



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
RAZORBACK
Sale fg-341-2020-w00236-01

District: Forest Grove

Date: February 20, 2020

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,691,524.58	\$6,680.10	\$1,698,204.68
		Project Work:	(\$354,370.00)
		Advertised Value:	\$1,343,834.68



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District: Forest Grove

Date: February 20, 2020

Timber Description

Location: Portions of Sections 28, 29 & 32, T2N, R6W, W.M., Tillamook County, OR

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	19	0	98
Western Hemlock / Fir	15	0	98
Alder (Red)	12	0	98

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	2,366	1,152	0	3,518
Western Hemlock / Fir	309	171	0	480
Alder (Red)	0	0	21	21
Total	2,675	1,323	21	4,019

Comments: LOCAL POND VALUES USED, DECEMBER 2020

WESTERN REDCEDAR AND OTHER CEDARS:
STUMPAGE PRICE = POND VALUE - DOUG-FIR LOGGING COST
 $\$863.57 = \$1,097 - \$233.43$

OTHER CONIFER:
STUMPAGE PRICE = POND VALUE - WESTERN HEMLOCK LOGGING COST
 $\$333.55 = \$535.45 - \$201.90$

BRANDING AND PAINTING ALLOWANCE = \$2.00/MBF

FUEL COST ALLOWANCE = \$3.00/GAL

HAULING COST ALLOWANCE = \$950 DAILY TRUCK COST

OTHER COSTS (NO PROFIT & RISK TO BE ADDED):

EQUIPMENT CLEANING:
3 PIECES @ \$1,000/PIECE = \$3,000

MACHINE TIME TO PILE LANDING SLASH:
20HRS @ \$150/HR = \$3,000

SLASH TREATMENT:
15AC @ \$200/AC = \$3,000

TOTAL OTHER COSTS (NO P&R) = \$9,000

ROAD MAINTENANCE:
5.25MI @ \$1,200/MI = \$6,300
MOVE IN = \$3,000
TOTAL: $\$9,300/4,019\text{MBF} = \$2.31/\text{MBF}$



"STEWARDSHIP IN FORESTRY"

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RAZORBACK
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District: Forest Grove

Date: February 20, 2020

Logging Conditions

Combination#: 1 Douglas - Fir 70.00%
 Western Hemlock / Fir 70.00%
 Alder (Red) 70.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 9 **bd. ft / load:** 4900
cost / mbf: \$136.05
machines: Log Loader (A)
 Stroke Delimber (A)
 Tower Yarder (Medium)

Combination#: 2 Douglas - Fir 30.00%
 Western Hemlock / Fir 30.00%
 Alder (Red) 30.00%

Logging System: Shovel **Process:** Stroke Delimber
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 18 **bd. ft / load:** 4900
cost / mbf: \$35.96
machines: Stroke Delimber (B)



"STEWARDSHIP IN FORESTRY"

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RAZORBACK
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District: Forest Grove

Date: February 20, 2020

Logging Costs

Operating Seasons: 1.00	Profit Risk: 10%
Project Costs: \$354,370.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$9,000.00

Miles of Road

Road Maintenance: \$2.31

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.9
Western Hemlock / Fir	\$0.00	3.0	4.6
Alder (Red)	\$0.00	3.0	4.6



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal RAZORBACK Sale fg-341-2020-w00236-01

District: Forest Grove

Date: February 20, 2020

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$106.02	\$2.36	\$1.09	\$98.88	\$0.00	\$20.84	\$0.00	\$2.00	\$2.24	\$233.43
Western Hemlock / Fir									
\$106.02	\$2.36	\$1.09	\$70.22	\$0.00	\$17.97	\$0.00	\$2.00	\$2.24	\$201.90
Alder (Red)									
\$106.02	\$2.36	\$1.09	\$70.22	\$0.00	\$17.97	\$0.00	\$2.00	\$2.24	\$201.90

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$668.74	\$435.31	\$0.00
Western Hemlock / Fir	\$0.00	\$535.45	\$333.55	\$0.00
Alder (Red)	\$0.00	\$520.00	\$318.10	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
RAZORBACK
Sale fg-341-2020-w00236-01

District: Forest Grove

Date: February 20, 2020

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	3,518	\$435.31	\$1,531,420.58
Western Hemlock / Fir	480	\$333.55	\$160,104.00
Alder (Red)	21	\$318.10	\$6,680.10

Gross Timber Sale Value

Recovery: \$1,698,204.68

Prepared By: Nate Hunter

Phone: 503-359-7434

PROJECT COST SUMMARY SHEET

Timber Sale: Razorback
Sale Number: FG-341-2020-W00236-01

PROJECT NO. 1: ROCKED ROAD CONSTRUCTION

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	O to OO	10+00	\$8,167.32
	S to SS	14+50	\$10,589.02
		24+50 stations	
		0.46 miles	
Total Rock =	1,674 cy	Pit-run	
		Move-in =	\$308.03
TOTAL PROJECT NO. 1 COST =			\$19,064.37

PROJECT NO. 2: ROAD IMPROVEMENT

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	A to B	199+50	\$121,440.07
	A to M	195+90	\$85,740.50
	C to D	24+20	\$13,377.83
	E to F	2+30	\$2,639.00
	G to H	3+10	\$3,081.84
	I to J	24+50	\$19,051.26
	K to L	4+40	\$4,426.40
	N to O	32+20	\$14,536.90
	P to Q	8+00	\$5,068.70
	R to S	16+50	\$9,092.02
	T to U	18+50	\$10,480.29
	Point V	1+50	\$22,028.03
		530+60 stations	
		10.05 miles	
Total Rock =	17,899 cy	1 1/2"-0	
	30 cy	24" - 12" Fill armor	
	30 cy	Shot Rock	
	20 cy	36" - 24" Energy Dissipator	
		Move-in =	\$5,106.88
TOTAL PROJECT NO. 2 COST =			\$316,069.72

