"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Music Trail
Sale AT-341-2023-W00983-01

District: Astoria **Date: June 15, 2022**

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$5,384,609.47	$373,105.28	$5,757,714.75
		Project Work:	($417,277.00)
		Advertised Value:	$5,340,437.75

Timber Sale Appraisal
Music Trail
Sale AT-341-2023-W00983-01

"STEWARDSHIP IN FORESTRY"

District: Astoria **Date: June 15, 2022**

Timber Description

Location:

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	25	0	97
Western Hemlock / Fir	18	0	96
Alder (Red)	15	0	95
Maple	17	0	93

Volume by Grade	2S	3S & 4S 6"-11"	3S 12"+	8" - 9"	10" - 11"	12"+	6" - 7"	Camprun	Total
Douglas - Fir	8,216	1,437	226	0	0	0	0	0	9,879
Western Hemlock / Fir	589	735	0	0	0	0	0	0	1,324
Alder (Red)	0	0	0	223	246	371	232	0	1,072
Maple	0	0	0	0	0	0	0	43	43
Total	8,805	2,172	226	223	246	371	232	43	12,318

Comments: Pond Values Used: Local Pond Values, May, 2022.

Expected Log Markets: Mist, Warrenton, Banks, Willamina, North Plains, Clatskanie, Tillamook, Wauna, Forest Grove, Eugene, Noti, Longview, WA, Elma, WA, Chehalis, WA, and Vancouver, WA.

PRICING:
Western Red Cedar and other Cedars stumpage = pond value - (Douglas-fir) logging cost.
$944.15/MBF = $1,228/MBF - $283.85/MBF

Spruce = pond value - (Douglas-fir) logging cost.
$149.15/MBF = $433/MBF - $283.85/MBF

Fuel cost allowance based on month local pond values were collected.

Other Costs (with Profit & Risk to be added):

Machine Washing for Invasive Weed Compliance = $2,000

Ditch Filters:
14 bales of straw @ $12.06/bale = $168.84
6 hours of labor (installation/removal) @ $45/hr = $270

Waterbar and Block Unsurfaced Roads 1A to 1B, 2A to 2B, and 2C to 2D:
Move-in C315 Excavator @ $905/move-in = $905
6 hrs w/C315 to construct approximately 10 to 12 waterbars @ 114/hr = $684

TOTAL Other Costs (with Profit & Risk to be added):$4,027.84

Other Costs (No Profit & Risk added): None

SLASH PILING
(See attached appraisal. Includes move-in, pile materials, end-hauling in Unit 1) = $29,777

ROAD MAINTENANCE
(See attached Road Maintenance Cost Summary Sheet)
TOTAL Road Maintenance: $25,593/12,318 MBF = $2.08/MBF

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Music Trail

Sale AT-341-2023-W00983-01

District: Astoria **Date: June 15, 2022**

Logging Conditions

Combination#: 1

Douglas - Fir	22.00%
Western Hemlock / Fir	22.00%
Alder (Red)	22.00%
Maple	22.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Manual Falling/Delimbing

yarding distance: Long (1,500 ft) **downhill yarding:** No

tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 8 **bd. ft / load:** 4250

cost / mbf: $198.34

machines: Log Loader (A)
Tower Yarder (Medium)

Combination#: 2

Douglas - Fir	78.00%
Western Hemlock / Fir	78.00%
Alder (Red)	78.00%
Maple	78.00%

Logging System: Shovel **Process:** Manual Falling/Delimbing

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:** 4500

cost / mbf: $100.92

machines: Shovel Logger

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Music Trail
Sale AT-341-2023-W00983-01

District: Astoria **Date: June 15, 2022**

Logging Costs

Operating Seasons:	3.00	**Profit Risk:**	12%
Project Costs:	$417,277.00	**Other Costs (P/R):**	$4,027.84
Slash Disposal:	$29,777.00	**Other Costs:**	$0.00

Miles of Road

Road Maintenance: $2.08

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	5.0
Western Hemlock / Fir	$0.00	2.0	4.0
Alder (Red)	$0.00	2.0	3.5
Maple	$0.00	2.0	3.5

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Music Trail
Sale AT-341-2023-W00983-01

District: Astoria **Date: June 15, 2022**

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
$122.35	$2.14	$1.07	$123.60	$0.33	$29.94	$2.42	$2.00	$0.00	$283.85
Western Hemlock / Fir									
$122.35	$2.16	$1.07	$156.00	$0.33	$33.83	$2.42	$2.00	$0.00	$320.16
Alder (Red)									
$122.35	$2.18	$1.07	$180.00	$0.33	$36.71	$2.42	$2.00	$0.00	$347.06
Maple									
$122.35	$2.23	$1.07	$183.43	$0.33	$37.13	$2.42	$2.00	$0.00	$350.96

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$783.58	$499.73	$0.00
Western Hemlock / Fir	$0.00	$658.36	$338.20	$0.00
Alder (Red)	$0.00	$693.54	$346.48	$0.00
Maple	$0.00	$390.00	$39.04	$0.00

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Music Trail
Sale AT-341-2023-W00983-01

District: Astoria **Date: June 15, 2022**

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
Maple	0	$0.00	$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	9,879	$499.73	$4,936,832.67
Western Hemlock / Fir	1,324	$338.20	$447,776.80
Alder (Red)	1,072	$346.48	$371,426.56
Maple	43	$39.04	$1,678.72

Gross Timber Sale Value

Recovery: $5,757,714.75

Prepared By: Justin Bush **Phone:** 503-325-5451

Site Prep Appraisal

Sale Number: AT-341-2023-W00983-01
Sale Name: Music Trail
Date: 05/27/2022

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre	Landing Production Rate (hrs/30 acres)
Doug-fir	A	0.5	0.5	6
Hemlock/Fir	B	1.3	4.5	8
Hemlock/Spruce	C	1.8	6.0	10
Hemlock	D	1.8	6.0	8
Conifer/Hardwood	E	1.0	2.0	8
Whole Tree Yarding	F	0.5	0.5	12

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area	
1	MC	A	49	25	$145.00	$3,552.50	
2	MC	B	85	111	$145.00	$16,022.50	
					In-unit Piling	**Sub Total =**	$19,575.00

Sale Area	Number of Landings to be Piled	# cable acres per area	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area	
1	15	25	$725.00	39.5	$5.00	$197.50	
2	19	15	$580.00	401.5	$5.00	$2,007.50	
*Cost includes separating firewood					Materials	**Sub Total =**	$2,205.00
					Landing Piling	**Sub Total =**	$1,305.00

Additonal Move-in allowance

Move-In Allowance	Number of Move-In's	Total Move-In Allowance					
$1,290.00	2	$2,580.00	Brush Piler				
$184.00	2	$368.00	Dump Truck (12cy)				
					Move-In	**Sub Total =**	$2,948.00

Slash Endhaul

Dump Truck hrs	Cost/Hour	Total	Loader hrs	Cost/Hour	Total		
16	$89.00	$1,424.00	16	$145.00	$2,320.00		
						Sub Total =	$3,744.00
						Grand Total =	**$29,777.00**

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: **Music Trail**
Date: June 15, 2022
By: Justin Bush

MBF: 12,318
$$/MBF: $2.08

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	
First Interim Operations	Grader 14G	$875	1	8	$113	$1,779	
Second Interim Operations	Grader 14G	$875	1	8	$113	$1,779	
	Dump Truck 12CY	$184	1	12	$89	$1,252	
	Rubber tired backhoe	$361	1	4	$87	$709	
	Vibratory Roller	$875	1	8	$87	$1,571	
Final Road Maintenance	Grader 14G	$875	1	35	$113	$4,830	
	Dump Truck 12CY	$184	2	16	$89	$1,792	
	FE Loader C966	$875	1	8	$94	$1,627	
	Vibratory Roller	$875	1	35	$87	$3,920	
	Water Truck 2,500 gallon	$214	1	16	$101	$1,830	
	C315 Excavator	$905	1	8	$114	$1,817	
	Labor			8	$45	$360	
Subtotal							**$23,266**
	Additional costing for fuel				10%	$2,327	
Total							**$25,593**

First and Second Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	2.5	2.5	1.0	8
Vibratory Roller	1.5	1.5	1.0	8

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	1.5	6.5	4.3	35
Vibratory Roller	1.5	6.5	4.3	35

Process and compact: All crushed rock roads
Trailover Ridge Road 0.7 Miles
Trailover Road 0.5 Miles
Music Road 1.3 Miles
Beneke Creek Road 2.4 Miles
Unnamed Spurs: 1.6 Miles

Grade & Process Total = 6.5 Miles

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Music Trail

Project No. 1: ROAD CONSTRUCTION:

Road segment	*Length (Sta)*	*Length (Mile)*	*Cost*		*With additional fuel allowance per project*
Unsurfaced					
1A to 1B, 2A to 2B, 2C to 2D, 2K to 2L, and 2M to 2N	37.10	0.70	$23,547		$25,902
Surfaced					
1C to 1D, 2E to 2F, 2G to 2H, and 2I to 2J	44.05	0.83	$95,647		$105,211
Road Maint.			$6,754		$7,429
Move-In			$5,029		$5,532
TOTALS	81.15	1.54		$130,977	

Project No. 2: ROAD IMPROVEMENT:

Road segment	*Length (Sta)*	*Length (Mile)*	*Cost*		
I1 to I2, I3 to I4, I5 to I6,	323.45	6.13	$102,479		$112,727
I7 to I8, I9 to I10,					
and I11 to I12					
Road Maint.			$5,806		$6,387
Move-In			$4,324		$4,756
TOTALS		6.13		$112,609	

SPECIAL PROJECTS (Move-In and Road Maint. are included separetly as needed, for each Special Project):

Description	*Length/Vol.*	*Cost*		
Proj. 3 Rock Crushing	10,761	$122,175		$134,393
Proj. 4 Road Vacating	23.65	$8,212		$9,033
Proj. 5 Stream Enhancement	N/A	$5,370		$5,907
TOTAL			$135,757	
10% Increase Fuel Allowance			$37,934	
GRAND TOTAL			**$417,277**	

Compiled By: Cole Hatcher CB

Date: 06/13/2022

Move In and Maintenance Calculator for Construction and Improvement

SALE NAME: Music Trail

Project No. 1: ROAD CONSTRUCTION:

Road segment	Length/Sta	Length/Mile	Cost	
Unsurfaced				
1A to 1B, 2A to 2B, 2C to 2D, 2K to 2L, and 2M to 2N	37.10	0.70	$23,547.39	
Surfaced				
1C to 1D, 2E to 2F, 2G to 2H, and 2I to 2J	44.05	0.83	$95,646.56	
TOTALS	81.15	1.54		$119,193.94

Project No. 2: ROAD IMPROVEMENT:

Road segment	Length/Sta	Length/Mile	Cost	
I1 to I2, I3 to I4, I5 to I6, I7 to I8, I9 to I10, and I11 to I12	323.45	6.13	$102,478.82	
TOTALS	323.45	6.13		$102,478.82

MOVE IN (Construction & Improvement Only)

Equipment	Length/Mile	Cost
Vibratory Roller		$875.00
C315 Excavator		$905.00
C966 Front End Loader		$875.00
14G Grader		$875.00
10-12 yd^3 Dump Truck (8x)		$1,472.00
Water Truck (2,500 gal)		$214.00
D8 Dozer		$1,581.00
24 yd^3 Off Highway Dump		$870.00
C568 Excavator		$1,686.00
TOTAL		$9,353.00

ROAD MAINTENANCE (Construction & Improvement Only)

	Mile	Cost
Project Road Mainteance	5.59	$12,560.00
TOTAL		$12,560.00

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Music Trail — NEW CONSTRUCTION: 81.15 STATIONS — 1.54 MILES
ROAD: 1A to 1B (4.0), 1C to 1D (6.15), 2A to 2B (7.75), 2C to 2D (1.7), — IMPROVEMENT: STATIONS — 0.00 MILES
POINTS: 2E to 2F (8.2), 2G to 2H (26.1), 2I to 2J (3.6), 2K to 2L (16.65), and 2M to 2N (7.0)

