



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Blue Lake Special Sale 341-02-48

District: Forest Grove

Date: 3/4/02

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$918,288.98	\$388.52	\$918,677.50
	Project Work		(\$194,240.00)
	Advertised Value		\$724,437.50



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal

Timber Description

Blue Lake Special

Sale 341-02-48

District: Forest Grove

Location: Sections 2, 3, 4, T2N, R7W, Sections 34, 35, T3N, R7W, WM

Date: 3/4/02

Stand Stocking: 40%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	13	0	98
Western Hemlock / Fir	13	0	98
Alder (Red)	15	0	97

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Alder (Red)	Total
2S	368	95	0	463
3S	3,594	1,388	0	4,982
4S	324	156	0	480
Camprun	0	0	2	2
Total	4,286	1,639	2	5,927

Comments: Pond Values Used: 4th Quarter 2001

Brand and paint 5900 MBF @ \$1/MBF=\$5900

60 intermediate supports @ \$100 ea = \$6000

20 hr shovel time to block skid roads etc. @ \$110/hr = \$2200



Timber Sale Appraisal

Logging Conditions

Blue Lake Special

Sale 341-02-48

"STEWARDSHIP IN FORESTRY"

Combination#:	1	Douglas - Fir	95.00%	
		Western Hemlock / Fir	95.00%	
Yarding Distance:		Long (1,500 ft)		Downhill Yarding No
Logging System:		Cable: Medium Tower >40 - <70		Process: Manual Delimbing
Tree Size:		Mature Private Forest / Regen Cut (250 Bft/tree),		6-11 logs/MBF
Loads/Day:		5		Bd. Ft./Load: 3,800
Cost/MBF:		\$174.56		
Machines:				
		Log Loader (A)		
		Tower Yarder (Medium)		
Combination#:	2	Douglas - Fir	5.00%	
		Western Hemlock / Fir	5.00%	
		Alder (Red)	100.00%	
Yarding Distance:		Short (400 ft)		Downhill Yarding Yes
Logging System:		Track Skidder		Process: Manual Felling/Delimbing
Tree Size:		Small / Thinning 12in (130 Bft/tree),		12-17 logs/MBF
Loads/Day:		8		Bd. Ft./Load: 3,800
Cost/MBF:		\$107.42		
Machines:				
		Log Loader (B)		
		Track Skidder		



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal **Logging Costs** **Blue Lake Special** **Sale 341-02-48**

Date: 3/4/02

Operating Seasons: 3.0

Profit & Risk: 20%

Project Costs: \$194,240

Other Costs (P/R): \$11,900

Slash Disposal: \$0

Other Costs: \$2,200

Road Maintenance: \$0.00

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	20.0	0.0

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	2.0	3.8
Western Hemlock / Fir	\$0.00	2.0	3.8
Alder (Red)	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal **Logging Costs Breakdown** **Blue Lake Special** **Sale 341-02-48**

Costs	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
Logging	171.20	171.20	107.42
Road Maintenance	8.57	8.57	8.66
Fire Protection	1.37	1.37	1.37
Hauling	58.67	58.67	79.18
Other (P/R appl.)	2.01	2.01	2.01
Profit & Risk	48.36	48.36	39.73
Slash Disposal	0.00	0.00	0.00
Scaling	2.00	2.00	2.00
Other	0.37	0.37	0.37
Total	292.55	292.55	240.74

Amortization	0.00	0.00	0.00
Pond Value	493.09	328.41	435.00
Stumpage	200.54	35.86	194.26
Amortized	0.00	0.00	0.00



Timber Sale Appraisal Summary Blue Lake Special Sale 341-02-48

"STEWARDSHIP IN FORESTRY"

Amortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	0.00	0.00	0.00
Value	0.00	0.00	0.00
Total	0.00	0.00	0.00

Unamortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	4,286.00	1,639.00	2.00
Value	200.54	35.86	194.26
Total	859,514.44	58,774.54	388.52

Gross Timber Sale Value

Recovery \$918,677.50

Prepared by: Karen Tilley

Date: 3/4/02

District: Forest Grove

Phone: (503) 359-7434

PROJECT COST SUMMARY SHEETTimber Sale: Blue Lake Special**CONSTRUCTION****PROJECT NO. 1**

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
C to D	12 + 70	9,564 01
E to F	23 + 15	14,692 76
G to H	1 + 50	466 62
I to J	5 + 50	1,632 55
Pt "O"	1 + 00	201 18
X to L	4 + 20	584 05
M to N	3 + 25	522 43
P to Q	1 + 50	1,399 89
R to S	19 + 60	12,466.04
	72 + 40 stations	
	1 37 miles	

SUBTOTAL CONSTRUCTION**\$41,529 53****IMPROVEMENTS****PROJECT NO. 2**

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
A to B	132 + 55	52,591 08
J to K	105 + 60	1,869 11
P to R	4 + 85	62.46
	243 + 00 stations	
	4 60 miles	

SUBTOTAL IMPROVEMENTS**\$54 522 65****SURFACING****PROJECT NO. 3**

<u>Road Segment</u>	<u>Amount</u>	<u>Type</u>	<u>Cost</u>
A to B	10,671 cy	6 -0	53,034 87
A to B	190 cy	24"-12	1,368 00
C to D	1,214 cy	6"-0	7,029 06
C to D	50 cy	24"-12	390 50
E to F	2,038 cy	6"-0	7,948 20
G to H	289 cy	6"-0	1,103 98
I to J	604 cy	6"-0	3,999 00
J to K	600 cy	6"-0	2,826 00
Pt "O"	100 cy	6"-0	519 00
X to L	522 cy	6"-0	2,181 96
M to N	439 cy	6"-0	1,966 72
P to Q	125 cy	6"-0	635 00
P to R	50 cy	6"-0	257 00
R to S	1,736 cy	6"-0	9,322 32
Total	18,288 cy	6"-0	
Total	240 cy	24"-12"	

SUBTOTAL SURFACING**\$92,581 61**

SPECIAL PROJECTS

Project No.4 Grass Seed and Fertilize 13.58 Acres	2444 00
Project No.5 Roadside Brush 0.39 Miles	270 40

<u>SUBTOTAL SPECIAL PROJECTS</u>	\$2,714 40
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MOVE IN**\$2,888.54**

<u>TOTAL ALL PROJECTS</u>	<u>\$194,236.73</u>
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TOTAL CREDITS	\$194,240 00
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SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special Road: A to B (Bathtub Creek Road)

Construction - 0+00 stations Improvement 132+55 stations
0 00 miles 2 51 miles

CLEARING AND GRUBBING -

Scattering 9.13 acres @ \$869.00 per acre = \$7,933.97
TOTAL CLEARING AND GRUBBING \$7,933.97

