



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
East Summit Combination
Sale AT-341-2021-W00625-01

District: Astoria

Date: October 21, 2020

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,742,639.55	\$48,055.80	\$1,790,695.35
		Project Work:	(\$294,071.00)
		Advertised Value:	\$1,496,624.35



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Timber Description

Location: Portions of Sections 1, 2, 3, 10, 11, and 12 of T4N, R9W, W.M., Clatsop County, Oregon.

Stand Stocking: 60%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	13	0	97
Western Hemlock / Fir	14	0	95
Sitka Spruce	18	0	95
Alder (Red)	12	0	97

Volume by Grade	2S	3S & 4S 6" - 11"	8" - 9"	10" - 11"	12"+	6" - 7"	Total
Douglas - Fir	447	2,647	0	0	0	0	3,094
Western Hemlock / Fir	628	960	0	0	0	0	1,588
Sitka Spruce	138	183	0	0	0	0	321
Alder (Red)	0	0	70	28	37	125	260
Total	1,213	3,790	70	28	37	125	5,263

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

Expected Log Markets: Tillamook, Warrenton, Garibaldi, Banks, North Plains, Forest Grove, Banks, Longview, WA, and Chehalis, WA.

PRICING:

Western Red Cedar and other Cedars stumpage = pond value - (Douglas-fir) logging cost.

\$798.34/MBF = \$1,090/MBF - \$291.66/MBF

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

Machine Washing for Invasive Weed Compliance = \$2,000

Ditch Filters:

18 bales of straw @ \$12.06/bale = \$217.08

4 hours of labor @ \$45/hr = \$180

Line Pull (approximately 1.5 acres in Unit 1 and 1 acre in Unit 3):

12 Hours labor @ \$45/hr = \$540

TOTAL Other Costs (with Profit & Risk to be added): \$2,937

Other Costs (No Profit & Risk added):

None.

ROAD MAINTENANCE

(See attached Road Maintenance Cost Summary Sheet)

TOTAL Road Maintenance: \$25,310/5,263 MBF = \$4.81/MBF



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Logging Conditions

Combination#: 1	Douglas - Fir	33.00%	
	Western Hemlock / Fir	33.00%	
	Sitka Spruce	33.00%	
	Alder (Red)	33.00%	
Logging System:	Cable: Medium Tower >40 - <70		Process: Manual Falling/Delimbing
yarding distance:	Short (400 ft)		downhill yarding: No
tree size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
loads / day:	7		bd. ft / load: 4300
cost / mbf:	\$219.27		
machines:	Log Loader (A)		
	Tower Yarder (Medium)		
Combination#: 2	Douglas - Fir	49.00%	
	Western Hemlock / Fir	49.00%	
	Sitka Spruce	49.00%	
	Alder (Red)	49.00%	
Logging System:	Track Skidder		Process: Harvester Head Delimbing
yarding distance:	Medium (800 ft)		downhill yarding: No
tree size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
loads / day:	8		bd. ft / load: 4100
cost / mbf:	\$162.93		
machines:	Forwarder		
	Harvester		
Combination#: 3	Douglas - Fir	1.00%	
	Western Hemlock / Fir	1.00%	
	Sitka Spruce	1.00%	
	Alder (Red)	1.00%	
Logging System:	Cable: Medium Tower >40 - <70		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:	11		bd. ft / load: 4200
cost / mbf:	\$142.86		
machines:	Log Loader (A)		
	Tower Yarder (Medium)		
Combination#: 4	Douglas - Fir	17.00%	
	Western Hemlock / Fir	17.00%	
	Sitka Spruce	17.00%	
	Alder (Red)	17.00%	
Logging System:	Shovel		Process: Feller Buncher
yarding distance:	Medium (800 ft)		downhill yarding: No
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	11		bd. ft / load: 4400
cost / mbf:	\$73.10		



"STEWARDSHIP IN FORESTRY"

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District: Astoria

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Logging Costs

Operating Seasons: 3.00

Profit Risk: 12%

Project Costs: \$294,071.00

Other Costs (P/R): \$2,937.00

Slash Disposal: \$17,810.67

Other Costs: \$0.00

Miles of Road

Road Maintenance: \$4.81

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	4.0
Western Hemlock / Fir	\$0.00	3.0	4.2
Sitka Spruce	\$0.00	3.0	4.5
Alder (Red)	\$0.00	2.0	3.6



"STEWARDSHIP IN FORESTRY"

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Date: October 21, 2020

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$166.05	\$4.95	\$2.50	\$81.55	\$0.56	\$30.67	\$3.38	\$2.00	\$0.00	\$291.66
Western Hemlock / Fir									
\$166.05	\$5.05	\$2.50	\$79.17	\$0.56	\$30.40	\$3.38	\$2.00	\$0.00	\$289.11
Sitka Spruce									
\$166.05	\$5.05	\$2.50	\$73.89	\$0.56	\$29.77	\$3.38	\$2.00	\$0.00	\$283.20
Alder (Red)									
\$166.05	\$4.95	\$2.50	\$135.90	\$0.56	\$37.20	\$3.38	\$2.00	\$0.00	\$352.54

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$703.19	\$411.53	\$0.00
Western Hemlock / Fir	\$0.00	\$548.77	\$259.66	\$0.00
Sitka Spruce	\$0.00	\$460.85	\$177.65	\$0.00
Alder (Red)	\$0.00	\$537.37	\$184.83	\$0.00



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Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	3,094	\$411.53	\$1,273,273.82
Western Hemlock / Fir	1,588	\$259.66	\$412,340.08
Sitka Spruce	321	\$177.65	\$57,025.65
Alder (Red)	260	\$184.83	\$48,055.80

Gross Timber Sale Value

Recovery: \$1,790,695.35

Prepared By: Justin Bush

Phone: 503-325-5451

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: East Summit Combination
Date: August 7, 2020
By: Michele Huffman CB

MBF: 5,263.00
\$\$/MBF: \$4.81

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Interim Operations	Grader 14G	\$875	1	8	\$113	\$1,779
	Dump Truck 12CY	\$184	1	8	\$89	\$896
	Vibratory Roller	\$875	1	8	\$87	\$1,571
	Rubber Tired Backhoe	\$361	1	4	\$87	\$709
Interim #2	Grader 14G	\$875	1	8	\$113	\$1,779
Final Road Maintenance	Grader 14G	\$875	1	47	\$113	\$6,186
	Dump Truck 12CY	\$184	2	16	\$89	\$1,792
	FE Loader C966	\$875	1	8	\$94	\$1,627
	Vibratory Roller	\$875	1	47	\$87	\$4,964
	Water Truck 2,500 gallon	\$214	1	16	\$101	\$1,830
	Excavator C315	\$905	1	8	\$114	\$1,817
	Labor			8	\$45	\$360
Total						\$25,310

Interim Operations Road Maintenance

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

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	1.5	8.8	5.9	47
Vibratory Roller	1.5	8.8	5.9	47

Process and compact: All crushed rock roads

Cole Mountain Ridge Road 0.7 Miles

East Summit Road 2.0 Miles

Nugent Spur 0.9 Miles

Soapstone Road 0.2 Miles

Unnamed Spurs 3.5 Miles

Surfaced New Construction 1.5 Miles

Grade & Process Total = 8.8 Miles

Site Prep Appraisal

Sale Number: AT-341-2021-W00625-01
Sale Name: East Summit Combination
Date: 10/10/2020

