



"STEWARDSHIP IN FORESTRY"

# **Timber Sale Appraisal Cost Summary Mac PC Sale 341-04-74**

**District: Forest Grove**

**Date: 1/9/04**

	Conifer	Hardwood	Total
<b>Gross Timber Sale Value</b>	\$954,708.74	\$6,914.75	\$961,623.49
		<b>Project Work</b>	(\$192,800.00)
		<b>Advertised Value</b>	\$768,823.49



"STEWARDSHIP IN FORESTRY"

# **Timber Sale Appraisal** **Timber Description** **Mac PC** **Sale 341-04-74**

**District:** Forest Grove

**Location:** Portions of Sections 27 & 28, T4N, R6W  
 McGregor Basin; Clatsop County

**Date:** 1/9/04

**Stand Stocking:** 40%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	15	0	98
Western Hemlock / Fir	14	0	98
Alder (Red)	11	0	97

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Alder (Red)	Total
2S	980	20	0	1,000
3S	1,287	29	11	1,327
4S	303	7	6	316
Total	2,570	56	17	2,643

**Comments:** Pond Values Used: 4th Quarter 2003

118 snags will be created by tree topping @ \$45.00 per tree = \$5,310

Brand & paint @ \$1.00 per MBF = \$2,643

Shovel time to block skid / access roads and pile / sort firewood: 20 hours @ \$110.00 per hour = \$2,200



# Timber Sale Appraisal

## Logging Conditions

### Mac PC

### Sale 341-04-74

"STEWARDSHIP IN FORESTRY"

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**Combination#: 1**

Douglas - Fir	85.00%
Western Hemlock / Fir	85.00%
Alder (Red)	85.00%

**Yarding Distance:** Medium (800 ft)      **Downhill Yarding:** No  
**Logging System:** Cable: Medium Tower >40 - <70      **Process:** Manual Delimbing  
**Tree Size:** Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF  
**Loads/Day:** 9      **Bd. Ft./Load:** 4,000  
**Cost/MBF:** \$92.13  
**Machines:**  
    Log Loader (A)  
    Tower Yarder (Medium)

**Combination#: 2**

Douglas - Fir	15.00%
Western Hemlock / Fir	15.00%
Alder (Red)	15.00%

**Yarding Distance:** Short (400 ft)      **Downhill Yarding:** Yes  
**Logging System:** Shovel      **Process:** Manual Delimbing  
**Tree Size:** Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF  
**Loads/Day:** 11      **Bd. Ft./Load:** 4,000  
**Cost/MBF:** \$52.76  
**Machines:**  
    Shovel Logger



# **Timber Sale Appraisal** **Logging Costs** **Mac PC** **Sale 341-04-74**

"STEWARDSHIP IN FORESTRY"

Date: 1/9/04

Operating Seasons: 2.0

Profit & Risk: 15%

Project Costs: \$192,800

Other Costs (P/R): \$10,153

Slash Disposal: \$0

Other Costs: \$0

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	8.6	0.0

Road Maintenance: \$0.00

## **Hauling Costs**

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



# Timber Sale Appraisal

## Logging Costs Breakdown

### Mac PC

### Sale 341-04-74

"STEWARDSHIP IN FORESTRY"

Costs	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
<b>Logging</b>	86.22	86.22	86.22
<b>Road Maintenance</b>	3.69	3.69	3.72
<b>Fire Protection</b>	2.06	2.06	0.00
<b>Hauling</b>	39.13	44.69	79.18
<b>Other (P/R appl.)</b>	3.87	3.87	0.00
<b>Profit &amp; Risk</b>	20.25	21.08	25.37
<b>Slash Disposal</b>	0.00	0.00	0.00
<b>Scaling</b>	2.00	2.00	2.00
<b>Other</b>	0.00	0.00	0.00
<b>Total</b>	157.22	163.61	196.49

<b>Amortization</b>	0.00	0.00	0.00
<b>Pond Value</b>	524.95	335.80	603.24
<b>Stumpage</b>	367.73	172.19	406.75
<b>Amortized</b>	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