EXCAVATION -

Road	10845.00	cy@	\$0.80	per cy =	\$8,676.00	
Endhaul 85+40 to 86+00	445.00	cy@	\$1.18	per cy =	\$525.10	
Endhaul 97+90 to 108+35	1200.00	cy@	\$1.14	per cy =	\$1,368.00	
Endhaul 124+80 to 129+80	1482.00	cy@	\$1.53	per cy =	\$2,267.46	
Fill Drift and Waste Area Compaction	4711.00	cy@	\$0.50	per cy =	\$2,355.50	
Puncheon Removal	16.00	hrs@	\$109.79	per hr =	\$1,756.64	
Landing	100.00	cy@	\$0.80	per cy =	\$80.00	
Subgrade Compaction	2.51	mi @	\$542.10	per mi =	\$1,360.67	
Grade	0.15	mi @	\$441.00	per mi =	\$66.15	
Grade and ditch	2.36	mi @	\$694.00	per mi =	\$1,637.84	
				TOTAL EXCAVATION		\$20,093.36

CULVERTS - MATERIALS & INSTALLATION

Culverts

784 LF of 18	\$10,568.32	48 LF of 24	\$768.48
175 LF of 30	\$3,347.75	60 LF of 36"	\$1,614.00
0 LF of 42	\$0.00	0 LF of 48"	\$0.00
0 LF of 54	\$0.00	95 LF of 60"	\$5,586.00
	<u>\$13,916.07</u>		<u>\$7,968.48</u>

Half Rounds

180 LF of 21	\$1,859.40	20 LF of 30"	\$267.80
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
	<u>\$1,859.40</u>		<u>\$267.80</u>

Culvert Stakes

69 stakes \$552.00

TOTAL CULVERTS \$24,563.75

SURFACING-

	12" deep =	67 cy/sta			
Subgrade	8,881	cy of	6.0	@	\$4.97 per cy = \$44,138.57
Turnouts	891	cy of	6.0	@	\$4.97 per cy = \$4,428.27
Junctions	84	cy of	6.0	@	\$4.97 per cy = \$417.48
Truckturn	50	cy of	6.0	@	\$4.97 per cy = \$248.50
Landing	100	cy of	6.0	@	\$4.97 per cy = \$497.00
Curve Widening	665	cy of	6.0	@	\$4.97 per cy = \$3,305.05
Rip/Rap	190	cy of	24.12	@	\$7.20 per cy = \$1,368.00
Total =	10861			10861.00	TOTAL SURFACING \$54,402.87

SPECIAL PROJECTS

Grass Seed and Fertilize 9.13 Acres @ \$180/Acre =	\$1,643.00
	\$0.00
	\$0.00
	\$0.00
TOTAL SPECIAL PROJECTS	\$1,643.00

TOTAL COST = \$108,636.95

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special

Road: C to D

Construction 12 + 70 stations
0 24 miles

Improvement _____ stations
_____ miles

CLEARING AND GRUBBING -

Scattering	1 46 acres @	\$869.00 per acre =	\$1,268.74	
		TOTAL CLEARING AND GRUBBING		\$1 268 74

EXCAVATION -

Road	2500 00	cy @	\$1 27 per cy =	\$3 175 00
Landing	100 00	cy @	\$1 27 per cy =	\$127 00
Endhaul 7 + 55 to 9 + 70	956 00	cy @	\$1 12 per cy =	\$1 070 72
Endhaul 9 + 70 to 12 + 70	833 00	cy @	\$1 09 per cy =	\$907 97
Fill Drift and Landing compaction	2000 00	cy @	\$0 50 per cy =	\$1 000 00
Subgrade Compaction	0 24	mi @	\$542 10 per mi =	\$130 10
Grade and ditch	0 24	mi @	\$694 00 per mi =	\$166.56
			TOTAL EXCAVATION	\$6 577 36

CULVERTS - MATERIALS & INSTALLATION

Culverts

24	LF of 18	\$323.52	0	LF of 24"	\$0 00
60	LF of 30"	\$1 147 80	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
		\$1 471 32			\$0 00

Half Rounds

20	LF of 21"	\$206 60	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
		\$206 60			\$0 00

Culvert Stakes

5 stakes \$40.00

TOTAL CULVERTS \$1 717 92

SURFACING-

12 deep =	67 cy/sta			
Subgrade	851 cy of 6" 0	@	\$5 79 per cy =	\$4 927 29
Turnouts	132 cy of 6 0	@	\$5 79 per cy =	\$764 28
Rip/Rap	50 cy of 24" 12	@	\$7 81 per cy =	\$390 50
Junction	36 cy of 6 0	@	\$5 79 per cy =	\$208 44
Landing	100 cy of 6" 0	@	\$5 79 per cy =	\$579 00
Curve Widening	95 cy of 6" 0	@	\$5 79 per cy =	\$550.05
Total =	1264		TOTAL SURFACING	\$7 419 56

SPECIAL PROJECTS

Grass Seed and Fertilize 0.73 Acres@ \$180/Acre =		\$131 40	
		\$0 00	
		\$0 00	
		\$0.00	
		TOTAL SPECIAL PROJECTS	\$131 40

TOTAL COST = \$17,114 97

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special

Road: E to F

Construction 23 + 15 stations
0 44 miles

Improvement 0 + 00 stations
0 00 miles

CLEARING AND GRUBBING -

Scattering	2 66 acres @	\$869 00 per acre =	\$2,311.54	
		TOTAL CLEARING AND GRUBBING		\$2 311 54

EXCAVATION -

Road	4247 00	cy @	\$0 80 per cy =	\$3 397 60
Landing	200 00	cy @	\$0 80 per cy =	\$160 00
End Haul 0+00 to 3+80	872 00	cy@	\$1 40 per cy =	\$1 220 80
End Haul 15+85 to 22+00	1412 00	cy@	\$1 08 per cy =	\$1 524 96
Compaction of Fills and Waste Area	2500 00	cy@	\$0 50 per cy =	\$1 250 00
Subgrade Compaction	0 44	mi @	\$542 10 per mi =	\$238 52
Grade and ditch	0 44	mi @	\$694 00 per mi =	\$305.36
			TOTAL EXCAVATION	\$8 097 24

CULVERTS - MATERIALS & INSTALLATION

Culverts

164	LF of 18	\$2 210 72
0	LF of 30	\$0 00
0	LF of 42	\$0 00
0	LF of 54	\$0.00
		\$2 210 72

126	LF of 24	\$2 017 26
0	LF of 36"	\$0 00
0	LF of 48	\$0 00
0	LF of 60	\$0.00
		\$2 017 26

Half Rounds

0	LF of 21"	\$0 00
0	LF of 36	\$0 00
0	LF of 48	\$0 00
0	LF of 60	\$0.00
		\$0 00

0	LF of 30"	\$0 00
0	LF of 42	\$0 00
0	LF of 54	\$0 00
0	LF of 66	\$0.00
		\$0 00

Culvert Stakes

7	stakes	\$56.00
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TOTAL CULVERTS \$4 283 98

SURFACING-

	12 "	deep =	67 cy/sta	
Subgrade	1 552	cy of	6"-0	@ \$3 90 per cy = \$6 052 80
Turnouts	198	cy of	6 0	@ \$3 90 per cy = \$772 20
Junction	36	cy of	6"-0	@ \$3 90 per cy = \$140 40
Landing	100	cy of	6 0	@ \$3 90 per cy = \$390 00
Curve Widening	152	cy of	6" 0	@ \$3 90 per cy = \$592.80
Total =	2038			TOTAL SURFACING \$7 948 20