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

Unit	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	D	36	65	\$145.00	\$9,396.00
4	MC	D	14	25	\$145.00	\$3,654.00
In-unit Piling						Sub Total = \$13,050.00
Unit	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	8	1	\$38.67	224	\$5.00	\$1,120.00
4	4	0	\$0.00	88	\$5.00	\$440.00
*Cost includes separating firewood						Materials Sub Total = \$1,560.00
Additional Move-in allowance						Landing Piling Sub Total = \$38.67
Move-In Allowance	Number of Move-In's	Total Move-In Allowance				
\$1,581.00	2	\$3,162.00				
Move-In						Sub Total = \$3,162.00
Slash Endhaul						
Dump Truck hrs	Cost/Hour	Total	Loader hrs	Cost/Hour	Total	
0	\$89.00	\$0.00	0	\$145.00	\$0.00	Sub Total = \$0.00
						Grand Total = \$17,810.67

SUMMARY OF ALL PROJECT COSTS

SALE NAME: East Summit Combination

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>	
1A-1B, 2A-2B, 2C-2D,	88.65	1.68	\$109,239.67	
2E-2F, 2G-2H, 2I-2J,				
2K-2L, 3A-3B, 3C-3D,				
3E-3F, 3G-3H, and 4A-4B				
Road Maint.			\$2,219.61	
Move-In			\$4,896.51	
TOTALS	88.65	1.68		\$116,356

Project No. 2: ROAD IMPROVEMENT:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>	
I1-I2, I3-I4, I5-I6, I7-I8,	408.5	7.74	\$132,508.18	
I9-I10, I11-I12, I13-I14,				
I15-I16, I17-I18, I19-I20,				
I21-I22, and I23-I24				
Road Maint.			\$2,692.39	
Move-In			\$5,939.49	
TOTALS		7.74		\$141,140

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

<u>Description</u>	<u>Length/Vol.</u>	<u>Cost</u>	
Proj. 3 Roadside Brushing		\$31,175.05	
Proj. 4 Stream Enhancement		\$5,400.00	
TOTAL			\$36,575

GRAND TOTAL **\$294,071**

Compiled By: C. Hatcher

Date: 05/22/2020

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: East Summit Combination NEW CONSTRUCTION: 88.65 STATIONS 1.68 MILES

ROAD: 1A to 1B (Sta. 5.25), 2A to 2B (Sta. 9.5), 2C to 2D (Sta. 11.0), 2E to 2F (Sta. 13.45), 2G to 2H (Sta. 1.55), 2I to 2J (Sta. 0.5), 2K to 2L (Sta. 1.15), 3A to 3B (Sta. 23.45), 3C to 3D (Sta. 14.0), 3E to 3F (Sta. 5.1), 3G to 3H (Sta. 0.5), 4A to 4B (Sta. 3.2) IMPROVEMENT: STATIONS 0.00 MILES

POINTS: 0.5, 4A to 4B (Sta. 3.2)

CLEARING & GRUBBING

	Method	Acres/amount	x	Rate	=	Cost
1A to 1B	Scatter outside of right of way (\$/ac)	0.48	x	\$1,503.00	=	\$724.59
2A to 2B	Scatter outside of right of way (\$/ac)	1.00	x	\$1,503.00	=	\$1,503.00
2C to 2D	Scatter outside of right of way (\$/ac)	1.01	x	\$1,503.00	=	\$1,518.18
2E to 2F	Scatter outside of right of way (\$/ac)	1.45	x	\$1,503.00	=	\$2,179.35
2G to 2H	Scatter outside of right of way (\$/ac)	0.14	x	\$1,503.00	=	\$213.93
2I to 2J	Scatter outside of right of way (\$/ac)	0.01	x	\$1,503.00	=	\$15.03
2K to 2L	Scatter outside of right of way (\$/ac)	0.11	x	\$1,503.00	=	\$158.72
3A to 3B	Scatter outside of right of way (\$/ac)	2.11	x	\$1,503.00	=	\$3,174.38
	Stump removal w/ C330 (\$/hr)	16.00	x	\$175.00	=	\$2,800.00
3C to 3D	Scatter outside of right of way (\$/ac)	1.31	x	\$1,503.00	=	\$1,968.93
3E to 3F	Scatter outside of right of way (\$/ac)	0.55	x	\$1,503.00	=	\$826.65
3G to 3H	Scatter outside of right of way (\$/ac)	0.01	x	\$1,503.00	=	\$15.03
4A to 4B	Scatter outside of right of way (\$/ac)	0.29	x	\$1,503.00	=	\$441.65

SUB TOTAL FOR CLEARING & GRUBBING

\$15,539

EXCAVATION

	Material	Cy/amount	x	Rate	=	Cost
1A to 1B	Drift earth up to 200' (\$/sta)	1.00	x	\$214.00	=	\$214.00
	Balanced construction (\$/sta)	4.25	x	\$138.00	=	\$586.50
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
2A to 2B	Drift earth up to 200' (\$/sta)	9.50	x	\$214.00	=	\$2,033.00
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
	Embankment Compaction (\$/CY)	675	x	\$0.79	=	\$533.25
2C to 2D	Balanced construction (\$/sta)	11.00	x	\$214.00	=	\$2,354.00
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
2E to 2F	Drift earth up to 200' (\$/sta)	13.45	x	\$214.00	=	\$2,878.30
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
	Embankment Compaction (\$/CY)	1,040	x	\$0.79	=	\$821.60
			x		=	\$0.00
2G to 2H	Drift earth up to 200' (\$/sta)	1.00	x	\$214.00	=	\$214.00
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
	Balanced construction (\$/sta)	0.55	x	\$138.00	=	\$75.90
2I to 2J	Drift earth up to 200' (\$/sta)	0.50	x	\$214.00	=	\$107.00
	Landing Construction (\$/Lng)	1	x	\$438.00	=	\$438.00
2K to 2L	Drift earth up to 200' (\$/sta)	0.50	x	\$214.00	=	\$107.00
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
	Balanced construction (\$/sta)	0.65	x	\$138.00	=	\$89.70
			x		=	\$0.00
3A to 3B	Drift earth up to 200' (\$/sta)	8.70	x	\$214.00	=	\$1,861.80
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
	Balanced construction (\$/sta)	14.75	x	\$138.00	=	\$2,035.50
3C to 3D	Common drift (< 50% slopes) (\$/CY)	380.00	x	\$2.02	=	\$768.82
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
	Balanced construction (\$/sta)	7.90	x	\$138.00	=	\$1,090.20
3E to 3F	Drift earth up to 200' (\$/sta)	5.10	x	\$214.00	=	\$1,091.40
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
	Embankment Compaction (\$/CY)	480	x	\$0.79	=	\$379.20
3G to 3H	Balanced construction (\$/sta)	0.50	x	\$138.00	=	\$751.50
	Landing Construction (\$/Lng)	1	x	\$438.00	=	\$438.00
4A to 4B	Drift earth up to 200' (\$/sta)	0.50	x	\$214.00	=	\$107.00
	Landing Construction (\$/Lng)	1.00	x	\$438.00	=	\$438.00
	Balanced construction (\$/sta)	2.70	x	\$138.00	=	\$372.60

SUB TOTAL FOR EXCAVATION

\$23,728

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
					3A to 3B				\$0.00
2E to 2F					4+40	18" CPP	30	\$21.95	\$658.50
9+20	18" CPP	30	\$21.95	\$658.50	7+35	18" CPP	30	\$21.95	\$658.50
					12+25	18" CPP	30	\$21.95	\$658.50
					15+25	18" CPP	30	\$21.95	\$658.50
					17+55	18" CPP	40	\$21.95	\$878.00
					21+85	18" CPP	40	\$21.95	\$878.00

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' x 2.5" White Fiberglass Post	7	\$23.00	\$161.00

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

\$5,210

Subtotal of Clearing, Exc., Culv.