CLEARING & GRUBBING

	Method	Acres/amount	x	Rate	=	Cost
Unsurfaced						
1A to 1B, 2A to 2B, 2C to 2D, 2K to 2L, 2M to 2N	Scatter outside of right of way	3.41	x	$ 1,503	=	$5,120.41
Surfaced						
1C to 1D, 2E to 2F, 2G to 2H, 2I to 2J	Scatter outside of right of way	4.04	x	$ 1,503	=	$6,079.63

SUB TOTAL FOR CLEARING & GRUBBING $11,200

EXCAVATION

	Material		Cy/amount	x	Rate	=	Cost	
1A to 1B								
0+00 to 2+20	Additional drift w/ D8 ($/hr)	D8/hrs	5	x	$178.00	=	$890.00	
0+00 to 4+00	Common drift (≤ 50% slopes).		1,150	x	$2.02	=	$2,323.00	
2+00 to 4+00	Embankment compaction.		1,150	x	$0.79	=	$908.50	
4+00	Landing construction		1	x	$438.00	=	$438.00	$4,560
1C to 1D								
0+00 to 1+00	Drift earth for 100 feet.	Sta./$	1.0	x	$214.00	=	$214.00	
1+00 to 6+15	Balanced construction.	Sta./$	5.15	x	$138.00	=	$710.70	
1+45 and 4+20	Roadside landing construction.		2	x	$219.00	=	$438.00	
6+15	Landing construction.		1	x	$438.00	=	$438.00	$1,801
2A to 2B								
0+00 to 7+75	Common drift (≤ 50% slopes).		700	x	$2.02	=	$1,414.00	
	Embankment compaction.		700		$0.79		$553.00	
5+45	Construct turnaround.	C315/Hrs.	1	x	$114.00	=	$114.00	
7+75	Landing construction.		1	x	$438.00	=	$438.00	$2,519
2C to 2D								
0+00 to 1+70	Common drift (≤ 50% slopes).		320	x	$2.02	=	$646.40	
	Embankment compaction.		320		$0.79		$252.80	
1+70	Landing construction.		1	x	$438.00	=	$438.00	$1,337
2E to 2F								
0+00 to 2+95	Common drift (≤ 50% slopes).		145	x	$2.02	=	$292.90	
2+95 to 4+75	Full bench (end-haul excavation)		800	x	$4.50	=	$3,600.00	
1+60 to 4+85	Cut slope rounding.	Sta./$	3	x	$49.00	=	$159.25	
4+75 to 8+20	Common drift (≤ 50% slopes).		400	x	$2.02	=	$808.00	
4+75 to 8+20	Embankment compaction.		1,345	x	$0.79	=	$1,062.55	
5+25	Construct turnout.	C315/Hrs.	1	x	$114.00	=	$114.00	
6+90	Construct turnaround.	C315/Hrs.	1	x	$114.00	=	$114.00	
8+20	Landing construction.		1	x	$438.00	=	$438.00	$6,589
2G to 2H								
0+00 to 26+1C	Common drift (≤ 50% slopes).		1,200	x	$2.02	=	$2,424.00	
0+00 to 7+50	Full bench (end-haul excavation)		4,400	x	$4.50	=	$19,800.00	
0+00 to 7+50	Cut slope rounding.	Sta./$	7.50	x	$49.00	=	$367.50	
10+65, 15+60	Construct turnout.	C315/Hrs.	2	x	$114.00	=	$228.00	$22,820
18+30, 21+60,	Landing construction.		4	x	$438.00	=	$1,752.00	
18+30 to 26+1	Embankment compaction.		5,600	x	$0.79	=	$4,424.00	$6,176
2I to 2J								
0+00 to 3+60	Common drift (≤ 50% slopes).		600	x	$2.02	=	$1,212.00	
	Embankment compaction.		600		$0.79		$474.00	
3+60	Landing construction.		1	x	$438.00	=	$438.00	$2,124
2K to 2L								
0+00 to 9+65, 11+75 to 14+20	Balanced construction.	Sta./$	12.10	x	$138.00	=	$1,669.80	
9+65 to 11+75, 14+20 to 16+05	Common drift (≤ 50% slopes).		500	x	$2.02	=	$1,010.00	
9+65 to 11+75, 14+20 to 16+06	Embankment compaction.		500	x	$0.79	=	$395.00	
10+00 to 11+00	Cut slope rounding.	Sta./$	1	x	$49.00	=	$49.00	
15+00	Construct turnaround.	C315/Hrs.	1	x	$114.00	=	$114.00	
16+65	Landing construction.		1	x	$438.00	=	$438.00	$3,676
2M to 2N								
0+00 to 7+00	Balanced construction.	Sta./$	7	x	$138.00	=	$966.00	
6+00	Construct turnaround.	C315/Hrs.	1	x	$114.00	=	$114.00	
7+00	Landing construction.		1	x	$438.00	=	$438.00	$1,518

SUB TOTAL FOR EXCAVATION $53,118

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
2E to 2F					**2M to 2N**				
4+75	18" CPP	40	$21.95	$878.00	1+50	18" CPP	30	$21.95	$658.50
2G to 2H					4+00	18" CPP	30	$21.95	$658.50
0+00	18" CPP	30	$21.95	$658.50					$0.00
8+35	18" CPP	30	$21.95	$658.50					$0.00
12+70	18" CPP	30	$21.95	$658.50					$0.00
2K to 2L									$0.00
11+05	24" CPP	40	$30.39	$1,215.60					$0.00
15+40	24" CPP	50	$30.39	$1,519.50					$0.00
									$0.00

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' x 2.5" white Carsonite post	8	$23.00	$184.00

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION $7,090

Subtotal of Clearing, Exc.,Culv. ***$71,408***

SURFACING

Subgrade prep:	Description	Stations/ amount	x	Rate/ sta/amt	Cost
1A to 1B, 2A to 2B, 2C to 2D, 2K to 2L, 2M to 2N	Grade, Shape and Outslope 14'	37.10	x	$20.63	$765.37
1C to 1D, 2E to 2F, 2G to 2H, 2I to 2J	Grade, Shape and Ditch 16'	44.05	x	$27.91	$1,229.44
All segments	Subgrade Compaction	81.15	x	$22.69	$1,841.29

ROAD SEGMENT	1A to 1B			POINT TO POINT		Sta. to Sta.					
				1A to 1B		0+00 to 4+00					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" crushed	0+00 to 0+80	8	station	50	stations	0.80	40	$9.24	$370	
Junction Rock	1 1/2"-0" crushed	0+00	N/A	junction	11	junctions	1	11	$9.24	$102	
Total Rock for Road Segment:			1A to 1B					51			$471

ROAD SEGMENT	1C to 1D			POINT TO POINT		Sta. to Sta.					
				1C to 1D		0+00 to 6+15					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" crushed	0+00 to 5+15	8	station	50	stations	5.15	258	$9.24	$2,379	
Junction Rock	1 1/2"-0" crushed	0+00	N/A	junction	11	junctions	1	11	$9.24	$102	
Roadside Landings	6"-0" pit-run	1+45, 4+20	N/A	landing	88	landings	2	176	$9.24	$1,626	
Base Rock	6"-0" pit-run	5+15 to 6+15	12	station	86	stations	1.00	86	$9.24	$795	
Landings	6"-0" pit-run	6+15	N/A	landing	121	landings	1	121	$9.24	$1,118	
Total Rock for Road Segment:			1C to 1D					652			$6,020

ROAD SEGMENT	2A to 2B			POINT TO POINT		Sta. to Sta.					
				2A to 2B		0+00 to 7+75					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	6"-0" pit-run	0+00 to 1+00	8	station	50	stations	1.00	50	$9.24	$462	
Junction Rock	1 1/2"-0" crushed	0+00	N/A	junctions	11	junctions	1	11	$9.24	$102	
Total Rock for Road Segment:			2A to 2B					61			$564

ROAD SEGMENT	2C to 2D			POINT TO POINT		Sta. to Sta.					
				2C to 2D		0+00 to 1+70					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Junction Rock	6"-0" pit-run	0+00	N/A	junction	33	junctions	1	33	$9.24	$305	
Total Rock for Road Segment:			2C to 2D					33			$305

ROAD SEGMENT	2E to 2F			POINT TO POINT		Sta. to Sta.					
				2E to 2F		0+00 to 8+20					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" crushed	0+00 to 7+20	8	station	50	stations	7.20	360	$9.24	$3,326	
Base Rock	6"-0" pit-run	7+20 to 8+20	12	station	86	stations	1.00	86	$9.24	$795	
Turnout	4"-0" crushed	5+25	8	turnout	11	turnouts	1	11	$9.24	$102	
Turnaround	4"-0" crushed	6+90	8	turnaround	11	turnarounds	1	11	$9.24	$102	
Junction Rock	1 1/2"-0" crushed	0+00	N/A	junction	11	junctions	1	11	$9.24	$102	
Landings	6"-0" pit-run	8+20	N/A	landing	110	landings	1	110	$9.24	$1,016	
Total Rock for Road Segment:			2E to 2F					589			$5,442

ROAD SEGMENT	2G to 2H			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	2G to 2H Volume (CY) per		0+00 to 26+10 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" crushed	0+00 to 25+10	8	station	50	stations	25.10	1,255	$9.24	$11,596	
Junction Rock	1 1/2"-0" crushed	0+00	N/A	junction	11	junctions	1	11	$9.24	$102	
Traction Rock	1 1/2"-0" crushed	0+00 to 12+65	2	station	13	stations	12.65	164	$9.24	$1,520	
Fill Armor	24"-6" riprap	3+20	N/A	load	11	loads	20	220	$5.72	$1,258	
Turnouts	4"-0" crushed	10+65, 15+60	8	turnout	11	turnouts	2	22	$9.24	$203	
Base Rock	4"-0" crushed	17+80 to 18+80, 21+10 to 22+10, 23+60 to 25+10	12	station	86	stations	3.50	301	$9.24	$2,781	
Base Rock	6"-0" pit-run	25+10 to 26+10	12	station	86	stations	1.00	86	$9.24	$795	
Landings	6"-0" pit-run	18+30, 21+60, 24+10, 26+10	N/A	landing	110	landings	4	440	$9.24	$4,066	
Total Rock for Road Segment:			2G to 2H					2,499			$22,321
ROAD SEGMENT	2I to 2J			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	2I to 2J Volume (CY) per		0+00 to 3+60 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" crushed	0+00 to 2+60	8	station	50	stations	2.60	130	$9.24	$1,201	
Junction Rock	1 1/2"-0" crushed	0+00	N/A	junction	11	junctions	1	11	$9.24	$102	
Base Rock	6"-0" pit-run	2+60 to 3+60	12	station	86	stations	1.00	86	$9.24	$795	
Landings	6"-0" pit-run	3+60	N/A	landing	110	landings	1	110	$9.24	$1,016	
Total Rock for Road Segment:			2I to 2J					337			$3,114
ROAD SEGMENT	2K to 2L			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	2K to 2L Volume (CY) per		0+00 to 16+65 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" crushed	0+00 to 1+00	8	station	50	stations	1.00	50	$9.24	$462	
Junction Rock	4"-0" crushed	0+00	N/A	junction	11	junctions	1	11	$9.24	$102	
Total Rock for Road Segment:			2K to 2L					61			$564
ROAD SEGMENT	2M to 2N			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	2M to 2N Volume (CY) per		0+00 to 7+00 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" crushed	0+00 to 1+00	8	station	50	stations	1.00	50	$9.24	$462	
Junction Rock	4"-0" crushed	0+00	N/A	junction	11	junctions	1	11	$9.24	$102	
Total Rock for Road Segment:			2M to 2N					61			$564

Processing:

Description	No.sta	Rate/sta	Cost
Water, Process & Compact Base Rock (4"-0"):	42.85	$63.48	$2,720
Traction Rock Water, Process & Compact	12.65	$63.48	$803

	24"-6" riprap	6"-0" pr	4"-0" crushed	1 1/2"-0" crushed		Total	
SUB TOTAL FOR SURFACING	220	1,384	2,510	230		4,344	**$46,723**

SPECIAL PROJECTS

Description	CY Amount	Rate	Cost
Riprap Development at Wild Goose Quarry	220	4.83	$ 1,062.60