SPECIAL PROJECTS

Grass Seed and Fertilize 1.33 Acres@ \$180/Acre =	\$239 40	
	\$0 00	
	\$0 00	
	\$0.00	
	TOTAL SPECIAL PROJECTS	\$239 40

TOTAL COST = \$22,880 36

SUMMARY OF CONSTRUCTION COST

Timber Sale: **Blue Lake Special**

Road: **G to H**

Construction 1 + 50 stations
0 03 miles

Improvement 0 + 00 stations
0 00 miles

CLEARING AND GRUBBING -

Scattering	0 18 acres @	\$869 00 per acre =	\$156.42	
		TOTAL CLEARING AND GRUBBING		\$156 42

EXCAVATION -

Road	173 00	cy @	\$0.72 per cy =	\$124 56
Landing	200 00	cy @	\$0 72 per cy =	\$144 00
Subgrade compaction	0 03	mi @	\$694 00 per mi =	\$20 82
Grade and ditch	0 03	mi @	\$694 00 per mi =	\$20.82
			TOTAL EXCAVATION	\$310 20

CULVERTS - MATERIALS & INSTALLATION

Culverts

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 00		\$0 00

Half Rounds

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 LF of 48	\$0 00	0 LF of 54	\$0 00
0 LF of 60	\$0.00	0 LF of 66	\$0.00
	\$0 00		\$0 00

Culvert Stakes

0 stakes	\$0.00
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TOTAL CULVERTS \$0 00

SURFACING-

	12	deep =	67 cy/sta				
Subgrade	101	cy of	6 0	@	\$3 82 per cy =	\$385 82	
Turnouts	33	cy of	6" 0	@	\$3 82 per cy =	\$126 06	
Junction	36	cy of	6 0	@	\$3 82 per cy =	\$137 52	
Landing	100	cy of	6 0	@	\$3 82 per cy =	\$382 00	
Curve Widening	19	cy of	6 0	@	\$3 82 per cy =	\$72.58	
Total =	289				TOTAL SURFACING		\$1 103 98

SPECIAL PROJECTS

Grass Seed and Fertilize 0.09 Acres@ \$180/Acre =	\$16 20		
	\$0 00		
	\$0 00		
	\$0.00		
	TOTAL SPECIAL PROJECTS		\$16 20

TOTAL COST = \$1,586 80

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special

Road: I to J

Construction 5 + 50 stations
0 10 miles

Improvement 0 + 00 stations
0 00 miles

CLEARING AND GRUBBING -

Scattering 0 50 acres @ \$869 00 per acre = \$434.50
TOTAL CLEARING AND GRUBBING \$434 50

EXCAVATION -

Road 595 00 cy @ \$0 70 per cy = \$416 50
Drift Compaction 545 00 cy @ \$0 50 per cy = \$272 50
Subgrade Compaction 0 10 mi @ \$542 10 per mi = \$54 21
Grade and ditch 0 10 mi @ \$694 00 per mi = \$69.40
TOTAL EXCAVATION \$812 61

CULVERTS - MATERIALS & INSTALLATION

Culverts

28 LF of 18	\$377 44	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
	<u>\$377 44</u>		<u>\$0 00</u>

Half Rounds

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 LF of 48"	\$0 00	0 LF of 54	\$0 00
0 LF of 60	\$0.00	0 LF of 66"	\$0.00
	<u>\$0 00</u>		<u>\$0 00</u>

Culvert Stakes

1 stakes \$8.00

TOTAL CULVERTS \$385 44

SURFACING-

12 deep = 67 cy/sta			
Subgrade 369 cy of 6 0 @	\$6 45 per cy =	\$2 380 05	
Turnouts 99 cy of 6 0 @	\$6 45 per cy =	\$638 55	
Junctions 60 cy of 6 0 @	\$6 45 per cy =	\$490 20	
Curve Widening 76 cy of 6" 0 @	\$6 45 per cy =	\$490.20	
Total = 604		TOTAL SURFACING	\$3 999 00

SPECIAL PROJECTS

Grass Seed and Fertilize 0.25 Acres@ \$180/Acre =	\$45 00
	\$0 00
	\$0 00
	\$0.00
TOTAL SPECIAL PROJECTS	\$45 00

TOTAL COST = \$5,676 55

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special Road: J to K (Belding Road)

Construction 0 + 00 stations
0 00 miles

Improvement 105 + 60 stations
2 + 00 miles

CLEARING AND GRUBBING -

Scattering 0 00 acres @ \$790.00 per acre = \$0.00
TOTAL CLEARING AND GRUBBING \$0 00

EXCAVATION -

Road (Excavator time) 7 00 hrs @ \$109 79 per hr = \$768 53
Landing 1 00 hrs @ \$109 79 per hr = \$109 79
Grade 1 57 mi @ \$441 00 per mi = \$692 37
Grade and ditch 0 43 mi @ \$694 00 per mi = \$298.42
TOTAL EXCAVATION \$1 869 11

CULVERTS - MATERIALS & INSTALLATION

Culverts

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 00		\$0 00

Half Rounds

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 LF of 48"	\$0 00	0 LF of 54"	\$0 00
0 LF of 60"	\$0.00	0 LF of 66"	\$0.00
	\$0 00		\$0 00

Culvert Stakes

0 stakes \$0.00

TOTAL CULVERTS \$0 00

SURFACING-

0 deep = 0 cy/sta
Spot Rock 500 cy of 6 0 @ \$4 71 per cy = \$2 355 00
Landing 100 cy of 6 0 @ \$4 71 per cy = \$471.00
Total = 500 TOTAL SURFACING \$2 826 00

SPECIAL PROJECTS

	\$0 00
Roadside Brush Pt. J to Pt. O 0.30 mi @ \$693.33/mi =	\$208 00
	\$0 00
	\$0.00
TOTAL SPECIAL PROJECTS	\$208 00

TOTAL COST = \$4,903 11

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special

Road: M to N

Construction 3+25 stations
0 06 miles

Improvement 0+00 stations
0 00 miles

CLEARING AND GRUBBING -

Scattering	0 30 acres @	\$790 00 per acre =	\$237 00	
		TOTAL CLEARING AND GRUBBING		\$237 00

EXCAVATION -

Road	133 00	cy @	\$0 68 per cy =	\$90 44
Landing	200 00	cy @	\$0 68 per cy =	\$136 00
Subgrade Compaction	0 06	mi @	\$542 10 per mi =	\$32 53
Grade	0 06	mi @	\$441 00 per mi =	\$26 46
			TOTAL EXCAVATION	\$285 43

CULVERTS - MATERIALS & INSTALLATION

Culverts

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 00		\$0 00

Half Rounds

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 LF of 48"	\$0 00	0 LF of 54	\$0 00
0 LF of 60	\$0 00	0 LF of 66	\$0 00
	\$0 00		\$0 00

Culvert Stakes

0 stakes	\$0 00
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TOTAL CULVERTS \$0 00

SURFACING-

12 deep = 67 cy/sta				
Subgrade	218	cy of 6" 0 @	\$4 48 per cy =	\$976 64
Turnouts	66	cy of 6" 0 @	\$4 48 per cy =	\$295 68
Junction	36	cy of 6 0 @	\$4 48 per cy =	\$161 28
Landing	100	cy of 6 0 @	\$4 48 per cy =	\$448 00
Curve Widening	19	cy of 6" 0 @	\$4 48 per cy =	\$85 12
Total =	439		TOTAL SURFACING	\$1 966 72

