



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Toll Four Sale 341-04-44

District: Tillamook

Date: 8/6/03

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$456,239.50	\$61,921.60	\$518,161.10
		Project Work	(\$11,123.55)
		Advertised Value	\$507,037.55



Timber Sale Appraisal Timber Description Toll Four Sale 341-04-44

"STEWARDSHIP IN FORESTRY"

District: Tillamook

Location: Toll Road - Portions of Sections 9 and 10, T2S, R7W, W.M., Tillamook County, Oregon.

Date: 8/6/03

Stand Stocking: 20%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	14	0	95
Alder (Red)	13	0	95

Volume by Grade	Douglas - Fir	Alder (Red)	Total
3S	1,984	0	1,984
4S	247	0	247
Camprun	0	229	229
Total	2,231	229	2,460

Comments: Pond Values Used: 2nd Quarter 2003

Alder pond value of \$510 obtained locally.

Maintenance of Toll Road: \$1.84

Grading: $\$500/\text{mile} \times 4 \text{ miles} \times 2 \text{ times} / 2460 \text{ mbf} = \$1.63/\text{mbf}$

Surfacing: $20 \text{ cy}/\text{mile} \times \$2.75/\text{cy} \times 2.4 \text{ mmbf} \times 4 \text{ miles} / 2460 \text{ mbf} = \0.21

Other costs(add Profit and Risk): \$

Brand and Paint: $\$2.00/\text{mbf} \times 2460 \text{ mbf} = \4920

Other (Profit and Risk included): \$2269.47

Move-in costs: \$287.07

Clear debris from OHV trails: $2506 \text{ feet} \text{ at } \$0.40/\text{foot} = \$1002.40$

Block vehicle access to OHV trails: $2 \text{ blocks} \times \$75/\text{ea} = \$150$

Slash piling and sorting: $(200 \text{ acres cable harvest} / 50 \text{ acres}/\text{hour}) \times \$110/\text{hr} = \$440$

Open roads: $3 \text{ hours} \times \$130/\text{hr} = \390



Timber Sale Appraisal

Logging Conditions

Toll Four

Sale 341-04-44

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	28.50%	
	Alder (Red)	60.67%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Feller Buncher
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	8		Bd. Ft./Load: 3,200
Cost/MBF:	\$137.46		
Machines:	Feller Buncher w/ Delimber		
	Log Loader (B)		
	Stroke Delimber (B)		
	Track Skidder		
Combination#: 2	Douglas - Fir	63.67%	
	Alder (Red)	37.38%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: No
Logging System:	Cable: Small Tower <=40		Process: Stroke Delimber
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	5		Bd. Ft./Load: 3,200
Cost/MBF:	\$173.30		
Machines:	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Small)		
Combination#: 3	Douglas - Fir	7.83%	
	Alder (Red)	1.96%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: No
Logging System:	Cable: Medium Tower >40 - <70		Process: Stroke Delimber
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	4		Bd. Ft./Load: 3,200
Cost/MBF:	\$256.46		
Machines:	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Medium)		



Timber Sale Appraisal

Logging Costs

Toll Four

Sale 341-04-44

"STEWARDSHIP IN FORESTRY"

Date: 8/6/03

Operating Seasons: 2.0

Profit & Risk: 12%

Project Costs: \$11,124

Other Costs (P/R): \$4,920

Slash Disposal: \$0

Other Costs: \$2,269

Road Maintenance: \$1.84

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	2.0	3.2
Alder (Red)	\$0.00	3.0	3.0

Local Pond Values

Date	Species	Grade	Value
8/6/03	Alder (Red)	Camprun	\$510.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Logging Costs Breakdown Toll Four Sale 341-04-44

Costs	Douglas - Fir	Alder (Red)
Logging	169.59	153.18
Road Maintenance	1.94	1.94
Fire Protection	2.20	2.20
Hauling	69.16	53.79
Other (P/R appl.)	2.00	2.00
Profit & Risk	29.39	25.57
Slash Disposal	0.00	0.00
Scaling	2.00	0.00
Other	0.92	0.92
Total	277.20	239.60

Amortization	0.00	0.00
Pond Value	481.70	510.00
Stumpage	204.50	270.40
Amortized	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary Toll Four Sale 341-04-44