SUB TOTAL FOR SPECIAL PROJECTS $1,063

Subtotal of Surfacing & Spec. Proj. *$47,786*

Subtotal of Clearing, Exc.,Culv. *$71,408*

GRAND TOTAL **$119,194**

Compiled By: Cole Hatcher

Date: 06/13/2022

SUMMARY OF CONSTRUCTION COSTS

SALE NAME:	Music Trail	NEW CONSTRUCTION:		STATIONS	0.00 MILES
ROAD:	I1 to I2 (183.5), I3 to I4 (12.0), I5 to I6 (87.3), I7 to I8 (33.3),	IMPROVEMENT:	323.45	STATIONS	6.13 MILES
POINTS:	I9 to I10 (2.85), and I11 to I12 (4.5)				

CLEARING & GRUBBING

	Method		Acres/amount	x	Rate	=	Cost
SUB TOTAL FOR CLEARING & GRUBBING							$0

EXCAVATION

	Material		Cy/amount	x	Rate	=	Cost
I1 to I2							
0+00	Clean bridge deck,			x		=	
	Improve drainage						
		C315/Hrs.	1.0	x	$114.00	=	$114.00
39+80	Install Series of three						
	Rock ditch filters	C315/Hrs.	1.0	x	$114.00	=	$114.00
44+75	Install Series of three						
	Rock ditch filters	C315/Hrs.	1.0	x	$114.00	=	$114.00
112+15 to 113+25	Ditch reconstruction						
	Grader, backhoe,dump truck			x			
	End haul to waste area	Sta./$.	1.1	x	$46.63	=	$51.29
113+70	Construct landing behind	C315/Hrs.					
	turnout	C315/Hrs.	1.0	x	$114.00	=	$114.00
130+05 to 132+20	Ditch reconstruction						
	Grader, backhoe (scatter)	Sta./$.	2.2	x	$36.28	=	$78.00
140+20 to 141+00	Ditch reconstruction						
	Grader, backhoe (scatter)	Sta./$.	0.8	x	$36.28	=	$29.02
144+55	Construct landing behind						
	turnout	C315/Hrs.	1.0	x	$114.00	=	$114.00
144+80	Install Series of three						
	Rock ditch filters	C315/Hrs.	1.0	x	$114.00	=	$114.00
148+45	Install Series of three						
	Rock ditch filters	C315/Hrs.	1.0	x	$114.00	=	$114.00
149+30 to 152+40	Ditch reconstruction						
	Grader, backhoe,dump truck						
	End haul to waste area	Sta./$.	3.1	x	$46.63	=	$144.55
154+90 to 158+00	Ditch reconstruction						
	Grader, backhoe (scatter)	Sta./$.	3.1	x	$36.28	=	$112.47
155+20	Clean exsisting rock ditch						
	filter, replace rock as needed	C315/Hrs.	1.0	x	$114.00	=	$114.00
172+60 to 173+70	Ditch reconstruction						
	Grader, backhoe (scatter)	Sta./$.	1.1	x	$36.28	=	$39.91
I3 to I4							
11+45	Clean culvert inlet basin	C315/Hrs.	1.0	x	$114.00	=	$114.00
11+45 to 12+00	Ditch reconstruction						
	Grader, backhoe (scatter)	Sta./$.	0.6	x	$36.28	=	$19.95
I5 to I6							$0.00
0+35	Clean culvert inlet and outlet	C315/Hrs.	0.5	x	$114.00	=	$57.00
6+20	Clean culvert inlet and outlet	C315/Hrs.	1.0	x	$114.00	=	$114.00
21+15 to 23+45	Ditch reconstruction						
	Grader, backhoe (scatter)	Sta./$.	2.3	x	$36.28	=	$83.44
23+85	Clean exsisting rock ditch			x		=	
	filter, replace rock as needed	C315/Hrs.	1.0		$114.00		$114.00
24+85	Clean exsisting rock ditch						
	filter, replace rock as needed	C315/Hrs.	1.0	x	$114.00	=	$114.00
37+00	Install Series of three						
	Rock ditch filters	C315/Hrs.	1.0	x	$114.00	=	$114.00
39+15	Clean exsisting rock ditch						
	filter, replace rock as needed	C315/Hrs.	1.0	x	$114.00	=	$114.00
62+40	Clean exsisting rock ditch						
	filter, replace rock as needed	C315/Hrs.	1.0	x	$114.00	=	$114.00
64+30	Clean exsisting rock ditch						
	filter, replace rock as needed	C315/Hrs.	1.0	x	$114.00	=	$114.00
66+05 to 67+65	Ditch reconstruction						
	Grader, backhoe,dump truck						
	End haul to waste area	Sta./$.	1.6	x	$46.63	=	$74.61
69+50	(Right) Clean exsisting rock ditch						
	filter, replace rock as needed	C315/Hrs.	1.0	x	$114.00	=	$114.00
	Install Series of three						
	Rock ditch filters	C315/Hrs.	1.0	x	$114.00	=	$114.00
	(Left) Clean exsisting rock ditch						
	filter, replace rock as needed	C315/Hrs.	1.0	x	$114.00	=	$114.00
	Install Series of three						
	Rock ditch filters	C315/Hrs.	1.0	x	$114.00	=	$114.00
70+25	Clean bridge deck,						
	open drainge	C315/Hrs.	0.5	x	$114.00	=	$57.00
81+40	clean culvet inlet	C315/Hrs.	1.0	x	$114.00	=	$114.00
86+85	Prepare waste area	C315/Hrs.	0.5	x	$114.00	=	$57.00
	Seed and mulch			x		=	$0.00
	50 bales straw	Bales/$	50.0	x	$12.06	=	$603.00
	Pasture mix seed	Lbs. seed/$	13.0	x	$1.80	=	$23.40
	Labor	Hrs./$	3.0	x	$45.00	=	$135.00
SUB TOTAL FOR EXCAVATION							$3,960

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' x 2.5" white Carsonite post	10	$23.00	$230.00
				$0.00
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION				$230

Subtotal of Clearing, Exc.,Culv. ***$4,190***

SURFACING		Stations/ amount	x	Rate/ sta/amt	Cost
Subgrade prep:	Description				
Grade, Shape and Ditch 16'	I1 to I2(sta.183.5), I3 to I4(sta.12.0), I5 to I6(sta.87.3), I7 to I8(sta.33.3), I9 to I10(sta.2.85), I11 to I12(sta.4.5)	323.45	x	$27.91	$9,027.49
Subgrade Compaction	I1 to I2(sta.183.5), I3 to I4(sta.12.0), I5 to I6(sta.87.3), I7 to I8(sta.33.3), I9 to I10(sta.2.85), I11 to I12(sta.4.5)	323.45	x	$22.69	$7,339.08
Sod removal with grader	I5 to I6(67+65 to 68+50), (70+70 to 87+30)	17.45	x	$26.20	$457.19
Backhoe and dump truck to end haul debris.	I5 to I6(67+65 to 68+50), (70+70 to 87+30)	17.45	x	$20.43	$356.50

ROAD SEGMENT	I1 to I2			POINT TO POINT		Sta. to Sta.					
				I1 to I2		0+00 to 183+50					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Surfacing	1 1/2"-0" crushed	0+75 to 95+70	2	station	13	stations	94.95	1,235	$9.24	$11,411	
Surfacing	1 1/2"-0" crushed	95+70 to 149+45	4	station	25	stations	53.75	1,344	$9.24	$12,416	
Surfacing	1 1/2"-0" crushed	149+45 to 174+20	2	station	13	stations	24.75	322	$9.24	$2,973	
Surfacing	1 1/2"-0" crushed	174+20 to 183+50	3	station	19	stations	9.3	177	$9.24	$1,633	
Subgrade Leveling Rock	1 1/2"-0" crushed	0+00, 145+80, 166+10(3)	N/A	load	11	loads	5	55	$9.24	$508	
Turnouts	1 1/2"-0" crushed	4+15, 14+30, 37+85, 51+65, 57+15, 97+75, 113+70, 119+00, 134+20, 144+55, 147+80, 168+55, 178+10, 179+90	N/A	turnout	11	turnouts	14	154	$9.24	$1,423	
Turnarounds	1 1/2"-0" crushed	134+20, 147+80, 183+50	N/A	turnaround	11	turnaround	3	33	$9.24	$305	
Junctions	1 1/2"-0" crushed	1+80, 9+75, 30+55, 65+80, 77+80, 86+60, 102+45, 117+50, 126+35, 129+35, 149+45, 160+10, 174+20	N/A	junction	11	junctions	13	143	$9.24	$1,321	
Rock Ditch Filters	6"-4" pit-run	39+80, 44+75, 145+80, 148+45, 149+30, 155+20	N/A	3 filter series	11	3 filter series	6	66	$9.24	$610	
Landings	6"-0" pit-run	113+70, 144+55	N/A	landing	66	landings	2	132	$9.24	$1,220	
Total Rock for Road Segment:			I1 to I2					3,660			$33,820

ROAD SEGMENT	I3 to I4			POINT TO POINT		Sta. to Sta.					
				I3 to I4		0+00 to 12+00					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Surfacing	4"-0" crushed	0+00 to 12+00	4	station	25	stations	12	300	$9.24	$2,772	
Turnout	4"-0" crushed	5+40	N/A	turnout	11	turnouts	1	11	$9.24	$102	
Turnaround	4"-0" crushed	8+10	N/A	turnaround	11	turnarounds	1	11	$9.24	$102	
Junction	4"-0" crushed	4+85	N/A	junction	11	junctions	1	11	$9.24	$102	
Traction Rock	1 1/2"-0" crushed	0+00 to 4+85	2	station	13	stations	4.85	63	$9.24	$583	
Landings	6"-0" pit-run	12+00	N/A	landing	88	landings	1	88	$9.24	$813	
Total Rock for Road Segment:			I3 to I4					484			$4,473

ROAD SEGMENT	I5 to I6			POINT TO POINT		Sta. to Sta.					
				I5 to I6		0+00 to 87+30					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Surfacing	1 1/2"-0" crushed	0+00 to 70+70	3	station	19	stations	70.7	1,343	$9.24	$12,412	
Curve Widening Surface	1 1/2"-0" crushed	68+15(3)	N/A	load	11	loads	3	33	$9.24	$305	
Subgrade Leveling Rock	1 1/2"-0" crushed	46+50	N/A	load	11	loads	2	22	$9.24	$203	
Turnouts	1 1/2"-0" crushed	13+20, 48+80, 53+20, 58+20, 65+45	N/A	turnout	11	turnouts	5	55	$9.24	$508	
Turnaround	1 1/2"-0" crushed	66+05	N/A	turnaround	11	turnarounds	1	11	$9.24	$102	
Junctions	1 1/2"-0" crushed	3+70, 4+45, 18+50, 31+25	N/A	junction	11	junctions	4	44	$9.24	$407	
Rock Ditch Filters	6"- 4" pit-run	23+85, 37+00, 39+15, 62+40, 64+30, 69+50(3)	N/A	3 filter series	11	3 filter series	8	88	$9.24	$813	
Total Rock for Road Segment:			I5 to I6					1,596			$14,750
ROAD SEGMENT	I7 to I8			POINT TO POINT		Sta. to Sta.					
				I7 to I8		0+00 to 33+30					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Surfacing	1 1/2"-0" crushed	0+00 to 14+50	3	station	19	stations	14.5	276	$9.24	$2,546	
Surfacing	4"-0" crushed	14+50 to 33+30	4	station	25	stations	18.8	470	$9.24	$4,343	
Turnouts	1 1/2"-0" crushed	4+30, 6+20, 24+10, 27+50	N/A	turnout	11	turnouts	4	44	$9.24	$407	
Junctions	1 1/2"-0" crushed	11+20	N/A	junction	11	junctions	1	11	$9.24	$102	
Total Rock for Road Segment:			I7 to I8					801			$7,397
ROAD SEGMENT	I9 to I10			POINT TO POINT		Sta. to Sta.					
				I9 to I10		0+00 + 2+85					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Surfacing	1 1/2"-0" crushed	0+00 to 2+85	2	station	13	stations	2.85	37	$9.24	$342	
Total Rock for Road Segment:			I9 to I10					37			$342
ROAD SEGMENT	I11 to I12			POINT TO POINT		Sta. to Sta.					
				I11 to I12		0+00 to 4+50					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Surfacing	1 1/2"-0" crushed	0+00 to 4+50	2	station	13	stations	4.5	59	$9.24	$541	
Total Rock for Road Segment:			I11 to I12					59			$541