PROJECT NO. 3: ROAD BRUSHING

TOTAL PROJECT NO. 3 COST = **\$19,235.91**

TOTAL CREDITS **\$354,370.00**

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: A to B

Sale Number: FG-341-2020-W00236-01
Improvement: 199+50 stations
3.78 miles

PROJECT NO. 2

IMPROVEMENT

Construct Settling Ponds	7	ea @	\$25.00	per ea =	\$175.00
Improve Turnouts	17	ea @	\$33.00	per ea =	\$561.00
Improve Turnarounds	1	ea @	\$41.25	per ea =	\$41.25
Grade, ditch, & roll	199.50	sta @	\$36.00	per sta =	\$7,182.00

TOTAL IMPROVEMENT COSTS = \$7,959.25

CULVERTS

Culverts and Bands

18" Diameter	110	LF @	\$20.00	per LF =	\$2,200.00
30" Diameter	50	LF @	\$39.00	per LF =	\$1,950.00
36" Diameter	100	LF @	\$50.00	per LF =	\$5,000.00
72" Diameter	50	LF @	\$106.70	per LF =	\$5,335.00
30" Band	2	ea @	\$73.58	per ea =	\$147.16
36" Band	3	ea @	\$110.36	per ea =	\$331.08
72" Band	2	ea @	\$270.60	per ea =	\$541.20

Markers & Stakes

Culvert Markers 3 ea @ \$10.00 per ea = \$30.00

Additional Installation Cost

Fill reconstruction 6 hrs @ \$175.00 per hr = \$1,050.00

TOTAL CULVERT COSTS = \$16,584.44

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$9.32	\$5.74	\$0.50	180	\$2,800.80
36" - 24" Energy Dissipator	36" - 24"	\$3.59	\$5.74	\$1.60	20	\$218.60
Shot Rock	Shot rock	\$3.59	\$5.74	\$1.60	30	\$327.90
24" - 12" Fill armor	24" - 12"	\$3.59	\$5.74	\$1.60	30	\$327.90
Subtotal =					260	\$3,675.20
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$3.83	\$1.22	6,216	\$89,323.92
Turnout	1½" - 0	\$9.32	\$3.83	\$1.22	238	\$3,420.06
Turnaround	1½" - 0	\$9.32	\$3.83	\$1.22	20	\$287.40
Subtotal =					6,474	\$93,031.38

Totals

All Rock =	6,734
1½" - 0 =	6,654
Shot rock =	30
24" - 12" =	30
36" - 24" =	20

TOTAL ROCK COSTS = \$96,706.58

EROSION CONTROL

Grass seed & fertilizer	0.20	ac @	\$349.00	per ac =	\$69.80
Straw Mulch Bale	12	ea @	\$10.00	per ea =	\$120.00

TOTAL EROSION CONTROL COSTS = \$189.80

TOTAL PROJECT COST = \$121,440.07

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: A to M

Sale Number: FG-341-2020-W00236-01
Improvement: 195+90 stations
3.71 miles

PROJECT NO. 2

IMPROVEMENT

Improve Turnouts	18	ea @	\$33.00	per ea =	\$594.00
Grade, ditch, & roll	195.90	sta @	\$36.00	per sta =	\$7,052.40

TOTAL IMPROVEMENT COSTS = \$7,646.40

CULVERTS

Culverts and Bands					
18" Diameter	40	LF @	\$20.00	per LF =	\$800.00
Markers & Stakes					
Culvert Markers	1	ea @	\$10.00	per ea =	\$10.00

TOTAL CULVERT COSTS = \$810.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$9.32	\$2.46	\$0.50	20	\$245.60
Subtotal =					20	\$245.60
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$1.64	\$1.22	6,073	\$73,969.14
Turnout	1½" - 0	\$9.32	\$1.64	\$1.22	252	\$3,069.36
Subtotal =					6,325	\$77,038.50

Totals	All Rock =	6,345
	1½" - 0 =	6,345

TOTAL ROCK COSTS = \$77,284.10

TOTAL PROJECT COST = \$85,740.50

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
 Road Segment: C to D

Sale Number: FG-341-2020-W00236-01
 Improvement: 24+20 stations
0.46 miles

PROJECT NO. 2

IMPROVEMENT

Improve Turnouts	2	ea @	\$33.00	per ea =	\$66.00
Grade, ditch, & roll	24.20	sta @	\$36.00	per sta =	\$871.20

TOTAL IMPROVEMENT COSTS = \$937.20

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$5.43	\$1.22	751	\$11,993.47
Turnout	1½" - 0	\$9.32	\$5.43	\$1.22	28	\$447.16
Subtotal =					779	\$12,440.63

Totals

All Rock =	779
1½" - 0 =	779

TOTAL ROCK COSTS = \$12,440.63

TOTAL PROJECT COST = \$13,377.83

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: E to F

Sale Number: FG-341-2020-W00236-01
Improvement: 2+30 stations
0.04 miles

PROJECT NO. 2

IMPROVEMENT

Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade & roll (outslope)	2.30	sta @	\$32.20	per sta =	\$74.06

TOTAL IMPROVEMENT COSTS = \$184.06

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$8.20	\$1.22	72	\$1,349.28
Junction	1½" - 0	\$9.32	\$8.20	\$1.22	12	\$224.88
50' Landing	1½" - 0	\$9.32	\$8.20	\$1.22	47	\$880.78
Subtotal =					131	\$2,454.94

Totals

All Rock =	131
1½" - 0 =	131

TOTAL ROCK COSTS = \$2,454.94

TOTAL PROJECT COST = \$2,639.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
 Road Segment: G to H

Sale Number: FG-341-2020-W00236-01
 Improvement: 3+10 stations
0.06 miles

PROJECT NO. 2

IMPROVEMENT

Grade, ditch, & roll 3.10 sta @ \$36.00 per sta = \$111.60

TOTAL IMPROVEMENT COSTS = \$111.60

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$8.50	\$1.22	97	\$1,846.88
Junction	1½" - 0	\$9.32	\$8.50	\$1.22	12	\$228.48
50' Landing	1½" - 0	\$9.32	\$8.50	\$1.22	47	\$894.88
Subtotal =					156	\$2,970.24