Amortized

	Douglas - Fir	Alder (Red)
MBF	0.00	0.00
Value	0.00	0.00
Total	0.00	0.00

Unamortized

	Douglas - Fir	Alder (Red)
MBF	2,231.00	229.00
Value	204.50	270.40
Total	456,239.50	61,921.60

Gross Timber Sale Value

Recovery \$518,161.10

Prepared by: John Pine

Date: 8/6/03

District: Tillamook

Phone: (503) 842-2545

PROJECT SUMMARY SHEET

Sale: Toll Four

CONSTRUCTION

SUBTOTAL CONSTRUCTION \$0.00

IMPROVEMENT

Point	A to B	15+00	stations =	\$2,887.78
Point	C to D	21+20	stations =	\$7,878.65
SUBTOTAL IMPROVEMENT				<u>\$10,766.44</u>

SPECIAL PROJECTS

SUBTOTAL SPECIAL PROJECTS \$0.00

MOVE IN

\$357.11

GRAND TOTAL **\$11,123.55**

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Toll Four</u>		Road:	<u>A to B</u>								
Construction -	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: right;">0+00</td> <td style="text-align: left;">stations</td> </tr> <tr> <td style="text-align: right; border-top: 1px solid black;">0.00</td> <td style="text-align: left; border-top: 1px solid black;">miles</td> </tr> </table>	0+00	stations	0.00	miles		Improvement -	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: right;">15+00</td> <td style="text-align: left;">stations</td> </tr> <tr> <td style="text-align: right; border-top: 1px solid black;">0.28</td> <td style="text-align: left; border-top: 1px solid black;">miles</td> </tr> </table>	15+00	stations	0.28	miles
0+00	stations											
0.00	miles											
15+00	stations											
0.28	miles											
CLEARING AND GRUBBING -												
TOTAL CLEARING AND GRUBBING				\$0.00								
EXCAVATION -												
TOTAL EXCAVATION				\$0.00								
ENDHAUL -												
0+00	to	0+00	0	cy. @	\$0.00 per c.y.=	\$0.00	TOTAL ENDHAUL	\$0.00				
CULVERTS - MATERIALS & INSTALLATION												
<u>Culverts</u>		0	LF of 18"	\$0.00	0	LF of 24"	\$0.00					
		0	LF of 30"	\$0.00	0	LF of 36"	\$0.00					
		0	LF of 42"	\$0.00	0	LF of 48"	\$0.00					
		0	LF of 54"	\$0.00	0	LF of 60"	\$0.00					
		0	LF of 66"	\$0.00	0	LF of 72"	\$0.00					
				\$0.00			\$0.00					
<u>Half Rounds</u>		0	LF of 21"	\$0.00	0	LF of 30"	\$0.00					
		0	LF of 36"	\$0.00	0	LF of 42"	\$0.00					
				\$0.00			\$0.00					
<u>Culvert Stakes & Markers</u>		0	stakes	\$0.00								
		0	markers	\$0.00								
				\$0.00								
					TOTAL CULVERTS			\$0.00				
SURFACING-												
0+00	to	5+00	293	cy. of	Pit-Run	@	\$6.04 per c.y.=	\$1,768.58	TOTAL SURFACING	\$1,768.58		
SPECIAL PROJECTS												
Unblock road @ 14+00		1.00	hours @	\$130.00	per hour	\$130.00						
Pump For water diversion @ 15+00						\$75.00						
Remove log fill @ 15+00 -		4.00	hours @	\$130.00	per hour	\$520.00						
Grade and shape road -		15.00	stations @	\$14.20	per station	\$213.00						
Grass seed and fertilize -		0.34	acres @	\$180.00	per acre	\$61.20						
Mulching -		0.12	acres @	\$1,000.00	per acre	\$120.00						
					TOTAL SPECIAL PROJECTS			\$1,119.20				
GRAND TOTAL								\$2,887.78				

SUMMARY OF CONSTRUCTION COST

Sale: Toll Four

Road: C to D

Construction - 0+00 stations
0.00 miles

Improvement - 21+20 stations
0.40 miles

CLEARING AND GRUBBING -

TOTAL CLEARING AND GRUBBING **\$0.00**

EXCAVATION -

TOTAL EXCAVATION **\$0.00**

ENDHAUL -

TOTAL ENDHAUL **\$0.00**

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>						
0	LF of 18"	\$0.00	54	LF of 24"	\$958.50	
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00	
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00	
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00	
0	LF of 66"	\$0.00	0	LF of 72"	\$0.00	
		<u>\$0.00</u>			<u>\$958.50</u>	
<u>Half Rounds</u>						
0	LF of 21"	\$0.00	0	LF of 30"	\$0.00	
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00	
		<u>\$0.00</u>			<u>\$0.00</u>	
<u>Culvert Stakes & Markers</u>						
0	stakes	\$0.00				
1	markers	\$6.00				
		<u>\$6.00</u>				