Processing:	Description	No.sta	Rate/sta	Cost
	Water, Process & Compact I1 to I2(sta.183.5), I3 to I4(sta.12.0), I5 to I6(sta.70.7), I7 to I8(sta.33.3), I9 to I10(sta.2.85), I11 to I12(sta.4.5)	306.85	$63.48	$19,479
	Traction Rock Water, Process & Compact : I3 to I4(sta. 4.85)	4.85	$63.48	$308

	24"-12" rr	24"-6" rr	12"-6" rr	6"-4" pr	6"-0"pr	4"-0" crushed	1 1/2"-0" crushed	2"-1" drainrock	3/4"-0" crushed	Total	
SUB TOTAL FOR SURFACING				154	220	803	5,460			6 637	**$98,289**

SPECIAL PROJECTS

Description	Cy/Amount	Rate	Cost
pit-run development			$0.00
riprap development			$0.00

SUB TOTAL FOR SPECIAL PROJECTS **$0**

Subtotal of Surfacing & Spec. Proj. *$98,289*
Subtotal of Clearing, Exc.,Culv. *$4,190*

GRAND TOTAL **$102,479**

Compiled By: Cole Hatcher

Date: 06/13/2022

24"-6" rr	6"-4" pr	6"-0"pr	4"-0" crushed	1 1/2"-0" crushed	Total
220	154	1,604	3,313	5,690	10,981
From Wild Goose	From Wild Bill				

CRUSHED ROCK COST

SALE NAME: Music Trail
PROJECT: No. 1 and 2
Stockpile: Wild Bill

MATERIAL: 1 1/2"-0" and 4"-0'

DATE: 06/13/2022
BY: C. Hatcher

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES 50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	Total Haul
1A to 1B	4.00	51			2.00	2.50	1.50	0.50	0.10	6.60
1C to 1D	6.15	269			2.00	2.50	1.80	0.50	0.10	6.90
2A to 2B	7.75	11			2.00	2.00	1.16	0.50	0.10	5.76
2E to 2F	8.20	393			2.00	2.00	1.53	0.50	0.10	6.13
2G to 2H	26.10	1,753			2.00	2.50	2.22	1.00	0.10	7.82
2I to 2J	3.60	141			2.00	2.50	2.29	1.00	0.10	7.89
2K to 2L	16.65	61			2.00	2.50	2.38	1.00	0.10	7.98
2M to 2N	7.00	61			2.00	2.50	2.25	1.00	0.10	7.85
I1 to I2	183.50	3,462			2.00	2.50	2.00	0.73	0.10	7.33
I3 to I4	12.00	396			2.00	2.50	1.88	0.50	0.10	6.98
I5 to I6	87.30	1,508			2.00	2.50	2.00	0.70	0.10	7.30
I7 to I8	33.30	801			2.00	2.00	1.55	0.50	0.10	6.15
I9 to I10	2.85	37			2.00	2.00	1.21	0.50	0.10	5.81
I11 to I12	4.50	59			2.00	2.50	1.65	0.50	0.10	6.75
TOTAL	402.90	9,003								AVERAGE
	STA./NO.	CU. YD.								HAUL
CUBIC YARD WEIGHTED HAUL					**2.00**	**2.43**	**1.97**	**0.73**	**0.10**	**7.24**

Average Round Trip Distance (miles) 14.47

ROCK HAUL:

Truck type: D20 No. trucks: _____
Delay min.: 8 Efficiency: 85%

Truck type: D12 No. trucks: 8
Delay min.: 6 Efficiency: 85%

Truck type: D10 No. trucks: _____
Delay min.: 5 Efficiency: 85%

Ave haul: $7.26 /cy
Load: $0.72 /cy
Spread: $1.26 /cy

Production: cy/day = 696

CRUSHED ROCK HAUL COSTS 9,003 cy @ **$9.24 /cy**

PIT RUN ROCK COST

SALE NAME: Music Trail
PROJECT: No. 1 and 2
QUARRY: Wild Bill

MATERIAL: Pit Run

DATE: 06/13/2022
BY: C. Hatcher

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES 50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	Total Haul
1C to 1D	6.15	383			2.00	2.50	1.80	0.50	0.10	6.90
2A to 2B	7.75	50			2.00	2.00	1.16	0.50	0.10	5.76
2C to 2D	1.70	33			2.00	1.50	1.63	0.50	0.10	5.73
2E to 2F	8.20	196			2.00	2.00	1.53	0.50	0.10	6.13
2G to 2H	26.10	526			2.00	2.50	2.22	1.00	0.10	7.82
2I to 2J	3.60	196			2.00	2.50	2.29	1.00	0.10	7.89
I1 to I2	183.50	198			2.00	2.50	2.00	0.73	0.10	7.33
I3 to I4	12.00	88			2.00	2.50	1.83	0.50	0.10	6.93
I5 to I6	87.30	88			2.00	2.50	2.23	0.70	0.10	7.53
TOTAL	336.30	1,758								**AVERAGE HAUL**
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL					**2.0**	**2.4**	**2.0**	**0.7**	**0.1**	**7.23**

Average Round Trip Distance (miles) 14.45

ROCK HAUL:

Truck type: D20 No. trucks: _____
Delay min.: 8 Efficiency: 85%

Truck type: D12 No. trucks: 8
Delay min.: 6 Efficiency: 85%

Truck type: D10 No. trucks: _____
Delay min.: 5 Efficiency: 85%

Ave haul: $7.26 /cy
Load: $0.72 /cy
Spread: $1.26 /cy

Production: cy/day = 696

PIT RUN ROCK HAUL COSTS 1,758 cy @ **$9.24 /cy**

RIP RAP ROCK COST

SALE NAME: Music Trail
PROJECT: No. 1 and 2
QUARRY: Wild Bill

MATERIAL: Rip Rap

DATE: 06/13/2022
BY: C. Hatcher

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES 50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	Total Haul
2G to 2H	26.10	220			1.00	1.00	1.17	1.00	0.10	4.27
TOTAL	26.10	220								AVERAGE HAUL
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL					**1.0**	**1.0**	**1.2**	**1.0**	**0.1**	**4.27**

Average Round Trip Distance (miles) 8.54

ROCK HAUL:

Truck type: D12 No. trucks: 8
Delay min.: 6 Efficiency: 85%

Truck type: D10 No. trucks: _____
Delay min.: 5 Efficiency: 85%

Ave haul: $5.12 /cy
Load: $0.60 /cy
Develop: _____ /cy

Production: cy/day = 987

RIP RAP ROCK HAUL COSTS 220 cy @ **$5.72 /cy**

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 3 **Timber Sale Name: Music Trail**

Quarry: Wild Bill Swell:

Location: NW1/4, NW1/4, Section 3, T6N, R7W, W.M. Shrink: 16%

County: Clatsop

By: D. Farner Loading Hopper: Yes

Date: 06/13/2022

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"	2%	CR			
1-1/2"-0"	2%	CR		5,690	5,690
4"-0"	2%	CR		3,313	3,313
6"-0"		PR		1,758	1,758
24"-6"		RR			
36"		RR			
TOTAL CUBIC YARDS OF ROCK:				10,761	**10,761**

1) MOBILIZATION & SET UP:

EQUIPMENT	QUANTITY	RATE	COST	EQUIPMENT	QUANTITY	RATE	COST
2 Stage Crusher	1	$2,445	$2,445	Off Highway Dump Truck	1	$622	$622
Loading Hopper	1	$622	$622	Screening Plant	1	$622	$622
D6 Cat	1	$875	$875	Loader	1	$905	$905
Drill & Compressor	1	$1,581	$1,581				
Powder	1	$395	$395				
Excavator	1	$1,581	$1,581				

SUB TOTAL FOR MOBILIZATION $9,648

EQUIPMENT SET UP	TIMES	RATE	COST
2 Stage Crusher	1	$2,445	$2,445
Screening Plants	1	$330	$330
Loading Hopper	1	$330	$330
Original Calibration	1	$612	$612

SUB TOTAL FOR SET UP COSTS $3,717

TOTAL MOBILIZATION & SET UP COSTS $13,365

2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST

TOTAL CLEARING & GRUBBING COSTS

3) EXCAVATION

MATERIAL DESCRIPTION		QUANTITY	UNIT	RATE	COST
Overburden Removal (excavate, load	Excavator	20	hr	$175.00	$3,500
haul, spread) Clear, Load, Haul to Waste	Offroad Truck	20	hr	$143.00	$2,860
Area Slash and Stumps (1 truck, 1 exc.)					

TOTAL EXCAVATION COSTS $6,360

4) DEVELOP ROCK

ROCK SUMMARY

Type	Cu. yd. Vol.	Weight
crushed	9,003	84%
pit run	1,758	16%
rip rap	0	0
Total	10,761	
reject	180	1.7%

METHOD	%	QUANTITY	RATE	COST
Ripping	20%	2,152	$3.40	$7,317
Drill & shoot	80%	8,753	$3.50	$30,635
Oversize red	2%	215	$6.90	$1,485
Other				

TOTAL ROCK DEVELOPMENT COSTS $39,437

5) CALIBRATION & TESTING

DESCRIPTION	NO.	$/TEST	COST
Calibrate	1	$507.00	$507
Calibrate			
Test	5	$57.30	$287
Test			

TOTAL CALIBRATION & TESTING COSTS $794

6) FEEDING & LOADING

DESCRIPTION		CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock		9,183	$0.97	$8,869
Shot Rock Handling	Excavator	80	$175.00	$14,000
Haul Shot Rock to Crusher	24 cy truck	80	$143.00	$11,440

TOTAL FEEDING & LOADING COSTS $34,309

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTION	RATE CU. YD.	TOTAL COST
1-1/2"-0"	crushed	5,690	2 stage w/s	120	$2.89	$16,454
4"-0"	crushed	3,313	2 stage w/s	140	$2.48	$8,212

TOTAL ROCK CRUSHING COSTS $24,665

8) STOCKPILING

STOCKPILE SITE PREPARATION

Equipment	Hours	Rate	Total
Dozer		$120.00	
Compactor		$72.00	
Grader		$90.00	
Excavator		$138.00	

SUB TOTAL

Rock for Floor (CY)	$/CY Haul	Total

HAUL & STOCKPILE STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1.					
2.					
3.					
4.					
5.					
6.					