\$44,477

SURFACING				Stations/ amount		x	Rate/ sta/amt	Cost	
Subgrade prep: Description									
1A to 1B (Sta. 0+00 to 1+00), 2A to 2B, 2C to 2D, 2E to 2F, 2G to 2H, 2I to 2J, 2K to 2L, 3A to 3B, 3C to 3D, 3E to 3F, 3G to 3H, and 4A to 4B (Sta. 0+00 to 1+00)				Grade, Shape and Ditch 16'		82.20	x	\$27.91	\$2,294.20
(Sta. 0+00 to 1+00) Subgrade Compaction						82.20	x	\$22.69	\$1,865.12
1A to 1B (Sta. 1+00 to 5+25) and 4A to 4B (Sta. 1+00 to 3+20)				Grade, Shape and Outslope 14'		6.45	x	\$27.91	\$180.02
(Sta. 1+00 to 3+20) Subgrade Compaction						6.45	x	\$22.69	\$146.35

ROAD SEGMENT 1A to 1B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1A to 1B		0+00 to 5+25				
				Volume (CY) per		Number of				
Base Rock	4"-0" crushed	0+00 to 1+00	10	station	63	stations	1	63	\$8.47	\$534
Junction Rock	1-1/2"-0" crushed	0+00	N/A	Junctions	11	Junctions	1	11	\$4.05	\$44
Total Rock for Road Segment:				1A to 1B				74		

\$578

ROAD SEGMENT 2A to 2B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2A to 2B		0+00 to 9+50				
				Volume (CY) per		Number of				
Base Rock	4"-0" crushed	0+00-9+50	10	station	63	stations	9.50	599	\$8.47	\$5,071
Junction Rock	4"-0" crushed	0+00	10	Junctions	22	Junctions	1	22	\$8.47	\$186
Turnouts	4"-0" crushed	4+50	10	TO	33	TO's	1	33	\$8.47	\$280
Turnarounds	4"-0" crushed	8+55	10	TA	22	TA's	1	22	\$8.47	\$186
Landings	6"-0" pit-run	9+50	N/A	Landing	55	Landings	1	55	\$8.52	\$469
Total Rock for Road Segment:				2A to 2B				731		

\$6,193

ROAD SEGMENT 2C to 2D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2C to 2D		0+00 to 11+00				
				Volume (CY) per		Number of				
Base Rock	4"-0" crushed	0+00 to 11+00	10	station	63	stations	11.00	693	\$8.47	\$5,872
Turnouts	4"-0" crushed	4+25	10	TO	22	TO's	1	22	\$8.47	\$186
Turnarounds	4"-0" crushed	8+95	10	TA	22	TA's	1	22	\$8.47	\$186
Landings	6"-0" pit-run	11+00	N/A	Landing	55	Landings	1	55	\$8.52	\$469
Total Rock for Road Segment:				2C to 2D				792		

\$6,714

ROAD SEGMENT 2E to 2F				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2E to 2F		0+00 to 13+45				
				Volume (CY) per		Number of				
Base Rock	4"-0" crushed	0+00 to 13+45	10	station	63	stations	13.45	847	\$8.47	\$7,180
Turnouts	4"-0" crushed	2+50, 5+50, 10+00	10	TO	33	TO's	3	99	\$8.47	\$839
Turnarounds	4"-0" crushed	12+10	10	TA	22	TA's	1	22	\$8.47	\$186
Landings	6"-0" pit-run	13+45	55	Landing	55	Landings	1	55	\$8.52	\$469
Total Rock for Road Segment:				2E to 2F				1,023		

\$8,674

ROAD SEGMENT			2G to 2H		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2G to 2H		0+00 to 1+55					
				Volume (CY) per		Number of					
Base Rock	4"-0" crushed	0+00 to 1+55	10	station	63	stations	1.55	98	\$8.47	\$827	
Junction Rock	1-1/2"-0" crushed	0+00	N/A	Junctions	11	Junctions	1	11	\$4.05	\$44	
Landings	6"-0" pit-run	1+55	N/A	Landing	55	Landings	1	55	\$8.52	\$469	
Total Rock for Road Segment:			2G to 2H				164				\$1,341
ROAD SEGMENT			2I to 2J		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2I to 2J		0+00 to 0+50					
				Volume (CY) per		Number of					
Base Rock	4"-0" crushed	0+00 to 0+50	10	station	63	stations	0.50	32	\$8.47	\$267	
Junction Rock	1-1/2"-0" crushed	0+00	N/A	Junctions	11	Junctions	1	11	\$4.05	\$44	
Landings	6"-0" pit-run	0+50	N/A	Landing	55	Landings	1	55	\$8.52	\$469	
Total Rock for Road Segment:			2I to 2J				98				\$780
ROAD SEGMENT			2K to 2L		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2K to 2L		0+00 to 1+15					
				Volume (CY) per		Number of					
Base Rock	4"-0" crushed	0+00 to 1+15	10	station	63	stations	1.15	72	\$8.47	\$614	
Junction Rock	1-1/2"-0" crushed	0+00	N/A	Junctions	11	Junctions	1	11	\$4.05	\$44	
Landings	6"-0" pit-run	1+15	N/A	Landing	55	Landings	1	55	\$8.52	\$469	
Total Rock for Road Segment:			2K to 2L				138				\$1,127
ROAD SEGMENT			3A to 3B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3A to 3B		0+00 to 23+45					
				Volume (CY) per		Number of					
Base Rock	4"-0" crushed	0+00 to 23+45	10	station	63	stations	23.45	1,477	\$8.47	\$12,519	
Junction Rock	4"-0" crushed	0+00	N/A	Junctions	11	Junctions	1	11	\$8.47	\$93	
Turnouts	4"-0" crushed	2+55, 7+90, 11+75, 14+75, 20+15	10	TO	22	TO's	5	110	\$8.47	\$932	
Culvert Energy Dissipate	24"-6" riprap	4+40	N/A	dissipator	11	dissipators	1	11	\$8.52	\$94	
Turnarounds	4"-0" crushed	21+55	10	TA	22	TA's	1	22	\$8.47	\$186	
Landings	6"-0" pit-run	23+45	N/A	Landing	55	Landings	1	55	\$8.52	\$469	
Total Rock for Road Segment:			3A to 3B				1,686				\$14,293