TOTAL CULVERTS **\$964.50**

SURFACING-

Energy Dissipator	13+50	10	cy. of	Riprap	@	\$6.64 per c.y.=	\$66.40
0+00 to	21+20	1,148	cy. of	Pit-Run	@	\$4.70 per c.y.=	<u>\$5,392.72</u>

TOTAL SURFACING **\$5,459.11**

SPECIAL PROJECTS

Grade and shape road -	21.20	stations @	\$14.20	per station	\$301.04
Remove log culvert @ station 13+50 & reconstruct fill	8.00	hours @	\$130.00	per hour	\$1,040.00
Grass seed and fertilize -	0.30	acres @	\$180.00	per acre	\$54.00
Mulching -	0.060	acres @	\$1,000.00	per acre	\$60.00

TOTAL SPECIAL PROJECTS **\$1,455.04**

GRAND TOTAL \$7,878.65

ROCK DEVELOPMENT COST SUMMARY

Pit:	Pit Run	Location:	SE 1/4 NW 1/4 Section 9 T2S, R7W, W.M.
Sale:	Toll Four	Road:	1451 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage:	1.16	Total Truck Loads:	1451 c.y.
Drill Pct.:	0%	In Place Total:	1036 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area adjacent to pit, place overburden in Waste Area, spread and compact.	\$520.00
Rip Rock	\$1.75 /cu.yd. x 1036 cu.yds. = \$1,813.75
Load Dump Truck:	\$0.60 /cu.yd. x 1451 cu.yds. = \$870.60

Subtotal \$3,204.35

Move in D-8	1	@	\$319.75	=	\$319.75
Move in Excavator	1	@	\$349.28	=	\$349.28
Move in Trucks	3	@	\$55.77	=	\$167.30
					Subtotal \$836.34

Base Cost= \$2.78 Per Cu.Yd.

TOTAL PRODUCTION COSTS \$4,040.69

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
A to B	\$2.65	\$0.60	\$2.78	\$6.04	293	\$1,768.58
C to D Dissapator - 24"-12"	\$0.86	\$3.00	\$2.78	\$6.64	10	\$66.40
C to D	\$1.31	\$0.60	\$2.78	\$4.70	1148	\$5,392.72
				Total C.Y.	1451	Sub Total \$7,227.70

TOTAL ROCKING COSTS \$7,227.70



**OREGON DEPARTMENT OF FORESTRY
CRUISE REPORT**

Toll Four

1. **Type of Sale:** Regeneration harvest – Recovery
2. **Legal Description:** Portions of Sections 9 and 10, T2S, R7W, W.M., Tillamook County, Oregon.
3. **Sale Acreage:** The sale boundary was plotted on a digital orthophotograph and the acreage was calculated with GIS.

ACRES			
Area	Sale	Total	Net
1	87	80	80
2	64	62	60
3	117	129	109
Total	268	271	249

Sale Acres

Area within the Timber Sale Boundary signs

Total acres for accomplishment reporting

Sale acres, plus green tree retention acres outside the sale boundary, less roads, and less riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

Net acres for calculating the advertised volume

Sale acres, less green tree retention, less roads, and less riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. **Cruising Procedures:**

- A. **Cruise Method:** Cruise lines were established in the sale areas running north and south, lines 750' apart, with variable radius full point plots taken every 250 feet. The plot data from the cruise was combined with previous data from recon count plots. Area 1 contained 23 plots, 7 of which were cruise, Area 2 had 19 plots, 7 of which were cruise, and Area 3 had 28 plots taken, 10 of which were cruise. A total of 70 count tree plots were established, 24 of the plots were measured and graded to determine a V-BAR for the stand. Diameters were recorded to the nearest 1", heights to the nearest foot. Diameters were taken at 4.5' above the ground on the uphill side. Conifers with diameters of 8" or larger and hardwoods with diameters of 10" or larger were recorded. The cruise had a coefficient of variation of 38.1 and a SE% of 4.6 for the net board feet/acre.
- B. **Plot size:** A BAF of 20 was used for Douglas-fir and snags, and a BAF of 10 was used for other conifers and hardwoods. The point of tree observation was 4.5 feet.

