 2018

---

**Summary**

**Amortized**

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00
Maple	0	\$0.00	\$0.00

**Unamortized**

Specie	MBF	Value	Total
Douglas - Fir	4,263	\$525.57	\$2,240,504.91
Western Hemlock / Fir	875	\$295.84	\$258,860.00
Alder (Red)	273	\$318.45	\$86,936.85
Maple	55	\$41.05	\$2,257.75

**Gross Timber Sale Value**

**Recovery:**      \$2,588,559.51

**Prepared By:** Chad Howard

**Phone:** 541-935-2283

**Summary of "Other Costs" for Timber Sale Appraisals**

Tilden Switchback (341-18-108)

**"Other Costs" with Profit and Risk to be Added:**

None

**Total "Other Costs" with Profit and Risk to be Added:**

**\$0**



**"Other Costs" With No Additional Profit and Risk**

	<u>Units</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Total Cost</u>
Final Road Maintenance	Operation		\$	6,013
Firewood sorting and landing slash piling	Operation		\$	2,000
<b>Total "Other Costs" With No Additional Profit and Risk:</b>				<b><u>\$ 8,013</u></b>
<b>Cost per MBF</b>	5,466	MBF	\$	<b>1.47</b>

**Tilden Switchback  
314-18-108  
Combined Project Costs**

Project 1	Construct and compact sub-grades.	\$286,307.00
Project 2	Install culverts.	\$13,475.00
Project 3	Spread and process rock.	\$82,250.00
Project 4	Install gate.	\$5,000.00
TOTAL PROJECT COSTS		\$ 387,032.00

State Timber Sale Contract  
Tilden Switchback  
341-18-108

## New Road Construction Costing

Summary:

		Total construction Cost Including Risk	\$ 282,835.00
		Average cost per station	\$ 8,081
Road	Tilden Switchback Rd. (Stationing 0+00 to 35+00)		

Segment 0+00 to 20+50

				<u>Quantity</u>		<u>Sub total</u>
Clearing and Grubbing	\$423.27	per station	@	20.5 stations	= \$	8,677.00
note: Clearing debris shall be piled to facilitate burning						
<u>End Haul Subgrade Construction</u>						
Stump End Haul	\$ 13.73	per stump	@	230 stumps	= \$	3,159.00
Clearing debris	\$ 50.00	per Load	@	60 Loads	= \$	3,000.00
Waste End Haul	\$ 7.55	per Cu. Yd.	@	25454 Cu. Yds.	= \$	188,964.00
Drill & shoot/rock hammer	\$ 11.82	per Cu. Yd.	@	N/A	= \$	23,640.00
Subgrade preparation	\$ 96.00	per station	@	20.5 stations	= \$	1,968.00
Fill Armor Stream crossing fill	\$ 4.00	per Cu. Yds	@	200 Cu. Yds.	= \$	800.00
Subtotal Construction Cost						\$ 230,208.00
<b>Construction Cost per Station</b>						<b>\$ 11,230</b>

Segment 20+50 to 35+00

clearing and grubbing	\$ 423.27	per station	@	14.5 stations	= \$	6,137.00
note: Clearing debris shall be piled to facilitate burning						
<u>Balance/Standard Subgrade construction</u>						
Drift/Balance Cut	\$ 218.07	per station	@	14.5 stations	= \$	3,271.00
Landing Construction	\$ 446.47	per landing	@	2 landings	= \$	893.00
Subgrade preparation	\$ 65.00	per station	@	14.5 stations	= \$	942.50
Subtotal Construction Cost						\$ 11,243.50
<b>Construction Cost per Station</b>						<b>\$ 775</b>

Complications and Risk Factor 15%

note: the complication and risk factor is added to the computed subgrade cost because of the size and complexity of the project for unforeseen issues.