Totals

All Rock =	156
1½" - 0 =	156

TOTAL ROCK COSTS = \$2,970.24

TOTAL PROJECT COST = \$3,081.84

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: I to J

Sale Number: FG-341-2020-W00236-01
Improvement: 24+50 stations
0.46 miles

PROJECT NO. 2

IMPROVEMENT

Road widening (drift/scatter)	9.50	sta @	\$110.00	per sta =	\$1,045.00
Construct Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Construct Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	24.50	sta @	\$36.00	per sta =	\$882.00

TOTAL IMPROVEMENT COSTS = \$2,185.50

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$9.14	\$1.22	760	\$14,956.80
Junction	1½" - 0	\$9.32	\$9.14	\$1.22	12	\$236.16
Turnout	1½" - 0	\$9.32	\$9.14	\$1.22	28	\$551.04
Turnaround	1½" - 0	\$9.32	\$9.14	\$1.22	10	\$196.80
50' Landing	1½" - 0	\$9.32	\$9.14	\$1.22	47	\$924.96
Subtotal =					857	\$16,865.76

Totals

All Rock =	857
1½" - 0 =	857

TOTAL ROCK COSTS = \$16,865.76

TOTAL PROJECT COST = \$19,051.26

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
 Road Segment: K to L

Sale Number: FG-341-2020-W00236-01
 Improvement: 4+40 stations
0.08 miles

PROJECT NO. 2

IMPROVEMENT

Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	4.40	sta @	\$36.00	per sta =	\$158.40

TOTAL IMPROVEMENT COSTS = \$268.40

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$9.26	\$1.22	137	\$2,712.60
Junction	1½" - 0	\$9.32	\$9.26	\$1.22	12	\$237.60
Turnout	1½" - 0	\$9.32	\$9.26	\$1.22	14	\$277.20
50' Landing	1½" - 0	\$9.32	\$9.26	\$1.22	47	\$930.60
Subtotal =					210	\$4,158.00

Totals

All Rock =	210
1½" - 0 =	210

TOTAL ROCK COSTS = \$4,158.00

TOTAL PROJECT COST = \$4,426.40

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: N to O

Sale Number: FG-341-2020-W00236-01
Improvement: 32+20 stations
0.61 miles

PROJECT NO. 2

IMPROVEMENT

Improve Turnouts	2	ea @	\$33.00	per ea =	\$66.00
Construct Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	32.20	sta @	\$36.00	per sta =	\$1,159.20

TOTAL IMPROVEMENT COSTS = \$1,417.70

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$1.86	\$1.22	999	\$12,387.60
Junction	1½" - 0	\$9.32	\$1.86	\$1.22	12	\$148.80
50' Landing	1½" - 0	\$9.32	\$1.86	\$1.22	47	\$582.80
Subtotal =					1,058	\$13,119.20

Totals

All Rock =	1,058
1½" - 0 =	1,058

TOTAL ROCK COSTS = \$13,119.20

TOTAL PROJECT COST = \$14,536.90

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: O to OO

Sale Number: FG-341-2020-W00236-01
Construction: 10+00 stations
0.19 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	0.69	ac @	\$1,078.00	per ac =	\$743.82
Balanced road construction	10.00	sta @	\$110.00	per sta =	\$1,100.00
Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
50' Landing	1	ea @	\$220.00	per ea =	\$220.00
Grade, ditch, & roll	10.00	sta @	\$36.00	per sta =	\$360.00

TOTAL CONSTRUCTION COSTS = \$2,572.32

CULVERTS

Culverts and Bands

18" Diameter 30 LF @ \$20.00 per LF = \$600.00

Markers & Stakes

Culvert markers 1 ea @ \$10.00 per ea = \$10.00

TOTAL CULVERT COSTS = \$610.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	Pit-run	\$3.59	\$2.71	\$1.10	530	\$3,922.00
Turnout	Pit-run	\$3.59	\$2.71	\$1.10	24	\$177.60
Turnaround	Pit-run	\$3.59	\$2.71	\$1.10	16	\$118.40
50' Landing	Pit-run	\$3.59	\$2.71	\$1.10	80	\$592.00
Subtotal =					650	\$4,810.00

Totals

All Rock =	650
Pit-run =	650

TOTAL ROCK COSTS = \$4,810.00

EROSION CONTROL

Grass seed & fertilizer 0.35 ac @ \$500.00 per ac = \$175.00

TOTAL EROSION CONTROL COSTS = \$175.00

TOTAL PROJECT COST = \$8,167.32

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: P to Q

Sale Number: FG-341-2020-W00236-01
Improvement: 8+00 stations
0.15 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.56	ac @	\$1,078.00	per acre =	\$603.68
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	8.00	sta @	\$36.00	per sta =	\$288.00

TOTAL IMPROVEMENT COSTS = \$1,001.68

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$2.32	\$1.22	248	\$3,189.28
Junction	1½" - 0	\$9.32	\$2.32	\$1.22	12	\$154.32
50' Landing	1½" - 0	\$9.32	\$2.32	\$1.22	47	\$604.42
Subtotal =					307	\$3,948.02

Totals

All Rock =	307
1½" - 0 =	307

TOTAL ROCK COSTS = \$3,948.02

EROSION CONTROL

Grass seed & fertilizer	0.28	ac @	\$425.00	per ac =	\$119.00
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TOTAL EROSION CONTROL COSTS = \$119.00

TOTAL PROJECT COST = \$5,068.70

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: R to S

Sale Number: FG-341-2020-W00236-01
Improvement: 16+50 stations
0.31 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	1.14	ac @	\$1,078.00	per acre =	\$1,228.92
Clean culvert inlet & outlet	2	ea @	\$25.00	per ea =	\$50.00
Construct Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	16.50	sta @	\$36.00	per sta =	\$594.00

TOTAL IMPROVEMENT COSTS = \$2,048.92

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$0.89	\$1.22	512	\$5,852.16
Junction	1½" - 0	\$9.32	\$0.89	\$1.22	12	\$137.16
Turnout	1½" - 0	\$9.32	\$0.89	\$1.22	24	\$274.32
50' Landing	1½" - 0	\$9.32	\$0.89	\$1.22	47	\$537.21
Subtotal =					595	\$6,800.85

