



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Rootless Rogers
Sale FG-341-2021-W00268-01

District: Forest Grove

Date: February 25, 2021

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$3,783,565.70	\$31,843.16	\$3,815,408.86
		Project Work:	(\$124,815.00)
		Advertised Value:	\$3,690,593.86



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District: Forest Grove

Date: February 25, 2021

Timber Description

Location:

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	20	0	98
Alder (Red)	19	0	95

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	4,442	2,100	0	6,542
Alder (Red)	0	0	97	97
Total	4,442	2,100	97	6,639

Comments: Pond Values Used: Local Pond Values, December 2020.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$918/\text{MBF} = \$1,125/\text{MBF} - \$207/\text{MBF}$

Western hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
 $\$390/\text{MBF} = \$597/\text{MBF} - \$207/\text{MBF}$

Bigleaf Maple and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
 $\$24/\text{MBF} = \$292/\text{MBF} - \$268/\text{MBF}$

BRANDING AND PAINTING COST ALLOWANCE = $\$2.00/\text{MBF}$

FUEL COST ALLOWANCE = $\$3.00/\text{Gallon}$

HAULING COST ALLOWANCE
Hauling costs equivalent to $\$950$ daily truck cost.

Other Costs (with Profit & Risk to be added):
None

Other Costs (No Profit & Risk added):
Machine Time to Block/Waterbar Roads, and Skid Trails:
 $25 \text{ hours} \times \$150/\text{hour} = \$3,750$
Machine Time to Pile Landing Slash and Sort Firewood:
 $25 \text{ hours} \times \$150/\text{hour} = \$3,750$
Equipment Cleaning: $3 \text{ pieces} \times \$1,000/\text{Piece} = \$3,000$
Slash Treatment: $75 \text{ acres} \times \$200/\text{acre} = \$15,000$
TOTAL Other Costs (No Profit & Risk added) = $\$25,500$

ROAD MAINTENANCE
Move-in (includes all road maintenance equipment necessary): $\$1,884.47$
General Road Maintenance: $1.06 \text{ Miles} \times \$4,166.29 = \$4,416.26$
TOTAL Road Maintenance: $\$6,300.73/6,639 \text{ MBF} = \$0.94/\text{MBF}$



Timber Sale Appraisal
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Logging Conditions

Combination#: 1 Douglas - Fir 85.00%
 Alder (Red) 87.00%

Logging System: Shovel **Process:** Harvester Head Delimbing
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 14 **bd. ft / load:** 4250
cost / mbf: \$89.82
machines: Forwarder
 Harvester

Combination#: 2 Douglas - Fir 15.00%
 Alder (Red) 13.00%

Logging System: Cable: Small Tower <=40 **Process:** Harvester Head Delimbing
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 10 **bd. ft / load:** 4250
cost / mbf: \$173.66
machines: Log Loader (A)
 Forwarder
 Harvester
 Tower Yarder (Small)



"STEWARDSHIP IN FORESTRY"

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Logging Costs

Operating Seasons: 2.00	Profit Risk: 15%
Project Costs: \$124,815.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$25,500.00

Miles of Road

Road Maintenance: \$0.94

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	4.6
Alder (Red)	\$0.00	2.0	4.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Rootless Rogers Sale FG-341-2021-W00268-01

District: Forest Grove

Date: February 25, 2021

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$102.40	\$0.96	\$1.32	\$70.22	\$0.00	\$26.24	\$0.00	\$2.00	\$3.84	\$206.98
Alder (Red)									
\$100.72	\$0.99	\$1.32	\$124.69	\$0.00	\$34.16	\$0.00	\$2.00	\$3.84	\$267.72

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$785.33	\$578.35	\$0.00
Alder (Red)	\$0.00	\$596.00	\$328.28	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Rootless Rogers
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District: Forest Grove

Date: February 25, 2021

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	6,542	\$578.35	\$3,783,565.70
Alder (Red)	97	\$328.28	\$31,843.16

Gross Timber Sale Value

Recovery: \$3,815,408.86

Prepared By: Adrian Adrian

Phone: 503-359-7437

PROJECT COST SUMMARY SHEET

Timber Sale: Rootless Rogers
Sale Number: FG-341-2020-W00268-01

PROJECT NO. 1: ROCKED ROAD CONSTRUCTION

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	A to B	31+90	\$32,570.37
	C to D	3+60	\$4,483.14
	E to F	9+80	\$5,745.40
	G to H	5+20	\$10,736.56
		50+50 stations	
		0.96 miles	
Total Rock =	4,596 cy	3" - 0	
		Move-in =	\$2,361.31
<u>TOTAL PROJECT COST =</u>			<u>\$55,896.78</u>

PROJECT NO. 2: ROAD IMPROVEMENT

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	I to J	271+20	\$36,238.52
	K to L	23+85	\$9,159.49
	M to N	32+75	\$12,548.21
	O to P	1+60	\$755.56
	Q to R	2+05	\$813.79
		331+45 stations	
		6.28 miles	
Total Rock =	48 cy	1½" - 0	
	2,571 cy	3" - 0	
		Move-in =	\$2,625.08
<u>TOTAL PROJECT COST =</u>			<u>\$62,140.65</u>

PROJECT NO. 3: NON-PROJECT ROAD MAINTENANCE

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	Non-Project Roads	159+91	\$6,491.26
		3.03 miles	
Total Rock =	50 cy	1½" - 0	
	100 cy	3" - 0	
		Move-in =	\$286.31
<u>TOTAL PROJECT COST =</u>			<u>\$6,777.57</u>

TOTAL CREDITS = \$124,815.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers
Road Segment: A to B

Sale Number: FG-341-2020-W00268-01
Construction: 31+90 stations
0.60 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	3.67	ac @	\$1,078.00	per ac =	\$3,956.26
Balanced road construction	31.90	sta @	\$110.00	per sta =	\$3,509.00
Turnouts	4	ea @	\$66.00	per ea =	\$264.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
70' Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	31.90	sta @	\$36.00	per sta =	\$1,148.40

TOTAL CONSTRUCTION COSTS = \$9,274.16

CULVERTS

Culverts and Bands					
18" Diameter	120	LF @	\$20.00	per LF =	\$2,400.00
24" Diameter	60	LF @	\$29.00	per LF =	\$1,740.00
Markers & Stakes					
Culvert markers	6	ea @	\$10.00	per ea =	\$60.00

TOTAL CULVERT COSTS = \$4,200.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Subgrade reinforcement	3" - 0	\$0.96	\$4.92	\$0.75	273	\$1,809.66
Subtotal =					273	\$1,809.66
Surfacing rock						
Base rock	3" - 0	\$0.96	\$4.92	\$1.22	2,074	\$14,721.85
Junction	3" - 0	\$0.96	\$4.92	\$1.22	96	\$681.60
Turnout	3" - 0	\$0.96	\$4.92	\$1.22	116	\$823.60
Turnaround	3" - 0	\$0.96	\$4.92	\$1.22	20	\$142.00
70' Landing	3" - 0	\$0.96	\$4.92	\$1.22	180	\$1,278.00
Subtotal =					2,486	\$16,369.05

Totals	All Rock =	2,758
	3" - 0 =	2,758

TOTAL ROCK COSTS = \$18,178.71

EROSION CONTROL

Grass seed & fertilizer	1.84	ac @	\$500.00	per ac =	\$917.50
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TOTAL EROSION CONTROL COSTS = \$917.50