Equipment Move In Costs: \$ 5,165.00

Total Subgrade Construction Cost for Tilden Switchback Road **\$ 282,835.00**

State Timber Sale Contract  
Tilden Switchback  
341-18-108

## Road Improvement Costing

Summary:

Total Improvement Cost	\$	3,472.00
Average cost per station	\$	32.30

Road San Antone Road (Points A to C, 107.5 Stations)

Segment A to C:

				<u>Quantity</u>		<u>Sub total</u>
Grade, shape, and pull ditches	\$	28.03	per station	@ 107.5 stations	=	\$ 3,013.00
End Haul / Remove debris	\$	5.00	Per Cu. Yds	@ 30 Cu. Yds.	=	\$ 150.00

Point B:

Establish Crowned Running Surface	\$	56.60	Per Station	@ 3 stations	=	\$ 169.80
Compact Surfacing	\$	23.18	Per Station	@ 3 stations x2	=	\$ 139.08

Subtotal Improvement Cost	\$	3,472.00
<b>Improvement Cost per Station</b>	<b>\$</b>	<b>32.30</b>

State Timber Sale Contract  
Tilden Switchback  
341-18-108

## Culvert Installation Costing

Summary:

Total pipe install cost	<b>\$ 13,475.00</b>
-------------------------	---------------------

### Culvert List Tilden Switchback Rd

Culvert No.	Purpose	Location	Diameter (in)	Length (ft)	Material Type	Gauge	Material		Installation	Sub Total
							Culvert Cost	Couplers		
1	Cross Drain	0+00	18	40	ACSP	16	\$ 610.00	\$ 30.00	\$ 700.00	\$ 1,340.00
2	Cross Drain	5+00	18	40	ACSP	16	\$ 610.00	\$ 30.00	\$ 700.00	\$ 1,340.00
3	Cross Drain	11+50	18	40	ACSP	16	\$ 610.00	\$ 30.00	\$ 700.00	\$ 1,340.00
4	Cross Drain	16+70	18	40	ACSP	16	\$ 610.00	\$ 30.00	\$ 700.00	\$ 1,340.00
5	Cross Drain	18+60	18	40	ACSP	16	\$ 610.00	\$ 30.00	\$ 700.00	\$ 1,340.00
6	Stream Crossing	4+07	42	50	ACSP	16	\$ 2,225.00	\$ 50.00	\$ 1,450.00	\$ 3,725.00
7	Stream Crossing	10+55	30	50	ACSP	16	\$ 1,260.00	\$ 40.00	\$ 1,450.00	\$ 2,750.00
Pipe transport and delivery										\$ 300.00
									<b>Total</b>	<b>\$ 13,475.00</b>

Note: Culvert lengths are approximate. The operator shall add or subtract length to ensure proper fit within the road prism or stream crossing.

State Timber Sale Contract  
Tilden Switchback  
341-18-108

## Rock and Processing Costing

Summary:

Total Rocking Cost	\$	82,250.00
Quantity of loose truck aggregate. Cu. Yds.		2620.00

Road Tilden Switchback Rd. (Stationing 0+00 to 35+00)

Segment 0+00 to 20+50

Purpose	Location			Type	Loose Truck		Quantity per Station			Cost		Processing		Subtotal		
Base	0+00	to	20+50	3"-0"	680	Cu. Yds.	@	33	Cu. Yds. / sta	\$	31.40	+	\$ 2.00	per Cu. Yds.	\$	22,712.00
Cap	0+00	to	20+50	3/4"-0"	350	Cu. Yds.	@	17	Cu. Yds. / sta	\$	31.99	+	\$ 2.00	per Cu. Yds.	\$	11,897.00
Curve Widening	See Table			3"-0"	150	Cu. Yds.				\$	31.40	+	\$ 2.00	per Cu. Yds.	\$	5,010.00
Turn Out	5+50			3"-0"	10	Cu. Yds.	@	10	Cu. Yds/Spot	\$	31.40	+	\$ 2.00	per Cu. Yds.	\$	334.00
Turn Out	11+50			3"-0"	10	Cu. Yds.	@	10	Cu. Yds/Spot	\$	31.40	+	\$ 2.00	per Cu. Yds.	\$	334.00
Armoring	3+66	to	4+48	48"-24"	100	Cu. Yds.				\$	7.00	+	\$ 2.00	per Cu. Yds.	\$	900.00
Armoring	10+14	to	10+96	48"-24"	100	Cu. Yds.				\$	7.00	+	\$ 2.00	per Cu. Yds.	\$	900.00
Engergy dissapator	At culvert outlets			Pit Run	50	Cu. Yds.				\$	27.24	+	\$ 2.00	per Cu. Yds.	\$	1,462.00
Subtotal Rock Cost															\$	43,549.00