ROAD SEGMENT 3C to 3D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3C to 3D		0+00 to 14+00				
				Volume (CY) per		Number of				
Base Rock	4"-0" crushed	0+00 to 14+00	10	station	63	stations	14.00	882	\$8.47	\$7,474
Junction Rock	4"-0" crushed	0+00	N/A	Junctions	11	Junctions	1	11	\$8.47	\$93
Turnouts	4"-0" crushed	2+60, 4+00, 7+90	10	TO	22	TO's	1	22	\$8.47	\$186
Curve Widening	4"-0" crushed	10+75 to 11+45, 11+55 to 12+15	10	load	11	loads	5	55	\$8.47	\$466
Turnarounds	4"-0" crushed	11+75	10	TA	22	TA's	1	22	\$8.47	\$186
Landings	6"-0" pit-run	14+00	N/A	Landing	55	Landings	1	55	\$8.52	\$469
Total Rock for Road Segment:				3C to 3D				1,047		\$8,874
ROAD SEGMENT 3E to 3F				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3E to 3F		0+00 to 5+10				
				Volume (CY) per		Number of				
Base Rock	4"-0" crushed	0+00 to 5+10	10	station	63	stations	5.10	321	\$8.47	\$2,723
Junction Rock	1-1/2"-0" crushed	0+00	N/A	Junctions	11	Junctions	1	11	\$4.05	\$44
Turnarounds	4"-0" crushed	4+00	10	TA	22	TA's	1	22	\$8.47	\$186
Landings	6"-0" pit-run	5+10	N/A	Landing	55	Landings	1	55	\$8.52	\$469
Total Rock for Road Segment:				3E to 3F				409		\$3,422
ROAD SEGMENT 3G to 3H				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3G to 3H		0+00 to 0+50				
				Volume (CY) per		Number of				
Base Rock	4"-0" crushed	0+00 to 0+50	10	station	63	stations	0.50	32	\$8.47	\$267
Junction Rock	1-1/2"-0" crushed	0+00	N/A	Junctions	11	Junctions	1	11	\$4.05	\$44
Landings	6"-0" pit-run	0+50	N/A	Landing	55	Landings	1	55	\$8.52	\$469
Total Rock for Road Segment:				3G to 3H				98		\$780
ROAD SEGMENT 4A to 4B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	4A to 4B		0+00 to 3+20				
				Volume (CY) per		Number of				
Junction Rock	1-1/2"-0" crushed	0+00	N/A	Junctions	22	Junctions	1.00	22	\$4.05	\$89
Base Rock	4"-0" crushed	0+00 to 1+00	10	station	63	stations	1.00	63	\$8.47	\$534
Total Rock for Road Segment:				4A to 4B				85		\$623

Processing:	Description					No.sta	Rate/sta	Cost
	Water, Process & Compact Base Rock (4"-0"):					82.20	\$63.48	\$5,218.06
	24"-6" rr	6"-0" pr	4"-0" crushed	1 1/2"-0" crushed		Total		
SUB TOTAL FOR SURFACING						11	550	5,696
						88		6,345
								\$63,102

SPECIAL PROJECTS						Description			Cost
						pit-run development			550
						riprap development			11
									\$2.92
									\$4.83
									\$1,607.32
									\$53.17
SUB TOTAL FOR SPECIAL PROJECTS									\$1,660
									Subtotal of Surfacing & Spec. Proj.
									Subtotal of Clearing, Exc., Culv.
GRAND TOTAL									\$64,762
									\$44,477
									\$109,240

Compiled By:
 Cole Hatcher

Date:
 05/19/2020

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: East Summit Combination NEW CONSTRUCTION: STATIONS 0.00 MILES

ROAD: I1 to I2 (Sta. 165.15), I3 to I4 (Sta. 64.2), I5 to I6 (Sta. 31.3), I7 to I8 (Sta. 22.6), I9 to I10 (Sta. 16.75), I11 to I12 (Sta. 32.7), I13 to I14 (Sta. 12.3), I15 to I16 (Sta. 3.0), I17 to I18 (Sta. 28.3), I19 to I20 (Sta. 12.0), I21 to I22 (Sta. 1.5), and I23 to I24 (Sta. 19+50) IMPROVEMENT: 408.50 STATIONS 7.74 MILES

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
I1 to I2					
156+50 Clear marked alders w/C330 (\$/hr)	4.0	x	\$175.00	=	\$700.00
I11 to I12					
3+75 Clear roadside landing w/ C325 (\$/hr)	2.0	x	\$145.00	=	\$290.00
SUB TOTAL FOR CLEARING & GRUBBING					
					\$990

EXCAVATION

Material	Cy/amount	x	Rate	=	Cost
I1 to I2					
106+00, 106+90, 112+65, 113+75, 150+60, 152+10, 156+90 Install rock filters w/ C325 (\$/hr)	8.0	x	\$114.00	=	\$912.00
113+30 Fish Pipe Installation					
See attached cost sheet					\$30,235.99
157+40, 158+90 Fill Reconstruction					
See attached cost sheet					\$14,721.17
150+60 Build turnout w/ C315 (\$/hr)	2.0	x	\$114.00	=	\$228.00
151+25 Install culvert w/ C315 (\$/hr)	2.0	x	\$114.00	=	\$228.00
160+10 Install disconnect culvert w/ C315 (\$/hr)	2.0	x	\$114.00	=	\$228.00
I3 to I4					
24+30, 44+30 Build turnout w/ C315 (\$/hr)	4.0	x	\$114.00	=	\$456.00
24+80, 48+70 Build turnaround w/ C315 (\$/hr)	4.0	x	\$114.00	=	\$456.00
I5 to I6					
25+40, 29+15 Build turnaround w/ C315 (\$/hr)	4.0	x	\$114.00	=	\$456.00
I7 to I8					
9+60, 15+15, 19+40 Build turnaround w/ C315 (\$/hr)	6.0	x	\$114.00	=	\$684.00
I11 to I12					
30+70 Build turnaround w/ C315 (\$/hr)	2.0	x	\$114.00	=	\$228.00
I13 to I14					
4+80 Install rock filter w/ C315 (\$/hr)	2.0	x	\$114.00	=	\$228.00
I15 to I16					
2+10 Install rock filters w/ C315 (\$/hr)	3.00	x	\$114.00	=	\$342.00
I23 to I24					
9+00, 14+00 Install disconnect culvert w/ C315 (\$/hr)	4.00	x	\$114.00	=	\$456.00
SUB TOTAL FOR EXCAVATION					
					\$49,859

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
I1 to I2					I23 to I24				
113+30 72" ACSP 70			See Type F Cost Sheet		9+00 18" CPP 30			\$21.95	\$658.50
151+25 18" CPP 40			\$21.95	\$878.00	14+00 18" CPP 30			\$21.95	\$658.50
157+40 24" CPP 50			See Fill Reconstruction Cost Sheet						
158+90 24" CPP 55			See Fill Reconstruction Cost Sheet						
160+10 18" CPP 30			\$21.95	\$658.50					

Other/miscellaneous:

Culvert stakes & markers:

Description

Quantity

Rate

Cost

6" x 2.5" White Fiberglass Post

4

\$23.00

\$92.00

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

\$2,946

Subtotal of Clearing, Exc., Culv.