Totals

All Rock =	595
1½" - 0 =	595

TOTAL ROCK COSTS = \$6,800.85

EROSION CONTROL

Grass seed & fertilizer	0.57	ac @	\$425.00	per ac =	\$242.25
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TOTAL EROSION CONTROL COSTS = \$242.25

TOTAL PROJECT COST = \$9,092.02

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: S to SS

Sale Number: FG-341-2020-W00236-01
Construction: 14+50 stations
0.27 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	1.00	ac @	\$1,078.00	per ac =	\$1,078.00
Balanced road construction	14.50	sta @	\$110.00	per sta =	\$1,595.00
Turnouts	2	ea @	\$66.00	per ea =	\$132.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Approach to landing	1.00	sta @	\$110.00	per sta =	\$110.00
50' Landing	2	ea @	\$220.00	per ea =	\$440.00
Grade & roll (outslope)	0.00	sta @	\$32.20	per sta =	\$0.00
Grade, ditch, & roll	14.50	sta @	\$36.00	per sta =	\$522.00

TOTAL CONSTRUCTION COSTS = \$3,959.50

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	Pit-run	\$3.59	\$1.54	\$1.10	769	\$4,790.87
Junction	Pit-run	\$3.59	\$1.54	\$1.10	24	\$149.52
Turnout	Pit-run	\$3.59	\$1.54	\$1.10	24	\$149.52
Turnaround	Pit-run	\$3.59	\$1.54	\$1.10	16	\$99.68
Approach to landing	Pit-run	\$3.59	\$1.54	\$1.10	31	\$193.13
50' Landing	Pit-run	\$3.59	\$1.54	\$1.10	160	\$996.80
Subtotal =					1,024	\$6,379.52

Totals

All Rock =	1,024
Pit-run =	1,024

TOTAL ROCK COSTS = \$6,379.52

EROSION CONTROL

Grass seed & fertilizer	0.50	ac @	\$500.00	per ac =	\$250.00
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TOTAL EROSION CONTROL COSTS = \$250.00

TOTAL PROJECT COST = \$10,589.02

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: T to U

Sale Number: FG-341-2020-W00236-01
Improvement: 18+50 stations
0.35 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	1.28	ac @	\$1,078.00	per acre =	\$1,379.84
Construct Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Construct Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	18.50	sta @	\$36.00	per sta =	\$666.00

TOTAL IMPROVEMENT COSTS = \$2,304.34

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$1.31	\$1.22	574	\$6,801.90
Junction	1½" - 0	\$9.32	\$1.31	\$1.22	12	\$142.20
Turnout	1½" - 0	\$9.32	\$1.31	\$1.22	24	\$284.40
Turnaround	1½" - 0	\$9.32	\$1.31	\$1.22	10	\$118.50
50' Landing	1½" - 0	\$9.32	\$1.31	\$1.22	47	\$556.95
Subtotal =					667	\$7,903.95

Totals

All Rock =	667
1½" - 0 =	667

TOTAL ROCK COSTS = \$7,903.95

EROSION CONTROL

Grass seed & fertilizer	0.64	ac @	\$425.00	per ac =	\$272.00
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TOTAL EROSION CONTROL COSTS = \$272.00

TOTAL PROJECT COST = \$10,480.29

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback
Road Segment: Point V

Sale Number: FG-341-2020-W00236-01
Improvement: 1+50 stations
0.03 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.18	ac @	\$1,078.00	per acre =	\$194.04
Fill reconstruction					
Excavate & load	1,500	cy @	\$1.64	per cy =	\$2,460.00
Endhaul unsuitable fill material	300	cy @	\$1.18	per cy =	\$354.00
Compact waste area	300	cy @	\$0.30	per cy =	\$90.00
Haul suitable fill material to staging area	1,650	cy @	\$3.43	per cy =	\$5,659.50
Shape staged material	1,650	cy @	\$0.30	per cy =	\$495.00
Load material @ staged material	1,650	cy @	\$0.80	per cy =	\$1,320.00
Haul fill material from staging area	1,650	cy @	\$3.43	per cy =	\$5,659.50
Place and Compact fill	1,950	cy @	\$0.50	per cy =	\$975.00
Pump culvert installation	1	day @	\$150.00	per day =	\$150.00
Grade, ditch, & roll	1.50	sta @	\$36.00	per sta =	\$54.00

TOTAL IMPROVEMENT COSTS = \$17,411.04

CULVERTS

Culverts and Bands					
30" Diameter	75	LF @	\$39.00	per LF =	\$2,925.00
30" Band	1	ea @	\$73.58	per ea =	\$73.58

TOTAL CULVERT COSTS = \$2,998.58

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$9.32	\$0.43	\$0.50	40	\$410.00
				Subtotal =	40	\$410.00
Surfacing rock						
Surfacing rock	1½" - 0	\$9.32	\$0.43	\$1.22	100	\$1,097.00
				Subtotal =	100	\$1,097.00

Totals	All Rock =	140
	1½" - 0 =	140

TOTAL ROCK COSTS = \$1,507.00

EROSION CONTROL

Grass seed & fertilizer	0.09	ac @	\$349.00	per ac =	\$31.41
Straw Mulch Bale	8	ea @	\$10.00	per ea =	\$80.00

TOTAL EROSION CONTROL COSTS = \$111.41

TOTAL PROJECT COST = \$22,028.03

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback

Sale Number: FG-341-2020-W00236-01

PROJECT NO. 3 ROAD BRUSHING

Light	6.7	Miles @	\$850.00	Per mile =	\$5,695.00
Medium	5.8	Miles @	\$1,100.00	Per mile =	\$6,380.00
Heavy	4.2	Miles @	\$1,550.00	Per mile =	\$6,510.00
Total		16.7	Miles		

Move in:

Brush Cutter

\$650.91

TOTAL COST PROJECT NO.3 = \$19,235.91

SUMMARY OF CONSTRUCTION COST

Timber Sale: Razorback

Sale Number: FG-341-2020-W00236-01

MOVE-IN, WITHIN AREA MOVE, & EQUIPMENT CLEANING COSTS

<u>Equipment</u>	<u>Total</u>
Grader	\$815.19
Roller (smooth/grid) & Compactor	\$495.98
Excavator (Large) - Equipment Cleaning	\$1,802.29
Dozer (Large) - Equipment Cleaning	\$1,846.87
Dump Truck (10cy +)	\$303.05
Water Truck (2,500 Gal)	\$151.53
	<u>TOTAL MOVE-IN COSTS = \$5,414.91</u>

QUARRY DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale: Razorback
Sale Number: FG-341-2020-W00236-01
Quarry Name: Middle Larch Quarry

1 1/2" - 0: 17,899 cy (truck measure)
Pit-run: 1,674 cy (truck measure)
Total truck yardage: 19,573 cy
Total in place yardage: 15,057 cy
Swell: 130%
Compaction: 116%

Move-in & Other Base Cost

Quarry development & overburden removal				\$12,740.00
Equipment cleaning & move in excavator				\$1,815.96
Equipment cleaning & move in dozer				\$1,841.41
Move in & setup drill				\$529.14
Move in & setup crusher				\$4,348.81
Move in Dump Trucks				\$490.88
Gradation tests	\$71.50 /2,000cy x	9	tests =	\$643.50
Clean up quarry				\$500.00
			Subtotal =	\$22,909.70
			Per CY =	\$1.17

1 1/2"-0 Base Cost

Drill & shoot	\$2.80	/ cy x	13,768	cy =	\$38,550.40
Push rock	\$0.80	/ cy x	17,899	cy =	\$14,319.20
Load crusher	\$0.80	/ cy x	17,899	cy =	\$14,319.20
Crush (1 1/2" - 0)	\$3.60	/ cy x	17,899	cy =	\$64,436.40
Load dump truck	\$0.80	/ cy x	17,899	cy =	\$14,319.20
			Subtotal =		\$145,944.40
			Per CY =		\$8.15

Pit-run Base Cost

Rip rock	\$2.10	/ cy x	1,288	cy =	\$2,704.80
Load dump truck	\$0.80	/ cy x	1,674	cy =	\$1,339.20
			Subtotal =		\$4,044.00
			Per CY =		\$2.42
			Total =		\$172,898.10

1 1/2"-0 Base Cost = **\$9.32/cy**
Pit-run Base Cost = **\$3.59/cy**

TIMBER SALE SUMMARY
Razorback
FG-341-2020-W00236-01

1. **Location:** Portions of Sections 28, 29 & 32, T2N, R6W, W.M., Tillamook County, Oregon.
2. **Type of Sale:** This timber sale is 106 net acres of Modified Clearcut and 2 net acres of Right-of-Way timber. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF, Tillamook County; Tax Code 56.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise:** The Timber Sale was cruised by ODF Cruisers in February of 2020.
6. **Timber Description:** The Timber Sale Area consists of a well stocked 60-year-old Douglas-fir stand with minor amounts of western hemlock and red alder. The stand has an average of 194 ft² of basal area (all species), an average Douglas-fir DBH of 19 inches and an estimated average net Douglas-fir volume of approximately 33.2 MBF per acre.
7. **Topography and Logging Method:** Slopes within the sale areas range from 0% to 80%, with an eastern aspect. The timber sale is 70% cable and 30% ground-based. The average skid trail length is 300 feet and the average cable road length is 400 feet.
8. **Access:** From Forest Grove travel northwest on Highway 8 to its junction with Highway 6. Turn left and continue west on Highway 6 for approximately 11.7 miles then turn right onto Drift Creek Road. Continue north on Idiot Creek Road for 1.5 miles then turn left onto Idiot Creek Loop Road. Continue approximately 1 mile to the east side of the Timber Sale Area.

9. **Projects:**

Project No. 1: Rocked Road Construction	\$19,064.37
Project No. 2: Road Improvement	\$316,069.72
Project No. 3: Road Brushing	\$19,235.91
Total Credits:	\$354,370.00

PROJECT COST SUMMARY SHEET

Timber Sale: Razorback
Sale Number: FG-341-2020-W00236-01

PROJECT NO. 1: ROCKED ROAD CONSTRUCTION

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	O to OO	10+00	\$8,167.32
	S to SS	14+50	\$10,589.02
		24+50 stations	
		0.46 miles	
Total Rock =	1,674 cy	Pit-run	
		Move-in =	\$308.03
<u>TOTAL PROJECT NO. 1 COST =</u>			<u>\$19,064.37</u>

PROJECT NO. 2: ROAD IMPROVEMENT

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	A to B	199+50	\$121,440.07
	A to M	195+90	\$85,740.50
	C to D	24+20	\$13,377.83
	E to F	2+30	\$2,639.00
	G to H	3+10	\$3,081.84
	I to J	24+50	\$19,051.26
	K to L	4+40	\$4,426.40
	N to O	32+20	\$14,536.90
	P to Q	8+00	\$5,068.70
	R to S	16+50	\$9,092.02
	T to U	18+50	\$10,480.29
	Point V	1+50	\$22,028.03
		530+60 stations	
		10.05 miles	
Total Rock =	17,899 cy	1 1/2"-0	
	30 cy	24" - 12" Fill armor	
	30 cy	Shot Rock	
	20 cy	36" - 24" Energy Dissipator	
		Move-in =	\$5,106.88
<u>TOTAL PROJECT NO. 2 COST =</u>			<u>\$316,069.72</u>

PROJECT NO. 3: ROAD BRUSHING

TOTAL PROJECT NO. 3 COST = **\$19,235.91**

TOTAL CREDITS **\$354,370.00**

CRUISE REPORT
Razorback
FG-341-2020-W00236-01

1. LOCATION:

Portions of Sections 29 and 32, T2N, R6W, W.M. Tillamook County, Oregon.

2. CRUISE DESIGN:

The cruise was designed using an estimated coefficient of variation (CV) of 50%, average stand diameter of 20 inches, sampling error (SE) of 10% and a minimum of 100 grade trees.