- C. **Grading System**: Trees heights were measured to a 6” merchantable top for conifers and 8” for hardwoods. Douglas-fir was graded using Columbia River rules favoring a 40’ log. All other species were graded camprun.
- D. **Defect and Breakage**: A 5% defect and breakage reduction was applied to both conifer and hardwood volume.
- E. **Cruiser Names / Dates**: John Pine. November 2002 and May 2003.
5. **Computation Procedures**: V-BAR (Volume-Basal Area Ratio) for all areas and Basal Area for the take trees in Area 2 was computed using SuperACE. The data from SuperACE was entered into a Volume Summary spreadsheet (see attached) to obtain volumes for use in the appraisal. Area 2 is a Type 1 harvest with a residual Basal Area of 33 to 40. Take and leave trees were entered into a Conifer Stand Table(see attached).
6. **Timber Description**: The sale contains Douglas-fir stands 40 years of age with scattered Hemlock, Spruce, and Noble Fir. Hardwoods are present in draws and near abandoned roads.
7. **Revenue Distribution**:
100% FDF
Tax Code: 9-1
Deed No. 169
89% Rehabilitation Obligated
8. **Appendices**:
- Volume Summary
- Conifer Stand Table (Area 2)
- Logging Plan



"STEWARDSHIP IN FORESTRY"

Toll Four

Volume Summary

Area I						
80 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	90	97	8.7	694	5%	659
Alder	3	91	0.3	25	5%	24
TOTAL				719		683

Area II						
60 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	64	89	5.7	342	5%	325
Alder	25	121	3.0	182	5%	173
TOTAL				524		498

Area III						
109 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	108	112	12.0	1313	5%	1247
Alder	3	108	0.3	34	5%	32
TOTAL				1347		1279

TOTAL SALE VOLUME			
SPECIES	MBF	D&B	Net Vol. (MBF)
Douglas-fir	2349	5%	2231
Alder	241	5%	229
TOTAL	2590		2460

Toll Four

Area 2

Type 1 cut to 33 BA

Conifer Take / Leave Stand Table

DBH	Total		Hemlock		Spruce		Cedar	Douglas-fir	
	Tk trs/acre	Lv trs/acre	Tk tr/acre	Lv tr/acre	Tk trs/acre	Lv trs/acre	Lv trs/acre	Tk tr/acre	Lv tr/acre
8"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10"	7.8	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0
11"	3.2	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0
12"	6.8	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0
13"	3.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0
14"	14.0	1.0	0.0	0.0	0.0	1.0	0.0	14.0	0.0
15"	6.7	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0
16"	18.4	0.0	0.0	0.0	0.0	0.0	0.0	18.4	0.00
18"	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	4.6
20"	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	4.7
22"	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	3.8
24"	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.3
26"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28"	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3
30"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	60	16	0	0	0	1	0	60	15

TOTAL STAND

BA/acre	99
Lv BA/ac	35
Tk BA/ac	64

Current Ave Stand Diameter	15.4
Leave Stand - QM Diameter	20.2
Take trees - QM Diameter	14.0

Hemlock	BA	QMD
Total	0	#DIV/0!
Leave	0	#DIV/0!
Take	0	#DIV/0!