\$53,795

SURFACING						Stations/			Rate/	
Subgrade prep: All "I" Segments All "I" Segments I1 to I2 (142+70 to 165+15), I7 to				Description		amount		x	sta/amt	Cost
				Grade, Shape and Ditch 16'		408.50		x	\$27.91	\$11,401.24
				Subgrade Compaction		408.50		x	\$22.69	\$9,268.87
				Sod Removal and scatter debris w/ backhoe		73.80		x	\$36.28	\$2,677.46
ROAD SEGMENT I1 to I2				POINT TO POINT I1 to I2		Sta. to Sta. 0+00 to 165+15		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of					
Leveling Rock	1 1/2"-0" crushed	49+65, 120+55,	N/A	load	11	loads	4	44	\$4.05	\$178
Surfacing	1 1/2"-0" crushed	0+00 to 142+70	2	station	13	stations	142.7	1,855	\$4.05	\$7,504
Junctions	1 1/2"-0" crushed	20+55, 28+65, 52+00, 77+50, 79+60, 127+60, 142+70,	N/A	junction	11	junctions	10	110	\$4.05	\$445
Turnouts	1 1/2"-0" crushed	34+65, 45+45, 50+95, 59+55, 68+25, 72+50, 84+80, 88+80, 95+80, 114+40, 120+55, 122+60,	N/A	turnout	11	turnouts	14	154	\$4.05	\$623
Turnouts	1 1/2"-0" crushed	9+75, 99+80, 134+2	N/A	turnout	22	turnouts	14	308	\$4.05	\$1,246
Junctions	1 1/2"-0" crushed	19+00, 42+00	N/A	junction	22	junctions	2	44	\$4.05	\$178
Curve Widening Surface	1 1/2"-0" crushed	29+95 to 31+05, 62+10	N/A	load	11	loads	4	44	\$4.05	\$178
Junctions	1 1/2"-0" crushed	79+60, 104+80	N/A	junction	33	junctions	2	66	\$4.05	\$267
Rock Ditch Filters	6"-4" pit-run	106+00, 106+90, 112+65, 113+75,	N/A	3 filter series	6	3 filter series	7	42	\$8.52	\$358
Backfill	3/4"-0" crushed	113+29, 157+40,	N/A	load	11	loads	81	891	\$5.23	\$4,660
Culvert Bedding Reinforcement	6"-0" pit-run	113+30	N/A	load	11	loads	2	22	\$8.52	\$187
Culvert Bedding and Backfill	1 1/2"-0" crushed	113+30	N/A	load	11	loads	12	132	\$4.05	\$534
Stream Bed Retention	24"-6" riprap	113+30	N/A	load	11	loads	2	22	\$8.52	\$187
Inlet / Outlet Channel Armor	24"-6" riprap	113+30	N/A	load	11	loads	5	55	\$8.52	\$469
Fill Armor	24"-6" riprap	113+29, 157+40,	N/A	load	11	loads	27	297	\$8.52	\$2,531
Road Base Reconstruction	4"-0" crushed	113+30	8	station	50	stations	0.9	45	\$8.47	
Road Surface Reconstruction	1 1/2"-0" crushed	113+30	4	station	25	stations	0.9	23	\$4.05	\$91
Surfacing	4"-0" crushed	142+70 to 165+15	4	station	25	stations	22.45	561	\$8.47	\$4,756
Turnouts	4"-0" crushed	154+10	N/A	turnout	11	turnouts	1	11	\$8.47	\$93
Turnaround	4"-0" crushed	165+00	N/A	turnaround	22	turnaround	1	22	\$8.47	\$186
Leveling Rock	4"-0" crushed	146+00,	N/A	load	11	loads	4	44	\$8.47	\$373
Culvert Bedding and Backfill	3/4"-0" crushed	151+25, 157+40,	N/A	load	11	loads	16	176	\$5.23	\$920
Culvert Energy Dissipator	24"-6" riprap	157+40,	N/A	load	11	loads	3	33	\$8.52	\$281
Road Base Reconstruction	4"-0" crushed	157+40,	4	station	25	stations	1.0	25	\$8.47	
Traction Rock	1 1/2"-0"	158+90 to	N/A	station	13	stations	5.0	65	\$4.05	\$263
Total Rock for Road Segment:				I1 to I2		5,091				\$26,509

ROAD SEGMENT				I3 to I4		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4		0+00 to 64+20						
				Volume (CY) per		Number of						
Junctions	1 1/2"-0" crushed	0+00, 0+55	N/A	junction	11	junctions	10	110	\$4.05	\$445		
Leveling Rock	1 1/2"-0" crushed	2+50, 4+00, 28+20, 39+90, 42+40	N/A	load	11	loads	6	66	\$4.05	\$267		
Turnouts	4"-0" crushed	24+30, 35+70, 39+90, 44+30, 53+80	N/A	load	11	loads	11	121	\$8.47	\$1,025		
Turnaround	4"-0" crushed	24+80, 48+70	N/A	turnaround	22	turnaround	2	44	\$8.47	\$373		
Landings	6"-0" pit run	35+70	N/A	Landing	55	Landings	1	55	\$8.52	\$469		
Traction Rock	1 1/2"-0"	37+65 to	N/A	station	13	stations	3.0	39	\$4.05	\$158		
Total Rock for Road Segment:				I3 to I4				435			\$2,736	
ROAD SEGMENT				I5 to I6		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I5 to I6		0+00 to 31+30						
				Volume (CY) per		Number of						
Turnouts	1 1/2"-0" crushed	15+30	N/A	load	11	loads	1	11	\$4.05	\$44		
Leveling Rock	4"-0" crushed	17+10, 17+70, 23+70	N/A	load	11	loads	3	33	\$8.47	\$280		
Turnaround	4"-0" crushed	25+40, 29+15	N/A	turnaround	22	turnaround	1	22	\$8.47	\$186		
Landings	6"-0" pit run	31+30	N/A	Landing	55	Landings	1	55	\$8.52	\$469		
Total Rock for Road Segment:				I5 to I6				121			\$979	
ROAD SEGMENT				I7 to I8		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I7 to I8		0+00 to 22+60						
				Volume (CY) per		Number of						
Leveling Rock	4"-0" crushed		N/A	load	11	loads	3	33	\$8.47	\$280		
Surfacing	1 1/2"-0" crushed	0+00 to 22+60	2	station	13	stations	22.6	294	\$4.05	\$1,189		
Curve Widening Surface	1 1/2"-0" crushed	0+00 to 1+10, 1+65 to 2+95, 11+00 to	N/A	load	11	loads	8	88	\$4.05	\$356		
Turnouts	4"-0" crushed	7+80, 11+60, 16+90, 19+40	N/A	load	11	loads	6	66	\$8.47	\$559		
Turnaround	4"-0" crushed	9+60, 15+15, 19+40	N/A	load	11	loads	10	110	\$8.47	\$932		
Subgrade Reinforcement	4"-0" crushed	17+90	N/A	location	11	locations	1	11	\$8.47	\$93		
Total Rock for Road Segment:				I7 to I8				602			\$3,409	
ROAD SEGMENT				I9 to I10		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I9 to I10		0+00 to 16+75						
				Volume (CY) per		Number of						
Leveling Rock	4"-0" crushed		N/A	load	11	loads	2	22	\$8.47	\$186		
Surfacing	4"-0" crushed	0+00 to 11+65	4	station	13	stations	11.65	151	\$8.47	\$1,283		
Junctions	4"-0" crushed	0+00	N/A	junction	11	junctions	1	11	\$8.47	\$93		
Turnouts	4"-0" crushed	4+50	N/A	load	11	loads	1	11	\$8.47	\$93		
Turnaround	4"-0" crushed	11+65	N/A	turnaround	22	turnaround	1	22	\$8.47	\$186		
Total Rock for Road Segment:				I9 to I10				217			\$1,843	
ROAD SEGMENT				I11 to I12		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I11 to I12		0+00 to 32+70						
				Volume (CY) per		Number of						
Leveling Rock	1 1/2"-0" crushed		N/A	load	11	loads	3	33	\$4.05	\$133		
Landings	6"-0" pit run	3+75, 32+70	N/A	Landing	55	Landings	2	110	\$8.52	\$937		
Turnaround	4"-0" crushed	30+70	N/A	turnaround	33	turnaround	1	33	\$8.47	\$280		
Total Rock for Road Segment:				I11 to I12				176			\$1,350	

