Timber Sale Appraisal
Little Elk Thin
Sale WO-341-2019-W00775-01

"STEWARDSHIP IN FORESTRY"

District: West Oregon   **Date: April 10, 2019**

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$238,548.48	$0.00	$238,548.48
		Project Work:	($60,695.00)
		Advertised Value:	$177,853.48

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District: West Oregon　　　　　　　　　**Date: April 10, 2019**

Timber Description

Location: Portions of Sections 13 and 23, T11S, R9W, W.M., Lincoln County Oregon.

Stand Stocking: 40%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	12	0	96

Volume by Grade	2S	3S & 4S 6"-11"	Total
Douglas - Fir	21	1,026	1,047
Total	21	1,026	1,047

Comments:　Pond Values Used: Local Pond Values, October, 2018

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
$100/MBF = $530/MBF - $430/MBF

Red Alder Stumpage Price = Pond Value minus Logging Cost:
$170/MBF = $600.00/MBF - $430/MBF

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost, minus additional haul cost:
$440/MBF = $900/MBF - $460/MBF

PULP (Conifer and Hardwood Price) = $2.50/TON

Other Costs (with Profit & Risk to be added):
Intermediate Support/Tail Trees: 12 supports @ $100/support = $1,200.

TOTAL Other Costs (with Profit & Risk to be added) = $1,200

Other Costs (No Profit & Risk added):
Equipment Cleaning (Invasive Species): $2,000
Water Bar and Block Dirt Roads: 50 stations @ $15.96/station = $798
Landing Slash Piling and sorting out firewood: 16 Landings @ $180/Landing = $2,880
TOTAL Other Costs (No Profit & Risk added) = $5,678

ROAD MAINTENANCE
Move-in: (Grader) $778
Final Road Maintenance: $7,314
TOTAL Road Maintenance: $8,092/1,047MBF = $7.73/MBF

District: West Oregon   **Date: April 10, 2019**

Logging Conditions

Combination#: 1   Douglas - Fir   65.00%

Logging System:	Cable: Small Tower <=40	**Process:** Stroke Delimber
yarding distance:	Medium (800 ft)	**downhill yarding:** No
tree size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF	
loads / day:	4.5	**bd. ft / load:** 3700
cost / mbf:	$336.34	
machines:	Log Loader (A)	
	Stroke Delimber (A)	
	Tower Yarder (Small)	

Combination#: 2   Douglas - Fir   35.00%

Logging System:	Cut To Length	**Process:** Harvester Head Delimbing
yarding distance:	Short (400 ft)	**downhill yarding:** No
tree size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF	
loads / day:	10	**bd. ft / load:** 3700
cost / mbf:	$151.23	
machines:	Harvester	
	Forwarder	

District: West Oregon

Date: April 10, 2019

Logging Costs

Operating Seasons: 3.00	**Profit Risk:** 12%
Project Costs: $60,695.00	**Other Costs (P/R):** $1,200.00
Slash Disposal: $0.00	**Other Costs:** $5,678.00

Miles of Road		**Road Maintenance:**	$7.73

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	3.0	3.9

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District: West Oregon　　　　　　　　**Date: April 10, 2019**

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
$271.55	$8.04	$12.58	$84.45	$1.15	$45.33	$0.00	$2.00	$5.42	$430.52

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$658.36	$227.84	$0.00

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District: West Oregon   **Date: April 10, 2019**

Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	$0.00	$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	1,047	$227.84	$238,548.48

Gross Timber Sale Value

Recovery: $238,548.48

Prepared By: Jon Long   **Phone:** 541-929-3266

SUMMARY OF ALL PROJECT COSTS

Sale Name: Little Elk Thin

Date: December 2018
Time: 14:05

Project #1 - New Construction

Road Segment	Length	Cost		
A to B (dirt)	3.8 sta	$2,010		
C to D (surfaced/dirt)	15.0 sta	$9,819		
E to F (surfaced)	5.2 sta	$3,845		
G to H (surfaced)	3.0 sta	$2,469		
I to J (dirt)	6.5 sta	$2,927		
K to L (dirt)	5.1 sta	$2,039		
TOTALS	38.6 sta	0.7 Miles		$23,109

Project #2 - Road Improvement

Road Segment	Length	Cost		
1 to 2 (Miller Creek Rd.)	51.8 sta	$4,913		
3 to 4	2.0 sta	$1,177		
5 to 6	2.1 sta	$1,182		
7 to 8 (Baber Ridge Rd.)	98.6 sta	$5,788		
8 to 9	23.2 sta	$7,046		
10 to G	4.1 sta	$387		
11 to 12 (Salmon Forks Rd.)	58.1 sta	$4,014		
13 to 14	7.3 sta	$931		
15 to K (dirt)	17.9 sta	$276		
TOTALS	265.1 sta	5.0 Miles		$25,714

Project #3 - Brushing	5.4 Miles		$6,344

Project #4 - Move in

	Cost	
Road brusher	$778	
Excavator, C325 or equv.	$1,290	
Dozer, D-7 or equiv.	$805	
Grader, G14 or equiv.	$778	
Backhoe	$321	
Front end loader	$778	
Vibratory roller	$778	
TOTAL		$5,528

GRAND TOTAL $60,695

Compiled by   J. Long

Date   12/06/2018

SUMMARY OF CONSTRUCTION COST

SALE   Little Elk Thin   Project # 1(b)   LENGTH improve   3.8 sta
ROAD   A to B (dirt)   Unsurfaced, outsloped

CLEARING AND GRUBBING

    0.3 acres   @ $1,337.00 /acre   = $401

                         TOTAL CLEARING AND GRUBBING = $401

EXCAVATION	With D7 dozer or equivalent				
Construct road	3.8 sta	@	$190.00 /sta	=	$722
Landing Construction	2 Ldg	@	$389.00 /Ldg	=	$778
Shape/outslope subgrade (with road grader)	3.8 sta	@	$ 15.40 /sta	=	$59
Compact subgrade (with vibratory roller)	3.8 sta	@	$ 13.20 /sta	=	$50

                         TOTAL EXCAVATION = $1,609

Compiled by: J.Long
Date: Dec 6, 2018   **GRAND TOTAL =====>**   **$2,010**

SUMMARY OF CONSTRUCTION COST

SALE   Little Elk Thin   Project # 1(a)   LENGTH improve   15.0 sta
ROAD   C to D (surfaced/dirt)

CLEARING AND GRUBBING

1.0 acres	@	$1,337.00 /acre		=	$1,337

TOTAL CLEARING AND GRUBBING = $1,337

EXCAVATION   With D7 dozer or equivalent

Construct road	15.0 sta	@	$122.00 /sta	=	$1,830
Landing Construction	2 Ldgs	@	$389.00 /Ldg	=	$778
Shape subgrade (with road grader)	15.0 sta	@	$ 15.40 /sta	=	$231
Compact subgrade (with vibratory roller)	15.0 sta	@	$ 13.20 /sta	=	$198

TOTAL EXCAVATION = $3,037

SURFACING

			Size	Cost/yd		
Junction rock	20	cy of	jaw-run	$21.68	=	$434
Junction rock	10	cy of	1 1/2" - 0"	$2.69	=	$27
Turnaround rock (sta. 3+00)	20	cy of	jaw-run	$21.68	=	$434
Base rock (3.8 Stations)	163	cy of	jaw-run	$21.68	=	$3,534
Landing rock (sta. 3+80)	40	cy of	jaw-run	$21.68	=	$867
Spread/compact rock (with dozer)	1.0 hr.	@	$149.00 /hr		=	$149

TOTAL ROCK COST = $5,445

Compiled by: J. Long
Date: Dec 6, 2018   **GRAND TOTAL =====>**   **$9,819**

SUMMARY OF CONSTRUCTION COST

SALE Little Elk Thin   Project #   1(a)   LENGTH improve   5.2 sta
ROAD E to F (surfaced)   surfaced, outsloped

CLEARING AND GRUBBING

0.4 acres   @ $1,337.00 /acre   = $535

TOTAL CLEARING AND GRUBBING = $535

EXCAVATION   With D7 dozer or equivalent

Construct road	5.2 sta	@	$190.00	/sta	=	$988
Landing Construction	1 Ldg	@	$389.00	/Ldg	=	$389
Shape/outslope subgrade (with road grader)	5.2 sta	@	$ 15.40	/sta	=	$80
Compact subgrade (with vibratory roller)	5.2 sta	@	$ 13.20	/sta	=	$69