TOTAL PROJECT COST = \$32,570.37

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers
 Road Segment: C to D

Sale Number: FG-341-2020-W00268-01
 Construction: 3+60 stations
0.07 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	0.42	ac @	\$1,078.00	per ac =	\$452.76
Balanced road construction	3.60	sta @	\$110.00	per sta =	\$396.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
70' Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	3.60	sta @	\$36.00	per sta =	\$129.60

TOTAL CONSTRUCTION COSTS = \$1,374.86

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Base rock	3" - 0	\$0.96	\$4.74	\$1.22	234	\$1,619.28
Turnaround	3" - 0	\$0.96	\$4.74	\$1.22	20	\$138.40
70' Landing	3" - 0	\$0.96	\$4.74	\$1.22	180	\$1,245.60
				Subtotal =	434	\$3,003.28

Totals	All Rock =	434
	3" - 0 =	434

TOTAL ROCK COSTS = \$3,003.28

EROSION CONTROL

Grass seed & fertilizer	0.21	ac @	\$500.00	per ac =	\$105.00
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TOTAL EROSION CONTROL COSTS = \$105.00

TOTAL PROJECT COST = \$4,483.14

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers
Road Segment: E to F

Sale Number: FG-341-2020-W00268-01
Construction: 9+80 stations
0.19 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	1.13	ac @	\$1,078.00	per ac =	\$1,218.14
Balanced road construction	9.80	sta @	\$110.00	per sta =	\$1,078.00
Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
70' Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	9.80	sta @	\$36.00	per sta =	\$352.80

TOTAL CONSTRUCTION COSTS = \$3,111.44

CULVERTS

Culverts and Bands					
18" Diameter	60	LF @	\$20.00	per LF =	\$1,200.00
Markers & Stakes					
Culvert markers	2	ea @	\$10.00	per ea =	\$20.00

TOTAL CULVERT COSTS = \$1,220.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Base rock	3" - 0	\$0.96	\$4.89	\$1.22	637	\$4,503.59
Turnout	3" - 0	\$0.96	\$4.89	\$1.22	29	\$205.03
Turnaround	3" - 0	\$0.96	\$4.89	\$1.22	20	\$141.40
70' Landing	3" - 0	\$0.96	\$4.89	\$1.22	180	\$1,272.60
				Subtotal =	866	\$6,122.62

Totals

All Rock =	866
3" - 0 =	866

TOTAL ROCK COSTS = \$6,122.62

EROSION CONTROL

Grass seed & fertilizer	0.57	ac @	\$500.00	per ac =	\$282.50
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TOTAL EROSION CONTROL COSTS = \$282.50

TOTAL PROJECT COST = \$10,736.56

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers
 Road Segment: G to H

Sale Number: FG-341-2020-W00268-01
 Construction: 5+20 stations
0.10 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	0.60	ac @	\$1,078.00	per ac =	\$646.80
Balanced road construction	5.20	sta @	\$110.00	per sta =	\$572.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
70' Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	5.20	sta @	\$36.00	per sta =	\$187.20

TOTAL CONSTRUCTION COSTS = \$1,802.50

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Base rock	3" - 0	\$0.96	\$4.87	\$1.22	338	\$2,382.90
Turnaround	3" - 0	\$0.96	\$4.87	\$1.22	20	\$141.00
70' Landing	3" - 0	\$0.96	\$4.87	\$1.22	180	\$1,269.00
Subtotal =					538	\$3,792.90

Totals

All Rock =	538
3" - 0 =	538

TOTAL ROCK COSTS = \$3,792.90

EROSION CONTROL

Grass seed & fertilizer	0.30	ac @	\$500.00	per ac =	\$150.00
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TOTAL EROSION CONTROL COSTS = \$150.00

TOTAL PROJECT COST = \$5,745.40

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers
 Road Segment: I to J

Sale Number: FG-341-2020-W00268-01
 Improvement: 271+20 stations
5.14 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	3.12	ac @	\$1,100.00	per acre =	\$3,432.00
Clean ditch & scatter waste material	271.20	sta @	\$60.00	per sta =	\$16,272.00
Clean culvert inlet & outlet, scatter waste	3	ea @	\$25.00	per ea =	\$75.00
Improve "Y" Junction	1.00	sta @	\$110.00	per sta =	\$110.00
Improve Turnouts	10	ea @	\$33.00	per ea =	\$330.00
Improve 70' Landing	1	ea @	\$157.00	per ea =	\$157.00
Grade, ditch, & roll	271.20	sta @	\$36.00	per sta =	\$9,763.20

TOTAL IMPROVEMENT COSTS = \$30,139.20

CULVERTS

Culverts and Bands					
24" Diameter	60	LF @	\$29.00	per LF =	\$1,740.00
Markers & Stakes					
Culvert Markers	10	ea @	\$10.00	per ea =	\$100.00
Additional Installation Cost					
Culvert No. 9 install	1	hrs @	\$175.00	per hr =	\$175.00

TOTAL CULVERT COSTS = \$2,015.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$0.96	\$5.53	\$0.50	24	\$167.76
				Subtotal =	24	\$167.76
Surfacing rock						
Spot rock	3" - 0	\$0.96	\$5.53	\$1.22	100	\$771.00
Junction	3" - 0	\$0.96	\$5.53	\$1.22	96	\$740.16
Turnout	3" - 0	\$0.96	\$5.53	\$1.22	140	1079.4
				Subtotal =	336	\$2,590.56

Totals	All Rock =	360
	1½" - 0 =	24
	3" - 0 =	336

TOTAL ROCK COSTS = \$2,758.32

EROSION CONTROL

Grass seed & fertilizer	3.12	ac @	\$425.00	per ac =	\$1,326.00
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TOTAL EROSION CONTROL COSTS = \$1,326.00

TOTAL PROJECT COST = \$36,238.52

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers
 Road Segment: K to L

Sale Number: FG-341-2020-W00268-01
 Improvement: 23+85 stations
0.45 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.28	ac @	\$1,078.00	per acre =	\$301.84
Clean ditch & scatter waste material	23.85	sta @	\$60.00	per sta =	\$1,431.00
Clean culvert inlet & outlet, scatter waste	1	ea @	\$25.00	per ea =	\$25.00
Improve Turnouts	3	ea @	\$33.00	per ea =	\$99.00
Grade, ditch, & roll	23.85	sta @	\$36.00	per sta =	\$858.60

TOTAL IMPROVEMENT COSTS = \$2,715.44

CULVERTS

Culverts and Bands					
18" Diameter	30	LF @	\$20.00	per LF =	\$600.00
Markers & Stakes					
Culvert Markers	3	ea @	\$10.00	per ea =	\$30.00

TOTAL CULVERT COSTS = \$630.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$0.96	\$4.20	\$0.50	24	\$135.84
Subtotal =					24	\$135.84
Surfacing rock						
Surfacing rock	3" - 0	\$0.96	\$4.20	\$1.22	739	\$4,717.05
Turnout	3" - 0	\$0.96	\$4.20	\$1.22	42	\$267.96
70' Landing	3" - 0	\$0.96	\$4.20	\$1.22	90	\$574.20
Subtotal =					871	\$5,559.21

Totals	All Rock =	895
	1½" - 0 =	24
	3" - 0 =	871

TOTAL ROCK COSTS = \$5,695.05

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 = \$9,159.49

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers
Road Segment: M to N

Sale Number: FG-341-2020-W00268-01
Improvement: 32+75 stations
0.62 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.38	ac @	\$1,078.00	per acre =	\$409.64
Clean ditch & scatter waste material	32.75	sta @	\$60.00	per sta =	\$1,965.00
Clean culvert inlet & outlet, scatter waste	3	ea @	\$25.00	per ea =	\$75.00
Improve Turnouts	3	ea @	\$33.00	per ea =	\$99.00
Improve 70' Landing	1	ea @	\$157.00	per ea =	\$157.00
Grade, ditch, & roll	32.75	sta @	\$36.00	per sta =	\$1,179.00