SUB TOTAL

TOTAL STOCKPILING COSTS

9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread the reject material at the waste area.	$681
$3.78 /CY 180 CY	
Final Quarry Dev., Access Road Const., Waterbarring, Drainage,	$2,565
Block Quarry Access	

TOTAL MISCELLANEOUS COSTS $3,245

10) GRAND TOTAL: **$122,175**

$/Cubic Yard $13.57

Footnotes:

Timber Sale

Vacating Costs (Total)

Work Description	Stations	C330	C315	D10/12 trk	Labor	Straw-bales	Seed-lbs
2K to 2L	16.65	8.00	8.00	2.00	8.00	50	11
2M to 2N	7		8.00	2.00	4.00	20	6
I1 to I2 Sta. 144+55	N/A		3.00	1.00	2.00	2	1
Total Quantity (Hours)		8.00	19.00	5.00	14.00	72.00	18.00
Rates		$ 175	$ 114	$ 89	$ 45	$ 12	$ 2
Total		$ 1,400	$ 2,166	$ 445	$ 630	$ 868	$ 32
Move in		$ 1,581	$ 905	$ 184			
Total Dollars		$ 2,981	$ 3,071	$ 629	$ 630	$ 868	$ 32

Total Cost		**$8,212**
Total Stations	**23.65**	
Total Miles	**0.4**	

Timber Sale

Vacating Costs 2K to 2L

Work Description	Station	C330	C315	D10/12 trk	Labor	Straw-bales	Seed-lbs
Begin constructing waterbars approximately every 300 feet. Block road access.	1+00 to 16+65		8.00				
Excavate fill and remove culvert. Seed and Mulch the fill.	11+05	4.00		1	4	25	5.5
Excavate fill and remove culvert. Seed and Mulch the fill.	15+40	4.00		1	4	25	5.5
Total Quantity (Hours)		8.00	8.00	2	8	50	11
Rates		$175.00	$114.00	$89.00	$45.00	$12.06	$1.80
Total Dollars		$1,400	$912	$178	$360	$603	$20

Total Cost **$3,473**

Timber Sale

Vacating Costs 2M to 2N

Work Description	Station	C330	C315	D10/12 trk	Labor	Straw-bales	Seed-lbs
Begin constructing waterbars approximately every 300 feet. Block road access.	1+00 to 7+00		4.00				
Excavate fill and remove culvert. Seed and Mulch the fill.	1+50		2.00	1	2	10	3
Excavate fill and remove culvert. Seed and Mulch the fill.	4+00		2.00	1	2	10	3
Total Quantity (Hours)		0.00	8.00	2	4	20	6
Rates		$175.00	$114.00	$89.00	$45.00	$12.06	$1.80
Total Dollars		$0	$912	$178	$180	$241	$11

Total Cost **$1,522**

Timber Sale
Vacating Costs V1 to V2

Work Description	Station	C330	C315	D10/12 trk	Labor	Straw-bales	Seed-lbs
Pullback and end haul landing rock and debris to waste area. Reestablish drainage ditch.	144+55		3.00	1	2	2	1
Total Quantity (Hours)		0.00	3.00	1	2	2	1
Rates		$175.00	$114.00	$89.00	$45.00	$12.06	$1.80
Total Dollars		$0	$342	$89	$90	$24	$2

Total Cost **$547**

MUSIC TRAIL

Stream Enhancement

Segment	Site	Key Pieces w/out root wads	Key pieces with root wads	Individually placed trees w/rootwad	Felled Trees into stream	Smaller Pieces (tops)	Placement method	Yarder $/Hr.	Yarder Hours	Labor $/Hr.	Labor Hours	C558 $/Hr.	Log Loader Hours	Number of Straw Bales	$/Bale	Cost per Site
SE1-SE2	1	1	2			7	Cable	$ 400.00	3	$45.00	4	$175.00	0	1	$12.06	$1,392.06
SE1-SE2	2	1	2			7	Cable	$ 400.00	3	$45.00	4	$175.00	0	1	$12.06	$1,392.06
SE3	3	1	2			7	Cable	$ 400.00	3	$45.00	4	$175.00	0	1	$12.06	$1,392.06
SE4	4	1	2			7	Ground based	$ -	0	$45.00	2	$175.00	6	3	$12.06	$1,176.18
		4	8						9		14		6	6	Subtotal	$5,352

Move-in: N/A — **Move-in** $0

Grass Seed: $1.80 per lb. — 10 lbs. — **Seed** $18

Ground Based =C 558 Log loader or equivalent

Project Total $5,370

1	Install five piece structure, two pieces with root wads attached and incorporate additional tops into the structure.
2	Install five piece structure, two pieces with root wads attached and incorporate additional tops into the structure.
3	Install five piece structure, two pieces with root wads attached and incorporate additional tops into the structure.
4	Install five piece structure, two pieces with root wads attached and incorporate additional tops into the structure.

Projects Road Maintenance Cost Summary

Sale: Music Trail
Date: 09-Jun-22
By: Cole Hatcher CB

Type	Equipment/Rationale			Hours	Rate	Cost	
Project Work	Grader 14G			32	$113	$3,616	
Final Haul	Dump Truck 12CY			16	$89	$1,424	
Road	FE Loader C966			16	$94	$1,504	
Maintenance	Vibratory Roller			32	$87	$2,784	
	Water Truck 2,500 gallon			32	$101	$3,232	
Total							$12,560

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	6.00	4.0
Vibratory Roller	1.5	6.00	4.0

NOTE:

Kalina Road	0.49	Miles
Kalina Tie-Through Road	1.80	Miles
Wild Goose Road	2.27	Miles
Trailover Ridge Road	0.94	Miles
Wild Bill Quarry Road	0.08	Miles
TOTAL=	5.59	Miles

MUSIC TRAIL
TIMBER CRUISE REPORT
FY 2023

1. **Sale Area Location:** Portions of Sections 11, 13, 14 & 23, T6N, R7W, W.M., Clatsop County, OR.

2. **Fund Distribution:** BOF 100% Tax Code: 8-01 (100%)

3. **Sale Acreage by Area:**

Unit	Harvest Type	Gross Acres	Stream Buffer Acres	Existing R/W Acres	Reserve Tree Area	New R/W Acres	New R/W Non-Stocked	Net Acres	Survey Method
1	Modified Clearcut	93	13	4	<1	2	--	74	GIS
2	Modified Clearcut	117	7	2	3	5	--	100	GIS
3	In-Unit R/W	7	--	--	--	--	<1	7	GIS
TOTALS		**217**	**20**	**6**	**3**	**7**	**<1**	**181**	

4. Cruisers and Cruise Dates: Avery Petersen, John Czarnecki, and Justin Bush (05/27/22 through 6/02/22)

5. Cruise Method and Computation:

Units 1 and 2: Units 1 and 2 were variable plot cruised with a 54.45 BAF for conifer species and a 27.78 BAF for hardwood species. A total of 67 plots were sampled on a five by six chain spacing with a grade to count ratio of 1:2, resulting in 26 grade plots and 41 count plots. The cruise design indicated 27 grade plots and one of these was dropped due to adjustments in the Timber Sale Boundary.

Unit 3 (R/W): Right-of-way consists of new spur roads and landings within Units 1 and 2. Volumes from the U12 cruise were applied to Unit 3 R/W.

Data was collected on Allegro 2 data collectors and downloaded to the Atterbury SuperACE 2008 program for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria District office.

UNIT(s)	CRUISE	TRACT	TYPE	ACRES
1 and 2	MTRAIL	U12	00MC	181

6. Timber Description:

Units 1 and 2 are modified clearcuts with an average age of 80 years. The stands consist of Douglas-fir, western hemlock, red alder, and bigleaf maple. Minor components of western redcedar, Sitka spruce, and noble fir are present in the units but were not detected in the cruise. The average take Douglas-fir is approximately 25 inches DBH and 102 feet to a merchantable top. The average take western hemlock is approximately 18 inches DBH and 86 feet to a merchantable top. The average take red alder is approximately 15 inches DBH and 69 feet to a merchantable top. The average take bigleaf maple is approximately 17 inches DBH and 30 feet to a merchantable top. Average net volume to be harvested per acre is 68 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 3 (R/W) is similar to the timber description above in Units 1 and 2. Average net volume to be harvested per acre is 68 MBF.

7. Statistical Analysis and Stand Summary:

Statistics for Stand B.F. volumes

Unit	Estimated CV	Target SE%	Actual CV	Actual SE%
1 & 2	50.0%	8.0%	43.2%	5.3%

8. Volumes by Species and Log Grade:

Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Conifer

Species	DBH	Net Vol.	2 Saw	3 Saw	4 Saw	% D & B	% Sale
Douglas-fir	25"	9,879	8,216	1,575*	88	6.0%	80%
western hemlock	18"	1,324	589	690	45	6.3%	11%
TOTALS	--	**11,203**	**8,805**	**2,265**	**133**	--	--

*This sale includes approximately 226 MBF of 12"+ 3-saw Douglas-fir.

Hardwood

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
red alder	15"	1,072	371	246	223	232	0.5%	9%
bigleaf maple	17"	43	24	--	3	16	5.3%	<1%
TOTALS	--	**1,115**	**395**	**246**	**226**	**248**	--	--

TOTAL VOLUME	**12,318 MBF**

9. Approvals:

Prepared by: Justin Bush **Date:** 06/03/2022
Unit Forester Approval: [signature] **Date:** 6/17/2022

10. Attachments: Cruise Design and Map (3 pages)
Volume Report (3 pages)
Statistics Report (4 pages)
Log Stock Table (3 pages)
Stand Table Summary (2 pages)

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Music Trail **Units** 1 & 2

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 181 **Estimated CV%** 50% Net BF/Acre **SE% Objective** 8% Net BF/Acre

Planned Sale Volume : 11,000 MBF **Estimated Sale Area Value/Acre:** $24,000/Acre

A. Cruise Goals: (a) Grade minimum 100 conifer trees.
(b) Sample 68 cruise plots (27 grade/ 41 count); (c) Other goals :____ Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. Plot Cruises: BAF (conifer) **54.45** (Full point); BAF (hardwood) **27.78** (Full point)
Cruise Line Direction: Unit 1: 31°/211°, Unit 2: 322°/142°
Cruise Line Spacing 6 (chains) 396 (Feet)
Cruise Plot Spacing 5 (chains) 330 (Feet)
Grade/Count Ratio 1:2

Use two BAFs on every plot (conifer and hardwood). Take plots as marked on cruise map.

Grade minor species (true fir, spruce, cedar, etc.) on count plots if encountered.

DO NOT: record any 22' log lengths, or any 12', 24', or 32' log lengths for hardwoods.

DO NOT: record snags < 12" DBH or record snag measurements on count plots.

C. Tree Measurements:

1. Diameter: Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.
Record dbh to nearest ½" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.

2. Bole Length: Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.

3. Top Cruise Diameter (TCD): Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 20" dbh and 40% of dob @ FP for conifer trees > 20" dbh.

4. Form Factors: (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree. Hardwoods shall be recorded in 8' and 10' multiples.

6. **Species, Sort, and Grade Codes:**

A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple); SN (Snag). For "leave trees", add an "L" to the species code (such as DL, HL, CL, etc.)

B. Sort: Use code "1" (Domestic).

C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull
Hardwoods: Alder Grades: 12" + = 1 Sawmill; 10"-12" = 2 Sawmill; 10"-8" = 3 Sawmill; and 8"-6" 4 Sawmill, or R = Camp Run; 0 = Cull.

Grade oversized 3-SAW (DIB ≥ 12", knots > 2½" inside scaling cylinder affecting > 50% of log)

7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

8. **Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

9. **Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back), Compass, Allegro II Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint, Permanent Marker.

10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Justin Bush
Approved by: [signature]
Date: 5/27/2022