3. SAMPLING METHOD:

The Timber Sale Area was cruised in February of 2020 with 25 variable radius grade plots using a 40 BAF prism. Plots were laid out on a 7 chain x 7 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS:

121 trees were measured and graded producing a standard error of 8.4% on the Douglas-fir Basal Area and 8.2% on the Douglas-fir Board Foot Volume.

5. TREE MEASUREMENT AND GRADING:

All sample trees were measured and graded following the Official Log Scaling and Grading Rules as adopted by the NW Log Rules Advisory Group. 40 foot segments were favored.

- a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top.
- b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.
- c) **Form Factors:** Measured for each grade tree using a form point of 16 feet.

6. DATA PROCESSING:

- a) **Volumes and Statistics:** Cruise estimates and sampling statistics, were derived from Super Ace 2008 cruise software.
- b) **Deductions:** For conifers, two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage. For hardwoods, five percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

7. CRUISERS: The sale was cruised by Jasen McCoy, Mark Savage, Adrian Torres and Nate Hunter.

Prepared by: Nate Hunter 2-11-20

Reviewed by:  2/11/2020
Date

TC PSTATS				PROJECT STATISTICS				PAGE 1				
				PROJECT RAZORBRW				DATE 2/19/2020				
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt			
02N	06	32	RAZORB	0001	106.00	25	121	S	W			
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			25	121	4.8							
CRUISE			25	121	4.8	11,252	1.1					
DBH COUNT												
REFOREST												
COUNT												
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
DOUG FIR			103	81.5	19.2	119	37.6	164.8	33,512	33,221	7,250	7,250
WHEMLOCK			16	20.7	15.1	83	6.6	25.6	4,559	4,518	990	990
R ALDER			2	3.9	12.2	64	0.9	3.2	211	211	69	69
TOTAL			121	106.1	18.3	110	45.3	193.6	38,282	37,950	8,309	8,309
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		
DOUG FIR		36.0	3.8	574	597	619						
WHEMLOCK		63.7	16.4	349	418	486						
R ALDER		108.1	101.3		85	171						
TOTAL		42.4	4.1	538	561	584		72	18	8		
CL	68.1	COEFF	SAMPLE TREES - CF					# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15		
DOUG FIR		26.5	2.8	125	128	132						
WHEMLOCK		57.3	14.8	76	90	103						
R ALDER		118.5	111.0		29	62						
TOTAL		34.0	3.3	117	121	125		46	12	5		
CL	68.1	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15		
DOUG FIR		55.7	11.4	72	82	91						
WHEMLOCK		257.0	52.4	10	21	31						
R ALDER		388.0	79.1	1	4	7						
TOTAL		54.1	11.0	94	106	118		122	30	14		
CL	68.1	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15		
DOUG FIR		41.0	8.4	151	165	179						
WHEMLOCK		179.7	36.7	16	26	35						
R ALDER		346.1	70.6	1	3	5						
TOTAL		25.8	5.3	183	194	204		28	7	3		
CL	68.1	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15		
DOUG FIR		40.3	8.2	30,491	33,221	35,952						
WHEMLOCK		170.4	34.7	2,948	4,518	6,087						
R ALDER		381.3	77.8	47	211	375						
TOTAL		25.4	5.2	35,985	37,950	39,915		27	7	3		
CL	68.1	COEFF	NET CUFT FT/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15		
DOUG FIR		40.9	8.3	6,645	7,250	7,856						
WHEMLOCK		170.1	34.7	647	990	1,334						

PROJECT STATISTICS							PAGE	2	
TC PSTATS			PROJECT	RAZORBRW			DATE	2/19/2020	
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
02N	06	32	RAZORB	0001	106.00	25	121	S	W
CL	68.1	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER		407.2	83.0	12	69	126			
TOTAL		25.7	5.2	7,874	8,309	8,744	27	7	3

TC PSCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																		
<div>T02N R06W S32 Ty0001106.00</div>						Project: RAZORBRW Acres106.00								Page 1 Date 2/19/2020 Time 8:14:38AM						
S Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
			Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	CU																			
DF	2M	67	1.1	22,593	22,347	2,369			71	29	1	6	9	83	37	15	306	1.67	73.1	
DF	3M	26	.3	8,791	8,769	929			100				9	91	39	9	119	0.74	73.5	
DF	4M	7	1.0	2,128	2,106	223			100		39	26	18	17	22	6	30	0.38	70.4	
DF	Totals	88	.9	33,512	33,221	3,521			33	47	20	3	6	10	81	32	10	151	1.01	220.4
WH	2M	64	1.4	2,953	2,911	309			65	35			8	92	39	15	336	1.68	8.7	
WH	3M	23		1,034	1,034	110			77	23			2	98	38	9	128	0.89	8.1	
WH	4M	13		573	573	61			100		50	30		21	21	6	27	0.35	20.9	
WH	Totals	12	.9	4,559	4,518	479			30	47	22	6	4	6	84	29	9	120	0.92	37.6
RA	R	100		211	211	22			100		42			58	19	8	42	0.75	5.0	
RA	Totals	1		211	211	22			100		42			58	19	8	42	0.75	5.0	
Totals			0.9	38,282	37,950	4,023			33	47	20	4	6	9	81	32	10	144	1.00	263.0