ROAD SEGMENT				I13 to I14		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I13 to I14		0+00 to 12+30						
				Volume (CY) per		Number of						
Rock Ditch Filters	6"-4" pit-run	4+80	N/A	3 filter series	6	3 filter series	1	6	\$8.52	\$51		
Leveling Rock	1 1/2"-0" crushed		N/A	load	11	loads	2	22	\$4.05	\$89		
Total Rock for Road Segment:				I13 to I14				28				\$140
ROAD SEGMENT				I15 to I16		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I15 to I16		0+00 to 3+00						
				Volume (CY) per		Number of						
Rock Ditch Filters	6"-4" pit-run	2+10	N/A	3 filter series	6	3 filter series	2	12	\$8.52	\$102		
Leveling Rock	4"-0" crushed		N/A	load	11	loads	2	22	\$8.47	\$186		
Total Rock for Road Segment:				I15 to I16				34				\$289
ROAD SEGMENT				I17 to I18		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I17 to I18		0+00 to 28+30						
				Volume (CY) per		Number of						
Leveling Rock	1 1/2"-0" crushed		N/A	load	11	loads	5	55	\$4.05	\$222		
Total Rock for Road Segment:				I17 to I18				55				\$222
ROAD SEGMENT				I19 to I20		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I19 to I20		0+00 to 11+20						
				Volume (CY) per		Number of						
Leveling Rock	4"-0" crushed		N/A	load	11	loads	10	110	\$8.47	\$932		
Junctions	4"-0" crushed	11+20	N/A	junction	11	junctions	1	11	\$8.47	\$93		
Total Rock for Road Segment:				I19 to I20				121				\$1,025
ROAD SEGMENT				I21 to I22		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I21 to I22		0+00 to 1+50						
				Volume (CY) per		Number of						
Leveling Rock	4"-0" crushed		N/A	load	11	loads	1	11	\$8.47	\$93		
Junctions	4"-0" crushed	0+00	N/A	junction	22	junctions	1	22	\$8.47	\$186		
Total Rock for Road Segment:				I21 to I22				33				\$280
ROAD SEGMENT				I23 to I24		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I23 to I24		0+00 to 19+50						
				Volume (CY) per		Number of						
Leveling Rock	1 1/2"-0" crushed		N/A	load	11	loads	5	55	\$4.05	\$222		
Culvert Bedding and Backfill	3/4"-0" crushed	9+00, 14+00	N/A	culvert	33	culverts	2	66	\$5.23	\$345		
Total Rock for Road Segment:				I23 to I24				121				\$568

		Processing: Description							No.sta	Rate/sta	Cost
		Water, Process & Compact:							199.40	\$63.48	\$12,659
		Traction Rock Water, Process & Compact							8.00	\$63.48	\$508
SUB TOTAL FOR SURFACING	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	
		407		60	242	1,575	3,617		1,133	7,034	\$75,864

SPECIAL PROJECTS		Description							Cy/Amount	Rate	Cost
		pit-run development							302	\$2.92	\$882.56
		riprap development							407	\$4.83	\$1,967.11
SUB TOTAL FOR SPECIAL PROJECTS											\$2,850

Subtotal of Surfacing & Spec. Proj. \$78,714
Subtotal of Clearing, Exc., Culv. \$53,795

GRAND TOTAL											\$132,508
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Compiled By: Cole Hatcher

Date: 04/30/2020

Projects Road Maintenance Cost Summary

Sale: East Summit Combination
Date: 21-May-20
By: C. Hatcher

Type	Equipment/Rationale			Hours	Rate	Cost
Project Work	Grader 14G			13	\$113	\$1,469
Final Haul	Dump Truck 12CY			7	\$89	\$623
Road	FE Loader C966			4	\$94	\$376
Maintenance	Vibratory Roller			13	\$87	\$1,131
	Water Truck 2,500 gallon			13	\$101	\$1,313
Total						\$4,912

Production Rates

Grader

Vibratory Roller

Miles/day	Distance(miles)	Days
1.5	2.35	1.6
1.5	2.35	1.6

NOTE: Hamlet Stockpile Road	0.35	Miles
Cole Mountain Ridge Road	1.65	Miles
Cole Mountain Road	0.27	Miles
Cole Mountain Quarry Road	0.07	Miles
TOTAL=	2.35	Miles

***Final project road maintenance is shared with Hamlet 8 timber sale.**

East Summit Combo

Sale Name: East Summit Combo I1-I2 Sta. 113+30 Date: 05/15/20 Compiled By: W. Lawrence

Construction Phase	QTY CY	Haul Cost/CY	Haul Cost	Equipment Hours						Labor	Culvert		Erosion Control		Total \$
				C330	C315	C315 Rock Hammer	24CY off Highway Dump	Pump	Tamper		Ft	\$/ft.	Acres	\$/Acre	
Walk equipment to site				1	1										
Unload and move cmp to site				4						4					
Existing Fill and Culvert removal/disposal				5			5								
De-watering (w/pump)					1			40		10					
Excavate New Culvert Trench	900			14	14	1									
Haul Waste Material Offsite	675	4.50	\$ 3,037.50												
Place Reuseable Fill Material Onsite	225			2	2										
Build culvert bed compact w/pit-run and crushed rock	55			2					5	5					
Place culvert & compact flanks w/crushed rock	99			7					5	7					
Backfill Placement from Onsite	225			2											
Remaining Backfill Placement from Borrow Site	448		\$ -	4											
Fill Compaction	673	0.79	\$ 531.67												
Develop Waste Area				2											
Compact/Shape Waste Area	675	0.45	\$ 303.75	2											
Place Stream and Streambed Retention	22			2											
Place Inlet and Outlet Channel Armor	55			5	3										
Place Riprap/Fill Armor	187			6											
Road subgrade prep. (station)	0.90	31.12	\$ 28.01												
Road Base Rock Processing(station)	0.90	63.48	\$ 57.13												
Road Surface Rock Processing (station)	0.90	63.48	\$ 57.13												
Seeding and Mulching:													0.25	\$2,010	\$503
Total Hours				58	21	1	5	40	10	26					
Equipment Rates:				\$175	\$114	\$50	\$143	\$12	\$12	\$45					
Sub total :			\$ 4,015	\$10,150	\$2,394	\$50	\$715	\$480	\$120	\$1,170					\$19,094
72" x 70' Aluminized Steel Culvert (12 ga)	73										70	\$123.19			\$8,623
Bands											3	\$203.00			\$609
Step Beveling (one end)											1	\$207.00			\$207
Freight to Astoria Area											1	\$1,200.00			\$1,200
Sub total Culvert Material Cost:															\$10,639

Total Installation Cost:

\$30,236

Rock volumes are included within the rock volume table of Exhibit D.

Fill Reconstruction Cost Estimate

Segment: I1 to I2

Station: 157+40

Fill: 1

Height: 7

Materials	Quantity		\$	Total
24"x50' CPP	50		\$30.39	\$1,519.50
24"-6" Riprap Dissipator	22	cy	\$8.45	\$185.99
24"-6" Riprap Fill Armor	40	cy	\$8.45	\$338.17
3/4"-0" Crushed Rock for Bedding/Backfill	55	cy	\$4.26	\$234.28
4"-0" Crushed Rock for Road	25	cy	\$8.46	\$211.61
Erosion Control	0.2	ac	\$706.00	\$141.20
Mulch and seed				

\$2,630.75

Excavation	Rate		CY/amount	Total
End-Haul excavation \$/cy				
Excavate Fill	\$4.50		190	\$854.24
Backfill from barrow site	\$4.50		190	\$854.24
Compaction				
Backfill (barrow & crushed rock)	\$0.79		190	\$150.10
Waste material compaction	\$0.45		190	\$85.50
Miscellaneous				
Fill armor placement w/330, \$/hr	\$175.00		4	\$700.00
Dissipator placement w/330, \$/hr	\$175.00		1	\$175.00
Laborer \$/hr	\$45.00		6	\$270.00
Site Prep at fill and waste area				
w/ 330, \$/hr	\$175.00		8	\$1,400.00

\$4,489.08

Rock volumes are included within the rock volume table of Exhibit D.