TOTAL EXCAVATION = $1,526

SURFACING   Size   Cost/yd

Base rock (5.2 Stations)	224 cy of	3"-0"	$5.37	=	$1,203
Turnout	20 cy of	3"-0"	$5.37	=	$107
Turnaround	20 cy of	3"-0"	$5.37	=	$107
Landing rock (Pt. F)	40 cy of	3"-0"	$5.37	=	$215
Spread/compact rock (with vibratory roller)	5.2 sta @	$ 29.20 /sta	=	$152

TOTAL ROCK COST = $1,784

Compiled by: J.Long
Date: Dec 6, 2018   **GRAND TOTAL =====>**   **$3,845**

SUMMARY OF CONSTRUCTION COST

SALE   Little Elk Thin   Project #   1(a)   LENGTH   improve   3.0 sta
ROAD   G to H (surfaced)   surfaced, outsloped

CLEARING AND GRUBBING

      0.2 acres   @ $1,337.00 /acre   = $267

                                       TOTAL CLEARING AND GRUBBING = $267

EXCAVATION   With D7 dozer or equivalent

Construct road	3.0 sta	@	$190.00 /sta	=	$570
Landing Construction	1 Ldgs	@	$389.00 /Ldg	=	$389
Shape subgrade	3.0 sta	@	$ 15.40 /sta	=	$46
(with road grader)					
Compact subgrade	3.0 sta	@	$ 13.20 /sta	=	$40
(with vibratory roller)					

                                            TOTAL EXCAVATION = $1,045

SURFACING

			Size	Cost/yd		
Base rock (5.2 Stations)	129	cy of	3"-0"	$5.37	=	$693
Turnout/Turnaround	30	cy of	3"-0"	$5.37	=	$161
Landing rock (Pt. G)	40	cy of	3"-0"	$5.37	=	$215
Spread/compact rock	3.0 sta	@	$ 29.20 /sta		=	$88
(with vibratory roller)						

                                            TOTAL ROCK COST = $1,157

Compiled by: J. Long
Date: Dec 6, 2018   **GRAND TOTAL ====>**   **$2,469**

SUMMARY OF CONSTRUCTION COST

SALE   Little Elk Thin   Project #   1(b)   LENGTH improve   6.5 sta
ROAD   I to J (dirt)   Unsurfaced, outsloped

CLEARING AND GRUBBING

    0.5 acres   @ $1,337.00 /acre   = $669

                                    TOTAL CLEARING AND GRUBBING = $669

EXCAVATION   With D7 dozer or equivalent

Construct road	6.5 sta	@	$190.00 /sta	=	$1,235
Import fill material	80 cy.	@	$5.00 /cy.	=	$400
(Sta. 0+00 to 1+00)					
Fill compation	80 cy.	@	$0.60 /cy.	=	$48
Landing construction	1 Ldg	@	$389.00 /Ldg	=	$389
Shape/outslope subgrade	6.5 sta	@	$ 15.40 /sta	=	$100
(with road grader)					
Compact subgrade	6.5 sta	@	$ 13.20 /sta	=	$86
(with vibratory roller)					

                                      TOTAL EXCAVATION = $2,258

Compiled by: J.Long
Date: Dec 6, 2018   **GRAND TOTAL =====>**   **$2,927**

SUMMARY OF CONSTRUCTION COST

SALE   Little Elk Thin   Project # 1(b)   LENGTH improve   5.1 sta
ROAD   K to L (dirt)   Unsurfaced, outsloped

CLEARING AND GRUBBING

0.4 acres	@	$1,337.00 /acre	=	$535

TOTAL CLEARING AND GRUBBING = $535

EXCAVATION   With D7 dozer or equivalent

Construct road	5.1 sta	@	$190.00 /sta	=	$969
Landing Construction	1 Ldg	@	$389.00 /Ldg	=	$389
Shape/outslope subgrade (with road grader)	5.1 sta	@	$ 15.40 /sta	=	$79
Compact subgrade (with vibratory roller)	5.1 sta	@	$ 13.20 /sta	=	$67

TOTAL EXCAVATION = $1,504

Compiled by: J.Long
Date: Dec 6, 2018   **GRAND TOTAL =====>**   **$2,039**

SUMMARY OF CONSTRUCTION COST

SALE   Little Elk Thin   Project #   2   LENGTH   improve   51.8 sta
ROAD   1 to 2 (Miller Creek Rd.)   Surfaced, outsloped

IMPROVEMENT

Remove sod (with road grader)	51.8 sta	@	$ 15.40	/sta	=	$798
Slough removal (0+00 to 44+30)	2.0 hr	@	$140.00	/hr	=	$280
Haul to sta. 44+30 (W2)	40 cy	@	$4.00	/cy	=	$160
Construct Landing (Sta. 44+30)	1 Ldg	@	$324.00	/Ldg	=	$324

TOTAL IMPROVEMENT = $1,562

SURFACING

			Size	Cost/yd		
Turnout rock (3)	30	cy of	1½-0"	$2.69	=	$81
Spot rock	250	cy of	1½-0"	$2.69	=	$673
Landings (1)	50	cy of	Jaw-Run	$21.68	=	$1,084
Grade/process	51.8 sta	@	$ 16.00	/sta	=	$829
Compact surface rock (with vibratory roller)	51.8 sta	@	$ 13.20	/sta	=	$684

TOTAL ROCK COST = $3,351

Compiled by: J. Long
Date: Dec 6, 2018   **GRAND TOTAL =====> $4,913**

SUMMARY OF CONSTRUCTION COST

| SALE | Little Elk Thin | | | Project # 2 | | | LENGTH improve | | 2.0 sta |
| ROAD | 3 to 4 | | | | | | Surfaced, outsloped | | |

IMPROVEMENT

Remove sod (with road grader)	2.0 sta	@	$ 15.40	/sta	=	$31	
Clear Landing (with excavator)	1.0 hr	@	$140.00	/hr	=	$140	
					TOTAL IMPROVEMENT =		$171

SURFACING

			Size	Cost/yd			
Spot rock	20	cy of	1 1/2"	$2.69	=	$54
Junction rock	10	cy of	1 1/2"	$2.69	=	$27
Landing rock	40	cy of	Jaw Run	$21.68	=	$867
Grade/process	2.0 sta	@	$ 16.00	/sta	=	$32
Compact surface rock (with vibratory roller)	2.0 sta	@	$ 13.20	/sta	=	$26
				TOTAL ROCK COST =		$1,006

| Compiled by: | J. Long | | |
| Date: | Dec 6, 2018 | **GRAND TOTAL =====>** | **$1,177** |

SUMMARY OF CONSTRUCTION COST

| SALE | Little Elk Thin | | Project # | 2 | LENGTH | improve | | 2.1 sta |
| ROAD | 5 to 6 | | | | Surfaced, outsloped | | | |

IMPROVEMENT

Remove sod (with road grader)	2.1 sta	@	$ 15.40	/sta	=	$32		
Clear Landing (with excavator)	1.0 hr	@	$140.00	/hr	=	$140		
					TOTAL IMPROVEMENT =		$172	

SURFACING

			Size	Cost/yd			
Spot rock	20 cy of		1 1/2"	$2.69	=	$54	
Junction rock	10 cy of		1 1/2"	$2.69	=	$27	
Landing rock	40 cy of		Jaw Run	$21.68	=	$867	
Grade/process	2.1 sta	@	$ 16.00	/sta	=	$34	
Compact surface rock (with vibratory roller)	2.1 sta	@	$ 13.20	/sta	=	$28	

TOTAL ROCK COST = $1,010

| Compiled by: | J. Long | |
| Date: | Dec 6, 2018 | **GRAND TOTAL =====>**   **$1,182** |

SUMMARY OF CONSTRUCTION COST

SALE	Little Elk Thin	Project # 2	LENGTH improve		98.6 sta
ROAD	7 to 8 (Baber Ridge Rd.)		Surfaced, ditched		

Remove sod	98.6 sta	@	$ 15.40 /sta	=	$1,518	
(with road grader)						
			TOTAL IMPROVEMENT =		$1,518	