TC		PSTNDSUM		Stand Table Summary										Page		1	
														Date:		2/19/2020	
T02N R06W S32 Ty0001 106.00				Project RAZORBRW										Time:		8:14:37AM	
				Acres 106.00										Grown Year:			
S Spec	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
DF		8	1	84	60	4.584	1.60	4.58	4.2	20.0	.55	19	92	58	20	10	
DF		10	1	84	56	2.934	1.60	2.93	7.7	30.0	.64	22	88	68	24	9	
DF		11	1	84	60	2.424	1.60	2.42	11.9	50.0	.82	29	121	87	31	13	
DF		13	1	82	72	1.736	1.60	1.74	23.8	70.0	1.18	41	122	125	44	13	
DF		14	1	90	125	1.497	1.60	2.99	22.1	105.0	1.88	66	314	200	70	33	
DF		15	5	88	123	6.519	8.00	16.95	19.4	90.0	9.38	329	1,525	995	349	162	
DF		16	3	89	120	3.438	4.80	9.17	21.3	95.0	5.57	196	871	591	207	92	
DF		17	6	88	119	6.090	9.60	17.26	22.7	98.2	11.14	391	1,695	1,181	414	180	
DF		18	7	89	123	6.338	11.20	19.01	25.5	116.7	13.84	486	2,218	1,467	515	235	
DF		19	9	88	130	7.314	14.40	21.94	28.9	129.3	18.07	634	2,836	1,915	672	301	
DF		20	18	87	127	13.201	28.80	37.40	33.3	142.9	35.53	1,247	5,346	3,766	1,322	567	
DF		21	6	89	133	3.991	9.60	11.97	37.4	176.1	12.75	447	2,109	1,351	474	224	
DF		22	7	87	131	4.243	11.20	12.73	40.1	183.8	14.53	510	2,340	1,540	541	248	
DF		23	7	89	138	3.882	11.20	11.65	46.4	216.7	15.40	540	2,523	1,632	573	267	
DF		24	10	88	137	5.093	16.00	16.30	46.1	214.1	21.41	751	3,489	2,269	796	370	
DF		25	4	86	140	1.877	6.40	6.57	46.7	227.9	8.74	307	1,497	926	325	159	
DF		26	9	88	139	3.906	14.40	12.58	53.9	254.1	19.32	678	3,198	2,048	719	339	
DF		28	4	87	142	1.497	6.40	5.24	58.3	292.1	8.70	305	1,530	922	324	162	
DF		29	1	89	150	.349	1.60	1.40	59.0	325.0	2.34	82	453	249	87	48	
DF		30	1	86	143	.326	1.60	.98	82.5	366.7	2.30	81	359	244	85	38	
DF		31	1	89	157	.305	1.60	1.22	73.0	405.0	2.54	89	495	269	94	52	
DF		Totals	103	87	119	81.542	164.80	217.03	33.4	153.1	206.63	7,250	33,221	21,903	7,685	3,521	
WH		8	2	89	55	9.167	3.20	9.17	4.2	20.0	1.22	38	183	130	41	19	
WH		11	1	90	80	2.424	1.60	4.85	8.6	35.0	1.34	42	170	142	44	18	
WH		17	2	91	101	2.030	3.20	4.06	30.1	125.0	3.90	122	508	414	129	54	
WH		19	2	92	114	1.625	3.20	4.06	34.5	154.0	4.48	140	626	475	149	66	
WH		20	2	91	112	1.467	3.20	3.67	36.6	150.0	4.29	134	550	455	142	58	
WH		21	1	92	118	.665	1.60	2.00	37.8	170.0	2.41	75	339	256	80	36	
WH		22	2	92	119	1.212	3.20	3.64	39.9	188.3	4.64	145	685	492	154	73	
WH		23	3	93	112	1.664	4.80	4.99	43.1	208.9	6.89	215	1,043	730	228	111	
WH		27	1	92	125	.402	1.60	1.21	64.7	343.3	2.50	78	414	265	83	44	
WH		Totals	16	90	83	20.657	25.60	37.64	26.3	120.0	31.69	990	4,518	3,359	1,050	479	
RA		10	1	86	55	2.934	1.60	2.93	4.7	20.0	.38	14	59	41	15	6	
RA		17	1	74	90	1.015	1.60	2.03	26.9	75.0	1.50	55	152	159	58	16	
RA		Totals	2	83	64	3.949	3.20	4.96	13.8	42.5	1.89	69	211	200	73	22	
Totals		121	88	110		106.148	193.60	259.63	32.0	146.2	240.21	8,309	37,950	25,462	8,808	4,023	

TC PLOGSTVB			Log Stock Table - MBF																	
T02N R06W S32 Ty0001 106.00				Project: RAZORBRW Acres 106.00										Page 1 Date 2/19/2020 Time 8:14:39AM						
S T Spp	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches													
							2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+		
DF	2M	16	24		24	.7							11	13						
DF	2M	24	156	1.3	154	4.4					9		70		75					
DF	2M	32	220		220	6.2					74		56	17	46	26				
DF	2M	36	179		179	5.1					138		16	25						
DF	2M	40	1,817	1.3	1,793	50.9					428		628	714	24					
DF	3M	32	80		80	2.3			12	10	58									
DF	3M	36	129		129	3.7			16	80	34									
DF	3M	40	723		720	20.5			56	238	426									
DF	4M	16	16		16	.4			16											
DF	4M	18	72		72	2.0			72											
DF	4M	24	58		58	1.7			58											
DF	4M	32	41	5.6	39	1.1			32	8										
DF	4M	36	14		14	.4			4		11									
DF	4M	40	24		24	.7			24											
DF	Totals		3,552		3,521	87.5			289	335	529	649	710	839	145	26				
WH	2M	32	26		26	5.4									26					
WH	2M	36	19		19	4.0					19									
WH	2M	40	268	1.7	263	55.0					22		83	159						
WH	3M	32	3		3	.5			3											
WH	3M	36	50		50	10.4			6	9	35									
WH	3M	40	57		57	11.9			5	18	10		25							
WH	4M	16	7		7	1.4			7											
WH	4M	18	24		24	4.9			24											
WH	4M	24	18		18	3.8			8	10										
WH	4M	40	12		12	2.6			12											
WH	Totals		483		479	11.9			64	37	44	41	108	159	26					
RA	R	12	6		6	27.8				6										
RA	R	16	3		3	14.4			3											
RA	R	40	13		13	57.7				13										
RA	Totals		22		22	.6			3	19										
Total	All Species		4,058		4,023	100.0			356	391	573	690	818	997	171	26				

VOLUME SUMMARY
(Shown in MBF)
Razorback
FG-341-2020-W00236-01
February 2020

AREA 1: MC (106 ACRES)