Project Total	\$7,120
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Fill Reconstruction Cost Estimate

Segment: I1 to I2 Station: 158+90
 Fill: 2 Height: 10

Materials	Quantity		\$	Total
24"x55' CPP	55		\$30.39	\$1,671.45
24"-6" Riprap Dissipator	11	cy	\$8.45	\$93.00
24"-6" Riprap Fill Armor	70	cy	\$8.45	\$591.80
3/4"-0" Crushed Rock for Bedding/Backfill	55	cy	\$4.26	\$234.28
4"-0" Crushed Rock for Road	25	cy	\$8.46	\$211.61
Erosion Control	0.2	ac	\$706.00	\$141.20
Mulch and seed				

\$2,943.33

Excavation	Rate	CY/amount	Total
End-Haul excavation \$/cy			
Excavate Fill	\$4.50	250	\$1,124.00
Backfill from barrow site	\$4.50	250	\$1,124.00
Compaction			
Backfill (barrow & crushed rock)	\$0.79	250	\$197.50
Waste material compaction	\$0.45	250	\$112.50
Fill armor placement w/330, \$/hr	\$175.00	5	\$0.00
Site Prep at fill and waste area			
w/ 330, \$/hr	\$175.00	5	\$875.00
Laborer \$/hr	\$45.00	7	\$1,225.00

\$4,658.00

Rock volumes are included within the rock volume table of Exhibit D.

Project Total	\$7,601
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Fill Armor Computation Sheet

Sale: East Summit Combination

Road: I1 to I2

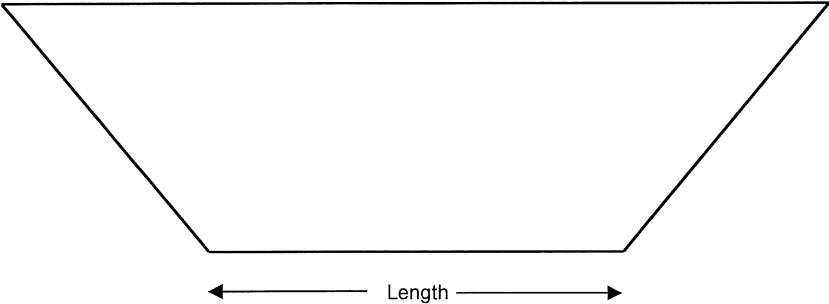
Points:

Date: 11/14/2018

By: C. Hatcher

Armor Thickness (feet): 2

LEFT SIDE						RIGHT SIDE				Total (CY)	
Station	Fill No.	Fill Height	Slope Height	Length	Volumne	Fill Height	Slope Height	Length	Volumne	Total (CY)	For Truck Haul*
157+40	1	7	6	10	12	7	12	12	26	38	40
158+90	2	10	11	15	32	10	14	12	36	68	70
					0				0	0	



Total CY to Apply*: 110

* Volumne rounded off to the nearest 10 cubic yard load

	24"-6" rr	6"-4" pr	6"-0"pr	4"-0" crushed	1 1/2"-0" crushed	3/4"-0" crushed	Total
Rock Volume Totals (CY)	418	60	792	7,270	3,706	1,133	13,379

East Summit Combination, Project No. 3 Roadside Brushing

Page 1 of 2

BRUSHING COST ANALYSIS

Brushing Type	\$/mi.
<i>Light (1)</i>	<i>956.00</i>
<i>Medium (2)</i>	<i>1,237.00</i>
<i>Heavy (3)</i>	<i>1,743.00</i>

Total Cost= \$30,814

Total Miles= 29.71

Avg. \$/mi.= \$1,037.05

Additional Costs

Hrs	\$/Hr	\$
8	114.00	\$912.00
		\$0.00

Road Segment	Road Name	Measured Feet	Miles	Brushing Type	\$	Notes
BC10		2656	0.50	1	\$480.90	
BC10BB10		428	0.08	1	\$77.49	
BC10BB		345	0.07	1	\$62.47	
BC20		954	0.18	1	\$172.73	
BC30		1510	0.29	1	\$273.40	
BC		6460	1.22	1	\$1,169.65	
EU		2482	0.47	1	\$449.39	
EU		8030	1.52	2	\$1,881.27	
EU10		3327	0.63	2	\$779.45	
EU10AA		1160	0.22	2	\$271.77	
EU10BB		314	0.06	2	\$73.56	
EU30		741	0.14	2	\$173.60	
EU30AA		771	0.15	2	\$180.63	
EU30CC		674	0.13	1	\$122.03	
EU30CC(PVT)		2113	0.40	1	\$382.58	
EU40		312	0.06	2	\$73.10	
EU50		195	0.04	2	\$45.68	
EU80		205	0.04	2	\$48.03	
EU90		1665	0.32	3	\$549.64	8 hrs. 315
EU90		1778	0.34	1	\$321.93	
EU90BB		3218	0.61	1	\$582.65	
EU90DD10		1469	0.28	1	\$265.98	
HS		3911	0.74	1	\$708.13	
HS10		284	0.05	1	\$51.42	
HS20		1283	0.24	1	\$232.30	
HS30		307	0.06	1	\$55.59	
CG		16416	3.11	1	\$2,972.29	
CG30		1678	0.32	1	\$303.82	
CG30AA		1521	0.29	1	\$275.39	
CG31		2931	0.56	2	\$686.68	
CG60		2313	0.44	1	\$418.79	
CG60AA		828	0.16	1	\$149.92	
CG70		851	0.16	1	\$154.08	
CG90AA		3545	0.67	2	\$830.52	
CG90		2685	0.51	1	\$486.15	
CG90GG		542	0.10	1	\$98.13	
CG120		3383	0.64	1	\$612.53	
CG140		3340	0.63	1	\$604.74	
CG140AA		69	0.01	1	\$12.49	
CG170		577	0.11	1	\$104.47	
CG260		155	0.03	2	\$36.31	
SP		4157	0.79	1	\$752.67	
MU		4204	0.80	1	\$761.18	

East Summit Combination, Project No. 3 Roadside Brushing

Page 2 of 2

FK		17024	3.22	1	\$3,082.38	
CM100		7089	1.34	1	\$1,283.54	
CM80		3973	0.75	1	\$719.35	
CM80AA		310	0.06	1	\$56.13	
CM70		3694	0.70	1	\$668.84	
CM70BB		400	0.08	1	\$72.42	
CM70CC		266	0.05	1	\$48.16	
CM60		2388	0.45	1	\$432.37	
CM60		1406	0.27	2	\$329.40	
CM60HH		358	0.07	2	\$83.87	
CG240GG		5729	1.09	1	\$1,037.30	
CG240GG05		683	0.13	1	\$123.66	
CG240GG20		525	0.10	1	\$95.06	
CG240GG30		286	0.05	1	\$51.78	
CG240FF		233	0.04	1	\$42.19	
CG240DD		2228	0.42	1	\$403.40	
CG240DD05		356	0.07	1	\$64.46	
CG240DD10		352	0.07	1	\$63.73	
CG240CD		206	0.04	1	\$37.30	
short landing		70	0.01	1	\$12.67	
CG240CA		257	0.05	1	\$46.53	
CG240AA		92	0.02	1	\$16.66	
CG240AB		980	0.19	1	\$177.44	
CG240		7745	1.47	1	\$1,402.31	
HI30		2955	0.56	1	\$535.03	
HI30AA		1494	0.28	1	\$270.50	

**East Summit Combination
Project No 4. Stream Enhancement**

Location	Site	Number of logs per site	Placement method	\$/log*	Cost per Site
SE1-SE2	1	12	Cable or shovel	\$150.00	\$1,800.00
SE1-SE2	2	12	Cable or shovel	\$150.00	\$1,800.00
SE1-SE2	3	12	Cable or shovel	\$150.00	\$1,800.00

*\$/log includes transportation cost of log up to 0.5 miles.