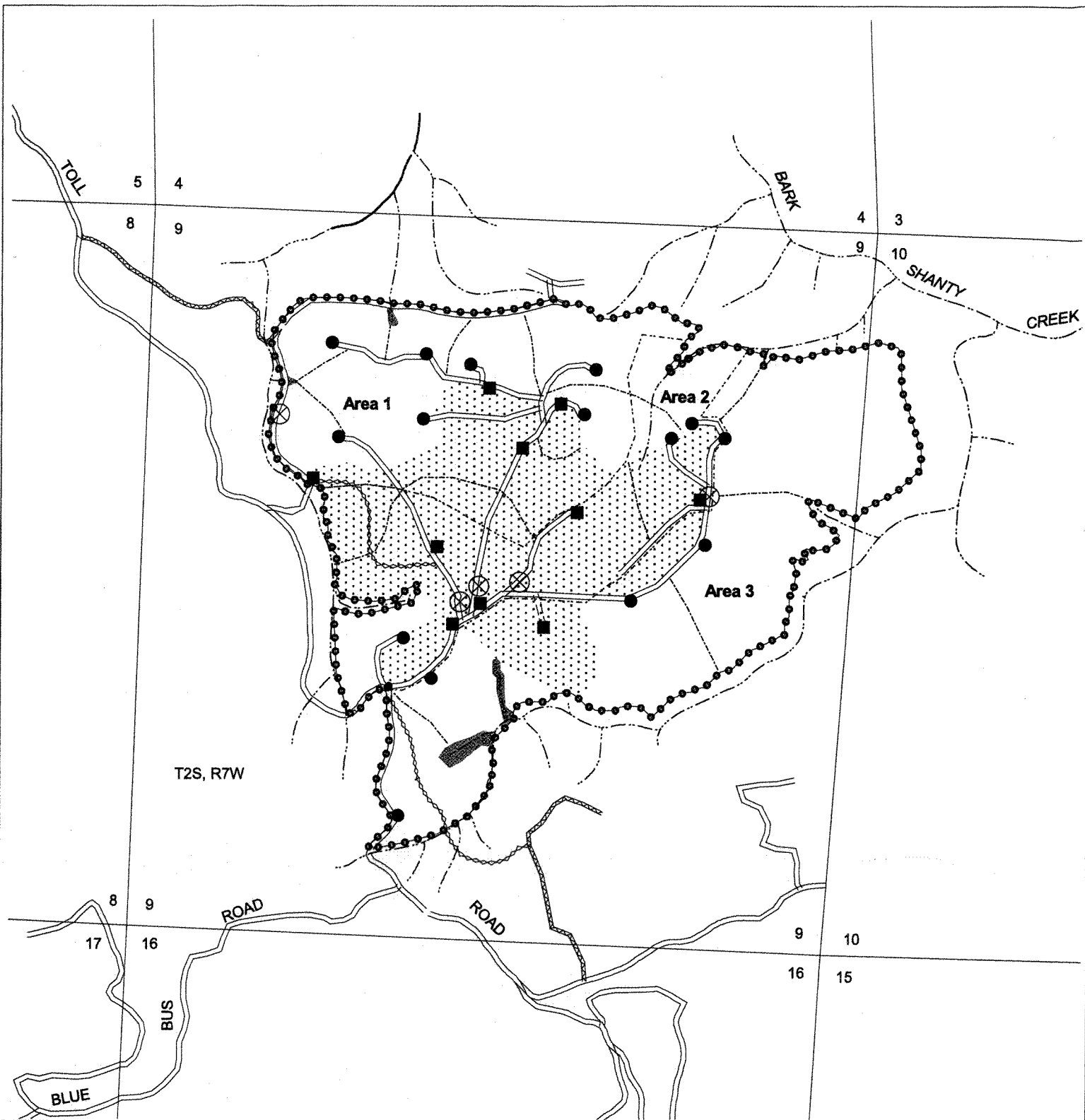
Douglas-fir	BA	QMD
Total	98	15.5
Leave	34	20.5
Take	64	

Spruce	BA	QMD
Total	1.052632	13.9
Leave	1.052632	13.9
Take	0	

Cedar	BA	QMD
Total	0	#DIV/0!

Relative Density	25
RD- Expected	8

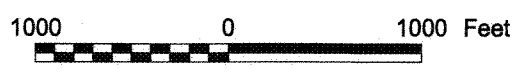
Stand Density Index	0.19
SDI - Expected	0.06



T2S, R7W

- Tractor landing
- Cable landing
- ▲ Domestic water supply
- ⊗ Blocked
- Cable yarding
- ▨ Ground yarding
- ▩ Helicopter yarding
- Buffer
- ▨ Non-required thinning
- ⊞ Green tree retention area
- Setting boundary
- Area boundary
- Sale boundary
- Ownership boundary
- Type-F stream
- Type-N stream
- ==== Surfaced road
- ==== Unsurfaced road
- ==== State highway
- ==== County road
- ② Non-project road
- Swing road
- Abandoned road
- OHV trail
- Non-motorized trail

LOGGING PLAN
 Timber Sale Contract No. 341-04-44
 Toll Four
 Portions of Sections 9 and 10,
 T2S, R7W, W. M.
 Tillamook County, Oregon



Area	Type of Operation	Acres Sale	Net
1	Clearcut	87	80
2	Regeneration	64	60
3	Clearcut	117	109
Total		268	249