Segment 20+50 to 35+00

Purpose	Location		Type	Loose Truck		Quantity per Station			Cost		Processing		Subtotal
Base	20+50	to 35+50	3"-0"	500	Cu. Yds.	@ 33	Cu. Yds. / sta	\$ 31.40 + \$ 2.00	per Cu. Yds.	\$	16,700.00		
Cap	20+50	to 35+50	1 1/2"-0"	170	Cu. Yds.	@ 11	Cu. Yds. / sta	\$ 31.99 + \$ 2.00	per Cu. Yds.	\$	5,779.00		
Landing	25+50		Jaw Run	40	Cu. Yds.			\$ 28.73 + \$ 2.00	per Cu. Yds.	\$	1,230.00		
Landing	35+50		Jaw Run	40	Cu. Yds.			\$ 28.73 + \$ 2.00	per Cu. Yds.	\$	1,230.00		
Turn Out	between 20+50 to 25+50		3"-0"	10	Cu. Yds.	@ 10	Cu. Yds. /Spot	\$ 31.40 + \$ 2.00	per Cu. Yds.	\$	334.00		
Turn Around	between 20+50 to 25+51		3"-0"	10	Cu. Yds.	@ 10	Cu. Yds. /Spot	\$ 31.40 + \$ 2.00	per Cu. Yds.	\$	334.00		
Subtotal Rock Cost										\$	25,607.00		

Road San Antone Rd (1.7 miles )

Segment A to B

Purpose	Location	Type	Loose Truck	Quantity per Station	Cost	Processing	Subtotal
Cap	Waste Area	1 1/2"-0"	100 Cu. Yds.	@ 17 Cu. Yds. / Sta	\$ 31.40 + \$ 2.00	per Cu. Yds.	\$ 3,340.00
Spot	Determined by STATE	1 1/2"-0"	200 Cu. Yds.	@ 10 Cu. Yds. / Sta	\$ 31.40 + \$ 2.00	per Cu. Yds.	\$ 6,680.00
Curve Widening	Point B	Jaw Run	20 Cu. Yds.		\$ 28.73 + \$ 2.00	Per Cu. Yds.	\$ 615.00
Landings	Determined by STATE	Jaw Run	80 Cu. Yds.	@ 40 Cu. Yds./Lndg	\$ 28.73 + \$ 2.00	Per Cu. Yds.	\$ 2,459.00
Subtotal Rock Cost							\$ 13,094.00

State Timber Sale Contract  
341-18-108  
Tilden Switchback

### Final Road Maintenance Cost Summary

<b>Totals</b>	Tilden Switchback	San Antone	<b>TOTAL</b>
Stations	35.50	107.50	
Cost/Sta	\$ 49.05	\$ 35.09	
<b>Total Cost</b>	<b>\$ 1,741.30</b>	<b>\$ 3,772.31</b>	<b>\$ 5,513</b>

<b>Spot Rocking</b>	Tilden Switchback	San Antone	<b>TOTAL</b>
Total Yds	20	50	
Rock Size	1 1/2"-0"	1 1/2"-0"	
\$/yd	\$31.99	\$31.99	
Subtotal	\$ 640	\$ 1,600	<b>\$ 2,240</b>

<b>Grade,Shape &amp; Pull Ditches</b>	Tilden Switchback	San Antone	<b>TOTAL</b>
Stations	35.50	107.50	
\$/STA	\$ 18.35	\$ 18.35	
Subtotal	\$ 651	\$ 1,973	<b>\$ 2,624</b>