SURFACING

			Size	Cost/yd		
Spot rock	180	cy of	1½-0"	$4.53	=	$815
Turnouts (4)	40	cy of	1½-0"	$4.53	=	$181
Grade/process	98.6 sta	@	$20.00 /sta		=	$1,972
Compact surface rock	98.6 sta	@	$ 13.20 /sta		=	$1,302
(with vibratory roller)						
			TOTAL ROCK COST =			$4,270

Date:	Dec 6, 2018	**GRAND TOTAL =====>**	**$5,788**

SUMMARY OF CONSTRUCTION COST

SALE	Little Elk Thin		Project # 2		LENGTH improve		23.2 sta
ROAD	8 to 9				Surfaced, outsloped		

Remove sod (with road grader)	23.2 sta	@	$ 15.40 /sta	=	$357	
			SUBGRADE PREP COST =			$357

Culvert Replacement
Sta. 16+10

24"x50' CPP	50 ft	@	$18.73 /ft =	$937	
Replace pipe and reconstruct fill w/C230 excavator	7 hr	@	$140.00 /hr =	$980	
Haul away waste material (W1)	3 hr	@	$79.00 /hr =	$237	
Import fill material	60 cy	@	$5.00 /cy=	$300	
Armor inlet and outlet	2 hr	@	$140.00 /hr =	$280	
Install dissipator	1 hr	@	$140.00 /hr =	$140	
Old culvert disposal			=	$150	
			TOTAL FILL REPLACEMENT COST =		$3,024
			TOTAL IMPROVEMENT =		$3,381

ROCK			Size	Cost/yd		
2" lift	255 cy of		1½-0"	$4.53	=	$1,155
Turnout (1)	10 cy of		1½-0"	$4.53	=	$45
Junctions (2)	20 cy of		1½-0"	$4.53	=	$91
Culvert bedding and backfill	30 cy of		1½-0"	$4.53	=	$136
Dissipator	10 cy of		24"-6"	$26.01	=	$260
Fill Armor	40 cy of		jaw-run	$21.68	=	$867
Fill Surface/Base Rock	20 cy of		jaw-run	$21.68	=	$434
Grade surface rock	23.2 sta	@	$ 16.00 /sta	=	$371
Compact surface rock (with vibratory roller)	23.2 sta	@	$ 13.20 /sta	=	$306
			TOTAL ROCK COST =		$3,665

Compiled by:	J. Long			
Date:	Dec 6, 2018		**GRAND TOTAL =====>**	**$7,046**

SUMMARY OF CONSTRUCTION COST

SALE	Little Elk Thin		Project # 2		LENGTH improve		4.1 sta
ROAD	10 to G				Surfaced, outsloped		

Remove sod   4.1 sta   @ $ 15.40 /sta   = $63
(with road grader)

SUBGRADE PREP COST = $63

SURFACING   Size   Cost/yd
2" lift   45 cy of   1½-0" $4.53   = $204
Grade surface rock   4.1 sta   @ $ 16.00 /sta   = $66
Compact surface rock 4.1 sta   @ $ 13.20 /sta   = $54
(with vibratory roller)

TOTAL ROCK COST = $324

Compiled by: J. Long
Date: Dec 6, 2018   **GRAND TOTAL =====>**   **$387**

SUMMARY OF CONSTRUCTION COST

| SALE | Little Elk Thin | | Project # | 2 | | LENGTH | improve | | 58.1 sta |
| ROAD | 11 to 12 (Salmon Forks Rd.) | | | | | Surfaced, ditch | | | |

| Remove sod (with road grader) | 58.1 sta | @ | $ 15.40 /sta | = | $895 |
| Clear Landing (with excavator) | 1.5 hr | @ | $140.00 /hr | = | $210 |

TOTAL IMPROVEMENT = $1,105

SURFACING

				Size	Cost/yd		
Turnouts (3)		30	cy of	1½-0"	$4.53	=	$136
Junctions (3)		30	cy of	1½-0"	$4.53	=	$136
Spot rock		160	cy of	1½-0"	$4.53	=	$725
Landing rock		40	cy of	3"-0"	$5.37	=	$215
Grade surface rock	58.1 sta	@	$ 16.00 /sta			=	$930
Compact surface rock (with vibratory roller)	58.1 sta	@	$ 13.20 /sta			=	$767

TOTAL ROCK COST = $2,909

Compiled by: J. Long
Date: Dec 6, 2018   **GRAND TOTAL =====> $4,014**

SUMMARY OF CONSTRUCTION COST

SALE	Little Elk Thin		Project # 2		LENGTH improve			7.3 sta
ROAD	13 to 14				Surfaced, outsloped			

Remove sod (with road grader)	7.3 sta	@	$ 15.40	/sta	=	$112
Clear Landing (with excavator)	1.5 hr	@	$140.00	/hr	=	$210

TOTAL IMPROVEMENT = $322

SURFACING

			Size	Cost/yd		
Spot rock	40 cy of		1½-0"	$4.53	=	$181
Landing rock	40 cy of		3"-0"	$5.37	=	$215
Grade surface rock	7.3 sta	@	$ 16.00	/sta	=	$117
Compact surface rock (with vibratory roller)	7.3 sta	@	$ 13.20	/sta	=	$96

TOTAL ROCK COST = $609

Compiled by: J. Long

Date: Dec 6, 2018

GRAND TOTAL =====> $931

SUMMARY OF CONSTRUCTION COST

SALE	Little Elk Thin		Project # 2	LENGTH improve		17.9 sta
ROAD	15 to K (dirt)			Unsurfaced, outsloped		

Grade/outslope road   17.9 sta   @ $ 15.40 /sta   = $276
(with road grader)

TOTAL IMPROVEMENT = $276

Compiled by: J. Long
Date: Dec 6, 2018   **GRAND TOTAL =====> $276**

Project No. 3

Mechanical Brushing Costs

Date: 10/25/18

Road Segment/ Point	Road Name	Length (feet)	Miles	Brush Density	Cost / Mile	Segment Cost
1 to 2	Miller Creek	5,180	0.98	Light	$850.00	$833
3 to 4		200	0.04	Light	$850.00	$34
5 to 6		210	0.04	Light	$850.00	$34
7 to 8	Baber Ridge	9,860	1.87	Medium	$1,100.00	$2,057
8 to 9		2,320	0.44	Medium	$1,100.00	$484
10 to G		410	0.08	Light	$850.00	$68
11 to 12	Salmon Forks	5,810	1.10	Heavy	$1,550.00	$1,705
13 to 14		730	0.14	Light	$850.00	$119
15 to K		1,790	0.34	Medium	$1,100.00	$374
16 to 17		1,120	0.21	Heavy	$1,550.00	$326
18 to 19		1,030	0.20	Heavy	$1,550.00	$310
Totals		**28,660**	**5.44**			**$6,344**

SUMMARY OF MAINTENANCE COST

SALE   Little Elk Thin   - Final Maintenance Cost Estimate

(Costed in appraisal, not in project costs)

Grading   Move-in

	Grader		$ 778	

Road Segment	Length	Cost/Sta	Cost	Mileage
Deer Creek Rd	114.0	$15.40	$1,755.60	2.16
Baber Ridge Rd	83.0	$15.40	$1,278.20	1.57
Salmon Creek Rd	23.0	$15.40	$354.20	0.44
1 to 2	51.8	$15.40	$797.72	0.98
3 to 4	2.0	$15.40	$30.80	0.04
5 to 6	2.1	$15.40	$32.34	0.04
11 to 8	24.6	$15.40	$378.84	0.47
8 to 9	23.2	$15.40	$357.28	0.44
E to F	5.2	$15.40	$80.08	0.10
10 to G	4.1	$15.40	$63.14	0.08
G to H	3.0	$15.40	$46.20	0.06
11 to 12	58.1	$15.40	$894.74	1.10
13 to 14	7.3	$15.40	$112.42	0.14
Total	401.4		$6,181.56	7.62

Maintenance Rock:

	Volume	Cost/CY	Cost
1½-0"	250	$4.53	$1,132.50

Grand Total $ 8,092.06

MBF   1,047

Cost / MBF = $7.73

NOTES:

Rock source: State owned stockpiles - S1, S2 and S3 shown on Exhibit A
3"-0" rock may be substituted for 1 1/2"-0" where needed.

A minimum of 40 CY spot rock required for wear replacement on Weyco roads
as a provision of road use permit (Section 2130 - Road Maintenance).