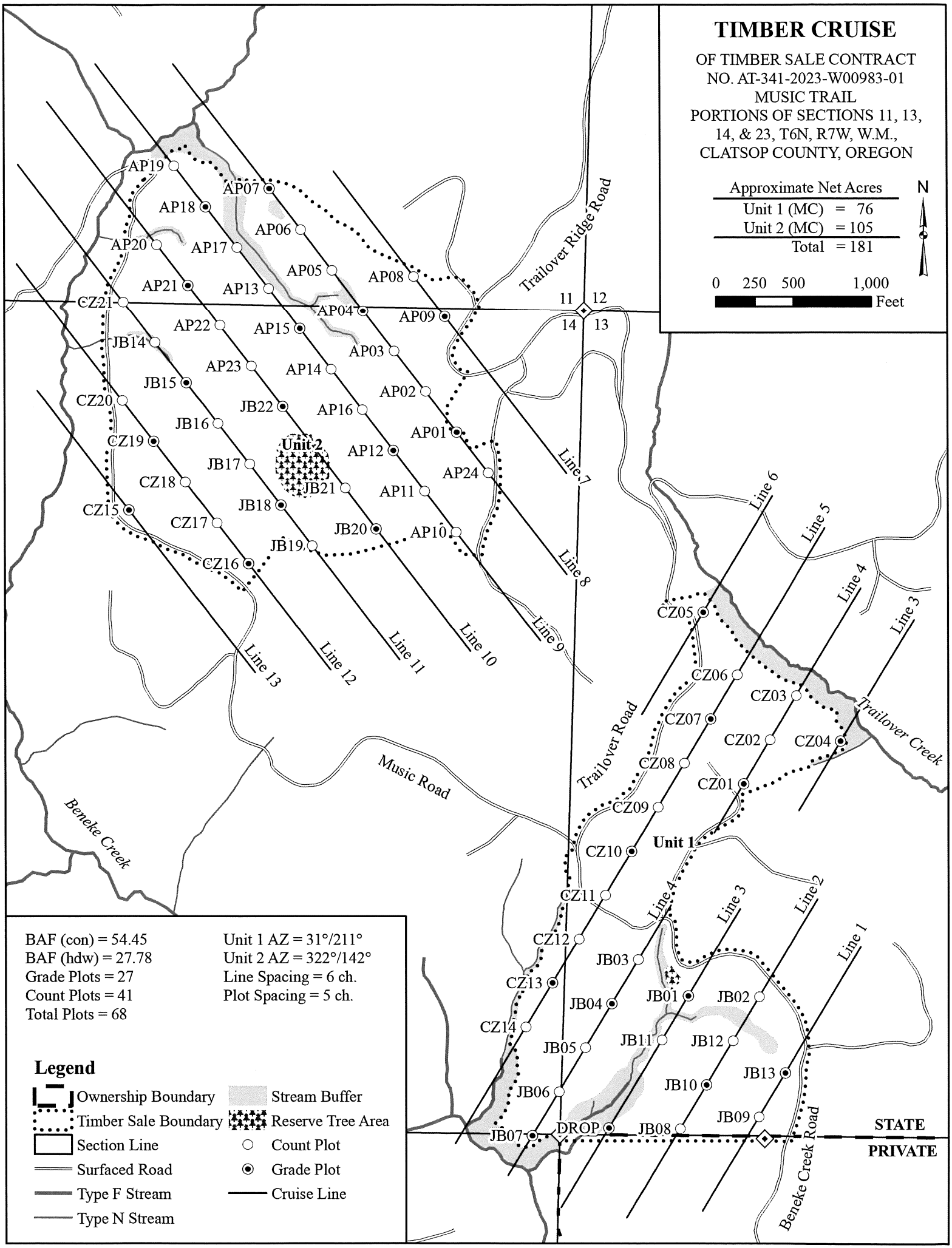
TIMBER CRUISE

OF TIMBER SALE CONTRACT
NO. AT-341-2023-W00983-01
MUSIC TRAIL
PORTIONS OF SECTIONS 11, 13, 14, & 23, T6N, R7W, W.M.,
CLATSOP COUNTY, OREGON

Approximate Net Acres	
Unit 1 (MC)	= 76
Unit 2 (MC)	= 105
Total	= 181

N

0 250 500 1,000 Feet



BAF (con) = 54.45
BAF (hdw) = 27.78
Grade Plots = 27
Count Plots = 41
Total Plots = 68

Unit 1 AZ = 31°/211°
Unit 2 AZ = 322°/142°
Line Spacing = 6 ch.
Plot Spacing = 5 ch.

Legend

- Ownership Boundary
- Timber Sale Boundary
- Section Line
- Surfaced Road
- Type F Stream
- Type N Stream
- Stream Buffer
- Reserve Tree Area
- Count Plot
- Grade Plot
- Cruise Line

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T06N R07W S14 Ty00MC	174.00
T06N R07W S14 Ty00MC	7.00

Project: MTRAIL

Acres 181.00

Page 1
Date 6/3/2022
Time 12:30:03PM

Spp	S T	So Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
D		DOCU														8	15		0.00	8.1
D		DO2S	83	6.2	48,375	45,395	8,216			34	66	0	0	4	95	39	17	440	2.40	103.1
D		DO3S	16	5.1	9,173	8,703	1,575		86	2	12	4	7	17	72	35	9	106	0.83	82.2
D		DO4S	1	10.1	541	486	88		100			59	41			20	7	27	0.48	18.1
D	**Totals**		80	6.0	58,089	54,584	9,879 ~~9,880~~		15	29	56	2	2	6	91	35	13	258	1.67	211.5
A		DO1S	34	.6	2,061	2,049	371			93	7		4		96	39	13	248	1.66	8.3
A		DO2S	23	.4	1,367	1,361	246		100			1		8	91	38	10	152	1.10	9.0
A		DO3S	21	.8	1,243	1,233	223		100			5			95	37	9	98	0.75	12.5
A		DO4S	22		1,283	1,283	232		100			17	34	7	41	27	6	39	0.45	32.8
A	**Totals**		9	.5	5,954	5,927	1,072 ~~1,073~~		65	32	2	5	9	3	83	32	8	95	0.82	62.5
H		DOCU														10	20		0.00	.6
H		DO2S	44	5.7	3,451	3,253	589			66	34			10	90	40	14	300	1.78	10.8
H		DO3S	52	6.8	4,088	3,811	690		92	8		1	7	6	87	38	9	109	0.80	35.0
H		DO4S	4	5.0	262	249	45		100			53	47			21	6	26	0.42	9.7
H	**Totals**		11	6.3	7,801	7,313	1,324		51	34	15	2	5	7	85	35	10	130	0.97	56.1
M		DOCU														7	13		0.00	1.4
M		DO1S	55	5.0	140	133	24			73	27	53	47			18	15	125	1.79	1.1
M		DO3S	7		16	16	3		100			100				20	8	40	0.95	.4
M		DO4S	38	6.6	96	89	16		100			32	68			25	7	39	0.73	2.3
M	**Totals**		0	5.3	251	238	43		44	41	15	48	52			18	10	46	0.88	5.2
Totals				5.6	72,096	68,062	12,318 ~~12,319~~		23	30	47	2	3	6	89	34	11	203	1.39	335.3

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MTRAIL

Date 6/3/2022
Time 12:29:37PM

T06N R07W S14 T00MC

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	07W	14	U12_TAKE	00MC	174.00	67	169	1	W

T06N R07W S14 T00MC

Spp	ST	Sort	Grad	% 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+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
D		DO	CU														8	15		0.00	8.1
D		DO	2S	83	6.2	48,375	45,395	7,899		34	66		0	0	4	95	39	17	440	2.40	103.1
D		DO	3S	16	5.1	9,173	8,703	1,514	86	2	12		4	7	17	72	35	9	106	0.83	82.2
D		DO	4S	1	10.1	541	486	85	100				59	41			20	7	27	0.48	18.1
D	**Totals**			80	6.0	58,089	54,584	9,498	15	29	56		2	2	6	91	35	13	258	1.67	211.5
H		DO	CU														10	20		0.00	.6
H		DO	2S	44	5.7	3,451	3,253	566		66	34				10	90	40	14	300	1.78	10.8
H		DO	3S	52	6.8	4,088	3,811	663	92	8			1	7	6	87	38	9	109	0.80	35.0
H		DO	4S	4	5.0	262	249	43	100				53	47			21	6	26	0.42	9.7
H	**Totals**			11	6.3	7,801	7,313	1,272	51	34	15		2	5	7	85	35	10	130	0.97	56.1
A		DO	1S	34	.6	2,061	2,049	356		93	7			4		96	39	13	248	1.66	8.3
A		DO	2S	23	.4	1,367	1,361	237	100				1		8	91	38	10	152	1.10	9.0
A		DO	3S	21	.8	1,243	1,233	215	100				5			95	37	9	98	0.75	12.5
A		DO	4S	22		1,283	1,283	223	100				17	34	7	41	27	6	39	0.45	32.8
A	**Totals**			9	.5	5,954	5,927	1,031	65	32	2		5	9	3	83	32	8	95	0.82	62.5
M		DO	CU														7	13		0.00	1.4
M		DO	1S	55	5.0	140	133	23		73	27		53	47			18	15	125	1.79	1.1
M		DO	3S	7		16	16	3	100				100				20	8	40	0.95	.4
M		DO	4S	38	6.6	96	89	16	100				32	68			25	7	39	0.73	2.3
M	**Totals**			0	5.3	251	238	41	44	41	15		48	52			18	10	46	0.88	5.2
Type Totals					5.6	72,096	68,062	11,843	23	30	47		2	3	6	89	34	11	203	1.39	335.3

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MTRAIL

Page 1
Date 6/3/2022
Time 12:29:50PM

T06N R07W S14 T00MC

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	07W	14	U3_R/W	00MC	7.00	67	171	1	W

T06N R07W S14 T00MC

Spp	ST	Sort	Grad	% 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+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
D		DO	CU														8	15		0.00	8.1
D		DO	2S	83	6.2	48,375	45,395	318			34	66	0	0	4	95	39	17	440	2.40	103.1
D		DO	3S	16	5.1	9,173	8,703	61		86	2	12	4	7	17	72	35	9	106	0.83	82.2
D		DO	4S	1	10.1	541	486	3		100			59	41			20	7	27	0.48	18.1
D	**Totals**			80	6.0	58,089	54,584	382		15	29	56	2	2	6	91	35	13	258	1.67	211.5
H		DO	CU														10	20		0.00	.6
H		DO	2S	44	5.7	3,451	3,253	23			66	34			10	90	40	14	300	1.78	10.8
H		DO	3S	52	6.8	4,088	3,811	27		92	8		1	7	6	87	38	9	109	0.80	35.0
H		DO	4S	4	5.0	262	249	2		100			53	47			21	6	26	0.42	9.7
H	**Totals**			11	6.3	7,801	7,313	51		51	34	15	2	5	7	85	35	10	130	0.97	56.1
A		DO	1S	34	.6	2,061	2,049	14			93	7		4		96	39	13	248	1.66	8.3
A		DO	2S	23	.4	1,367	1,361	10		100			1		8	91	38	10	152	1.10	9.0
A		DO	3S	21	.8	1,243	1,233	9		100			5			95	37	9	98	0.75	12.5
A		DO	4S	22		1,283	1,283	9		100			17	34	7	41	27	6	39	0.45	32.8
A	**Totals**			9	.5	5,954	5,927	41		65	32	2	5	9	3	83	32	8	95	0.82	62.5
M		DO	CU														7	13		0.00	1.4
M		DO	1S	55	5.0	140	133	1			73	27	53	47			18	15	125	1.79	1.1
M		DO	3S	7		16	16	0		100			100				20	8	40	0.95	.4
M		DO	4S	38	6.6	96	89	1		100			32	68			25	7	39	0.73	2.3
M	**Totals**			0	5.3	251	238	2		44	41	15	48	52			18	10	46	0.88	5.2
Type Totals					5.6	72,096	68,062	476		23	30	47	2	3	6	89	34	11	203	1.39	335.3

TC TSTATS

STATISTICS

PROJECT MTRAIL

DATE 6/3/2022

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	07W	14	U12	00MC	181.00	67	471	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	67	471	7.0		
CRUISE	26	171	6.6	24,531	.7
DBH COUNT					
REFOREST COUNT	41	300	7.3		
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	108	74.1	24.7	102	49.6	246.2	58,089	54,584	12,834	12,192
WHEMLOCK	16	23.9	18.0	86	10.0	42.3	7,801	7,313	2,017	1,916
R ALDER	38	30.6	15.4	69	10.0	39.4	5,954	5,927	1,654	1,654
SNAG	2	3.5	18.5	63	1.5	6.5				
BL MAPLE	7	3.4	17.2	30	1.3	5.4	251	238	82	82
TOTAL	*171*	*135.5*	*21.4*	*89*	*73.4*	*339.8*	*72,096*	*68,062*	*16,587*	*15,845*

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	62.0	6.0	992	1,055	1,118			
WHEMLOCK	73.0	18.8	314	387	459			
R ALDER	54.5	8.8	217	238	259			
SNAG								
BL MAPLE	72.2	29.4	57	80	103			
TOTAL	*87.0*	*6.6*	*708*	*759*	*809*	*302*	*76*	*34*

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	73.4	9.0	67	74	81			
WHEMLOCK	228.3	27.9	17	24	31			
R ALDER	184.2	22.5	24	31	37			
SNAG	310.1	37.9	2	3	5			
BL MAPLE	344.8	42.1	2	3	5			
TOTAL	*42.3*	*5.2*	*129*	*136*	*143*	*72*	*18*	*8*

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	64.0	7.8	227	246	265			
WHEMLOCK	226.3	27.6	31	42	54			
R ALDER	178.8	21.8	31	39	48			
SNAG	310.0	37.8	4	7	9			
BL MAPLE	326.4	39.8	3	5	8			
TOTAL	*37.3*	*4.6*	*324*	*340*	*355*	*56*	*14*	*6*