<b>Compaction</b>	Tilden Switchback	San Antone	<b>TOTAL</b>
Stations			
\$/STA	\$ 20.20	\$ 20.20	
Subtotal	\$ -	\$ -	<b>\$ -</b>

<b>Install Waterbars</b>	Tilden Switchback	San Antone	<b>TOTAL</b>
# of waterbars	5.00		
\$/waterbar	\$50.00	\$35.00	
Subtotal	\$ 250.00	\$ -	<b>\$ 250.00</b>

<b>Landing clean up</b>	Tilden Switchback	San Antone	<b>TOTAL</b>
Stations	2.00	2.00	
\$/STA	\$ 100.00	\$ 100.00	
Subtotal	\$ 200	\$ 200	<b>\$ 400</b>

<b>Install Metal Gate</b>	Tilden Switchback	San Antone	<b>Total</b>
Cost	\$ -	\$ -	<b>\$ -</b>

<b>Move In</b>	Initial	
Grader	\$ 500	

Move in costs associated with one entry for the entire project

**Total Final Maintenance Costs \$ 6,013**

# Cruise Report

Tilden Switchback

SALE # 341-18-108

**Sale Area:** Portions of Section 29, T18S, R8W, W.M., Lane County, Oregon. The sale's net harvestable acres are 107. There are approximately 15 acres of stream buffers. Acres were determined using a combination of aerial photos, GPS, GIS, and topographic maps.

**Stand Description:** Tilden Switchback is dominated by 78 year old Douglas-fir. A small component of Western hemlock is present. The stand contains scattered Western red cedar, Bigleaf maple, and Red alder. Western red cedar is reserved from cutting. The stand is relatively dense with tall, straight, defectless Douglas-fir. The hemlock appears to have very little defect except for the occasional tree on the upper most portions of the sale. The majority of the hardwood component is concentrated near the draws. Much of the stand consists of primarily sword fern, salal, Oregon grape, salmonberry, evergreen huckleberry, and vine maple. The slopes are consistently steep, 60-75% slope, broken by tributary stream. A nice flat bench exists at the bottom of the sale where a small portion may be ground base logged.

New road construction and waste areas, the "Right-of-Way", is approximately ten acres of timber. Nine acres being inside the timber sale boundary and approximately one acre outside.

**Cruise Method:** The area was cruised in a grid pattern using a systematic variable radius plot sampling method. 12 plots were cruised in an alternating cruise-count pattern. Every tree was graded using the official rules for log scaling for the above species. 40, 36, and 32 foot lengths were favored for #2 and #3 sawlog grades. Deductions for defect were estimated on a tree by tree basis. The top diameter was determined at 40% form factor. Logs that were not at least 16 feet in length and having at least 20 bf were not counted.

We combined our inventory data with the cruise data above to increase accuracy. Our cruised standard error is 15%. We estimate the stand to have approximately 220 Trees per acre at a basal area of 250. The numbers provided is an estimate of the population. The timber sale will be a recovery scaled sale.