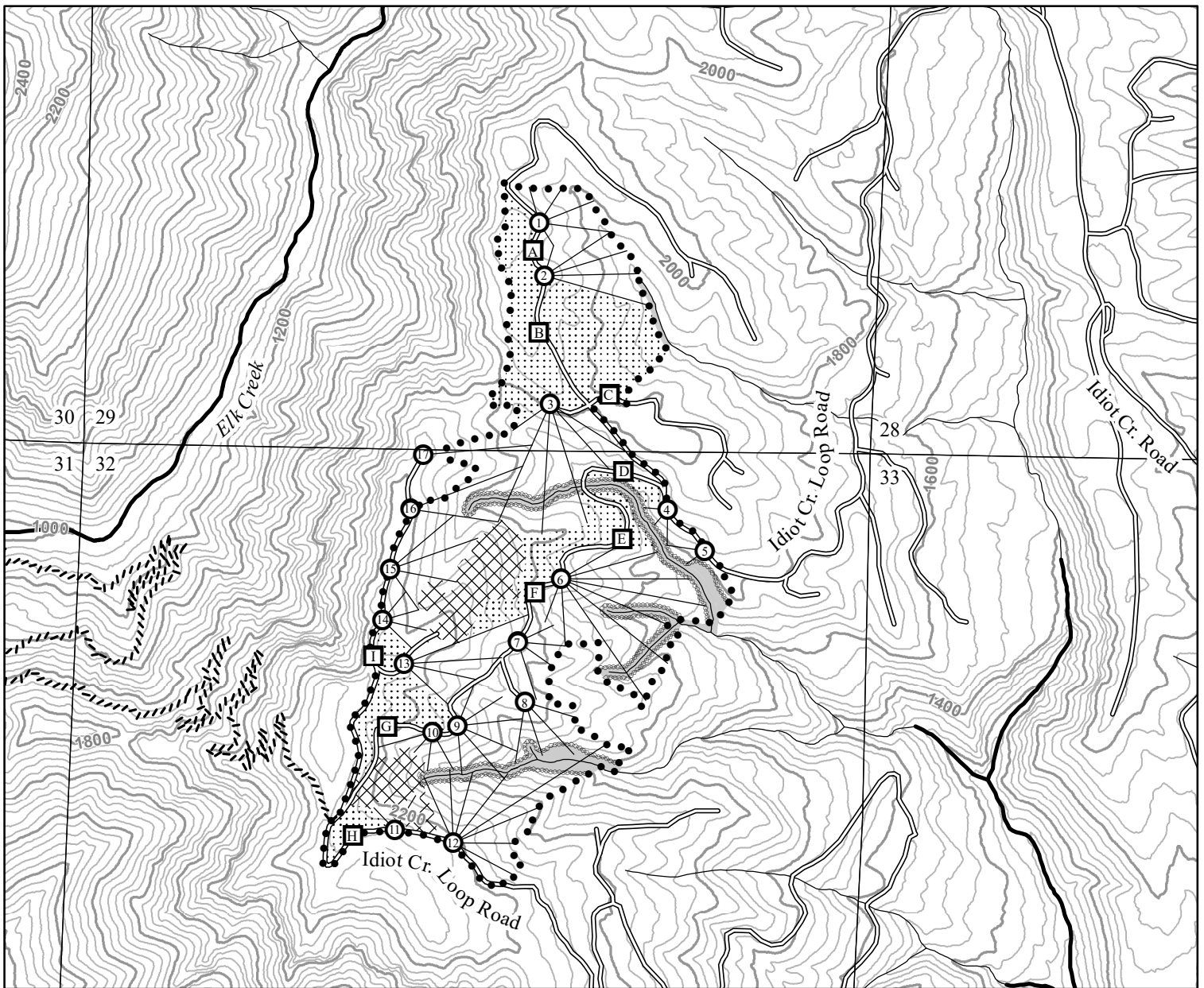
SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	2,369	930	223	0	3,522
	Hidden D&B (2%)	(47)	(19)	(4)	(0)	(70)
	NET TOTAL	2,322	911	219	0	3,452
	% of Total	68	26	6	0	
Western hemlock	Cruise Volume	309	110	61	0	480
	Hidden D&B (2%)	(6)	(2)	(1)	(0)	(9)
	NET TOTAL	303	108	60	0	471
	% of Total	64	23	13	0	
Red alder	Cruise Volume	0	0	0	22	22
	Hidden D&B (5%)	(0)	(0)	(0)	(1)	(1)
	NET TOTAL	0	0	0	21	21
	% of Total	0	0	0	100	

AREA 2: R/W (2 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	45	18	4	0	67
	Hidden D&B (2%)	(1)	(0)	(0)	(0)	(1)
	NET TOTAL	44	18	4	0	66
	% of Total	67	27	6	0	
Western hemlock	Cruise Volume	6	2	1	0	9
	Hidden D&B (2%)	(0)	(0)	(0)	(0)	(0)
	NET TOTAL	6	2	1	0	9
	% of Total	67	22	11	0	

SALE TOTAL: 108 ACRES

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir		2,366	929	223	0	3,518
Western hemlock		309	110	61	0	480
Red alder		0	0	0	21	21
NET TOTAL						4,019



Legend

- Timber Sale Boundary
- Stream Buffer Boundary
- ==== Surfaced Roads
- ////// Recreation Trails
- Type-F Stream
- Type-N Stream
- Stream Buffer
- ◀ Cable Yarding Area
- ▤ Tractor Yarding Area
- Cable Landing
- Tractor Landing
- ▦ Reforested Area
- ▭ Section Lines
- 40 Foot Countour Band
- 200 Foot Countour Band

LOGGING PLAN

FOR TIMBER SALE CONTRACT #FG-341-2020-W00236-01
 RAZORBACK
 PORTIONS OF SECTIONS 28, 29 & 32, T2N, R6W, W.M.,
 TILLAMOOK COUNTY, OREGON

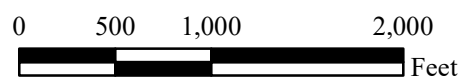
Forest Grove District GIS
 February, 2020

This product is for informational use and may not be
 suitable for legal, engineering, or surveying purposes.



1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES

	TRACTOR	CABLE
AREA 1	32	74
AREA 2	2	0
TOTAL	34	74