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	65.4	8.0	50,227	54,584	58,941			
WHEMLOCK	228.7	27.9	5,272	7,313	9,354			
R ALDER	179.7	21.9	4,626	5,927	7,227			
SNAG								
BL MAPLE	345.1	42.1	138	238	338			
TOTAL	*43.2*	*5.3*	*64,476*	*68,062*	*71,649*	*74*	*19*	*8*

TC PSTATS

PROJECT STATISTICS

PROJECT MTRAIL

DATE 6/3/2022

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	07	14	U12 TAKE	00MC	181.00	134	934	1	W
06N	07W	14	U3 R/W	00MC					

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	134	934	7.0		
CRUISE	52	340	6.5	23,924	1.4
DBH COUNT					
REFOREST COUNT	82	594	7.2		
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
DOUG FIR	216	74.1	24.7	102	49.6	246.2	58,089	54,584	12,834	12,192
WHEMLOCK	32	23.9	18.0	86	10.0	42.3	7,801	7,313	2,017	1,916
R ALDER	76	30.6	15.4	69	10.0	39.4	5,954	5,927	1,654	1,654
BL MAPLE	14	3.4	17.2	30	1.3	5.4	251	238	82	82
SNAG	2	.1	18.5	63	0.1	.3				
TOTAL	*340*	*132.2*	*21.5*	*90*	*71.9*	*333.5*	*72,096*	*68,062*	*16,587*	*15,845*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	SAMPLE TREES - BF LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR	61.9	4.2	1,011	1,055	1,100			
WHEMLOCK	71.8	12.7	337	387	436			
R ALDER	54.1	6.2	223	238	253			
BL MAPLE	69.3	19.2	65	80	95			
SNAG								
TOTAL	*86.3*	*4.7*	*728*	*763*	*799*	*297*	*74*	*33*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	135.9	11.7	65	74	83			
WHEMLOCK	323.1	27.9	17	24	31			
R ALDER	266.3	23.0	24	31	38			
BL MAPLE	476.5	41.1	2	3	5			
SNAG	448.3	38.7	0	0	0			
TOTAL	*108.5*	*9.4*	*120*	*132*	*145*	*470*	*117*	*52*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	BASAL AREA/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	126.9	11.0	219	246	273			
WHEMLOCK	320.5	27.7	31	42	54			
R ALDER	259.5	22.4	31	39	48			
BL MAPLE	452.1	39.0	3	5	7			
SNAG	448.2	38.7	0	0	0			
TOTAL	*105.2*	*9.1*	*303*	*334*	*364*	*442*	*111*	*49*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	128.2	11.1	48,545	54,584	60,624			
WHEMLOCK	323.5	27.9	5,271	7,313	9,355			
R ALDER	260.6	22.5	4,593	5,927	7,260			
BL MAPLE	476.8	41.2	140	238	336			
SNAG								
TOTAL	*109.5*	*9.5*	*61,627*	*68,062*	*74,498*	*479*	*120*	*53*

TC TSTATS

STATISTICS

PROJECT MTRAIL

DATE 6/3/2022

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	07W	14	U12 TAKE	00MC	174.00	67	463	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	67	463	6.9		
CRUISE	26	169	6.5	22,975	.7
DBH COUNT					
REFOREST COUNT	41	294	7.2		
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
DOUG FIR	108	74.1	24.7	102	49.6	246.2	58,089	54,584	12,834	12,192
WHEMLOCK	16	23.9	18.0	86	10.0	42.3	7,801	7,313	2,017	1,916
R ALDER	38	30.6	15.4	69	10.0	39.4	5,954	5,927	1,654	1,654
BL MAPLE	7	3.4	17.2	30	1.3	5.4	251	238	82	82
TOTAL	*169*	*132.0*	*21.5*	*90*	*71.9*	*333.3*	*72,096*	*68,062*	*16,587*	*15,845*

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	62.0	6.0	992	1,055	1,118			
WHEMLOCK	73.0	18.8	314	387	459			
R ALDER	54.5	8.8	217	238	259			
BL MAPLE	72.2	29.4	57	80	103			
TOTAL	*85.8*	*6.6*	*717*	*768*	*819*	*294*	*73*	*33*

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	73.4	9.0	67	74	81			
WHEMLOCK	228.3	27.9	17	24	31			
R ALDER	184.2	22.5	24	31	37			
BL MAPLE	344.8	42.1	2	3	5			
TOTAL	*41.9*	*5.1*	*125*	*132*	*139*	*70*	*18*	*8*

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	64.0	7.8	227	246	265			
WHEMLOCK	226.3	27.6	31	42	54			
R ALDER	178.8	21.8	31	39	48			
BL MAPLE	326.4	39.8	3	5	8			
TOTAL	*37.1*	*4.5*	*318*	*333*	*348*	*55*	*14*	*6*

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	65.4	8.0	50,227	54,584	58,941			
WHEMLOCK	228.7	27.9	5,272	7,313	9,354			
R ALDER	179.7	21.9	4,626	5,927	7,227			
BL MAPLE	345.1	42.1	138	238	338			
TOTAL	*43.2*	*5.3*	*64,476*	*68,062*	*71,649*	*74*	*19*	*8*

TC TSTATS

STATISTICS

PROJECT MTRAIL

DATE 6/3/2022

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	07W	14	U3 R/W	00MC	7.00	67	471	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	67	471	7.0		
CRUISE	26	171	6.6	949	18.0
DBH COUNT					
REFOREST COUNT	41	300	7.3		
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	108	74.1	24.7	102	49.6	246.2	58,089	54,584	12,834	12,192
WHEMLOCK	16	23.9	18.0	86	10.0	42.3	7,801	7,313	2,017	1,916
R ALDER	38	30.6	15.4	69	10.0	39.4	5,954	5,927	1,654	1,654
SNAG	2	3.5	18.5	63	1.5	6.5				
BL MAPLE	7	3.4	17.2	30	1.3	5.4	251	238	82	82
TOTAL	*171*	*135.5*	*21.4*	*89*	*73.4*	*339.8*	*72,096*	*68,062*	*16,587*	*15,845*

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	62.0	6.0	992	1,055	1,118			
WHEMLOCK	73.0	18.8	314	387	459			
R ALDER	54.5	8.8	217	238	259			
SNAG								
BL MAPLE	72.2	29.4	57	80	103			
TOTAL	*87.0*	*6.6*	*708*	*759*	*809*	*302*	*76*	*34*

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	73.4	9.0	67	74	81			
WHEMLOCK	228.3	27.9	17	24	31			
R ALDER	184.2	22.5	24	31	37			
SNAG	310.1	37.9	2	3	5			
BL MAPLE	344.8	42.1	2	3	5			
TOTAL	*42.3*	*5.2*	*129*	*136*	*143*	*72*	*18*	*8*

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	64.0	7.8	227	246	265			
WHEMLOCK	226.3	27.6	31	42	54			
R ALDER	178.8	21.8	31	39	48			
SNAG	310.0	37.8	4	7	9			
BL MAPLE	326.4	39.8	3	5	8			
TOTAL	*37.3*	*4.6*	*324*	*340*	*355*	*56*	*14*	*6*

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	65.4	8.0	50,227	54,584	58,941			
WHEMLOCK	228.7	27.9	5,272	7,313	9,354			
R ALDER	179.7	21.9	4,626	5,927	7,227			
SNAG								
BL MAPLE	345.1	42.1	138	238	338			
TOTAL	*43.2*	*5.3*	*64,476*	*68,062*	*71,649*	*74*	*19*	*8*

TC PLOGSTVB

Log Stock Table - MBF

T06N R07W S14 Ty00MC 174.00
T06N R07W S14 Ty00MC 7.00

Project: MTRAIL
Acres 181.00

Date 6/3/2022
Time 12:30:36PM

Spp	ST	Sort	Grade	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+
D		DO	2S	18	4	5.0	4	.0						4						
D		DO	2S	20	34	5.0	33	.3						11		21				
D		DO	2S	24	26	5.0	25	.3						12	13					
D		DO	2S	28	14	5.0	13	.1						13						
D		DO	2S	32	306	6.3	286	2.9						115	57	13		102		
D		DO	2S	34	10	5.0	9	.1						9						
D		DO	2S	36	84	5.0	80	.8						37	42					
D		DO	2S	38	64	5.0	61	.6											61	
D		DO	2S	40	8,214	6.2	7,706	78.0						674	1056	2664	2295	954	64	
D		DO	3S	12	3	5.0	3	.0						3						
D		DO	3S	16	44	5.0	42	.4				3	35	4						
D		DO	3S	20	27	5.0	26	.3				4	16	5						
D		DO	3S	24	32	5.0	30	.3				6	24							
D		DO	3S	26	10	5.0	9	.1					9							
D		DO	3S	28	28	5.0	27	.3			7	12	8							
D		DO	3S	30	48	5.0	46	.5			4	13	28							
D		DO	3S	32	202	5.0	192	1.9			23	103	53			12				
D		DO	3S	34	75	5.0	71	.7			26	37	8							
D		DO	3S	36	99	5.0	94	1.0			41	27	26							
D		DO	3S	38	37	5.0	35	.4			25	10								
D		DO	3S	40	1,055	5.2	1,000	10.1			130	117	551	11		27	37	127		
D		DO	4S	12	10	5.0	10	.1			2	5	2							
D		DO	4S	14	2	5.0	2	.0				2								
D		DO	4S	16	26	5.0	25	.2			10	15								
D		DO	4S	18	11	5.0	11	.1			8	3								
D		DO	4S	20	5	5.0	5	.1				5								
D		DO	4S	24	16	5.0	15	.2			6	9								
D		DO	4S	28	6	5.0	6	.1			6									
D		DO	4S	30	21	28.7	15	.2			15									
D		Totals			10,514	6.0	9,880	80.2			303	371	762	899	1168	2738	2332	1182	124	
A		DO	1S	26	15		15	1.4						15						
A		DO	1S	38	43		43	4.0						20	23					
A		DO	1S	40	314		312	29.1						160	99	53				
A		DO	2S	14	3		3	.3					3							
A		DO	2S	34	20		20	1.9					20							
A		DO	2S	36	19		19	1.8					19							

TC PLOGSTVB

Log Stock Table - MBF

T06N R07W S14 Ty00MC	174.00
T06N R07W S14 Ty00MC	7.00

Project: MTRAIL
Acres 181.00

Date 6/3/2022
Time 12:30:36PM

Spp	S T	So rt	Gr 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+
A		DO	2S	38	21		21	2.0					21							
A		DO	2S	40	184		183	17.1					183							
A		DO	3S	20	11		11	1.1				11								
A		DO	3S	38	36		36	3.3				36								
A		DO	3S	40	178		176	16.4				176								
A		DO	4S	14	2		2	.2			2									
A		DO	4S	16	7		7	.7			7									
A		DO	4S	18	12		12	1.1			12									
A		DO	4S	20	19		19	1.8			19									
A		DO	4S	24	6		6	.6			6									
A		DO	4S	26	46		46	4.3			46									
A		DO	4S	28	10		10	.9			10									
A		DO	4S	30	17		17	1.6			17									
A		DO	4S	34	16		16	1.5			16									
A		DO	4S	38	36		36	3.4			36									
A		DO	4S	40	60		60	5.6			60									
A		Totals			1,078		1,073	8.7			232	223	246	196	122	53				
H		DO	2S	32	64	8.1	58	4.4									58			
H		DO	2S	40	561	5.5	530	40.1						222	166	142				
H		DO	3S	16	6	5.0	6	.4					6							
H		DO	3S	30	50	5.0	47	3.6				24	23							
H		DO	3S	32	12	5.0	11	.8				11								
H		DO	3S	34	29	5.0	27	2.1			27									
H		DO	3S	40	644	7.0	598	45.2			100	75	365	58						
H		DO	4S	16	17	5.0	17	1.3			17									
H		DO	4S	18	8	5.0	7	.6			7									
H		DO	4S	28	7	5.0	6	.5			6									
H		DO	4S	30	16	5.0	15	1.1			15									
H		Totals			1,412	6.3	1,324	10.7			172	111	394	280	166	142	58			
M		DO	1S	10	8	16.7	6	14.8								6				
M		DO	1S	16	6		6	14.8							6					
M		DO	1S	26	11		11	26.3						11						
M		DO	3S	20	3		3	6.6				3								
M		DO	4S	20	5		5	11.9			5									