TOTAL IMPROVEMENT COSTS = \$3,884.64

Markers & Stakes

Culvert Markers	3	ea @	\$10.00	per ea =	\$30.00
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TOTAL CULVERT COSTS = \$30.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	3" - 0	\$0.96	\$4.98	\$1.22	1,015	\$7,269.19
Junction	3" - 0	\$0.96	\$4.98	\$1.22	36	\$257.76
Turnout	3" - 0	\$0.96	\$4.98	\$1.22	42	\$300.72
70' Landing	3" - 0	\$0.96	\$4.98	\$1.22	90	\$644.40
Subtotal =					1,183	\$8,472.07

Totals

All Rock =	1,183
3" - 0 =	1,183

TOTAL ROCK COSTS = \$8,472.07

EROSION CONTROL

Grass seed & fertilizer	0.38	ac @	\$425.00	per ac =	\$161.50
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TOTAL EROSION CONTROL COSTS = \$161.50

TOTAL PROJECT COST = \$12,548.21

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers
 Road Segment: O to P

Sale Number: FG-341-2020-W00268-01
 Improvement: 1+60 stations
0.03 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.02	ac @	\$1,078.00	per acre =	\$21.56
Clean ditch & scatter waste material	1.60	sta @	\$60.00	per sta =	\$96.00
Improve 70' Landing	1	ea @	\$157.00	per ea =	\$157.00
Grade, ditch, & roll	1.60	sta @	\$36.00	per sta =	\$57.60

TOTAL IMPROVEMENT COSTS = \$332.16

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
70' Landing	3" - 0	\$0.96	\$2.43	\$1.22	90	\$414.90
				Subtotal =	90	\$414.90
				Totals	All Rock = 90	
					3" - 0 = 90	

TOTAL ROCK COSTS = \$414.90

EROSION CONTROL

Grass seed & fertilizer	0.02	ac @	\$425.00	per ac =	\$8.50
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TOTAL EROSION CONTROL COSTS = \$8.50

TOTAL PROJECT COST = \$755.56

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers
 Road Segment: Q to R

Sale Number: FG-341-2020-W00268-01
 Improvement: 2+05 stations
0.04 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.03	ac @	\$1,078.00	per acre =	\$32.34
Clean ditch & scatter waste material	2.05	sta @	\$60.00	per sta =	\$123.00
Improve 70' Landing	1	ea @	\$157.00	per ea =	\$157.00
Grade, ditch, & roll	2.05	sta @	\$36.00	per sta =	\$73.80

TOTAL IMPROVEMENT COSTS = \$386.14

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
70' Landing	3" - 0	\$0.96	\$2.43	\$1.22	90	\$414.90
				Subtotal =	90	\$414.90
Totals				All Rock =	90	
				3" - 0 =	90	

TOTAL ROCK COSTS = \$414.90

EROSION CONTROL

Grass seed & fertilizer	0.03	ac @	\$425.00	per ac =	\$12.75
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TOTAL EROSION CONTROL COSTS = \$12.75

TOTAL PROJECT COST = \$813.79

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers

Sale Number: FG-341-2020-W00268-01

PROJECT No. 1, 2 MOVE-IN, WITHIN AREA MOVE, & CLEANING COSTS

<u>Equipment</u>	<u>Total</u>
Grader	\$790.56
Roller (smooth/grid) & Compactor	\$586.83
Excavator (Large) - Equipment Cleaning	\$1,771.56
Dozer (Large) - Equipment Cleaning	\$1,816.14
Dump Truck (10cy +)	\$153.61
Water Truck (2,500 Gal)	\$154.00
<u>TOTAL MOVE-IN COSTS =</u>	<u>\$5,272.70</u>

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rootless Rogers

Sale Number: FG-341-2020-W00268-01

Maintenance 159+91 stations
3.03 miles

PROJECT NO. 3

ROAD MAINTENANCE

Grade, ditch, & roll 159.91 sta @ \$36.00 per sta = \$5,756.76

TOTAL IMPROVEMENT COSTS = \$5,756.76

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Spot Rock Beaverdam	1½" - 0	\$0.96	\$1.05	\$1.22	50	\$161.50
Spot Rock Powder House	3" - 0	\$0.96	\$3.55	\$1.22	100	\$573.00
Subtotal =					150	\$734.50

Totals

All Rock =	150
1½" - 0 =	50
3" - 0 =	100

TOTAL ROCK COSTS = \$734.50

TOTAL PROJECT COST = \$6,491.26

QUARRY DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale: Rootless Rogers
Sale Number: FG-341-2020-W00268-01
Stockpile Name: Beaverdam Stockpile

1 1/2" - 0: 98 cy (truck measure)
3" -0: 7,267 cy (truck measure)
Total truck yardage: 7,365 cy

Move-in

Move in loader \$650.86
Move in Dump Trucks \$503.63
Subtotal = \$1,154.49
Per CY = \$0.16/cy

1 1/2"- 0 & 3"-0 Base Cost

Load dump truck \$0.80 / cy x 7,365 cy = \$5,892.04
Subtotal = \$5,892.04
Per CY = \$0.80

1 1/2"-0 Cost = **\$0.96/cy**
3"-0 Cost = **\$0.96/cy**

CRUISE REPORT
Rootless Rogers
FG-341-2021-W00268-01

1. LOCATION: Portions of Sections 19, 20, 29, & 30, T2N, R5W, W.M., Washington County, Oregon.

2. CRUISE DESIGN:

Pre-cruise evaluation indicated that the stand's average DBH is approximately 20 inches and the coefficient of variation is about 57%. For sales of this size and approximate value, ODF cruise standards require a sampling error of 9% at a 68% confidence level, and a minimum sample size of 100 graded trees. The cruise design chosen for this sale is a variable radius sample plot using a 40 BAF prism.

3. SAMPLING METHOD:

The Timber Sale Area was sampled in February 2021 with 41 variable radius grade plots using a 40 BAF prism. Plots were laid out on a 9 chain x 6 chain grid for Unit 1 and 6 chain x 7 chain grid for Unit 2. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS:

183 trees were measured and graded producing a cumulative Sampling Error of 7.2% on the Douglas-fir basal area per acre and 7.0% for the Douglas-fir net board foot volume per acre.

5. TREE MEASUREMENT AND GRADING:

All sample trees were measured and graded following Columbia River Log Scale grade rules and favored 40 foot segments.

- a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights were calculated to a top DIB of six inches (or 25% of DBH, whichever is larger) for conifers.
- 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:** The following percent volume deductions are by species to account for the hidden defect and breakage. For conifers two percent was deducted. For hardwoods five percent was deducted.