# **Timber Sale Appraisal Summary Mac PC Sale 341-04-74**

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## **Amortized**

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

## **Unamortized**

	<b>Douglas - Fir</b>	<b>Western Hemlock / Fir</b>	<b>Alder (Red)</b>
<b>MBF</b>	2,570.00	56.00	17.00
<b>Value</b>	367.73	172.19	406.75
<b>Total</b>	945,066.10	9,642.64	6,914.75

## **Gross Timber Sale Value**

**Recovery \$961,623.49**

Prepared by: Mark Reed

Date: 1/9/04

District: Forest Grove

Phone: (503) 359-7435

**PROJECT COST SUMMARY SHEET**

Timber Sale: Mac PC

**CONSTRUCTION**

**Project No. 1**

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
A to B	38 + 70	10,118.14
C to D	3 + 70	1231.14
E to F	1 + 85	527.34
G to H	0 + 60	149.02
44 + 85 stations		
0.85 miles		

**SUBTOTAL CONSTRUCTION** \$12,025.63

**IMPROVEMENTS**

**Project No. 2**

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
I to J	205 + 90	2,706.60
J to K	206 + 00	3,554.26
	0 + 00	0.00
411 + 90 stations		
7.80 miles		

**SUBTOTAL IMPROVEMENTS** \$6,260.86

**SURFACING**

**Project No. 3**

<u>Road Segment</u>	<u>Amount</u>	<u>Type</u>	<u>Cost</u>
A to B	2,487 cy	4"-0	22,510.95
C to D	354 cy	4"-0	2,831.07
C to D	41 cy	1-1/2"-0	368.36
E to F	204 cy	4"-0	1,728.43
G to H	134 cy	4"-0	1,134.18
I to J	7,211 cy	1 1/2"-0	81,514.89
J to K	7,126 cy	1 1/2"-0	61,603.66
Total	3,178 cy	4"-0	
	14,378 cy	1 1/2"-0	

**SUBTOTAL SURFACING** \$171,691.54

**SPECIAL PROJECTS**

Project No. 4: Grass Seed and Fertilize \$411.30

**SUBTOTAL SPECIAL PROJECTS** \$411.30

**MOVE IN** \$2,367.90

**TOTAL ALL PROJECTS** \$192,757.23

**TOTAL CREDITS** \$192,800.00

## SUMMARY OF CONSTRUCTION COST

Timber Sale:	<u>Mac PC</u>	Road:	<u>A to B</u>
Construction -	<u>38 + 70</u> stations	Improvement -	<u>0 + 00</u> stations
	<u>0.73</u> miles		<u>0.00</u> miles

### CLEARING AND GRUBBING -

Scattering	4.00	acres @	\$790.00	per acre =	<u>\$3,160.00</u>	
					<b>TOTAL CLEARING AND GRUBBING</b>	<b>\$3,160.00</b>

### EXCAVATION -

Road	38.70	sta @	\$89.64	per sta =	<u>\$3,469.07</u>	
Construct approach	700.00	cy @	\$1.09	per cy =	<u>\$763.00</u>	
Landing	2.00	sta @	\$89.64	per sta =	<u>\$179.28</u>	
Grade and ditch	0.73	mi @	\$774.00	per mi =	<u>\$565.02</u>	
Compact subgrade	0.73	mi @	\$425.00	per mi =	<u>\$310.25</u>	
					<b>TOTAL EXCAVATION</b>	<b>\$5,286.62</b>

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts

124	LF of 18"	\$1,671.52	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>\$1,671.52</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

0	stakes	<u>\$0.00</u>
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**TOTAL CULVERTS                      \$1,671.52**

### SURFACING-

	10 "	deep =	56	cy/sta		
Subgrade	2,167	cy of	4"-0	@	\$9.05	per cy = \$19,614.72
Junction	50	cy of	4"-0	@	\$9.05	per cy = \$452.54
Curve Widening	30	cy of	4"-0	@	\$9.05	per cy = \$271.52
Turnouts	140	cy of	4"-0	@	\$9.05	per cy = \$1,267.10
Landing	100	cy of	4"-0	@	\$9.05	per cy = \$905.07
Total =	2487					<b>TOTAL SURFACING</b>