TC PLOGSTVB

Log Stock Table - MBF

T06N R07W S14 Ty00MC	174.00
T06N R07W S14 Ty00MC	7.00

Project: MTRAIL
Acres 181.00

Date 6/3/2022
Time 12:30:36PM

Spp	S T	So rt	Gr 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+
M		DO	4S	28	12	9.3	11	25.7		11				
M		Totals			46	5.3	43	.3		16 3	11	6 6		
Total		All Species			13,049	5.6	12,319	100.0		724 708	1402 1386	1462 2940	2390 1182	124

TC PSTNDSUM

Stand Table Summary

Page 1
Date: 6/3/2022

T06N R07W S14 Ty00MC 174.00
T06N R07W S14 Ty00MC 7.00

Project MTRAIL
Acres 181.00

Time: 12:30:23PM
Grown Year:

Spc	S T	DBH	Sample Trees	FF 16'	Tot Av Ht	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
D		11	2	86	77	3.455	2.28	3.45	16.1	57.0		56	197		101	36
D		12	2	82	50	2.903	2.28	2.90	14.2	28.5		41	83		75	15
D		15	4	85	100	3.716	4.56	7.43	21.9	78.4		162	582		294	105
D		16	2	86	114	1.633	2.28	3.27	26.6	99.7		87	326		157	59
D		17	6	84	112	4.339	6.84	10.13	27.3	100.4		276	1,017		500	184
D		18	2	82	107	1.290	2.28	2.58	33.7	114.0		87	294		158	53
D		19	8	83	123	4.632	9.12	11.58	32.8	114.9		380	1,331		687	241
D		20	8	83	127	4.180	9.12	11.50	35.2	127.8		404	1,469		731	266
D		21	2	83	146	.948	2.28	2.84	39.6	155.2		113	441		204	80
D		22	14	86	141	6.046	15.96	17.27	45.5	182.9		786	3,159		1,423	572
D		23	10	84	153	3.951	11.40	11.85	50.9	205.2		603	2,432		1,091	440
D		24	8	88	136	2.903	9.12	7.98	57.5	241.8		459	1,931		831	349
D		25	14	86	143	4.682	15.96	14.05	58.3	247.9		818	3,482		1,481	630
D		26	18	84	142	5.566	20.52	16.08	56.1	254.7		902	4,095		1,632	741
D		27	12	85	150	3.441	13.68	10.90	64.9	277.5		708	3,023		1,281	547
D		28	14	88	159	3.732	15.96	12.80	70.7	334.5		905	4,280		1,638	775
D		29	10	87	154	2.485	11.40	8.45	73.4	353.2		620	2,984		1,123	540
D		30	14	85	149	3.251	15.96	10.68	78.9	373.4		843	3,989		1,526	722
D		31	8	83	165	1.740	9.12	6.53	77.7	370.5		507	2,418		918	438
D		32	4	84	163	.816	4.56	2.86	88.6	426.1		253	1,218		458	220
D		33	2	82	146	.384	2.28	1.15	97.8	440.2		113	507		204	92
D		34	14	85	170	2.531	15.96	9.40	94.6	487.1		889	4,579		1,609	829
D		35	8	84	150	1.365	9.12	4.44	105.2	495.5		467	2,198		845	398
D		36	6	84	148	.968	6.84	2.90	118.4	571.1		344	1,658		622	300
D		37	4	86	168	.611	4.56	2.44	105.8	560.5		258	1,369		468	248
D		39	6	83	153	.825	6.84	2.20	133.7	634.1		294	1,394		532	252
D		40	8	84	147	1.045	9.12	3.40	133.2	661.3		452	2,246		819	407
D		41	2	86	163	.249	2.28	.75	168.5	870.8		126	650		227	118
D		43	4	84	160	.452	4.56	1.58	150.8	777.6		239	1,231		432	223
D		Totals	216	85	133	74.140	246.24	203.39	59.9	268.4		12,192	54,584		22,068	9,880
H		15	6	87	99	6.457	7.92	12.91	25.2	88.7		325	1,145		588	207
H		16	2	88	107	1.892	2.64	3.78	30.9	114.0		117	431		211	78
H		17	10	84	112	8.378	13.21	18.43	31.8	112.3		586	2,069		1,060	375
H		18	2	88	150	1.495	2.64	4.48	33.9	136.2		152	611		275	111
H		19	2	85	111	1.341	2.64	4.02	29.1	104.5		117	421		212	76
H		20	4	86	97	2.421	5.28	6.05	36.1	133.0		219	805		396	146
H		26	2	86	144	.716	2.64	2.15	68.1	310.3		146	667		265	121
H		27	2	86	139	.664	2.64	1.99	71.2	326.2		142	650		257	118
H		29	2	85	126	.576	2.64	1.73	65.2	297.7		113	514		204	93
H		Totals	32	86	111	23.941	42.26	55.56	34.5	131.6		1,916	7,313		3,469	1,324
A		9	2	87	138	2.346	1.04	4.69	12.5	50.0		59	235		106	42
A		10	2	87	132	1.901	1.04	3.80	13.0	50.0		49	190		89	34
A		11	2	87	112	1.571	1.04	3.14	15.0	55.0		47	173		85	31
A		12	4	87	103	2.640	2.07	5.28	16.7	55.0		88	290		160	53
A		13	6	86	106	3.374	3.11	6.75	20.8	80.0		141	540		254	98
A		14	6	87	96	2.909	3.11	5.82	22.5	80.0		131	465		237	84
A		15	6	86	82	2.534	3.11	5.07	22.5	76.7		114	389		206	70
A		16	8	86	90	2.970	4.15	5.94	27.6	98.8		164	586		297	106
A		17	8	87	85	2.630	4.15	5.26	29.2	101.2		154	533		279	96
A		18	6	87	87	1.760	3.11	3.52	35.3	118.3		124	416		225	75
A		19	10	86	87	2.632	5.18	5.26	38.9	127.0		205	669		371	121
A		20	6	87	99	1.425	3.11	3.33	41.1	148.6		137	494		248	89

TC PSTNDSUM

Stand Table Summary

Page 2
Date: 6/3/2022

T06N R07W S14 Ty00MC	174.00
T06N R07W S14 Ty00MC	7.00

Project MTRAIL
Acres 181.00

Time: 12:30:23PM
Grown Year:

Spc	S T	DBH	Sample Trees	FF 16'	Tot Av Ht	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
A		21	2	86	121	.431	1.04	1.29	42.0	180.0		54	233		98	42
A		22	6	87	105	1.178	3.11	2.75	51.6	200.0		142	550		257	100
A		25	2	87	99	.304	1.04	.61	73.0	270.0		44	164		80	30
A		Totals	76	87	101	30.604	39.39	62.51	26.5	94.8		1,654	5,927		2,993	1,073
M		14	2	86	45	.720	.77	.72	19.0	50.0		14	36		25	7
M		15	2	86	36	.627	.77	.63	20.0	40.0		13	25		23	5
M		16	2	81	23	.551	.77	.55	18.0	30.0		10	17		18	3
M		19	4	87	48	.782	1.54	1.17	24.7	76.7		29	90		52	16
M		20	2	87	17	.353	.77	.35	20.0	100.0		7	35		13	6
M		21	2	72	32	.320	.77	.32	32.0	110.0		10	35		19	6
M		Totals	14	84	36	3.355	5.39	3.75	22.0	63.6		82	238		149	43
SN		18	1	88	92	.071	.13									
SN		19	1	89	30	.064	.13									
SN		Totals	2	88	63	.135	.25									
Totals			340	85	119	132.174	333.53	325.20	48.7	209.3		15,845	68,062		28,679	12,319

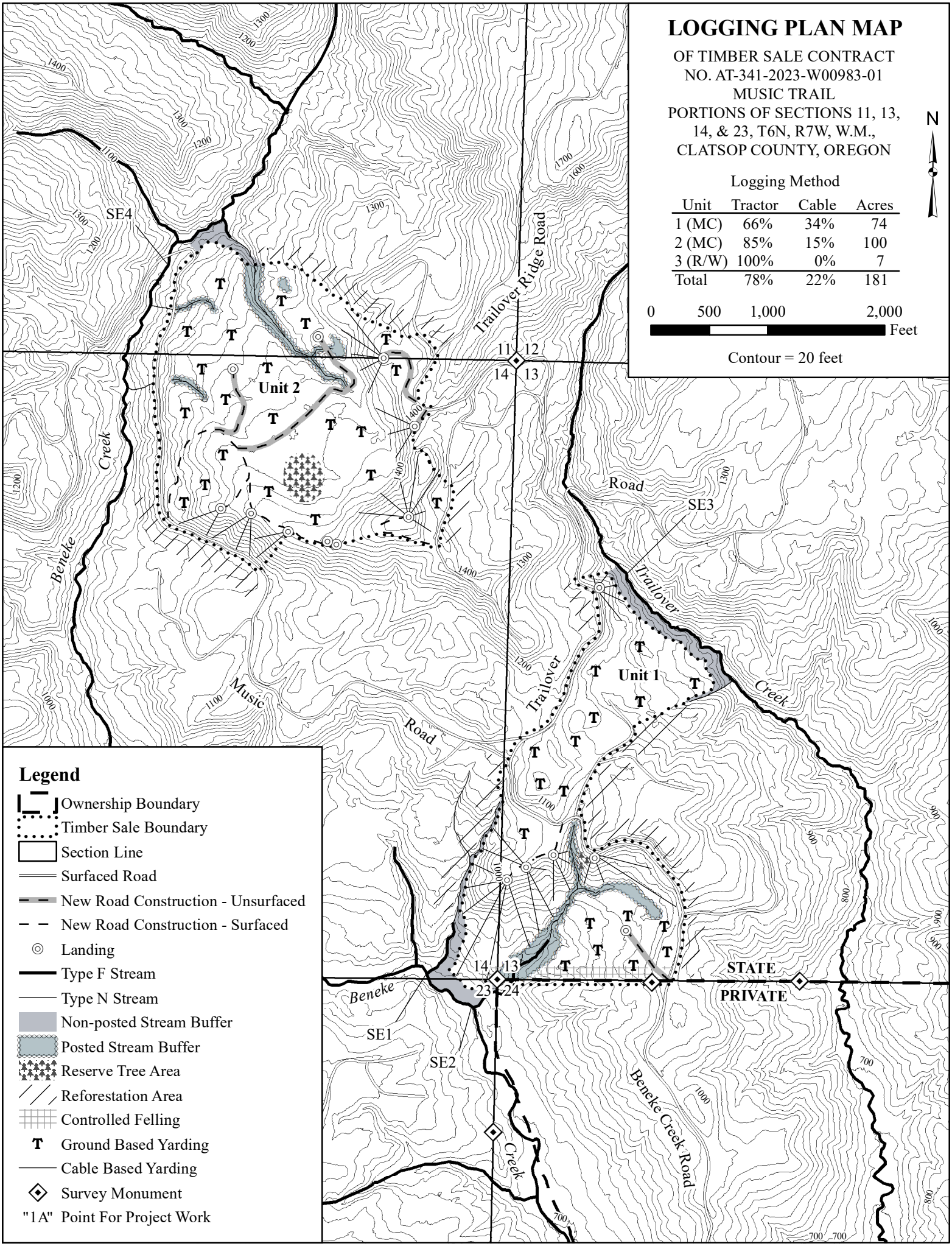
LOGGING PLAN MAP

OF TIMBER SALE CONTRACT
NO. AT-341-2023-W00983-01
MUSIC TRAIL
PORTIONS OF SECTIONS 11, 13,
14, & 23, T6N, R7W, W.M.,
CLATSOP COUNTY, OREGON

Logging Method

Unit	Tractor	Cable	Acres
1 (MC)	66%	34%	74
2 (MC)	85%	15%	100
3 (R/W)	100%	0%	7
Total	78%	22%	181

0 500 1,000 2,000 Feet

Contour = 20 feet

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