7. CRUISERS: The sale was cruised by ODF cruisers Adrian Torres, Mark Savage, Kenton Burns, and Nate Hunter.

Prepared by: Adrian Torres 02/17/2021
Date

Reviewed by: Mark Savage 02/25/2021
Date

TC PSTATS			PROJECT STATISTICS						PAGE	1		
			PROJECT		ROOTROG				DATE	2/23/2021		
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
02N	05	20	00A1	00MC		182.00		41	183	S	W	
02N	05W	20	00A2	00MC								
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			41	183	4.5							
CRUISE			41	183	4.5	15,721		1.2				
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			176	81.8	19.6	128	38.6	170.8	36,826	36,679	7,894	7,894
R ALDER			5	2.4	19.1	72	1.1	4.9	561	561	139	139
BL MAPLE			2	2.2	12.9	56	0.5	2.0	153	135	34	34
TOTAL			183	86.4	19.4	124	40.3	177.6	37,540	37,376	8,067	8,067
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			42.4	3.3	621	643	664					
R ALDER			80.3	39.9	162	270	378					
BL MAPLE			32.6	30.6	45	65	85					
TOTAL			45.3	3.4	603	625	647	82	20	9		
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			38.6	3.0	133	137	141					
R ALDER			56.3	28.0	46	64	82					
BL MAPLE			48.7	45.6	9	17	24					
TOTAL			41.2	3.1	129	134	138	68	17	8		
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			83.3	13.0	71	82	92					
R ALDER			533.2	83.2	0	2	4					
BL MAPLE			452.5	70.6	1	2	4					
TOTAL			76.5	11.9	76	86	97	234	58	26		
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			46.3	7.2	158	171	183					
R ALDER			524.9	81.9	1	5	9					
BL MAPLE			447.1	69.8	1	2	3					
TOTAL			42.7	6.7	166	178	189	73	18	8		
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			44.9	7.0	34,109	36,679	39,250					
R ALDER			533.1	83.2	94	561	1,028					
BL MAPLE			448.6	70.0	41	135	230					
TOTAL			43.0	6.7	34,870	37,376	39,882	74	18	8		
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			44.3	6.9	7,348	7,894	8,439					

PROJECT STATISTICS							PAGE	2		
PROJECT				ROOTROG			DATE	2/23/2021		
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
02N	05	20	00A1	00MC	182.00	41	183	S	W	
02N	05W	20	00A2	00MC						
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			522.6	81.5	26	139	252			
BL MAPLE			456.5	71.2	10	34	59			
TOTAL			42.0	6.6	7,538	8,067	8,595	70	18	8

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T02N R05W S20 Ty00MC71.00 T02N R05W S20 Ty00MC111.00				Project: ROOTROG										Page 1							
				Acres 182.00										Date 2/23/2021							
														Time 6:12:00AM							
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														6	15		0.00	1.5		
DF	2M	67	.4	25,022	24,911	4,534			61	39	1	1	1	97	39	15	354	1.81	70.3		
DF	3M	27	.4	9,903	9,868	1,796		97	3		2	1	1	96	39	9	111	0.69	88.5		
DF	4M	6		1,901	1,901	346		100			21	28	28	23	24	6	34	0.36	56.2		
DF Totals		98	.4	36,826	36,679	6,676		31	42	26	2	2	2	93	35	10	169	1.04	216.6		
BM CR		100	11.9	153	135	25		100			100				18	9	44	0.61	3.1		
BM Totals		0	11.9	153	135	25		100			100				18	9	44	0.61	3.1		
RA	CR	100		561	561	102		32	39	29	2	7		91	35	11	175	1.23	3.2		
RA Totals		2		561	561	102		32	39	29	2	7		91	35	11	175	1.23	3.2		
Totals			0.4	37,540	37,376	6,802		32	42	26	2	2	2	93	35	10	168	1.04	222.8		

TC		PSTNDSUM										Stand Table Summary										Page		1	
																						Date:		2/25/2021	
T02N R05W S20 Ty00MC T02N R05W S20 Ty00MC					Project					ROOTROG					Time:					12:42:12PM					
					Acres					182.00					Grown Year:										
S Sp	T	Sample			Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s										
		DBH	Trees	FF 16'	Av Ht	Net Cu.Ft.				Net Bd.Ft.	Tons				Cunits	MBF									
DF		8	1	87	85	2.796	.98	2.80	5.6	30.0	.44	16	84	81	28	15									
DF		9	1	91	92	2.209	.98	2.21	10.9	60.0	.69	24	133	125	44	24									
DF		10	3	88	103	5.365	2.93	8.94	9.6	48.0	2.45	86	429	446	156	78									
DF		12	3	89	108	2.546	2.00	5.09	13.0	57.7	1.89	66	294	344	121	53									
DF		13	1	87	80	1.059	.98	2.12	11.9	40.0	.72	25	85	131	46	15									
DF		14	7	89	123	6.387	6.83	15.51	17.3	80.0	7.66	269	1,241	1,395	489	226									
DF		15	2	89	124	1.590	1.95	3.97	19.8	90.0	2.24	79	358	407	143	65									
DF		16	7	88	106	4.892	6.83	11.18	22.1	93.1	7.05	247	1,041	1,283	450	190									
DF		17	8	88	119	4.952	7.81	13.00	24.6	103.8	9.10	319	1,349	1,657	581	246									
DF		18	9	89	133	4.968	8.78	14.35	27.9	127.7	11.43	401	1,833	2,081	730	334									
DF		19	14	89	136	6.937	13.66	19.82	32.0	144.7	18.10	635	2,869	3,293	1,156	522									
DF		20	7	89	141	3.130	6.83	9.39	34.6	158.6	9.25	325	1,489	1,684	591	271									
DF		21	16	88	140	6.490	15.61	19.87	37.7	175.5	21.34	749	3,488	3,883	1,363	635									
DF		22	21	88	144	7.761	20.49	23.65	42.6	201.4	28.74	1,008	4,764	5,230	1,835	867									
DF		23	13	89	133	4.396	12.68	13.19	44.9	204.6	16.86	592	2,698	3,069	1,077	491									
DF		24	12	89	138	3.727	11.71	11.18	50.9	237.5	16.21	569	2,655	2,950	1,035	483									
DF		25	13	89	143	3.721	12.68	12.02	52.1	251.4	17.85	626	3,023	3,248	1,140	550									
DF		26	13	88	141	3.440	12.68	10.32	61.0	284.6	17.94	629	2,937	3,264	1,145	535									
DF		27	6	86	150	1.472	5.85	4.42	68.2	318.3	8.58	301	1,406	1,562	548	256									
DF		28	5	85	139	1.141	4.88	3.19	72.8	338.6	6.63	232	1,081	1,206	423	197									
DF		29	5	86	151	1.063	4.88	3.40	72.9	352.5	7.07	248	1,199	1,286	451	218									
DF		30	7	86	150	1.392	6.83	4.37	78.8	390.5	9.82	344	1,708	1,787	627	311									
DF		31	1	86	150	.186	.98	.56	91.1	443.3	1.45	51	247	264	93	45									
DF		33	1	89	146	.164	.98	.49	105.0	543.3	1.48	52	268	268	94	49									
DF		Totals	176	88	128	81.784	170.78	215.06	36.7	170.6	224.97	7,894	36,679	40,944	14,366	6,676									
RA		17	2	89	66	1.238	1.95	1.24	37.8	135.0	1.29	47	167	234	85	30									
RA		20	2	89	71	.894	1.95	1.34	39.5	143.3	1.46	53	192	265	97	35									
RA		24	1	93	101	.311	.98	.62	62.5	325.0	1.07	39	202	194	71	37									
RA		Totals	5	90	72	2.443	4.88	3.20	43.3	175.4	3.81	139	561	694	252	102									
BM		12	1	88	59	1.242	.98	1.24	11.0	50.0	.36	14	62	66	25	11									
BM		14	1	84	52	.912	.98	1.82	11.3	40.0	.55	21	73	99	37	13									
BM		Totals	2	86	56	2.154	1.95	3.07	11.2	44.0	.91	34	135	165	62	25									
Totals		183	88	124		86.382	177.61	221.33	36.4	168.9	229.69	8,067	37,376	41,803	14,681	6,802									