Rock Haul Cost Computation

SALE NAME: Little Elk Thin   DATE: Dec 6, 2018
ROAD NAME: Stromboulder Rd.   CLASS: Medium
ROCK SOURCE: Richard Rock Quarry   10CY truck
Route: Hwy. 20 to Salmon Crk. Rd.
Jaw-Run rock
C to D and Landings
TIME Computation:
Road speed time factors:

1.	55 MPH	10.0	MRT	10.9	minutes
2.	50 MPH	10.0	MRT	12.0	minutes
3.	45 MPH	9.0	MRT	12.0	minutes
4.	40 MPH		MRT	0.0	minutes
5.	35 MPH	8.0	MRT	13.7	minutes
6.	30 MPH		MRT	0.0	minutes
7.	25 MPH	1.0	MRT	2.4	minutes
8.	20 MPH	0.0	MRT	0.0	minutes
9.	15 MPH	2.0	MRT	8.0	minutes
10.	10 MPH	1.0	MRT	6.0	minutes
11.	05 MPH	0.4	MRT	4.8	minutes

Dump or spread time per RT   0.50 minutes
   Total hauling cycle time for this setting
   (100% efficiency)   70.30 minutes

Operator efficiency correction   0.85   82.71 minutes
Job efficiency correction   0.90   91.90 minutes

Truck capacity (CY)   10.00   9.19 min/CY
Loading time, delay time per CY   0.50 min/CY
TIME (minutes) per cubic yard   9.69 min/CY

COST per CY computation
   Cost of truck and operator per hour $83.00 /hr.
   Cost of truck and operator per minute $1.38 /min

Cost per CY $13.37 /CY

Spread and compact   Water truck, Grader & Roller $1.50 /CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing	Cost Delivered with processing
1½ – 0"	$ 10.97	$24.34	$25.84
3 – 0"	$ 9.31	$22.68	$24.18
Jaw Run	$ 8.31	$21.68	$23.18
Pit-Run	7.65	$21.02	$22.52
6-8 open	12.64	$26.01	$27.51

Note: Rock costs from Rickard Rock Quarry – 4/1/17.

Rock Haul Cost Computation

SALE NAME: Little Elk Thin   DATE: Dec 6, 2018
ROAD NAME: Miller Creek Road   CLASS: Medium
ROCK SOURCE: Salmon Creek Stockpile   10 CY truck
Route: Salmon Creek Road

C to D
E to F
TIME Computation:
Road speed time factors:

1.	55 MPH		MRT	0.0	minutes
2.	50 MPH		MRT	0.0	minutes
3.	45 MPH		MRT	0.0	minutes
4.	40 MPH		MRT	0.0	minutes
5.	35 MPH		MRT	0.0	minutes
6.	30 MPH		MRT	0.0	minutes
7.	25 MPH		MRT	0.0	minutes
8.	20 MPH		MRT	0.0	minutes
9.	15 MPH	1.0	MRT	4.0	minutes
10.	10 MPH	0.5	MRT	3.0	minutes
11.	05 MPH	0.3	MRT	3.6	minutes

Dump or spread time per RT   0.50   minutes
   Total hauling cycle time for this setting
   (100% efficiency)   11.10   minutes

Operator efficiency correction   0.85   13.06   minutes
Job efficiency correction   0.90   14.51   minutes

Truck capacity (CY)   10.00   1.45   min/CY
Loading time, delay time per CY   0.50   min/CY
TIME (minutes) per cubic yard   1.95   min/CY

COST per CY computation
   Cost of truck and operator per hour $83.00   /hr.
   Cost of truck and operator per minute $1.38   /min

Cost per CY $2.69   /CY

Spread and compact   Water truck, Grader & Roller $1.50   /CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing	Cost Delivered with processing
1½ – 0"	$ –	$2.69	$4.19
3 – 0"	$ 9.31	$12.00	$13.50
Jaw Run	$ 8.31	$11.00	$12.50
Pit-Run	7.65	$10.34	$11.84

Rock Haul Cost Computation

SALE NAME: Little Elk Thin   DATE: Dec 6, 2018
ROAD NAME: 7-8, 8-9, 10-G, 11-12, 13-14   CLASS: Medium
ROCK SOURCE: Deer Ridge Stockpile 1 1/2" rock   10 CY truck
Route: Baber Ridge Road

TIME Computation:
Road speed time factors:

1.	55 MPH		MRT	0.0	minutes
2.	50 MPH		MRT	0.0	minutes
3.	45 MPH		MRT	0.0	minutes
4.	40 MPH		MRT	0.0	minutes
5.	35 MPH		MRT	0.0	minutes
6.	30 MPH		MRT	0.0	minutes
7.	25 MPH	1.0	MRT	2.4	minutes
8.	20 MPH	2.0	MRT	6.0	minutes
9.	15 MPH	1.0	MRT	4.0	minutes
10.	10 MPH	0.6	MRT	3.6	minutes
11.	05 MPH	0.4	MRT	4.8	minutes

Dump or spread time per RT   0.50   minutes
   Total hauling cycle time for this setting
   (100% efficiency)   21.30   minutes

Operator efficiency correction   0.85   25.06   minutes
Job efficiency correction   0.90   27.84   minutes

Truck capacity (CY)   10.00   2.78   min/CY
Loading time, delay time per CY   0.50   min/CY
TIME (minutes) per cubic yard   3.28   min/CY

COST per CY computation
   Cost of truck and operator per hour $83.00 /hr.
   Cost of truck and operator per minute $1.38 /min

Cost per CY $4.53 /CY

Spread and compact   Water truck, Grader & Roller $1.50 /CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing	Cost Delivered with processing
1½ – 0"	$ –	$4.53	$6.03
3 – 0"	$ –	$4.53	$6.03
Jaw Run	$ –	$4.53	$6.03
Pit-Run	$ –	$4.53	$6.03

Note: 1 1/2"-0" stockiple

Rock Haul Cost Computation

```
SALE NAME:  Little Elk Thin                  DATE:     Dec 6, 2018
ROAD NAME:  Maintenance Rock                 CLASS:  Medium
ROCK SOURCE: Salmon Ck 3" Stockpile (100 cy)    10 CY truck
Route:      Salmon Creek Road
```

TIME Computation:
Road speed time factors:

1.	55 MPH		MRT	0.0	minutes
2.	50 MPH		MRT	0.0	minutes
3.	45 MPH		MRT	0.0	minutes
4.	40 MPH		MRT	0.0	minutes
5.	35 MPH		MRT	0.0	minutes
6.	30 MPH		MRT	0.0	minutes
7.	25 MPH	0.0	MRT	0.0	minutes
8.	20 MPH	2.0	MRT	6.0	minutes
9.	15 MPH	1.0	MRT	4.0	minutes
10.	10 MPH	0.5	MRT	3.0	minutes
11.	05 MPH	0.3	MRT	3.6	minutes

```
Dump or spread time per RT                        0.50  minutes
   Total hauling cycle time for this setting
   (100% efficiency)                             17.10  minutes

Operator efficiency correction    0.85           20.12  minutes
Job efficiency correction         0.90           22.36  minutes

Truck capacity (CY)               10.00           2.24  min/CY
Loading time, delay time per CY                   0.50  min/CY
TIME (minutes) per cubic yard                     2.74  min/CY

COST per CY computation
   Cost of truck and operator per hour          $83.00  /hr.
   Cost of truck and operator per minute         $1.38  /min

Cost per CY                                       $3.78  /CY

Spread and compact    Water truck, Grader & Roller   $1.50  /CY
```

Size	Cost/Yd (Pit)	Cost Delivered w/o processing	Cost Delivered with processing
1½ – 0"	$ –	$3.78	$5.28
3 – 0"	$ –	$3.78	$5.28
Jaw Run	$ –	$3.78	$5.28
Pit-Run	$ –	$3.78	$5.28

Note: 1,000 cy stockiple 3"-0"

Rock Haul Cost Computation

SALE NAME: Little Elk Thin   DATE: Dec 6, 2018
ROAD NAME: New Construction Roads   CLASS: Medium
ROCK SOURCE: Deer Camp Stockpile 3" rock   10 CY truck
Route: Baber Ridge Road

C to D
E to F
TIME Computation:
Road speed time factors:

1.	55 MPH		MRT	0.0	minutes
2.	50 MPH		MRT	0.0	minutes
3.	45 MPH		MRT	0.0	minutes
4.	40 MPH		MRT	0.0	minutes
5.	35 MPH		MRT	0.0	minutes
6.	30 MPH		MRT	0.0	minutes
7.	25 MPH	2.0	MRT	4.8	minutes
8.	20 MPH	2.0	MRT	6.0	minutes
9.	15 MPH	2.0	MRT	8.0	minutes
10.	10 MPH	0.5	MRT	3.0	minutes
11.	05 MPH	0.3	MRT	3.6	minutes

Dump or spread time per RT   0.50   minutes
   Total hauling cycle time for this setting
   (100% efficiency)   25.90   minutes

Operator efficiency correction   0.85   30.47   minutes
Job efficiency correction   0.90   33.86   minutes

Truck capacity (CY)   10.00   3.39   min/CY
Loading time, delay time per CY   0.50   min/CY
TIME (minutes) per cubic yard   3.89   min/CY

COST per CY computation
   Cost of truck and operator per hour $83.00 /hr.
   Cost of truck and operator per minute $1.38   /min

Cost per CY $5.37   /CY

Spread and compact   Water truck, Grader & Roller $1.50   /CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing	Cost Delivered with processing
1½ - 0"	$ -	$5.37	$6.87
3 - 0"	$ -	$5.37	$6.87
Jaw Run	$ -	$5.37	$6.87
Pit-Run	$ -	$5.37	$6.87

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Little Elk Thin (WO-341-2019-W00775-01)
FY 2019

<u>TIMBER CRUISE REPORT</u>

</div>

1. **Sale Area Location**: Portions of Sections 13 and 23, T11S, R9W, W.M., Lincoln County, Oregon.

2. **Fund Distribution:**
   a. **Fund**   BOF 77%, CSL 23%
   b. **Tax Code**

3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Stream Buffers	Existing Roads	Non-Thinnable Acres	Net Sale Acres	Acreage Comp. Method
1	Thinning	67	7	2	4	54	Ortho photo, GIS, GPS
2	Thinning	74	6	3	2	63	Ortho photo, GIS, GPS
3	Thinning	44	5	---	---	39	Ortho photo, GIS, GPS
Total		185	18	5	6	156	

4. **Cruisers and Cruise Dates:** The sale areas were cruised by Matt McBride, Jon Long, and Evelyn Hukari in September of 2018.

5. **Cruise Method and Computation:** Areas 1 through 3 of the sale were cruised using variable radius plot sampling using a 20 BAF and 3 to 1 count to grade ratio. A total of 51 plots were taken two chains apart on transects through the units. Two plots were dropped in low stocked areas within Area 1 and several acres taken out and mapped as non-thinnable. Trees on the graded plots were measured for DBH, height, form factor, grades, and defect. Data for Areas 1, 2, and 3 were entered into the Atterbury SuperACE 2008 cruise program to determine stand statistics and net board foot volume. Leave trees were taken out to determine volumes. Three acres of right-of-way volume was calculated using the total stand (take and leave) volume per acre. Digital ortho photos, 1991 aerial photos, LiDar, and ArcMap 10.4.1 were used to map the boundaries for the sale, and ArcMap 10.4.1 was used to determine gross and net acreage.

6. **Measurement Standards:** Tree heights were measured to the nearest foot to merchantable height at 7 inches (outside bark). Diameters were measured to the nearest inch, and form factors were measured or estimated. Most trees were graded in 40 foot log segments unless breakage, defect, or length to top of grade cruise diameter warranted otherwise.

7. **Timber Description:** Timber in the sale area consists of 32 to 34 year-old planted Douglas-fir, and minor amounts of red alder and big-leaf maple. The average DBH for the take trees is approximately 12 inches. The average volume per acre to be harvested (net) is approximately 6.4 MBF. The right-of-way volume for the new road construction in Areas 1 and 2 (3 acres) is approximately 20.5 MBF per acre.

8. Total Volume (MBF) by Species and Grade:

Areas 1-3 Combined	Species	Gross Cruise Volume	D&B (2%)	Net Sale Volume
Take Volume	Douglas-fir	989	4	985
R/W Volume	Douglas-fir	63	1	62
Total Volume	Douglas-fir	1,052	5	1,047

	Species	DBH	Net Vol.	2-Saw	3-Saw	4-Saw
			Grade Percentages	2%	82%	16%
Areas 1-3	Douglas-fir	12	985	14	810	161
R/W	Douglas-fir	14	62	7	46	9
Total Volume	Douglas-fir	12	1,047	21	856	170

Attachments:
- Cruise Maps
- Cruise Design
- Species/Sort/Grade-BF Vol.
- Project Statistics - Project Statistics
- Stand Table Summary
- Log Stock Table

Prepared by: _Jon Long_____   Date: ___10/25/2018_____

Unit Forester: _Evelyn Hukari_____ Date: __11/05/2018_____

STATISTICS
PROJECT   ELKTHIN

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
11S	09W	23	ALL	THIN	153.00	49	462	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	49	462	9.4		
CRUISE	20	138	6.9	28,283	.5
DBH COUNT					
REFOREST					
COUNT	29	267	9.2		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DF-L	80	112.3	14.5	56	33.7	128.2	14,220	14,087	4,131	4,131
DF-T	55	71.0	12.3	49	16.7	58.8	6,461	6,438	1,793	1,793
R ALDER-L	3	1.6	13.7	38	0.4	1.6	92	92	34	34
TOTAL	138	184.9	13.7	53	51.0	188.6	20,774	20,617	5,958	5,958

CONFIDENCE LIMITS OF THE SAMPLE
     68.1   TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 %	COEFF		SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DF-L	45.7	5.1	137	144	151			
DF-T	44.7	6.0	97	103	109			
R ALDER-L	16.7	11.5	53	60	67			
TOTAL	49.2	4.2	120	126	131	97	24	11

CL: 68.1 %	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DF-L	12.2	1.7	110	112	114			
DF-T	58.3	8.3	65	71	77			
R ALDER-L	346.4	49.4	1	2	2			
TOTAL	14.8	2.1	181	185	189	9	2	1

CL: 68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DF-L	9.0	1.3	127	128	130			
DF-T	56.2	8.0	54	59	63			
R ALDER-L	338.9	48.4	1	2	2			
TOTAL			189	189	189			

CL: 68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DF-L	10.9	1.6	13,868	14,087	14,305			
DF-T	57.0	8.1	5,914	6,438	6,962			
R ALDER-L	340.2	48.6	48	92	137			
TOTAL	6.9	1.0	20,413	20,617	20,821	2	0	0

Stand Table Summary

TC TSTNDSUM

Project ELKTHIN

T11S R09W S23 TTHIN											T11S R09W S23 TTHIN

Twp	Rge	Sec	Tract		Type	Acres	Plots	Sample Trees	Page: 1
11S	09W	23	ALL		THIN	153.00	49	173	Date: 10/25/20
									Time: 9:28:50AM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF	L	11	3	87	63	7.283	4.81	7.28	15.3	53.3		112	388		171	59
DF	L	12	10	87	71	20.579	16.02	28.74	14.7	50.8		423	1,459		648	223
DF	L	13	14	87	79	24.333	22.43	45.19	14.5	49.6		657	2,242		1,005	343
DF	L	14	9	86	87	13.488	14.42	26.98	17.7	60.6		478	1,633		731	250
DF	L	15	11	87	82	14.360	17.62	28.72	20.0	66.4		573	1,906		877	292
DF	L	16	11	86	90	12.621	17.62	25.24	24.1	83.2		609	2,100		932	321
DF	L	17	8	86	91	8.131	12.82	16.26	28.4	101.2		462	1,647		708	252
DF	L	18	6	85	93	5.439	9.61	10.88	31.5	105.0		343	1,142		524	175
DF	L	19	5	86	94	4.068	8.01	8.14	35.8	118.0		291	960		446	147
DF	L	20	1	86	97	.734	1.60	1.47	40.0	130.0		59	191		90	29
DF	L	21	1	86	105	.666	1.60	1.33	45.5	150.0		61	200		93	31
DF	L	22	1	85	106	.607	1.60	1.21	52.0	180.0		63	218		97	33
DF	Totals		80	87	82	112.309	128.16	201.44	20.5	69.9		4,131	14,087		6,321	2,155
DF	T	9	2	88	60	4.838	2.14	4.84	10.5	45.0		51	218		78	33
DF	T	10	5	86	66	10.008	5.34	10.01	12.6	51.7		126	518		192	79
DF	T	11	6	88	89	9.716	6.41	16.19	11.9	46.0		193	745		295	114
DF	T	12	13	86	77	17.809	13.89	24.61	15.6	53.9		383	1,327		586	203
DF	T	13	13	87	85	15.072	13.89	27.82	15.9	52.9		442	1,472		676	225
DF	T	14	3	87	95	2.999	3.21	6.00	18.8	68.3		113	410		173	63
DF	T	15	7	86	88	6.096	7.48	12.19	20.8	74.3		253	906		388	139
DF	T	16	4	87	89	3.061	4.27	6.12	24.8	90.0		152	551		232	84
DF	T	17	2	85	99	1.356	2.14	2.71	29.8	107.5		81	292		123	45
DF	Totals		55	87	80	70.955	58.78	110.50	16.2	58.3		1,793	6,438		2,743	985
RA	L	12	1	87	53	.693	.54	.69	16.0	50.0		11	35		17	5
RA	L	14	1	87	62	.509	.54	.51	21.0	60.0		11	31		16	5
RA	L	16	1	86	53	.390	.54	.39	32.0	70.0		12	27		19	4
RA	Totals		3	87	56	1.592	1.63	1.59	21.5	58.1		34	92		52	14
Totals			138	87	81	184.855	188.57	313.53	19.0	65.8		5958	20,617		9,116	3,154