SPECIAL PROJECTS

Grass Seed and Fertilize 0.15 Acres@ \$180/Acre =		\$27 00	
		\$0 00	
		\$0 00	
		\$0 00	
		TOTAL SPECIAL PROJECTS	\$27 00

TOTAL COST = \$2,516 15

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special

Road: P to Q (Cut Off)

Construction 1 + 50 stations
0 03 miles

Improvement 0 + 00 stations
0 00 miles

CLEARING AND GRUBBING -

Scattering	0 14 acres @	\$790 00 per acre =	<u>\$110.60</u>	
TOTAL CLEARING AND GRUBBING				\$110 60

EXCAVATION -

Road	345 00	cy @	\$0 77 per sta =	\$265 65	
Subgrade Compaction	0 03	mi @	\$542 10 per mi =	\$16 26	
Grade and ditch	0 03	mi @	\$694 00 per mi =	<u>\$20.82</u>	
TOTAL EXCAVATION					\$302 73

CULVERTS - MATERIALS & INSTALLATION

Culverts

72 LF of 18	\$970 56	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"	<u>\$0.00</u>	0 LF of 60	<u>\$0.00</u>
	\$970 56		\$0 00

Half Rounds

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 LF of 48	\$0 00	0 LF of 54	\$0 00
0 LF of 60	<u>\$0.00</u>	0 LF of 66	<u>\$0.00</u>
	\$0 00		\$0 00

Culvert Stakes

2 stakes	<u>\$16.00</u>
----------	----------------

TOTAL CULVERTS \$986 56

SURFACING-

	12 " deep =	67 cy/sta		
Subgrade	101	cy of	6 0 @	\$5 08 per cy = \$513 08
Junctions	24	cy of	6" 0 @	\$5 08 per cy = <u>\$121.92</u>
Total =	125			TOTAL SURFACING \$635 00

SPECIAL PROJECTS

Grass Seed and Fertilize 0.07 Acres@ \$180/Acre =	\$12 60
	\$0 00
	\$0 00
	<u>\$0.00</u>
TOTAL SPECIAL PROJECTS	\$12 60

TOTAL COST = \$2,047 49

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special

Road: P to R

Construction 0 + 00 stations
0 00 miles

Improvement 4 + 85 stations
0 09 miles

CLEARING AND GRUBBING -

Scattering 0 00 acres @ \$790 00 per acre = \$0.00
TOTAL CLEARING AND GRUBBING \$0 00

EXCAVATION -

Grade and ditch 0 09 mi @ \$694 00 per mi = \$62.46
TOTAL EXCAVATION \$62 46

CULVERTS - MATERIALS & INSTALLATION

Culverts

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	<u>\$0.00</u>	0 LF of 60"	<u>\$0.00</u>
	\$0 00		\$0 00

Half Rounds

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 LF of 48	\$0 00	0 LF of 54"	\$0 00
0 LF of 60	<u>\$0.00</u>	0 LF of 66	<u>\$0.00</u>
	\$0 00		\$0 00

Culvert Stakes

0 stakes \$0.00

TOTAL CULVERTS \$0 00

SURFACING-

0 " deep = 0 cy/sta
Spot Rock 50 cy of 6" 0 @ \$5 14 per cy = \$257.00
Total = 50 TOTAL SURFACING \$257 00

SPECIAL PROJECTS

Roadside Brush 0.09 mi @ 693.33/mi = \$62 40
\$0 00
\$0 00
\$0.00
TOTAL SPECIAL PROJECTS \$62 40

TOTAL COST = \$381 86

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special

Road: Point "O" Landing

Construction 1 + 00 stations
0.02 miles

Improvement 0 + 00 stations
0 00 miles

CLEARING AND GRUBBING -

Scattering	0 07 acres @	\$790 00 per acre =	<u>\$55.30</u>	
		TOTAL CLEARING AND GRUBBING		\$55 30

EXCAVATION -

Landing	200 00 cy @	\$0 66 per cy =	<u>\$132 00</u>	
Grade and ditch	0 02 mi @	\$694 00 per mi =	<u>\$13.88</u>	
		TOTAL EXCAVATION		\$145 88

CULVERTS - MATERIALS & INSTALLATION

Culverts

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	<u>\$0.00</u>	0 LF of 60	<u>\$0.00</u>
	\$0 00		\$0 00

Half Rounds

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 LF of 48	\$0 00	0 LF of 54	\$0 00
0 LF of 60	<u>\$0.00</u>	0 LF of 66	<u>\$0.00</u>
	\$0 00		\$0 00

Culvert Stakes

0 stakes	<u>\$0.00</u>
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TOTAL CULVERTS \$0 00

SURFACING-

Turnouts	12 deep =	100 cy/sta			
	0 cy of	@	\$0 00 per cy =	\$0 00	
Landing	100 cy of	6 0 @	\$5 19 per cy =	<u>\$519.00</u>	
Total =	100		TOTAL SURFACING		\$519 00

SPECIAL PROJECTS

Grass Seed and Fertilize 0.07 Acres@ \$180/Acre =	\$12 60	
	\$0 00	
	\$0 00	
	<u>\$0.00</u>	
TOTAL SPECIAL PROJECTS		\$12 60

TOTAL COST = \$732 78

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special

Road: R to S

Construction 19 + 60 stations
0 37 miles

Improvement 0 + 00 stations
0 00 miles

CLEARING AND GRUBBING -

Scattering	3 14 acres @	\$869 00 per acre =	\$2,728.66	
		TOTAL CLEARING AND GRUBBING		\$2 728 66

EXCAVATION -

Road	4335 00	cu @	\$0 96 per cy =	\$4 161 60
End Haul	988 00	cy @	\$1 13 per cy =	\$1 116 44
Compaction of Fills End Haul and Drift	3381 00	cy @	\$0 50 per cy =	\$1 690 50
Subgrade Compaction	0 37	mi @	\$542 10 per mi =	\$200 58
Grade and ditch	0 37	mi @	\$694 00 per mi =	\$256.78
			TOTAL EXCAVATION	\$7 425 90

CULVERTS - MATERIALS & INSTALLATION

Culverts

116	LF of 18	\$1 563 68	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
		\$1 563 68			\$0 00

Half Rounds

60	LF of 21"	\$619 80	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
		\$619 80			\$0 00

Culvert Stakes

16	stakes	\$128.00
----	--------	----------

TOTAL CULVERTS \$2 311 48

SURFACING-

Subgrade	12	deep =	67 cy/sta	
Junctions	72	cy of	6 0	@ \$5 37 per cy = \$7 056 18
Turnouts	198	cy of	6 0	@ \$5 37 per cy = \$386 64
Curve Widening	152	cy of	6 0	@ \$5 37 per cy = \$1 063 26
Total =	1736			@ \$5 37 per cy = \$816.24
				TOTAL SURFACING \$9 322 32

SPECIAL PROJECTS

Grass Seed and Fertilize 1.57 Acres@ \$180/Acre =	\$282 60	
	\$0 00	
	\$0 00	
	\$0.00	
	TOTAL SPECIAL PROJECTS	\$282 60