TC		PLOGSTVB		Log Stock Table - MBF																	
T02N R05W S20 Ty00MC71.00 T02N R05W S20 Ty00MC111.00						Project: ROOTROG														Page 1	
																				Date 2/23/2021	
																				Time 6:12:00AM	
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	27		27	.4								27							
DF	2M	18	13		13	.2							13								
DF	2M	30	43	9.3	39	.6					18		21								
DF	2M	32	50		50	.7							50								
DF	2M	40	4,422		4,405	66.0					886	1195	1907	388	30						
DF	3M	16	8		8	.1							8								
DF	3M	18	8		8	.1					8										
DF	3M	20	15	10.9	14	.2				2	12										
DF	3M	26	14		14	.2					14										
DF	3M	29	3		3	.0			3												
DF	3M	35	21		21	.3			21												
DF	3M	36	24		24	.4			24												
DF	3M	37	7		7	.1			7												
DF	3M	38	18		18	.3			18												
DF	3M	39	15		15	.2			15												
DF	3M	40	1,669		1,665	24.9			314	331	974	45									
DF	4M	12	6		6	.1			6												
DF	4M	13	2		2	.0			2												
DF	4M	14	7		7	.1			7												
DF	4M	15	35		35	.5			35												
DF	4M	16	4		4	.1			4												
DF	4M	17	7		7	.1			7												
DF	4M	18	3		3	.0			3												
DF	4M	19	5		5	.1			5												
DF	4M	20	3		3	.0			3												
DF	4M	21	9		9	.1			9												
DF	4M	22	4		4	.1			4												
DF	4M	23	6		6	.1			4	2											
DF	4M	24	33		33	.5			33												
DF	4M	25	11		11	.2			11												
DF	4M	26	8		8	.1			8												
DF	4M	27	6		6	.1			6												
DF	4M	28	7		7	.1			7												
DF	4M	29	3		3	.0			3												
DF	4M	30	11		11	.2			11												
DF	4M	31	23		23	.3			23												
DF	4M	32	38		38	.6			38												

TC		PLOGSTVB		Log Stock Table - MBF															
T02N R05W S20 Ty00MC71.00 T02N R05W S20 Ty00MC111.00				Project: ROOTROG										Page 2					
				Acres 182.00										Date 2/23/2021					
				Time 6:12:00AM															
Spp	S T	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		4M	33	6		6	.1			6									
DF		4M	34	15		15	.2			15									
DF		4M	35	14		14	.2			14									
DF		4M	36	19		19	.3			19									
DF		4M	37	19		19	.3			19									
DF		4M	38	11		11	.2			11									
DF		4M	39	9		9	.1			9									
DF		4M	40	21		21	.3			9	12								
DF		Totals		6,702		6,676	98.1			733	348	1008	949	1216	2004	388	30		
BM		CR	17	17	20.0	13	54.0			5		8							
BM		CR	20	11		11	46.0				11								
BM		Totals		28	11.9	25	.4			5	11	8							
RA		CR	16	2		2	2.4			2									
RA		CR	25	7		7	6.6					7							
RA		CR	40	93		93	91.0				14	17	33		30				
RA		Totals		102		102	1.5			2	14	17	39		30				
Total		All Species		6,832		6,802	100.0			740	373	1033	988	1216	2034	388	30		

TC PSTATS			PROJECT STATISTICS						PAGE	1	
			PROJECT		ROOTROG		DATE				2/16/2021
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt
02N	05	20	00A1	00MC		71.00		16	65	S	W
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES			
TOTAL			16	65	4.1						
CRUISE			16	65	4.1	5,908		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			62	76.5	19.1	139	34.9	152.6	35,522	35,317	7,438
BL MAPLE			2	5.5	12.9	56	1.4	5.0	393	346	88
R ALDER			1	1.1	20.0	71	0.6	2.5	264	264	73
TOTAL			65	83.2	18.8	133	36.9	160.1	36,179	35,926	7,599
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			11.2	1.6	721	732	744				
BL MAPLE			32.6	30.6	45	65	85				
R ALDER											
TOTAL			23.4	3.2	676	698	721	22	5	2	
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			7.5	1.1	153	154	156				
BL MAPLE			48.7	45.6	9	17	24				
R ALDER											
TOTAL			20.9	2.8	143	148	152	17	4	2	
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			103.8	26.8	56	77	97				
BL MAPLE			276.9	71.4	2	6	9				
R ALDER			400.0	103.2		1	2				
TOTAL			91.0	23.5	64	83	103	352	88	39	
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			54.3	14.0	131	153	174				
BL MAPLE			273.3	70.5	1	5	9				
R ALDER			400.0	103.2		3	5				
TOTAL			45.6	11.8	141	160	179	89	22	10	
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			55.3	14.3	30,275	35,317	40,359				
BL MAPLE			274.3	70.8	101	346	591				
R ALDER			400.0	103.2		264	536				
TOTAL			51.8	13.4	31,127	35,926	40,725	114	29	13	
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			54.4	14.0	6,395	7,438	8,482				

TC PSTATS				PROJECT STATISTICS				PAGE	2	
				PROJECT	ROOTROG			DATE	2/16/2021	
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
02N	05	20	00A1	00MC	71.00	16	65	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
BL MAPLE			279.5	72.1	25	88	151			
R ALDER			400.0	103.2		73	148			
TOTAL			50.0	12.9	6,618	7,599	8,580	107	27	12

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																		
T02N R05W S20 Ty00MC71.00				Project: ROOTROG												Page 1						
				Acres 71.00												Date 2/16/2021						
																Time 7:07:30AM						
S Spp		So Gr T rt ad		% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
									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
DF		2M		64	.7	23,052	22,880	1,624		71		29	2	1	3	94	39	15	341	1.75	67.2	
DF		3M		31	.3	10,739	10,705	760		100			2	2	1	95	39	8	106	0.63	100.6	
DF		4M		5		1,731	1,731	123		100			27	13	23	36	24	6	36	0.36	47.9	
DF		Totals		98	.6	35,522	35,317	2,507		35	46	19	3	2	4	91	36	10	164	0.97	215.7	
BM		CR		100	11.9	393	346	25		100			100				18	9	44	0.61	7.9	
BM		Totals		1	11.9	393	346	25		100			100				18	9	44	0.61	7.9	
RA		CR		100		264	264	19		13		87	13			87	28	10	115	1.13	2.3	
RA		Totals		1		264	264	19		13		87	13			87	28	10	115	1.13	2.3	
Totals					0.7	36,179	35,926	2,551		36		46	19	4	2	3	91	35	10	159	0.97	225.8