T11S R09W S23 TTHIN

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
11S	**09W**	**23**	**ALL**	**THIN**	**153.00**	**49**	**173**	**1**	**W**

T11S R09W S23 TTHIN

Spp	S/T rt	So	Grad	% Net BdFt	Def%	Gross	Net	Total Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ln Ft	Dia In	Bd Ft	CF/Lf	Logs Per /Acre
DF	L	DO	2M	16		2,340	2,340	358		39	61				32	68	37	12	185	1.36	12.6
DF	L	DO	3M	71	1.1	10,154	10,043	1,537		100					24	76	37	8	89	0.71	113.3
DF	L	DO	4M	13	1.3	1,726	1,703	261	3	97			80	15	4		18	6	23	0.38	75.5
DF	**L**	**Totals**		68	.9	14,220	14,087	2,155	0	90	10		10	2	23	65	30	7	70	0.68	201.4
DF	T	DO	CU														7	8		0.00	2.2
DF	T	DO	2M	1		95	95	15		100				100			32	11	140	1.16	.7
DF	T	DO	3M	82	.4	5,316	5,293	810		100			0	4	25	70	36	7	76	0.59	69.5
DF	T	DO	4M	17		1,050	1,050	161	2	98			47	45		8	20	6	26	0.35	40.3
DF	**T**	**Totals**		31	.4	6,461	6,438	985	0	100			8	11	22	59	30	7	57	0.53	112.7
RA	L	DO	CU														6	12		0.00	.5
RA	L	DO	CR	100		92	92	14		100				37		63	35	7	58	0.61	1.6
RA	**L**	**Totals**		0		92	92	14		100				37		63	28	8	44	0.58	2.1
Type Totals					.8	20,774	20,617	3,154	0	93	7		9	5	23	63	30	7	65	0.63	316.3

Column groups: % Net BdFt; Bd. Ft. per Acre (Def%, Gross, Net); Total Net MBF; Percent Net Board Foot Volume — Log Scale Dia. (4-5, 6-11, 12-16, 17+) and Log Length (12-20, 21-30, 31-35, 36-99); Average Log (Ln Ft, Dia In, Bd Ft, CF/Lf); Logs Per /Acre

Species, Sort Grade - Board Foot Volumes (Type)

Project: ELKTHIN

T TSPCSTGR

T11S R09W S23 TR/W

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
11S	09W	23	ALL	R/W	3.00	49	173	1	W

T11S R09W S23 TR/W

Spp	Srt	Grad	% Net BdFt	Def%	Bd. Ft. per Acre Gross	Net	Total Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ln Ft	Dia In	Bd Ft	CF/Lf	Logs Per /Acre
DF	DO	CU														7	8		0.00	2.2
DF	DO	2M	11		2,435	2,435	7		41	59				35	65	37	12	183	1.35	13.3
DF	DO	3M	75	.9	15,470	15,336	46		100			0	1	25	74	37	8	84	0.66	182.8
DF	DO	4M	14	.8	2,776	2,753	8	2	98			68	27	3	3	19	6	24	0.37	115.8
DF	**Totals**		100	.8	20,682	20,525	62	0	93	7		9	5	23	63	30	7	65	0.63	314.2
RA	DO	CU														6	12		0.00	.5
RA	DO	CR	100		92	92	0		100				37		63	35	7	58	0.61	1.6
RA	**Totals**		0		92	92	0		100				37		63	28	8	44	0.58	2.1
Type Totals				.8	20,774	20,617	62	0	93	7		9	5	23	63	30	7	65	0.63	316.3

Log Stock Table - MBF
Project: ELKTHIN

T11S R09W S23 TTHIN

Twp	Rge	Sec	Tract		Type	Acres	Plots	Sample Trees
11S	09W	23	ALL		THIN	153.00	49	173

Spp	S T	So rt	Gr de	Log Len	Gross MBF	% Def	Net MBF	% Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF	L	DO	2M	32	47		47	1.5						47						
DF	L	DO	2M	34	68		68	2.2					44	24						
DF	L	DO	2M	40	243		243	7.7					95	122	27					
DF	L	DO	3M	32	308	3.0	299	9.5			73	226								
DF	L	DO	3M	34	74	2.7	72	2.3			48		24							
DF	L	DO	3M	36	117		117	3.7			35	82								
DF	L	DO	3M	38	7		7	.2			7									
DF	L	DO	3M	40	1,047	.5	1,041	33.2			175	479	387							
DF	L	DO	4M	16	141		141	4.5			136	5								
DF	L	DO	4M	18	34		34	1.1			34									
DF	L	DO	4M	20	34		34	1.1			22	12								
DF	L	DO	4M	24	30		30	.9		7	23									
DF	L	DO	4M	28	4		4	.1			4									
DF	L	DO	4M	30	6		6	.2			6									
DF	L	DO	4M	34	15	23.4	11	.4			11									
DF	T	DO	CU	6																
DF	T	DO	CU	8																
DF	T	DO	2M	32	15		15	.5					15							
DF	T	DO	3M	16	4		4	.1			4									
DF	T	DO	3M	22	10		10	.3				10								
DF	T	DO	3M	28	13		13	.4					13							
DF	T	DO	3M	30	11	16.7	9	.3				9								
DF	T	DO	3M	32	165	1.1	163	5.2			107	40	16							
DF	T	DO	3M	34	42		42	1.3			12	12	17							
DF	T	DO	3M	36	77		77	2.5			62	15								
DF	T	DO	3M	38	27		27	.8			12	14								
DF	T	DO	3M	40	465		465	14.8			151	243	71							
DF	T	DO	4M	14	12		12	.4			12									
DF	T	DO	4M	16	47		47	1.5			47									
DF	T	DO	4M	18	4		4	.1			4									
DF	T	DO	4M	20	14		14	.4		4	10									
DF	T	DO	4M	21	4		4	.1			4									
DF	T	DO	4M	22	19		19	.6			19									
DF	T	DO	4M	24	18		18	.6			18									
DF	T	DO	4M	26	4		4	.1			4									
DF	T	DO	4M	30	28		28	.9			28									
DF	T	DO	4M	40	12		12	.4			12									
DF		Totals			3,164		3,140	99.6		10	1079	1148	683	192	27					
RA	L	DO	CU	6																
RA	L	DO	CR	30	5		5	37.5			5									
RA	L	DO	CR	38	5		5	33.0			5									
RA	L	DO	CR	40	4		4	29.5			4									
RA		Totals			14		14	.4			14									
Total All Species					3,178		3,154	100.0		10	1093	1148	683	192	27					

FPA Written Plan for Timber Harvest in a MMMA

Little Elk Creek Timber Sale (Area 3)

**Portions of Section 23, T11S, R9W, W.M.,
Lincoln County, Oregon.**

Protected Resource: Salmon Creek Marbled Murrelet Management Area (Endangered species nesting site).

Situation: The southeast portion of Area 3 is within the non-habitat buffer of the Salmon Creek Marbled Murrelet Management Area (MMMA). Commercial thinning operations will occur within the non-habitat buffer of the MMMA.