TOTAL COST = \$22,070 96

SUMMARY OF CONSTRUCTION COST

Timber Sale: Blue Lake Special

Road: X to L

Construction 4 + 20 stations
0 08 miles

Improvement 0 + 00 stations
0 00 miles

CLEARING AND GRUBBING -

Scattering	0 38 acres @	\$790 00 per acre =	\$300.20	
		TOTAL CLEARING AND GRUBBING		\$300 20

EXCAVATION -

Road	172 00 cy @	\$0 68 per cy =	\$116 96	
Landing	100 00 cy@	\$0 68 per cy =	\$68 00	
Subgrade compaction	0 08 mi @	\$542 10 per mi =	\$43 37	
Grade and ditch	0 08 mi @	\$694 00 per mi =	\$55.52	
		TOTAL EXCAVATION		\$283 85

CULVERTS - MATERIALS & INSTALLATION

Culverts

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 00		\$0 00

Half Rounds

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 LF of 48"	\$0 00	0 LF of 54"	\$0 00
0 LF of 60"	\$0.00	0 LF of 66"	\$0.00
	\$0 00		\$0 00

Culvert Stakes

0 stakes	\$0.00
----------	--------

TOTAL CULVERTS \$0 00

SURFACING-

	12 " deep =	67 cy/sta			
Subgrade	282	cy of	6" 0	@	\$4 18 per cy = \$1 178 76
Turnouts	66	cy of	6" 0	@	\$4 18 per cy = \$275 88
junction	36	cy of	6" 0	@	\$4 18 per cy = \$150 48
Landing	100	cy of	6 0	@	\$4 18 per cy = \$418 00
Curve Widening	38	cy of	6" 0	@	\$4 18 per cy = \$158.84
Total =	522				TOTAL SURFACING \$2 181 96

SPECIAL PROJECTS

Grass Seed and Fertilize 0.19 Acres@ \$180/Acre =	\$34 20	
	\$0 00	
	\$0 00	
	\$0.00	
	TOTAL SPECIAL PROJECTS	\$34 20

TOTAL COST = \$2,800 21

MOVE-IN COST SUMMARY

Timber Sale: Blue Lake Special

MILEAGE FACTORS			
Distance Factor		Distance Factor	
0 25	0 58	55	1 07
30	0 66	60	1 15
35	0 74	65	1 23
40	0 82	70	1 31
45	0 91	75	1 40
50	1.00	80	1.48

MILEAGE FACTOR = 1.00

No.	EQUIPMENT DESCRIPTION	Base Cost	Move in Cost	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
0	Drill & Compressor	\$241	\$0 00				0	\$0 00	\$0 00
1	Graders	\$241	\$241 00	\$7 05	0	2	2	\$14 10	\$255 10
0	Loader (1 5 - 2 5 cy)	\$241	\$0 00	\$6 83	0	0	0	\$0 00	\$0 00
1	Loader (3 cy +)	\$387	\$387 00	\$8 15	0	2	2	\$16 30	\$403 30
2	Rollers & Compactors	\$241	\$482 00	\$13 73	0	0	0	\$0 00	\$482 00
1	Excavators	\$533	\$533 00	\$36 60	0	2	2	\$73 20	\$606 20
0	Large Backhoes	\$533	\$0 00	\$21 42	0	0	0	\$0 00	\$0 00
0	Small backhoes	\$241	\$0 00	\$3 52	0	0	0	\$0 00	\$0 00
1	Tractors (D5 D7)	\$385	\$385 00	\$18 47	0	2	2	\$36 94	\$421 94
0	Tractors (D8)	\$533	\$0 00	\$25 53	0	0	0	\$0 00	\$0 00
0	Dump Truck (< 10 cy)	\$121	\$0 00	\$2 30	0	0	0	\$0 00	\$0 00
5	Dump Truck (10 cy +)	\$144	\$720 00	\$2 76	0	0	0	\$0 00	\$720 00
0	Water Truck (3000 gal)	\$144	\$0 00	\$2 76	0	0	0	\$0 00	\$0 00

TOTAL MOVE-IN COSTS = \$2,888.54

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Timber Sale: Blue Lake Special

Pit Name: Bathtub Ck Pit

Swell:	<u>1.25</u>	1-1/2"-0 (trk measure)	<u>cy</u>
Shrinkage:	<u>1.16</u>	4"-0 (trk measure)	<u>cy</u>
Drill Pct :	<u>100%</u>	Pit Run (trk measure)	<u>15,056 cy</u>
		Total Truck Yardage:	<u>15,056 cy</u>
		Total In Place Yardage:	<u>12,045 cy</u>

Clear and Grub: 0 63 acres @ \$869/ac = \$547 47

Scalp & Clear Overburden:	6 Hrs with D8 @ \$130 31/Hr =	\$781 86
Rip	<u>\$0.51 /cy x 12,045 cy =</u>	\$6,142 95
Push Rock:	<u>\$0.53 /cy x 15,056 cy =</u>	\$7,979 68
Load Dump Truck:	<u>\$0.32 /cy x 15,056 cy =</u>	\$4,817 92
Load Overburden:	<u>\$0.32 /cy x 600 cy =</u>	\$192 00
Haul Overburden	<u>\$1.36 /cy x 798 cy =</u>	\$1,085 28
Compact Overburden	<u>\$0.50 /cy x 798 cy =</u>	\$399.00
	Subtotal	<u>\$21,946 16</u>

Grass seed and fertilize waste area, 0 23 acres @ \$180/acre \$41 32

Move in D-8 \$309 00

Move in Loader \$387.00

Subtotal \$737 32

BASE COST \$1.51/cy

TOTAL PRODUCTION COST \$22,683.48

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Timber Sale: Blue Lake Special

Pit Name: High Ridge Pit

Swell:	<u>1.25</u>	1-1/2"-0 (trk measure)	<u>cy</u>
Shrinkage:	<u>1.16</u>	4"-0 (trk measure)	<u>cy</u>
Drill Pct :	<u>100%</u>	Pit Run (trk measure)	<u>3,572 cy</u>
		Total Truck Yardage:	<u>3,572 cy</u>
		Total In Place Yardage:	<u>2,858 cy</u>

Clear and Grub 0 46 acres @ \$869/acre = \$399 74

Scalp, Clear& Drift Ovrbdn 2 Hrs with D8 @ \$130 31/hr = \$260 62

Rip Rock: \$1.02 /cy x 2,558 cy = \$2,609 16

Push Rock: \$0.53 /cy x 3,572 cy = \$1,893 16

Load Dump Truck: \$0.32 /cy x 3,572 cy = \$1,143.04

Subtotal \$6,305 72

Move in D-8 \$309 00

Move in Loader \$387.00

Subtotal \$696 00

BASE COST \$1.96/cy

TOTAL PRODUCTION COST \$7,001.72

TIMBER SALE SUMMARY

Blue Lake Special

1. **Type of Sale:** automark thin, recovery, sealed bid auction

2. **Revenue Distribution:** 100% BOF, 8% Rehab. Obligation, Tillamook County, Tax Code 56-1

3. **Sale Acreage:** Area I is 19 acres and Area II is 271 acres determined using a planimeter and an Orthographic photo. Area III R/W is estimated to be 8 acres. Seven acres of nonthinnable ground and 5 acres of roads have been removed from the 302 gross acre measurement.