TC		PSTNDSUM										Stand Table Summary										Page		1	
																						Date:		2/16/2021	
T02N R05W S20 Ty00MC					71.00					Project		ROOTROG					Time:		7:07:30AM						
										Acres		71.00					Grown Year:								
S	T				Tot						Average Log				Net		Net		T o t a l s						
		DBH	Sample Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF									
DF		10	2	88	114	9.167	5.00	18.33	8.8	45.0	4.61	162	825	328	115	59									
DF		12	2	89	122	3.342	2.63	6.68	14.7	69.8	2.80	98	466	199	70	33									
DF		14	5	89	131	11.693	12.50	30.40	17.0	80.0	14.77	518	2,432	1,049	368	173									
DF		15	1	89	136	2.037	2.50	6.11	17.3	80.0	3.02	106	489	214	75	35									
DF		16	1	84	87	1.790	2.50	3.58	21.1	85.0	2.15	75	304	153	54	22									
DF		17	1	89	127	1.586	2.50	4.76	23.4	103.3	3.17	111	492	225	79	35									
DF		18	5	89	146	7.074	12.50	21.22	29.1	138.7	17.61	618	2,943	1,250	439	209									
DF		19	5	90	154	6.349	12.50	19.05	34.4	166.7	18.67	655	3,174	1,325	465	225									
DF		20	3	88	148	3.438	7.50	10.31	36.3	171.1	10.68	375	1,765	758	266	125									
DF		21	6	89	158	6.236	15.00	20.79	38.0	185.5	22.53	790	3,856	1,599	561	274									
DF		22	10	89	151	9.470	25.00	29.36	43.8	210.3	36.66	1,286	6,175	2,603	913	438									
DF		23	4	89	130	3.466	10.00	10.40	44.2	200.8	13.11	460	2,088	931	327	148									
DF		24	2	87	156	1.592	5.00	4.77	55.2	256.7	7.51	263	1,225	533	187	87									
DF		25	2	89	154	1.467	5.00	5.87	45.5	240.0	7.62	267	1,408	541	190	100									
DF		26	3	85	149	2.034	7.50	6.10	61.6	270.0	10.71	376	1,648	760	267	117									
DF		27	4	86	149	2.515	10.00	7.55	68.5	316.7	14.72	516	2,389	1,045	367	170									
DF		28	2	84	148	1.169	5.00	3.51	71.2	341.7	7.12	250	1,199	505	177	85									
DF		29	3	85	153	1.635	7.50	5.45	69.8	331.0	10.84	380	1,804	769	270	128									
DF		31	1	86	150	.477	2.50	1.43	91.1	443.3	3.71	130	634	264	93	45									
DF		Totals	62	88	139	76.538	152.63	215.67	34.5	163.8	212.00	7,438	35,317	15,052	5,281	2,507									
BM		12	1	88	59	3.183	2.50	3.18	11.0	50.0	.93	35	159	66	25	11									
BM		14	1	84	52	2.339	2.50	4.68	11.3	40.0	1.40	53	187	99	37	13									
BM		Totals	2	86	56	5.522	5.00	7.86	11.2	44.0	2.33	88	346	165	62	25									
RA		20	1	90	71	1.146	2.50	2.29	31.8	115.0	2.00	73	264	142	52	19									
RA		Totals	1	90	71	1.146	2.50	2.29	31.8	115.0	2.00	73	264	142	52	19									
Totals		65	88	133		83.205	160.13	225.83	33.7	159.1	216.33	7,599	35,926	15,359	5,395	2,551									

TC		PLOGSTVB		Log Stock Table - MBF															
T02N R05W S20 Ty00MC				71.00		Project:		ROOTROG								Page		1	
						Acres		71.00								Date		2/16/2021	
																Time		7:07:29AM	
Spp	S T	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	14		14	.6								14				
DF		2M	18	13		13	.5							13					
DF		2M	30	24	11.4	21	.8								21				
DF		2M	32	50		50	2.0								50				
DF		2M	40	1,536		1,526	60.9					286	547	581	112				
DF		3M	20	15	10.9	14	.5			2	12								
DF		3M	26	14		14	.6				14								
DF		3M	35	10		10	.4			10									
DF		3M	36	13		13	.5			13									
DF		3M	37	4		4	.2			4									
DF		3M	38	7		7	.3			7									
DF		3M	39	9		9	.4			9									
DF		3M	40	690		689	27.5			166	93	430							
DF		4M	12	1		1	.0			1									
DF		4M	14	3		3	.1			3									
DF		4M	15	30		30	1.2			30									
DF		4M	21	2		2	.1			2									
DF		4M	23	2		2	.1				2								
DF		4M	25	4		4	.1			4									
DF		4M	26	3		3	.1			3									
DF		4M	27	2		2	.1			2									
DF		4M	29	0		0	.0			0									
DF		4M	30	3		3	.1			3									
DF		4M	31	3		3	.1			3									
DF		4M	32	8		8	.3			8									
DF		4M	34	11		11	.5			11									
DF		4M	35	6		6	.2			6									
DF		4M	36	8		8	.3			8									
DF		4M	37	16		16	.6			16									
DF		4M	40	21		21	.8			9	12								
DF		Totals		2,522		2,507	98.3			318	110	456	286	560	666	112			
BM		CR	17	17	20.0	13	54.0			5		8							
BM		CR	20	11		11	46.0				11								
BM		Totals		28	11.9	25	1.0			5	11	8							
RA		CR	16	2		2	13.0			2									
RA		CR	40	16		16	87.0					16							

TC		PLOGSTVB		Log Stock Table - MBF															
T02N R05W S20 Ty00MC71.00				Project:		ROOTROG						Page		2					
				Acres		71.00						Date		2/16/2021					
												Time		7:07:29AM					
Spp	S T	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+
RA		Totals		19		19	.7			2		16							
Total		All Species		2,569		2,551	100.0			325	121	464	303	560	666	112			

TC PSTATS			PROJECT STATISTICS						PAGE	1	
			PROJECT		ROOTROG		DATE 2/23/2021				
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
02N	05	20	00A2	00MC		111.00	25	118	S	W	
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			25	118	4.7						
CRUISE			25	118	4.7	9,814	1.2				
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			114	85.1	19.8	121	41.0	182.4	37,659	37,551	8,185
R ALDER			4	3.3	18.9	73	1.5	6.4	752	752	181
TOTAL			118	88.4	19.8	119	42.4	188.8	38,411	38,303	8,366
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			52.4	4.9	573	602	632				
R ALDER			88.9	50.8	138	280	422				
TOTAL			53.8	5.0	562	592	621	116	29	13	
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			47.7	4.5	124	129	135				
R ALDER			65.0	37.1	40	64	88				
TOTAL			48.9	4.5	121	127	133	95	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		
DOUG FIR			72.1	14.7	73	85	98				
R ALDER			500.0	102.0		3	7				
TOTAL			68.7	14.0	76	88	101	196	49	22	
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			41.6	8.5	167	182	198				
R ALDER			500.0	102.0		6	13				
TOTAL			40.8	8.3	173	189	205	69	17	8	
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			38.7	7.9	34,585	37,551	40,517				
R ALDER			500.0	102.0		752	1,518				
TOTAL			38.0	7.7	35,338	38,303	41,267	60	15	7	
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			38.4	7.8	7,543	8,185	8,826				
R ALDER			500.0	102.0		181	365				
TOTAL			37.5	7.7	7,725	8,366	9,006	59	15	7	

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T02N R05W S20 Ty00MC111.00				Project: ROOTROG														Page 1			
				Acres 111.00														Date 2/23/2021			
																		Time 6:42:11AM			
Spp	S ort ad	So rt ad	Gr	%	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
Def%	Gross	Net	Net MBF														Ft	In	Ft	Lf	Per /Acre
DF		CU															6	15		0.00	2.5
DF		2M	69	.3	26,282	26,209	2,909				56	44	0	1		99	40	15	362	1.84	72.3
DF		3M	25	.4	9,368	9,332	1,036			95	5		2	0	1	97	39	9	116	0.74	80.8
DF		4M	6		2,010	2,010	223			100			17	37	30	16	25	6	33	0.37	61.5
DF Totals				98	.3	37,659	37,551	4,168		29	40	31	2	2	2	94	35	10	173	1.08	217.2
RA CR				100		752	752	83		36	28	36		8		92	38	11	199	1.26	3.8
RA Totals				2		752	752	83		36	28	36		8		92	38	11	199	1.26	3.8
Totals					0.3	38,411	38,303	4,252		29	40	31	2	3	2	94	35	10	173	1.08	220.9