**\$22,510.95**

### SPECIAL PROJECTS

Grass Seed and Fertilize	2.00	acres @ \$180/acres	\$360.00
			<u>\$0.00</u>
			<u>\$0.00</u>
			<u>\$0.00</u>

**TOTAL SPECIAL PROJECTS                      \$360.00**

**TOTAL COST =                      \$32,989.09**



## SUMMARY OF CONSTRUCTION COST

Timber Sale:	<u>Mac PC</u>	Road:	<u>C to D</u>
Construction -	<u>3+70</u> stations	Improvement -	<u>0+00</u> stations
	<u>0.07</u> miles		<u>0.00</u> miles

### CLEARING AND GRUBBING -

Scattering	0.34	acres @	\$790.00	per acre =	<u>\$268.60</u>	
					<b>TOTAL CLEARING AND GRUBBING</b>	<b>\$268.60</b>

### EXCAVATION -

Road	3.70	sta @	\$89.63	per sta =	\$331.63	
Endhaul and place fill for approach	400.00	cy @	\$1.09	per cy =	\$436.00	
Landing	2.00	sta @	\$55.49	per sta =	\$110.98	
Compact subgrade	0.07	mi @	\$425.00	per mi =	\$29.75	
Grade and ditch	0.07	mi @	\$774.00	per mi =	\$54.18	
					<b>TOTAL EXCAVATION</b>	<b>\$962.54</b>

### 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-

	8 " deep =	44 cy/sta			
Subgrade	163	cy of	4"- 0	@	\$9.05 per cy = \$1,473.46
Traction	41	cy of	1 1/2"- 0	@	\$9.05 per cy = \$368.36
Curve Widening	0	cy of	4"- 0	@	\$9.05 per cy = \$0.00
Turnouts	50	cy of	4"- 0	@	\$9.05 per cy = \$452.54
Landing	100	cy of	4"- 0	@	\$9.05 per cy = \$905.07
Total =	354				<b>TOTAL SURFACING</b>

**\$3,199.43**

### SPECIAL PROJECTS

Grass Seed and Fertilize	0.17	acres @ \$180/acres	\$30.60
			\$0.00
			\$0.00
			\$0.00

**TOTAL SPECIAL PROJECTS \$30.60**

**TOTAL COST = \$4,461.17**

## SUMMARY OF CONSTRUCTION COST

Timber Sale:	<b>Mac PC</b>	Road:	<b>E to F</b>
Construction -	1 + 85 stations	Improvement -	0 + 00 stations
	0.04 miles		0.00 miles

### CLEARING AND GRUBBING -

Scattering	0.17	acres @	\$790.00	per acre =	\$134.30	
					<b>TOTAL CLEARING AND GRUBBING</b>	<b>\$134.30</b>

### EXCAVATION -

Road	1.85	sta @	\$89.63	per sta =	\$165.82	
Landing	2.00	sta @	\$89.63	per sta =	\$179.26	
Compact subgrade	0.04	mi @	\$425.00	per mi =	\$17.00	
Grade, ditch and roll	0.04	mi @	\$774.00	per mi =	\$30.96	
					<b>TOTAL EXCAVATION</b>	<b>\$393.04</b>

### 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				
					<b>TOTAL CULVERTS</b>	<b>\$0.00</b>

### SURFACING-

	10 "	deep =	56 cy/sta			
Subgrade	104	cy of	4"-0	@	\$8.49	per cy = \$879.50
Curve Widening	0	cy of	4"-0	@	\$8.49	per cy = \$0.00
Turnouts	0	cy of	4"-0	@	\$8.49	per cy = \$0.00
Landing	100	cy of	4"-0	@	\$8.49	per cy = \$848.93
Total =	204					<b>TOTAL SURFACING</b>
						<b>\$1,728.43</b>

### SPECIAL PROJECTS

Grass Seed and Fertilize	0.09	acres @	\$180/acres	\$15.30	
				\$0.00	
				\$0.00	
				\$0.00	
				<b>TOTAL SPECIAL PROJECTS</b>	<b>\$15.30</b>