4. **Volume:**

Species	2 Saw%	3 Saw%	4 Saw%	Volume
Douglas-fir	9	84	7	4,286 MBF
Hemlock & other conifers	6	85	9	1,639 MBF
Hardwoods	0	0	100	2 MBF

The following table shows the estimated volume that would be removed based on each relative density in the target range.

Species	RD 31	RD 32	RD 33
Douglas-fir	4,500	4,286	4,035
Hemlock & other conifers	1,639	1,639	1,548
Hardwoods	2	2	2
Total Volume	6,141	5,927	5,604

5. **Cruise Data:** Areas I and II was variable plot cruised using a 20 BAF and full plots. Leave trees and take trees were cruised separately to the same intensity. The sale was cruised in July 2001. A top cruise diameter of 7 inches or 25% of DBH outside bark was used. Cruise statistics: take trees CV 63.0% SE 12.1%, leave trees CV 28.1% SE 5.4%.

6. **Timber Description:** Areas I and II are overstocked stands of 50 year old Douglas-fir, hemlock and Noble fir. The average take DBH is 13 inches. The average leave DBH is 18 inches. Take tree volumes per acre average 13.7 MBF Douglas-fir and 5.3 MBF hemlock for a total of 19.0 MBF per acre.

7. **Topography and Logging Method:** Areas I and II consist of 95% cable yarding and 5% ground based yarding. For most of the sale slopes range from 15% to 70% However, on the six high hazard areas identified slopes exceed 80%. These high hazard areas have received an aerial photo evaluation by the NWOA geotechnical specialist, Dave Michael. His recommendations included full suspension cable yarding over Bathtub Creek and one end suspension cable yarding over the other high hazard areas. A Written Plan has been

prepared for logging over these areas and will be updated with a detailed logging plan before operations commence.

8. Access: Access is from the Wilson River Hwy to the Storey Burn Road to Standard Grade to Belding Road.

9. Projects:

Project No. 1 consists of constructing 1.4 miles of road costing \$41,529.53 for sale access.

Project No. 2 consists of improving 4.6 miles of road costing \$54,522.65 for sale access.

Project No. 3 consists of spreading 18,288 cubic yards of 6"-0" rock on Project No. 1 and 2 and 240 cubic yards of rip rap at a cost of \$92,581.61.

Project No. 4 consists of grass seeding and fertilizing at a cost of \$2,444.00.

Project No. 5 consists of road brushing at a cost of \$270.40.

Move in cost is \$2,888.54.

Total cost for all projects is \$194,236.73.

Project cost is rounded to \$194,240

CRUISE REPORT
Blue Lake Special

1. Acreage Calculation: Area I is 19 acres and Area II is 271 acres determined using a planimeter and an Orthographic photo. Area III R/W is estimated to be 8 acres. Seven acres of nonthinnable ground and 5 acres of roads have been removed from the 302 gross acre measurement.

2. Cruise Method: The sale was variable plot cruised using a 20 BAF and full plots. Leave trees were cruised separately to the same intensity. The 8 acres of right of way volume was calculated using the take and leave tree cruise.

3. Sampling Intensity:

Area I	Estimated	Actual Take	Actual Leave
CV	60.0%	63.0%	28.1%
SE	12.0%	12.1%	5.4%
No. of Plots	25	27	27

4. Form Factors: Each tree was measured for form factor using a relaskop with a form point of 16 feet.

5. Height Standards: Conifer and hardwood merchantable heights were estimated to the nearest foot.

6. Diameter Standards: Diameters were measured outside bark at breast height to the nearest inch.

7. Grading System: All trees were graded favoring 40 foot segments.

8. Merchantable Top: Conifer and hardwood merchantable tops were measured to 7 inches and 9 inches, respectively, or 25% of DBH outside bark.

9. Computation Procedures: Volumes were computed using the Super Ace 98 program.

10. Deductions: Two percent of the conifer and the hardwood volume was subtracted from the computed volumes to account for hidden defect and breakage.

11. Cruisers: The sale was cruised by Karen Tilley in July 2001.

12. Signatures:

Preparer:

Karen Tilley 9/20/01
Karen Tilley Date

Unit Forester:

Erik Marcy 1/07/02
Erik Marcy Date

Residual Stand Specifications

Blue Lake Special

Residual QMD assumption (from cruise leave tree information) - 17.5 inches.
Target Relative Density - 32

	Minimum	Target	Maximum
Relative Density	31	32	33
Basal Area	130	135	140
Trees per Acre	78	80	84

$$RD = BA / \sqrt{DBH}$$

$$BA = \sqrt{DBH} (RD)$$

$$BA/tree = (\pi r^2) / (144)$$

$$TPA = (BA/acre) / (BA/tree)$$

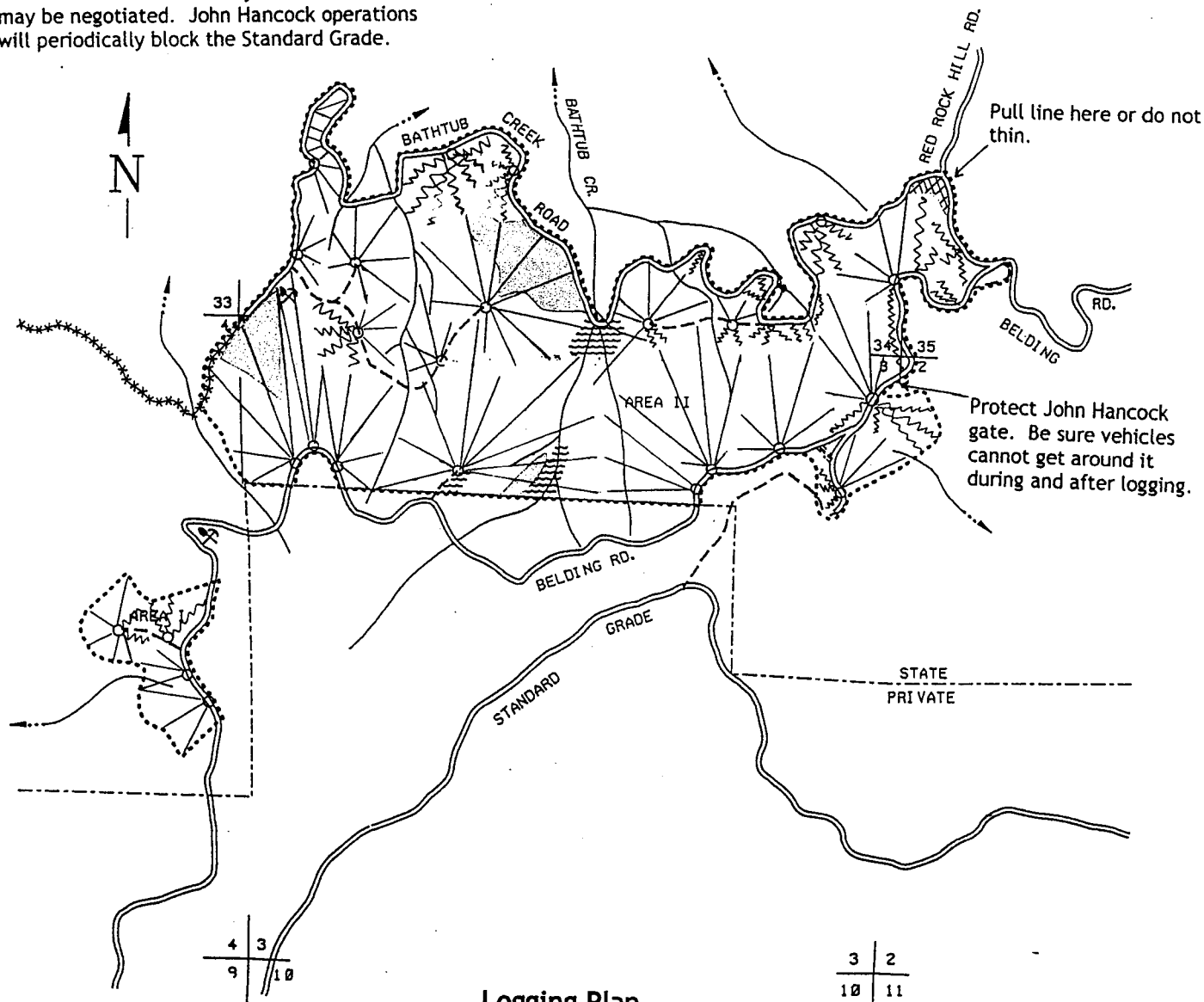
Full suspension is required over Bathtub Creek and one end suspension over the other high risk sites (see written plan).