Resource Protection Measures:

1. Felling, Cable Yarding and Ground Yarding Operations within the MMMA shall not be allowed from April 1 through August 5, or from August 6 through September 15 between two hours before sunset and two hours after sunrise.

2. The use of chainsaws within the MMMA shall not be allowed from April 1 through August 5, or from August 6 through September 15 between two hours before sunset to two hours after sunrise.

3. Cable Landing locations in the MMMA will require pre-marking by operator and review and approval by an ODF representative.

4. Human food trash will be policed and removed from all project areas, landings, and roadways on a daily basis. Food items and food waste will be stored inside appropriate containers or vehicles.

5. Tailholds and guylines in the Occupied Habitat of the MMMA will have the following additional restrictions:

   a. Consultation with STATE and approval of tailholds, guylines, and cable line placement is required before tailholding or guylining is allowed in this area. (A lead time of two weeks is required to schedule a field consultation between ODF, PURCHASER, the Operator, and the person responsible for line placement.)

   b. The following trees within the MMMA will not be selected for tailhold or guyline anchors:
      i. Trees with potential nest platforms or immediately surrounding trees that provide cover to the potential nest platforms, as determined by STATE.
      ii. The largest trees in the areas where the number of large trees is limited.
      iii. Minor conifer species not commonly found in the stand.

   c. Cables located within the MMMA will be located so that raising, lowering or use of the line will not damage trees considered to have suitable nesting platforms or associated cover trees.

   d. Any plans to tailhold in the MMMA must be addressed in the Operations Plan and at the Pre-Operations meeting.

I, the undersigned, submit this written plan in compliance with the requirements of the Forest Practices Act, regarding operations conducted within 300 feet of an endangered species nesting site.

_____

PURCHASER REPRESENTATIVE   DATE

_____

STATE REPRESENTATIVE   DATE

Little Elk Thin Timber Sale (Areas 1 and 3)

Portions of Sections 13 and 23, T11S, R09W, W.M., Lincoln County, Oregon.

Protected Resources: **Area 1**- A small Type F tributary to Little Elk Creek. **Area 3** - Salmon Creek, a medium Type F stream, and a small Type F tributary to Salmon Creek.

Situation: Approximately 1,500 feet of a small, Type F stream (Little Elk Creek tributary) is adjacent to the east boundary of Area 1. Approximately 1,200 feet of a medium, Type F stream (Salmon Creek) is adjacent to the east boundary of Area 3, and approximately 1,800 feet of a small, Type F stream (Salmon Creek tributary) is adjacent to the north boundary of Area 3.

Harvest operations may occur within 100 feet of these streams, and skylines may pass over these streams. This is a commercial thinning sale, an average of 130 square feet of basal area will be left in the harvest areas after logging is completed.

Resource Protection Measures:

1. An average 50 foot (minimum of at least 25 foot) horizontal distance no-harvest stream buffer has been established along all portions of the Type F streams bordering the sale areas.

2. Trees adjacent to the stream buffers shall be felled so that they do not enter into the buffer.

3. Logs will not be yarded over the stream buffers, but tailholds for skyline cable yarding will likely be needed on the other side of these streams.

4. Where the logging system requires the skyline to pass over the stream, cables will be pulled out of the streamside vegetation prior to rigging the next yarding road.

5. Skyline corridors passing over the stream will be spaced a minimum of 100 feet apart.

6. Skyline cables will not be lowered into streamside vegetation during the yarding cycle.

I, the undersigned, submit this written plan in compliance with the requirements of the Forest Practices Act, regarding operations conducted within 100 feet of Type F streams.

_____
PURCHASER REPRESENTATIVE   DATE

_____
STATE REPRESENTATIVE   DATE

Oregon Department of Forestry
OPERATIONAL PERIODS and SEASONAL RESTRICTIONS
West Oregon, NWOA
24533 ALSEA HWY, PHILOMATH, OR 97370
(541) 929-3266

ODF/State Forests
Operational Periods and Seasonal Restriction
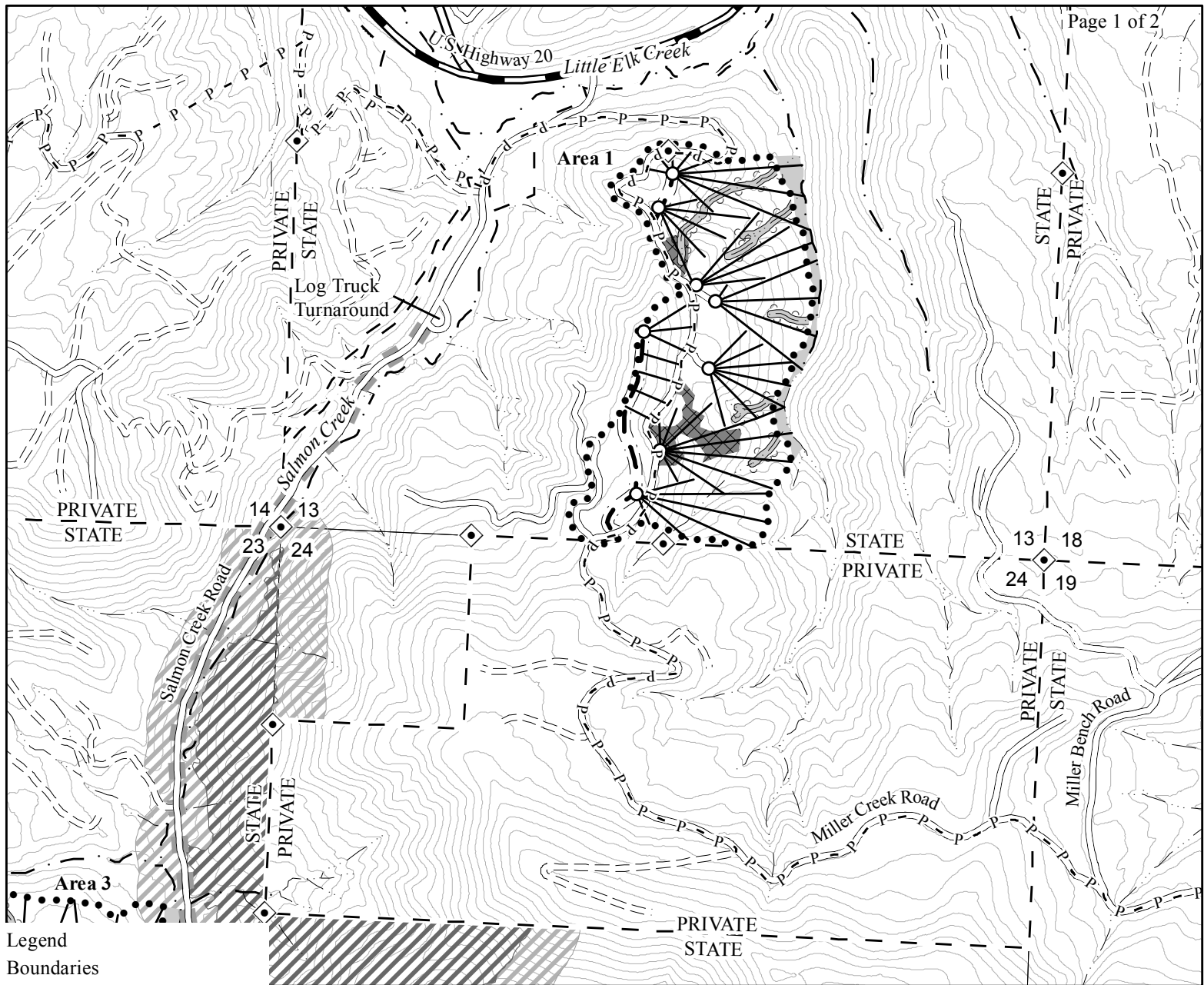WALT Sys Gen Report 2014
Page 1 of 1

Sale Number	Sale Name	Expiration Date
WO-341-<None>-W00775-01	Little Elk Thin	December 31, 2021