**TOTAL COST = \$2,271.06**

## SUMMARY OF CONSTRUCTION COST

Timber Sale:	<u>Mac PC</u>	Road:	<u>G to H</u>
Construction -	<u>0 + 60</u> stations	Improvement -	<u>0 + 00</u> stations
	<u>0.01</u> miles		<u>0.00</u> miles

### CLEARING AND GRUBBING -

Scattering	0.06	acres @	\$790.00	per acre =	\$47.40	
						TOTAL CLEARING AND GRUBBING
						\$47.40

### EXCAVATION -

Road	0.00	sta @	\$89.63	per sta =	\$0.00	
Landing	1.00	sta @	\$89.63	per sta =	\$89.63	
Compact subgrade	0.01	mi @	\$425.00	per mi =	\$4.25	
Grade, ditch and roll	0.01	mi @	\$774.00	per mi =	\$7.74	
						TOTAL EXCAVATION
						\$101.62

### 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-

	10 "	deep =	56 cy/sta			
Subgrade	34	cy of	4"-0	@	\$8.49	per cy =
Curve Widening	0	cy of	4"-0	@	\$8.49	per cy =
Turnouts	0	cy of	4"-0	@	\$8.49	per cy =
Landing	100	cy of	4"-0	@	\$8.49	per cy =
						\$848.93
Total =	134					TOTAL SURFACING
						\$1,134.18

### SPECIAL PROJECTS

Grass Seed and Fertilize	0.03	acres @	\$180/acres	\$5.40	
				\$0.00	
				\$0.00	
				\$0.00	
					TOTAL SPECIAL PROJECTS
					\$5.40

**TOTAL COST = \$1,288.60**

## SUMMARY OF CONSTRUCTION COST

Timber Sale: Mac PC Road: I to J (McGregor Rd.)

Construction - 0+00 stations  
0.00 miles

Improvement - 205+90 stations  
3.90 miles

### CLEARING AND GRUBBING -

Scattering	0.00	acres @	\$790.00 per acre =	<u>\$0.00</u>	
			TOTAL CLEARING AND GRUBBING		\$0.00

### EXCAVATION -

Grade, ditch and roll	3.90	mi @	\$694.00 per mi =	<u>\$2,706.60</u>	
			TOTAL EXCAVATION		\$2,706.60

### 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-

6 " deep = 33 cy/sta

Subgrade	4,006	cy of	1 1/2"-0	@	\$11.92 per cy =	\$47,735.14
Subgrade	2,789	cy of	1 1/2"-0	@	\$10.44 per cy =	\$29,112.23
Curve Widening	416	cy of	1 1/2"-0	@	\$11.22 per cy =	<u>\$4,667.52</u>
Total =	7211		1 1/2"-0		TOTAL SURFACING	

\$81,514.89

### SPECIAL PROJECTS

	\$0.00
	\$0.00
	\$0.00
	\$0.00

TOTAL SPECIAL PROJECTS \$0.00

**TOTAL COST = \$84,221.49**

## SUMMARY OF CONSTRUCTION COST

Timber Sale:	<b>Mac PC</b>	Road:	<b>J to K</b>
Construction - <u>0+00</u> stations		Improvement - <u>206+00</u> stations	
<u>0.00</u> miles		<u>3.90</u> miles	

### CLEARING AND GRUBBING -

Scattering	0.00	acres @	\$790.00 per acre =	\$0.00	
<b>TOTAL CLEARING AND GRUBBING</b>					<b>\$0.00</b>

### EXCAVATION -

Excavate existing culvert	2	hours @	\$109.79 per hour =	\$219.58	
Grade, ditch and roll	3.90	miles @	\$694.00 per mi =	\$2,706.60	
<b>TOTAL EXCAVATION</b>					<b>\$2,926.18</b>

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts

46	LF of 18"	\$620.08	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>\$620.08</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	<u>\$8.00</u>
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**TOTAL CULVERTS                      \$628.08**

### SURFACING-

	6 "	deep =	33 cy/sta	
Subgrade	3,835	cy of	1 1/2"-0	@      \$9.14 per cy =      \$35,053.85
Subgrade	2,963	cy of	1 1/2"-0	@      \$8.01 per cy =      \$23,722.46
Curve Widening	328	cy of	1 1/2"-0	@      \$8.62 per cy =      \$2,827.36
<b>Total =      7126      cy of      1 1/2"-0</b>				<b>TOTAL SURFACING</b>