TC		PSTNDSUM		Stand Table Summary										Page Date:		1 2/23/2021	
T02N R05W S20 Ty00MC111.00					Project		ROOTROG		Time:		6:42:12AM						
					Acres		111.00		Grown Year:								
S Sp	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s			
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
DF		8	1	87	85	4.584	1.60	4.58	5.6	30.0	.73	26	138	81	28	15	
DF		9	1	91	92	3.622	1.60	3.62	10.9	60.0	1.13	40	217	125	44	24	
DF		10	1	87	81	2.934	1.60	2.93	12.8	60.0	1.07	37	176	118	42	20	
DF		12	1	88	94	2.037	1.60	4.07	11.2	45.0	1.31	46	183	145	51	20	
DF		13	1	87	80	1.736	1.60	3.47	11.9	40.0	1.18	41	139	131	46	15	
DF		14	2	89	103	2.993	3.20	5.99	18.3	80.0	3.12	109	479	346	121	53	
DF		15	1	89	112	1.304	1.60	2.61	23.4	105.0	1.74	61	274	193	68	30	
DF		16	6	89	109	6.875	9.60	16.04	22.3	94.3	10.19	357	1,513	1,131	397	168	
DF		17	7	88	117	7.105	11.20	18.27	24.8	103.9	12.90	453	1,898	1,432	502	211	
DF		18	4	89	118	3.622	6.40	9.96	26.4	112.7	7.48	262	1,123	830	291	125	
DF		19	9	89	127	7.314	14.40	20.32	30.6	131.6	17.73	622	2,674	1,968	691	297	
DF		20	4	89	136	2.934	6.40	8.80	33.3	149.2	8.34	293	1,313	926	325	146	
DF		21	10	88	129	6.652	16.00	19.29	37.4	168.6	20.58	722	3,253	2,284	801	361	
DF		22	11	88	138	6.667	17.60	20.00	41.5	193.0	23.67	830	3,861	2,627	922	429	
DF		23	9	89	135	4.991	14.40	14.97	45.1	206.3	19.27	676	3,089	2,139	750	343	
DF		24	10	89	134	5.093	16.00	15.28	50.0	233.7	21.78	764	3,570	2,417	848	396	
DF		25	11	89	141	5.163	17.60	15.96	53.6	254.1	24.39	856	4,055	2,707	950	450	
DF		26	10	89	139	4.340	16.00	13.02	60.8	289.0	22.56	792	3,762	2,504	879	418	
DF		27	2	87	151	.805	3.20	2.41	67.7	321.7	4.66	163	777	517	181	86	
DF		28	3	86	133	1.123	4.80	2.99	74.0	336.2	6.31	221	1,007	700	246	112	
DF		29	2	88	149	.698	3.20	2.09	78.0	388.3	4.66	163	813	517	181	90	
DF		30	7	86	150	2.282	11.20	7.17	78.8	390.5	16.10	565	2,800	1,787	627	311	
DF		33	1	89	146	.269	1.60	.81	105.0	543.3	2.42	85	439	268	94	49	
DF		Totals	114	88	121	85.140	182.40	214.67	38.1	174.9	233.27	8,185	37,551	25,893	9,085	4,168	
RA		17	2	89	66	2.030	3.20	2.03	37.8	135.0	2.11	77	274	234	85	30	
RA		20	1	89	71	.733	1.60	.73	55.1	200.0	1.11	40	147	123	45	16	
RA		24	1	93	101	.509	1.60	1.02	62.5	325.0	1.75	64	331	194	71	37	
RA		Totals	4	90	72	3.273	6.40	3.78	47.8	198.8	4.97	181	752	552	201	83	
Totals			118	88	119	88.413	188.80	218.45	38.3	175.3	238.24	8,366	38,303	26,444	9,286	4,252	

TC		PLOGSTVB		Log Stock Table - MBF															
T02N R05W S20 Ty00MC111.00				Project: Acres		ROOTROG 111.00								Page		2			
														Date		2/23/2021			
														Time		6:42:11AM			
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	4M	37	3		3	.1			3										
DF	4M	38	11		11	.3			11										
DF	4M	39	9		9	.2			9										
DF	Totals		4,180		4,168	98.0			415	238	553	662	656	1338	276	30			
RA	CR	25	7		7	8.1					7								
RA	CR	40	77		77	91.9			14		17	16		30					
RA	Totals		83		83	2.0			14		17	23		30					
Total	All Species		4,264		4,252	100.0			415	252	569	686	656	1368	276	30			

VOLUME SUMMARY
(Shown in MBF)
Rootless Rogers
FG-341-2021-W00268-01
February 2021

UNIT 1: MC (71 ACRES)

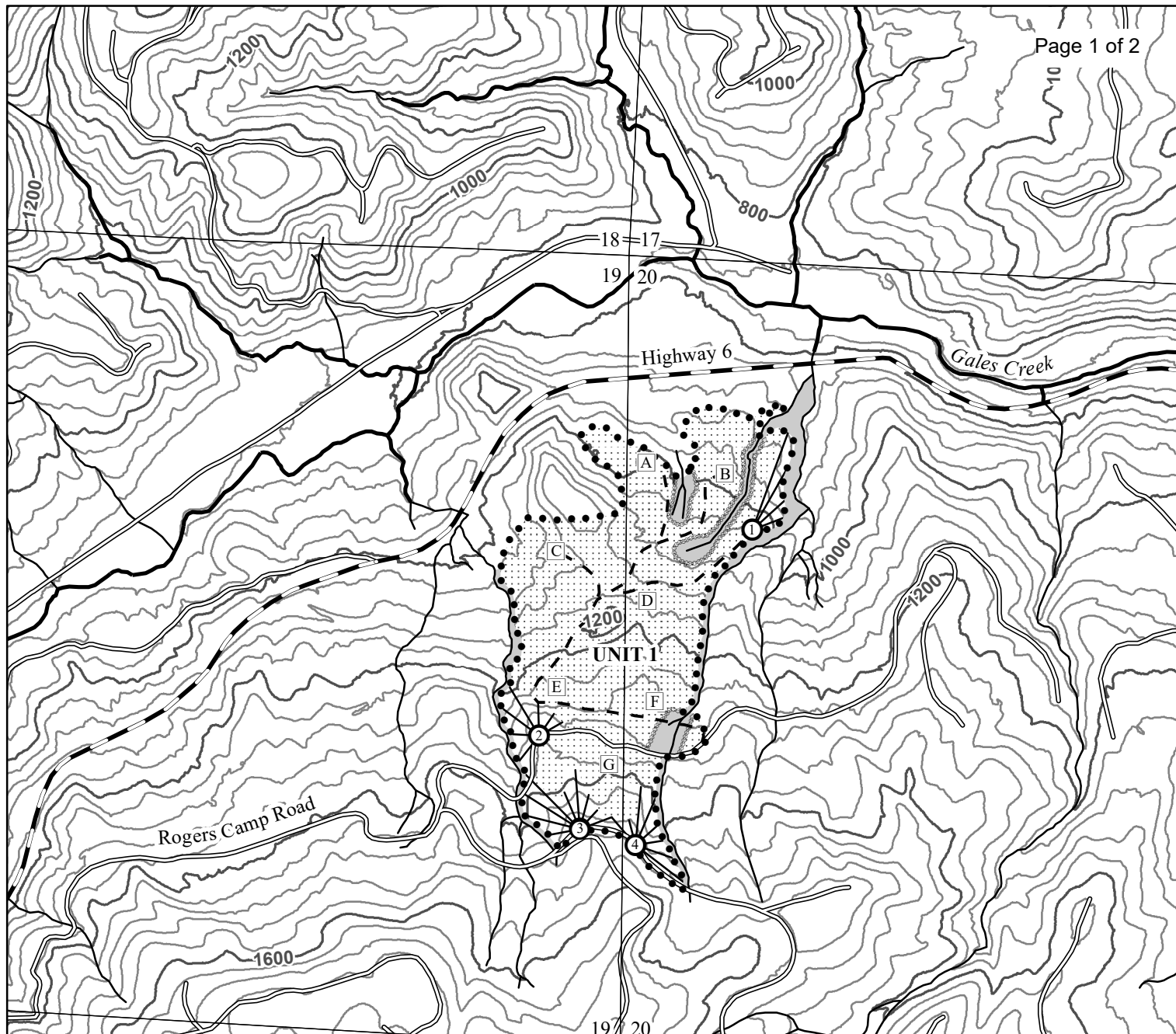
SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	1,624	760	123	0	2,507
	Hidden D&B (2%)	(33)	(15)	(2)	(0)	(50)
	NET TOTAL	1,591	745	121	0	2,457
	% of Total	65	30	5	0	
Red Alder	Cruise Volume	0	0	0	19	19
	Hidden D&B (5%)	(0)	(0)	(0)	(1)	(1)
	NET TOTAL	0	0	0	18	18
	% of Total	0	0	0	100	