**Cruiser:** Chad Howard

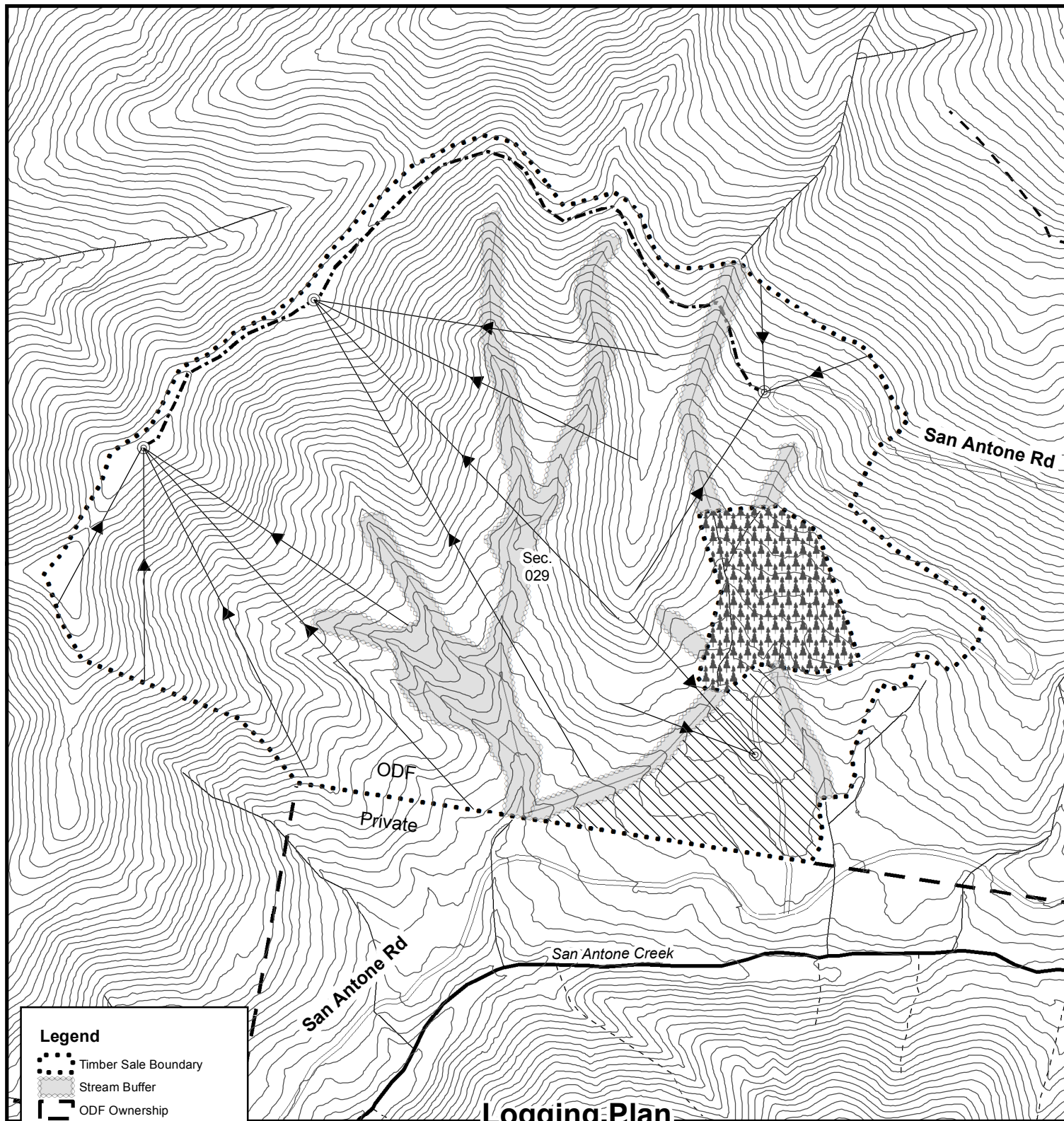
**Volume Tables:** Volumes were computed by using the SuperACE program.

**Area 1 Net Cruised Volume (BF/Acre)**

Species	Avg. DBH	Special Mill	2 Saw	3 Saw	4 Saw	Camp Run	Sub-Total
Douglas-fir	19.0	2789	24704	10360	1993		39846
Western Hemlock	17.3		4005	3597	572		8174
Red Alder	11.5					2554	2554
Big leaf maple	13.5					510	510

**Total (BF/Acre): 51084**

Note: A 3% breakage and defect will be added to the timber sale appraisal.



OF TIMBER SALE CONTRACT NO. 341-18-108  
 TILDEN SWITCHBACK  
 PORTIONS OF SECTION 29, T17S, R8W, W.M.  
 LANE COUNTY, OREGON

TOTAL NET ACRES = 107  
 Contours = 20 ft

0 250 500 1,000  
 Feet

1 inch = 500 feet

This product is for informational use  
 and may not have been prepared  
 for or be suitable for legal, engineering  
 or surveying purposes. Users of this information should  
 review or consult the primary data and information  
 sources to ascertain the usability of this information.



"STEWARDSHIP IN FORESTRY"