**\$61,603.66**

### SPECIAL PROJECTS

	\$0.00	
	\$0.00	
	\$0.00	
	\$0.00	

**TOTAL SPECIAL PROJECTS                      \$0.00**

**TOTAL COST =                      \$65,157.92**

# **ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY**

Timber Sale: Mac PC  
Pit Name: MacGregor Pit

Swell:	<u>1.25</u>	1-1/2"-0 (trk measure)	<u>14,378 cy</u>
Shrinkage:	<u>1.16</u>	4"-0 (trk measure)	<u>cy</u>
Drill Pct.:	<u>100%</u>	Jaw Run (trk measure)	<u>cy</u>
Scalping loss:	<u>10%</u>	Total Truck Yardage	<u>14,378 cy</u>
		Total In Place Yardage	<u>11,502 cy</u>

Drill & Shoot (10% overshoot)	<u>\$2.00 /cy</u>	x	<u>12,780 cy</u>	=	\$25,560.00
Scalp Rock	<u>\$0.53 /cy</u>	x	<u>15,975 cy</u>	=	\$8,466.75
Load, haul scalping	<u>\$1.07 /cy</u>	x	<u>1,598 cy</u>	=	\$1,709.86
Load Crusher	<u>\$0.41 /cy</u>	x	<u>14,378 cy</u>	=	\$5,894.98
Crushing (1-1/2" - 0)	<u>\$2.25 /cy</u>	x	<u>14,378 cy</u>	=	\$32,350.50
Load Dump Truck	<u>\$0.32 /cy</u>	x	<u>14,378 cy</u>	=	\$4,600.96
			Subtotal		<u>\$78,583.05</u>

Move in Crusher	\$2,498.00
Set Up Crusher	\$2,520.00
Move in screening plant	\$387.00
Set Up Screening Plant	\$395.00
Move in Loaders	\$774.00
Move in Drill and Compressor	\$241.00
Move in Dozer	\$533.00
Clean Up Pit	\$260.00
Gradation Tests (\$65/2000 cy)	<u>\$455.00</u>
Subtotal	<u>\$7,608.00</u>
Total	<u><u>\$86,191.05</u></u>

**BASE COST** \$5.99/cy

**TOTAL PRODUCTION COST** \$86,191.05

# **ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY**

Timber Sale: Mac PC  
Pit Name: Homeless

Swell:	<u>1.25</u>	1-1/2"-0 (trk measure)	<u>cy</u>
Shrinkage:	<u>1.16</u>	4"-0 (trk measure)	<u>3,138 cy</u>
Drill Pct.:	<u>100%</u>	Jaw Run (trk measure)	<u>cy</u>
		Total Truck Yardage	<u>3,138 cy</u>
		Total In Place Yardage	<u>2,510 cy</u>

Move in Dozer (in area move)		\$120.00
Scalp & Clear Overburden		<u>\$0.00</u>
	Subtotal	\$120.00

Move in Drill and Compressor		\$241.00
Drill & Shoot	<u>\$2.00 /cy x 2,510 cy</u>	= <u>\$5,020.00</u>
	Subtotal	\$5,261.00

Strip Rock	<u>\$0.00 /cy x 0 cy</u>	= \$0.00
Push Rock	<u>\$0.53 /cy x 3,138 cy</u>	= \$1,663.14
Oversize Reduction	<u>\$4.00 /cy x 314 cy</u>	= \$1,256.00
Move in Loaders (in area move)		\$50.00
Move in Crusher (in area move)		\$750.00
Set Up Crusher		\$1,598.00
Load Crusher	<u>\$0.41 /cy x 3,138 cy</u>	= \$1,286.58
Crushing (4" - 0)	<u>\$2.00 /cy x 3,138 cy</u>	= \$6,276.00
Load Dump Truck	<u>\$0.32 /cy x 3,138 cy</u>	= \$1,004.16
	Subtotal	\$13,883.88