Harvesting

Harvesting	Comments	Units	Project	Jan 1	Jan 15	Feb 1	Feb 15	Mar 1	Mar 15	Apr 1	Apr 15	May 1	May 15	Jun 1	Jun 15	Jul 1	Jul 15	Aug 1	Aug 15	Sep 1	Sep 15	Oct 1	Oct 15	Nov 1	Nov 15	Dec 1	Dec 15	Date
Ground yarding																												
Felling in seasonal restricted area	Portions of Area 3 located within the MMMA																											
Cable yarding in seasonally restricted area	Portions of Area 3 located within the MMMA																											
Ground yarding in seasonally restricted area	Portions of Area 3 located within the MMMA, in addition to above ground yarding restriction																											
Chainsaw use in seasonally restricted area	Creating Tailholds in any portion of MMMA in/adjacent to Area 3																											
Other	Complete all Harvest Operations on Areas 2 and 3																											4/1/2021

Hauling

Hauling	Comments	Units	Project	Jan 1	Jan 15	Feb 1	Feb 15	Mar 1	Mar 15	Apr 1	Apr 15	May 1	May 15	Jun 1	Jun 15	Jul 1	Jul 15	Aug 1	Aug 15	Sep 1	Sep 15	Oct 1	Oct 15	Nov 1	Nov 15	Dec 1	Dec 15	Date
Log Hauling on Unsurfaced Roads																												

Project Work

Project Work	Comments	Units	Project	Jan 1	Jan 15	Feb 1	Feb 15	Mar 1	Mar 15	Apr 1	Apr 15	May 1	May 15	Jun 1	Jun 15	Jul 1	Jul 15	Aug 1	Aug 15	Sep 1	Sep 15	Oct 1	Oct 15	Nov 1	Nov 15	Dec 1	Dec 15	Date
Activity in Live Streams	Culvert replacement																												
Landing and Road Construction or Improvement Operations																												
Non-project roads and landings																												

Legend:
- ☐ Operation Allowed
- ▓ Operation Restricted
- ▒ Activity Restricted 2 hours before sunset and 2 hours after sunrise

This report is for information purposes only. Refer to Section 2455
Seasonal Restrictions of the contract.

U.S. Highway 20   Little Elk Creek

Area 1

PRIVATE STATE

Log Truck Turnaround

Salmon Creek

PRIVATE STATE

14 | 13
23 | 24

Salmon Creek Road

STATE PRIVATE

Area 3

STATE PRIVATE

STATE PRIVATE

13 | 18
24 | 19

PRIVATE STATE

Miller Bench Road

Miller Creek Road

PRIVATE STATE

Legend

Boundaries
- • • • • Timber Sale Boundary
- — · — Right of Way (Posted)

Roads
- Highway
- County Road
- Surfaced Road
- = = = Unsurfaced Road
- — — New Construction
- Seasonal Road Restriction

Streams
- · — · Type F Stream
- · · · — Type N Stream
- Unposted Stream Buffer
- Stream Buffer

Marbled Murrelet Management Area
- Occupied Habitat
- Non-Habitat Buffer
- — Cable Corridors
- ○ Landings
- ◈ Land Survey Monument
- P – P Buried Fiber Optic Line
- Partial Cut Not Required

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. WO-341-2019-W00775-01
LITTLE ELK THIN
PORTIONS OF SECTIONS 13, 23 & 24
T11S, R09W, W.M.,
LINCOLN COUNTY, OREGON

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

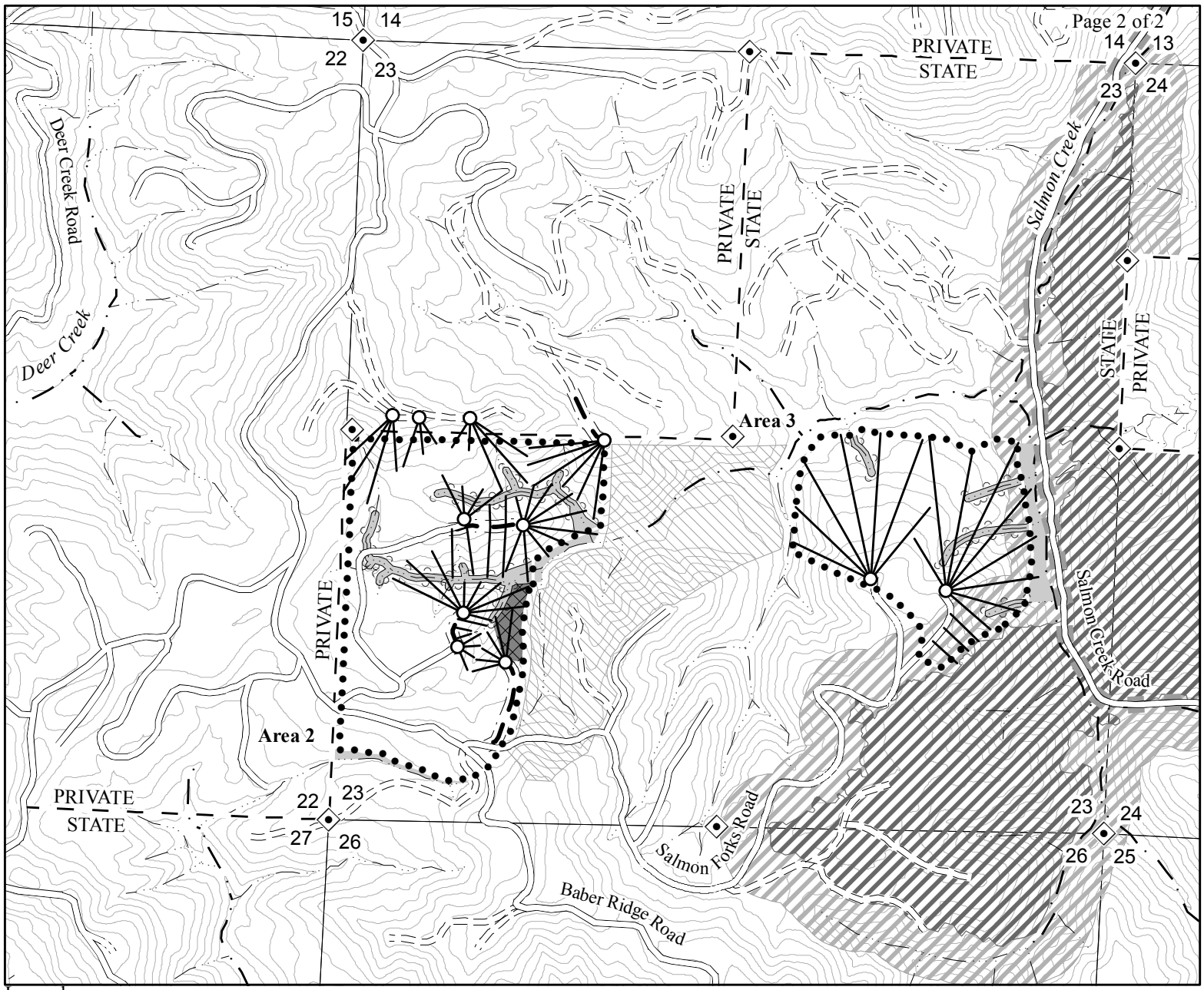| AREA	NET ACRES TRACTOR	NET ACRES CABLE
1 (PC)	12	42
2 (PC)	38	25
3 (PC)	4	35
TOTAL	54	102

Scale

1:12,000

1,000   0   1,000   2,000

Feet

N

Created By: Blake McKinley
blake.mckinley@oregon.gov
Date: 10/29/2018

Legend

Boundaries

• • • • Timber Sale Boundary
— · — Right of Way (Posted)

Roads

———— Surfaced Road
= = = Unsurfaced Road
— — New Construction
▆━▆ Seasonal Road Restriction

Streams

· — Type F Stream
· · · — Type N Stream
〰〰 Unposted Stream Buffer
▨ Stream Buffer

Marbled Murrelet Management Area

▨ Occupied Habitat
▨ Non-Habitat Buffer
▨ Reforestation Area
——— Cable Corridors
○ Landings
◇ Land Survey Monument
▨ Partial Cut Not Required

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. WO-341-2019-W00775-01
LITTLE ELK THIN
PORTIONS OF SECTIONS 13, 23 & 24
T11S, R09W, W.M.,
LINCOLN COUNTY, OREGON

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AREA	NET ACRES TRACTOR	NET ACRES CABLE
1 (PC)	12	42
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3 (PC)	4	35
TOTAL	54	102

Scale

1:12,000

1,000   0   1,000   2,000

Feet

N

Created By: Blake McKinley
blake.mckinley@oregon.gov
Date: 10/29/2018