It is okay to yard through nonthinnable areas.

1600 foot max yarding distance.

Area 1- protect scattered old growth and other large limbed trees posted outside of sale area.

Hauling out the Gilmore Road is almost as far as Standard Grade to Storey Burn Road but may be negotiated. John Hancock operations will periodically block the Standard Grade.



Logging Plan

APPROXIMATE ACREAGE:

AREA I	19 ACRES
AREA II	271 ACRES
AREA III R/W	8 ACRES
TOTAL	298 ACRES

EXHIBIT "A"

OF TIMBER SALE CONTRACT NO. 341-02-48
BLUE LAKE SPECIAL
PORTIONS OF SECTIONS 2, 3, AND 4, T2N, R7W, AND
PORTIONS OF SECTIONS 34 AND 35, T3N, R7W, W. M.
TILLAMOOK COUNTY, OREGON

LEGEND

.....	TIMBER SALE BOUNDARY	STA. 8+00	Survey Station	=====	Surfaced Existing Road
-----	Area Boundary	Known Land Survey Corner	=====	Unsurfaced Existing Road	
-----	Right Of Way Boundary	Culvert Location	-----	Surfaced Road (Const. Required)	
~~~~~	Stream Buffer	Shag Corridor	-----	Unsurfaced Road (Const. Required)	
~~~~~	Reforestation Area	Rock Pit	-----	County Road	
~~~~~	Treater Yarding Permitted	Type F Stream	-----	Private Road (Access Not Assured)	
~~~~~	Point For Project Work	Type N Stream	-----	Existing Road - State Maintained	
~~~~~	Nonthinnable Area	Debris Removal Required (Below Asterisk)	-----	Abandoned Road	
~~~~~	Gate	Pond	*****		
Need intermediate supports					
Line pulling area					



Oregon

John A. Kitzhaber M.D. Governor

Department of Forestry

Forest Grove District
801 Gales Creek Road
Forest Grove, OR 97116
(503) 357 2191
FAX (503) 357 4548



STEWARDSHIP IN
FORESTRY

Written Plan for Blue Lake Special

High Risk Sites

LEGAL DESCRIPTION The Blue Lake Special timber sale is located in Sections 2, 3, 4, T2N, R7W, and Sections 34, 35, T3N, R7W, WM, Tillamook County, Oregon

PROTECTED RESOURCE There are high risk sites within the two operating areas. There are no occupied buildings or high volume traffic roads adjacent to or down slope from the operation.

DESCRIPTION OF THE AREA Steep terrain at the headwaters of Bathtub Creek. Slopes designated on the attached map are from 70 to 100%. Other slopes in the operation are 15 to 70%. Many of the stream channels were scoured to bedrock (*debris torrents*) during the 1996 floods. There is potential for more scouring from side channels. The Salmonberry River is two to four miles downstream.

PROTECTION MEASURES The operator will provide full suspension across Bathtub Creek and one end suspension when yarding the other areas designated on the attached map. The written plan may be modified with equipment specifications and logging plan after the operator has been chosen by the Purchaser.

Approved by Erik Marcy Date 2/26/02
Erik Marcy
Unit Forester

Prepared by Karen Tilley
February 26, 2002



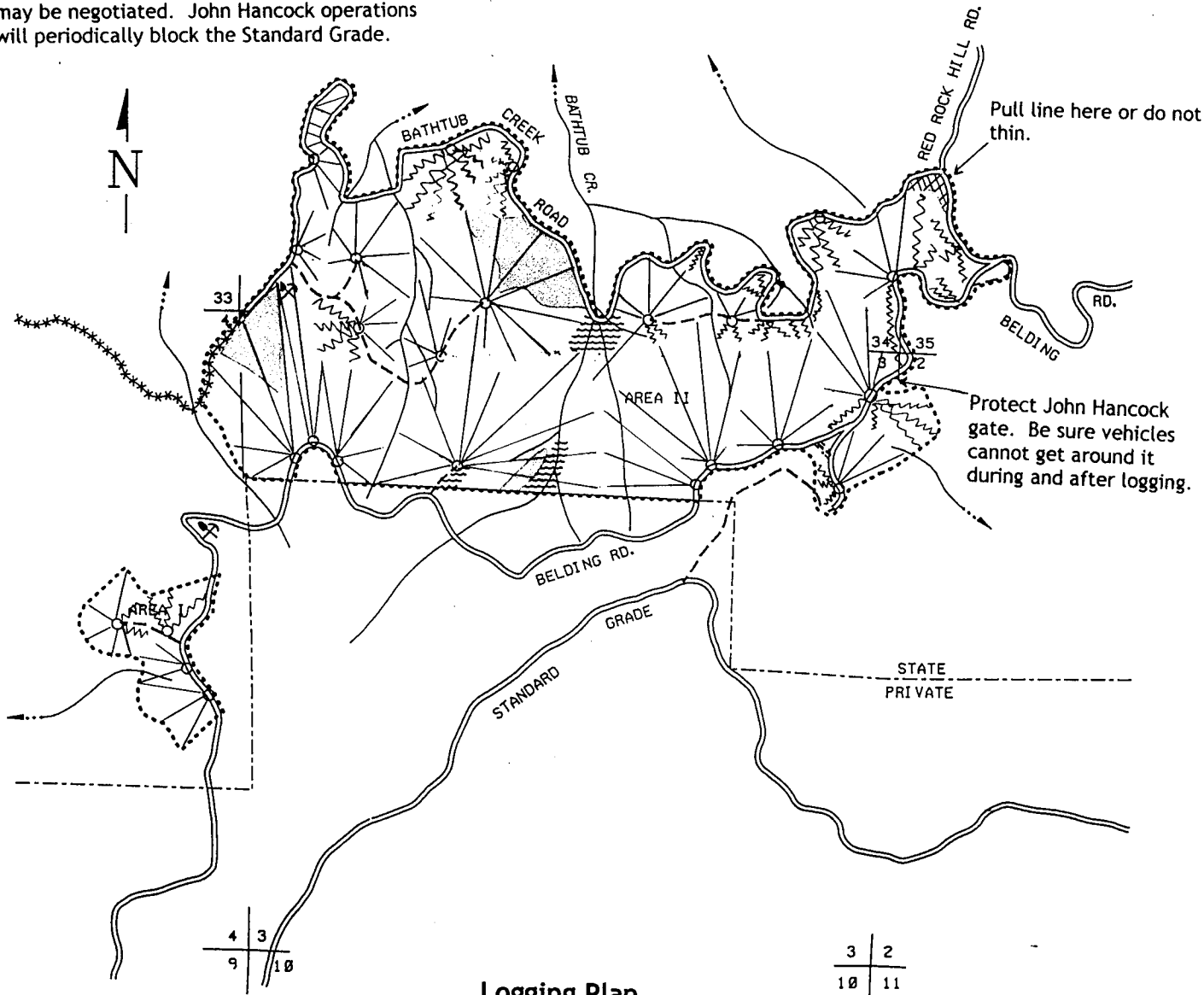
Full suspension is required over Bathtub Creek and one end suspension over the other high risk sites (see written plan).