Gradation Tests		\$0.00
Change Gradation		\$0.00
Clean Up Pit		<u>\$0.00</u>
	Subtotal	\$0.00

**BASE COST** \$6.14/cy

**TOTAL PRODUCTION COST** \$19,264.88

## MOVE-IN COST SUMMARY

Timber Sale:

Mac PC

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	0	\$0.00	\$0.00
1	Graders	\$241	\$241.00	\$7.05	0	5	5	\$35.25	\$276.25
0	Loader (1.5 - 2.5 cy)	\$241	\$0.00	\$6.83	0	0	0	\$0.00	\$0.00
0	Loader (3 cy +)	\$387	\$0.00	\$8.15	0	0	0	\$0.00	\$0.00
1	Rollers & Compactors	\$241	\$241.00	\$13.73	0	5	5	\$68.65	\$309.65
1	Excavators	\$533	\$533.00	\$36.60	0	0	0	\$0.00	\$533.00
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	0	0	\$0.00	\$385.00
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
1	Water Truck (3000 gal)	\$144	\$144.00	\$2.76	0	0	0	\$0.00	\$144.00

TOTAL MOVE-IN COSTS = \$2,367.90



## TIMBER SALE SUMMARY

### Mac PC

1. **Type of Sale:** Automark thin, recovery, sealed bid auction.
2. **Revenue Distribution:** 100% BOF, 95% Rehabilitation Obligation, Tax Code 8-01, Clatsop County
3. **Sale Acreage:** Area I is a 63 acre automark thinning (RD 29), and Area II is a 55 acre automark thinning (RD 20). Area III (right-of-way) is estimated to be 3 acres and Area IV (right-of-way) is estimated to be 15 acres. All acreage's were determined by Geographic Information System (GIS).
4. **Volume :**

Species	2 Saw %	3 Saw %	4 Saw %	Volume
Douglas-fir	38	50	12	2,570 MBF
Hemlock & other	36	52	12	56 MBF
Hardwoods		65	35	17 MBF
<b>Total</b>				<b>2,643 MBF</b>

**Cruise Data:** The sale area was variable plot cruised for the Stand Level Inventory (SLI) by IRM contract cruisers. Stand 7185 and a portion of Stand 7190 make up the sale. Stand 7185 was cruised with a 46.95 BAF and Stand 7190 was cruised with a 33.61 BAF and all sampled trees were viewed at DBH. The data from plots within the sale boundary were combined using the SuperAce 98 cruising program. The take, leave and log grades were assigned based on diameter and height measurements provided by the SLI cruise. The take volumes and grades from adjacent timber sales were also compared. The new construction right-of-way volume was calculated using the SuperAce 98 average volume per acre of the two stands sampled. The estimated volume for the McGregor Road right-of-way was determined using the cutout data from two similar daylighting projects.

In both Areas, conifers were cruised to a top diameter of 6 inches inside bark, or 25% of DBH, whichever was larger. Hardwoods were cruised to a top diameter of 8 inches inside bark. Thinning cruise statistics (take trees):

	AREA I	AREA II	COMBINED
CV	40.3	46.9	44.8
SE	10.1	12.5	8.2

6. **Timber Description:** All Areas are medium to well-stocked stands of approximately 58 year old Douglas-fir with small patches of *Phellinus weirii*.

SALE AREA	RD	DOUGLAS-FIR AVG. TAKE DBH	DOUGLAS-FIR AVG. LEAVE DBH
I	29	14	23
II	20	17	24

**7. Topography and Logging Method:** An average of the logging methods within the thinning areas is 90% cable and 10% ground based. Slopes range from 5% to 50%. This contract contains watershed regulations and seasonal operating restrictions to protect water quality. All streams within or adjacent to the sale area have significant buffer zones which provide for streamside protection.

**8. Access:** West on Highway 26 (Sunset Hwy.) to McGregor Road, East on McGregor Road to junction with Music Road.

**9. Projects:**

Project No. 1 consists of constructing 0.9 mile of road costing \$12,025.63.

Project No. 2 consists of improving 7.8 miles of road, costing \$6,260.86.

Project No. 3 consists of surfacing roads and landings with rock, costing \$171,691.54.