UNIT 2: MC (111 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	2,909	1,036	223	0	4,168
	Hidden D&B (2%)	(58)	(21)	(4)	(0)	(83)
	NET TOTAL	2,851	1,015	219	0	4,085
	% of Total	70	25	5		
Red Alder	Cruise Volume	0	0	0	83	83
	Hidden D&B (5%)	(0)	(0)	(0)	(4)	(4)
	NET TOTAL	0	0	0	79	79
	% of Total	0	0	0	100	

SALE TOTAL

SPECIES	2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	4,442	1,760	340	0	6,542
Red Alder	0	0	0	97	97
Total	4,442	1,760	340	97	6,639



Legend

- Timber Sale Boundary
- - - - - Stream Buffer Boundary
- Paved Roads
- Surfaced Roads
- - - New Road Construction
- Type-F Stream
- Type-N Stream
- ▒ Stream Buffer
- ⌵ Cable Yarding Area
- ▒ Tractor Yarding Area
- Cable Landing
- Tractor Landing
- Section Lines
- 40 Foot Contour Band
- 200 Foot Contour Band

LOGGING PLAN

FOR TIMBER SALE CONTRACT #FG-341-2021-W00268-01
 ROOTLESS ROGERS
 PORTIONS OF SECTIONS 19, 20, 29 & 30, T2N, R5W, W.M.,
 WASHINGTON COUNTY, OREGON

Forest Grove District GIS
 February, 2021

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

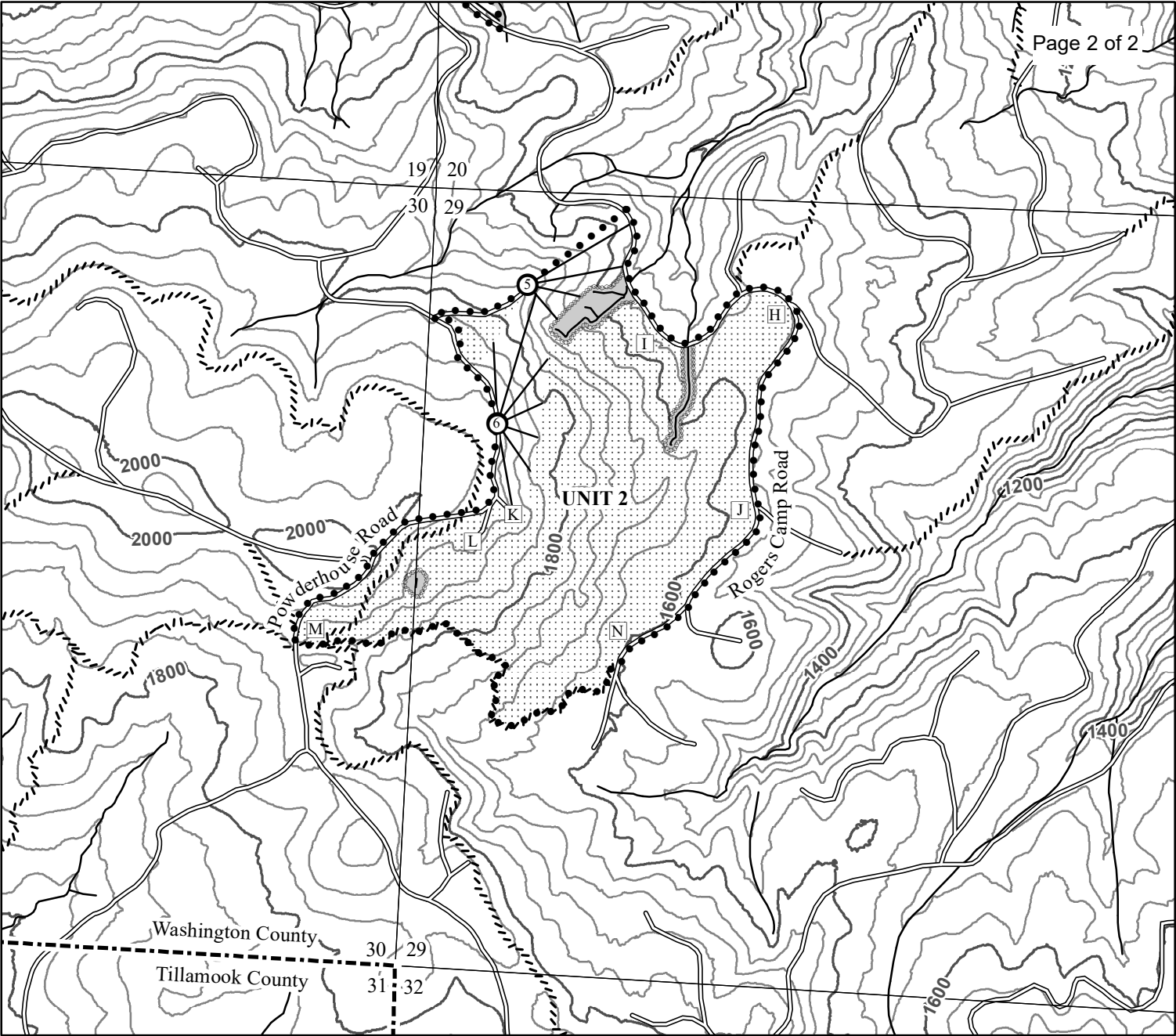
1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES

	TRACTOR CABLE	
UNIT 1	60	11
UNIT 2	97	14
TOTAL	157	25



Legend

- Timber Sale Boundary
- Stream Buffer Boundary
- Surfaced Roads
- //// Recreation Trail
- Type-F Stream
- Type-N Stream
- Stream Buffer
- ◀ Cable Yarding Area
- Tractor Yarding Area
- Cable Landing
- Tractor Landing
- County Lines
- Section Lines
- 40 Foot Contour Band
- 200 Foot Contour Band

LOGGING PLAN

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