It is okay to yard through nonthinnable areas.

1600 foot max yarding distance.

Area 1- protect scattered old growth and other large limbed trees posted outside of sale area.

Hauling out the Gilmore Road is almost as far as Standard Grade to Storey Burn Road but may be negotiated. John Hancock operations will periodically block the Standard Grade.



Logging Plan

APPROXIMATE ACREAGE:

AREA I	19 ACRES
AREA II	271 ACRES
AREA III R/W	8 ACRES
TOTAL	298 ACRES

EXHIBIT "A"
 OF TIMBER SALE CONTRACT NO. 341-02-48
 BLUE LAKE SPECIAL
 PORTIONS OF SECTIONS 2, 3, AND 4, T2N, R7W, AND
 PORTIONS OF SECTIONS 34 AND 35, T3N, R7W, W. M.
 TILLAMOOK COUNTY, OREGON

..... TIMBER SALE BOUNDARY

----- Area Boundary

----- Right Of Way Boundary

~~~~~ Stream Buffer

~~~~~ Reforestation Area

~~~~~ Tractor Yarding Permitted

~~~~~ Point For Project Work

~~~~~ Nonthinnable Area

○ Gate

XXXXX Need intermediate supports

XXXXX Line pulling area

STA. 8+00 Survey Station

Known Land Survey Corner

Culvert Location

Snag Corridor

Rock Pit

Type F Stream

Type N Stream

Debris Removal Required (Below Asterisk)

● Pond

===== Surfaced Existing Road

===== Unsurfaced Existing Road

----- Surfaced Road (Const. Required)

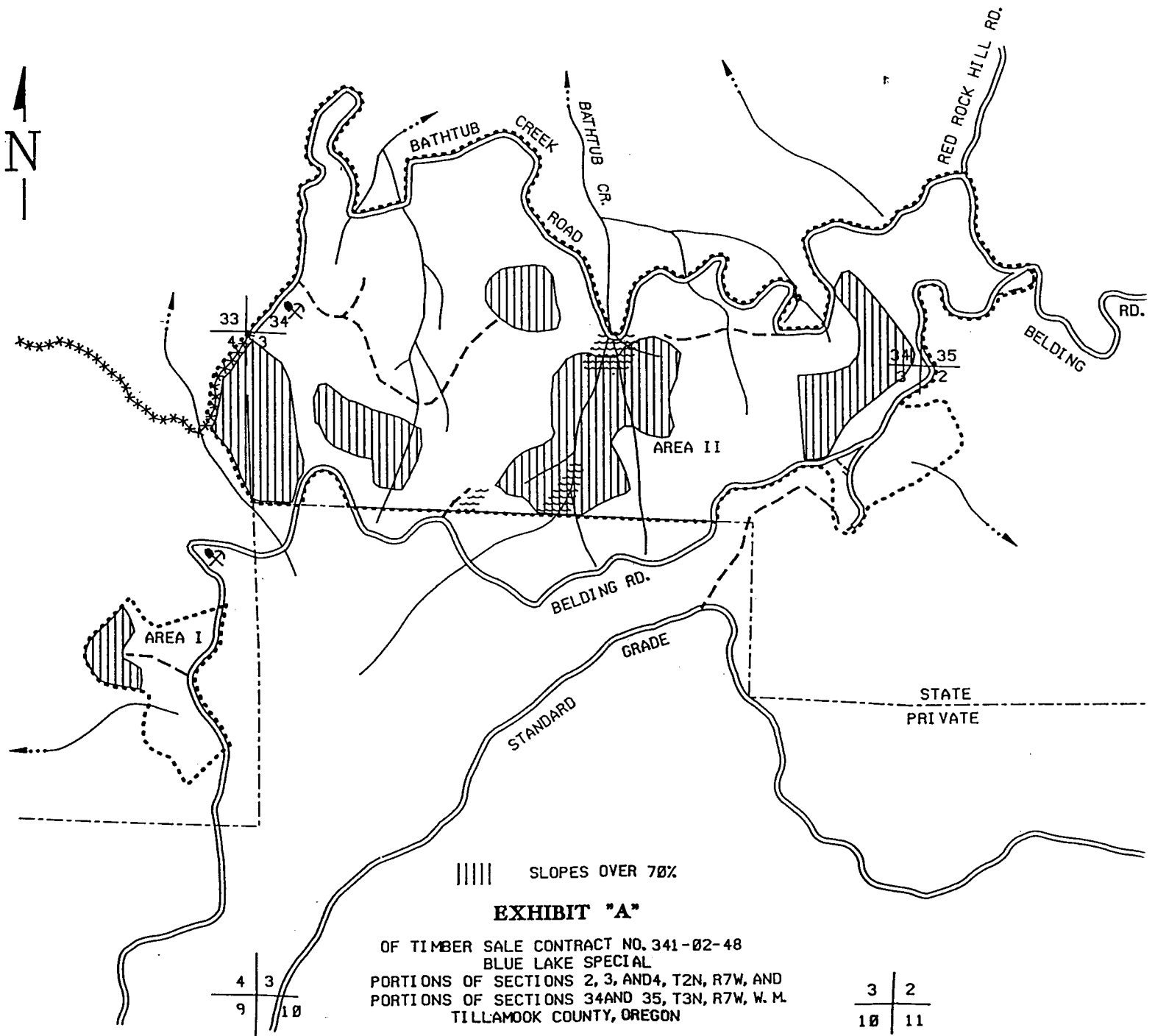
----- Unsurfaced Road (Const. Required)

----- County Road

----- Private Road (Access Not Assured)

----- Existing Road - State Maintained

\*\*\*\*\* Abandoned Road



The location of potential high risk slopes is based on photo interpretation and field reconnaissance. Exact location of the slopes requiring full suspension will be determined in the field.