Project No. 4 consists of grass seeding and fertilizing areas of disturbed soil, costing \$411.30.

Move in cost: \$2,367.90

Total project credits: \$192,800

**10. Other Costs:**

Create 118 snags by tree topping at \$45.00 per tree = \$5,310.

Brand and paint at \$1.00 per MBF = \$2,643.

Shovel time to block and waterbar skid roads and stack large woody debris for firewood: 20 hours at \$110 per hour = \$2,200.

Total of other costs is \$10,153.

## MAC PC CRUISE REPORT

1. **Acreage Calculation:** The total net acres available for harvest in Area I are 63 and in Area II are 55. The new construction right-of-way (Area III) is estimated to be 3 acres. The daylighting of the McGregor Road right-of-way (Area IV) is estimated to be 15 acres. All acreage's were determined by Geographic Information System (GIS).

2. **Cruise Method:** The sale area was variable plot cruised for the Stand Level Inventory (SLI) by IRM contract cruisers. Stand 7185 and a portion of Stand 7190 make up the sale. Stand 7185 was cruised with a 46.95 BAF and Stand 7190 was cruised with a 33.61 BAF and all sampled trees were viewed at DBH. The data from plots within the sale boundary were combined using the SuperAce 98 cruising program. The take, leave and log grades were assigned based on diameter and height measurements provided by the SLI cruise. The take volumes and grades from adjacent timber sales were also compared. The new construction right-of-way volume was calculated using the SuperAce 98 average volume per acre of the two stands sampled. The estimated volume for the McGregor Road right-of-way was determined using the cutout data from two similar daylighting projects.

3. **Sampling Intensity:**

	AREA I	AREA II	COMBINED
CV	40.3	46.9	44.8
SE	10.1	12.5	8.2
No. of plots	16	14	30

4. **Form Factors:** Form factors were determined from adjacent sales and reconnaissance of the stand.

5. **Height Standards:** The total height of conifers and hardwoods measured 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 calculated in SuperAce 98 to 6 inches and 8 inches, respectively, or 25% DBH inside bark.

9. **Computation Procedures:** Volumes were computed using the SuperACE 98 program.

10. **Cruisers:** The sale area was cruised the summer of 2003 by IRM contract cruisers.

Preparer:

*Mark Reed*

Mark Reed

11/14/03

Date

Unit Forester:

*Erik Marcy*

Erik Marcy

11/14/03

Date

## Mac PC

### Residual Stand Specifications

#### Thinning

##### AREA I

Residual QMD assumption – 23 inches.

Target Relative Density - 29

	Minimum	Target	Maximum
<b>Relative Density</b>	27	29	31
<b>Basal Area</b>	130	140	150
<b>Trees per Acre</b>	45	49	52

##### AREA II

Residual QMD assumption – 24 inches.

Target Relative Density - 20

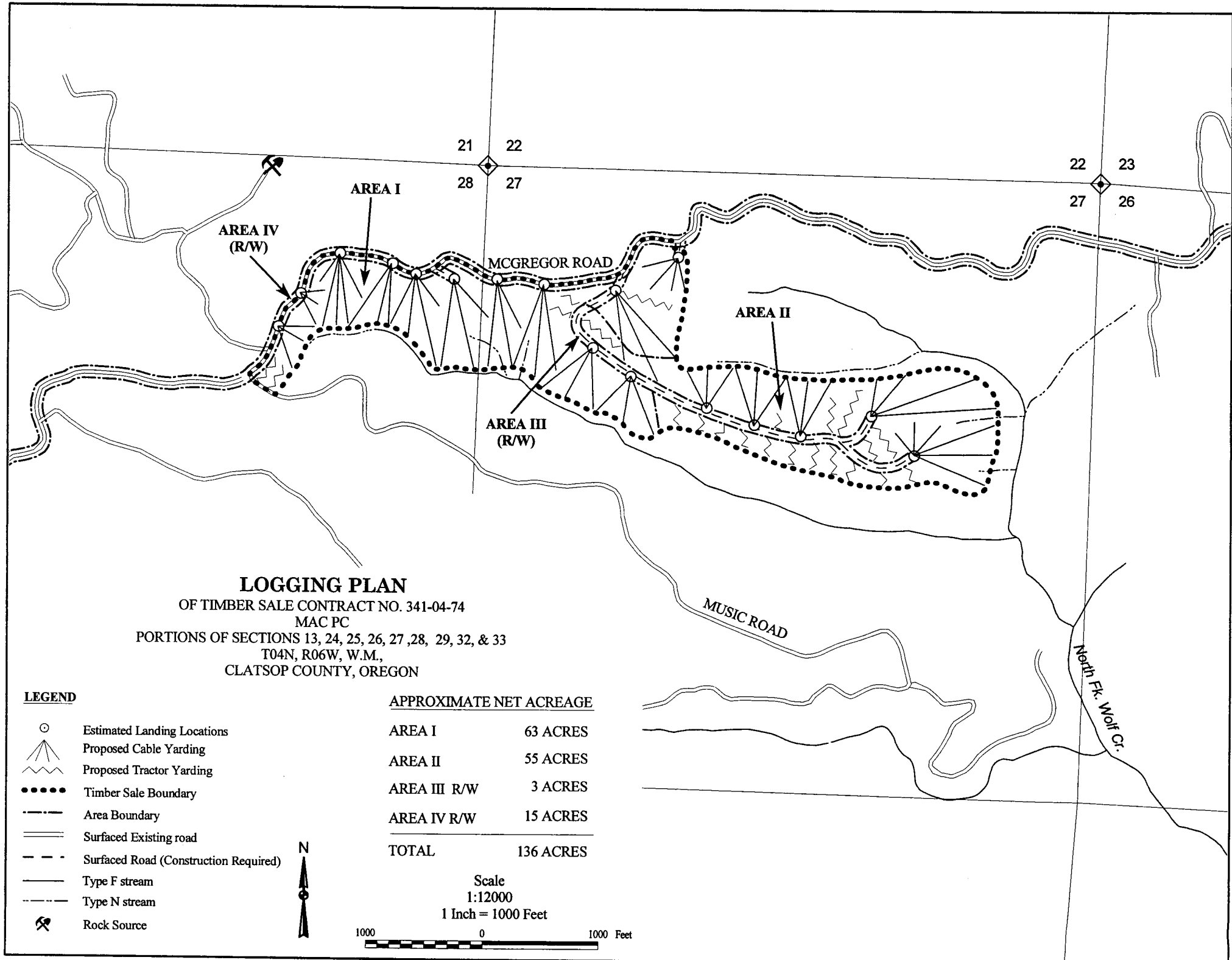
	Minimum	Target	Maximum
<b>Relative Density</b>	18	20	22
<b>Basal Area</b>	90	100	110
<b>Trees per Acre</b>	29	32	35

$RD = BA / (\text{sq. root of DBH})$

$BA = (\text{sq. root of DBH})(RD)$

$BA/Tree = (\pi(r^2))/144 \text{ sq.in.}$

$TPA = (BA/Acre)/(BA/Tree)$



**Written Plan for Mac PC  
Timber Harvesting**

**LEGAL DESCRIPTION:** The Mac PC timber sale and associated right-of-way is located in portions of Sections 13, 24, 25, 26, 27, 28, 29, 32 and 33, T4N, R6W, Clatsop County, Oregon.

**PROTECTED RESOURCE:** One medium Type F stream (North Fork Wolf Creek) in the east ½ of Section 27.

**DESCRIPTION OF THE AREA:** The vegetation along this stream is predominantly Douglas-fir and red alder, 45 to 60 years old. The slopes adjacent to this stream range from 10%-50%.

**PROTECTION MEASURES:** The stream is posted out of the sale a minimum of 50 feet.

No tree cutting will occur within the RMA's other than any such needed to access tailhold trees across the RMA. Trees shall be directionally felled so that they do not fall or slide into the RMA.

100 percent of the original shade and tree canopy over the RMA will be retained.

Section 61, Cable Yarding Specifications and Section 63, Protection of Watershed outline the protection measures for this stream.

Reviewed by:\_\_\_\_\_ Date:\_\_\_\_\_

Erik Marcy, Unit Forester

Prepared by Mark Reed  
11/14/03