Project Total **\$5,400**

CRUSHED ROCK HAUL COSTS

SALE NAME:	East Summit Combination
PROJECT:	No. 2
Stockpile:	Upper Hamlet Stockpile

MATERIAL: 3/4"-0"

DATE: 1/-/2020
BY: C. Hatcher

[illegible]

ROCK HAUL:

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

Ave haul:	\$3.73	/cy
Load:	\$0.54	/cy
Spread:	\$0.96	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>5</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 847

CRUSHED ROCK HAUL COSTS 1,133 cy @ \$5.23 /cy

1,133 cy @ **\$5.23 /cy**

CRUSHED ROCK HAUL COSTS

SALE NAME:	East Summit Combination
PROJECT:	NO. 2
QUARRY:	Lower Hamlet Stockpile

DATE: 1/-/2020
BY: C Hatcher

[illegible]

ROCK HAUL:

Truck type:	<u>D20</u>	No. trucks:	<u>3</u>
Delay min.:	<u>8</u>	Efficiency:	<u>85%</u>

Ave haul:	\$2.78	/cy
Load:	\$0.48	/cy
Spread:	\$0.78	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>2</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 1,316

CRUSHED ROCK HAUL COSTS 3,706 cy @ \$4.05 /cy

CRUSHED ROCK HAUL COSTS

SALE NAME:	East Summit Combination
PROJECT:	No. 2
QUARRY:	Cole Mountain Stockpile

MATERIAL: 4"-0"

DATE: 1/-/2020
BY: C. Hatcher

[illegible]

ROCK HAUL:

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

Ave haul:	\$6.07	/cy
Load:	\$0.84	/cy
Spread:	\$1.56	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>5</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 520

CRUSHED ROCK HAUL COSTS 7,270 cy @ \$8.47 /cy

PIT RUN ROCK COST

SALE NAME:	East Summit Combination
PROJECT:	No. 2
QUARRY:	Cole Mountain Quarry

MATERIAL: Pit-Run, Riprap

DATE: 1/-/2020
BY: C. Hatcher

[illegible]

ROCK HAUL:

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

Ave haul:	\$6.12	/cy
Load:	\$0.84	/cy
Spread:	\$1.56	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>5</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 516

PIT RUN ROCK HAUL COSTS	1,270 cy @	\$8.52 /cy
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PIT RUN ROCK COST

SALE NAME:	East Summit Combination
PROJECT:	No. 2
QUARRY:	Upper Hamlet Stockpile

MATERIAL: Borrow Material

DATE: 05/15/2020
BY: W. Lawrence

[illegible]

ROCK HAUL:

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

Ave haul:	\$2.72	/cy
Load:	\$1.08	/cy
Spread:	\$1.92	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>2</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 464

BORROW MATERIAL HAUL COSTS 450 cy @ \$5.73 /cy

East Summit Combination TIMBER CRUISE REPORT FY 2021

1. **Sale Area Location:** Portions of Sections 1, 2, 3, 10, 11, & 12 of T4N, R9W, W.M., Clatsop County, OR.

2. **Fund Distribution:** BOF 100% Tax Codes: 10-02 (97%)
10-14 (3%)

3. **Sale Acreage by Area:**

Unit	Harvest Type	Gross Acres	Stream Buffer Acres	Existing R/W Acres	New R/W Acres (Stocked)	New R/W Acres (unstocked)	Net Acres	Survey Method
1	Modified Clearcut	52	14	<1	1	0	37	GIS
2	Partial Cut	78	5	3	2	1	67	GIS
3	Partial Cut	92	8	3	1	1	79	GIS
4	Modified Clearcut	17	2	1	0	<1	14	GIS
5	R/W (in-unit)*	-	-	-	-	-	4*	GIS
5	R/W (Out-of-unit)*	2	-	-	-	2	0*	GIS
6	Partial Cut	134	8	8	<1	<1	118	GIS
TOTALS		375	37	15	-	4	319	

***Unit 5 R/W has a total of 8 acres, of which 4 acres are stocked and within harvest units, 2 acres that are unstocked within harvest units, and 2 acres that are unstocked outside of harvest units.**

4. **Cruisers and Cruise Dates:** Avery Petersen, Justin Bush, Kevin Berry, Ryan Simpson, John Czarnecki, and John Choate (8/10/2020 - 8/19/2020)

5. Cruise Method and Computation:

Unit 1: This unit was variable plot cruised utilizing a Relaskop with a 54.54 BAF. A total of 45 plots were sampled on a 2 by 4 chain spacing. Lines were cruised on an azimuth of 90°/270°. The planned count to grade ratio was 1:1, resulting in 22 count plots and 23 grade plots*.

Units 2, 3, & 6: These units were variable plot cruised utilizing a Relaskop with a 33.61 BAF. A total of 101 plots were sampled on a 3 by 8 chain spacing. Lines were cruised on an azimuth of 90°/270° in all units. The planned count to grade ratio was 2:1, resulting in 64 count plots and 37 grade plots*.

Unit 4: This unit was variable plot cruised utilizing a Relaskop with a 40 BAF. A total of 24 plots were sampled on a 3 by 2 chain spacing. Lines were cruised on an azimuth of 90°/270°. All plots were graded.

Unit 5 (R/W): In-unit Right-Of-Way consists of new spur roads and landings within Units 1, 2, 3, and 6 totaling approximately six acres. Out of the six acres of in-unit Right-Of-Way, approximately 2 acres are unstocked. In addition, there are approximately two acres of unstocked, out-of-unit Right-Of-Way. Cruise data for Unit 5 was obtained from the combined U236 and U1 cruises, and acreages have been adjusted accordingly.

*The reported numbers of cruise and grade plots vary from those indicated in the reports for the Statistics due to measuring trees on count plots and recording 13 blank plots where the basal area did not meet the thinning specifications and no take trees were designated.

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

UNIT(s)	CRUISE	TRACT	TYPE	ACRES
1	ESC	U1	00MC	37
2, 3, & 6	ESC	U236	00PC	264
4	ESC	U4	00MC	14
5	ESC	U1_RW & U236_RW	00MC	4

6. Timber Description:

Unit 1 is a modified clearcut unit consisting of 37 acres of approximately 54-year-old Douglas-fir, western hemlock, Sitka spruce, and red alder. The average take Douglas-fir is approximately 17 inches DBH and 90 feet to a merchantable top. The average take western hemlock is approximately 16 inches DBH and 80 feet to a merchantable top. The average take Sitka spruce is approximately 18 inches DBH and 56 feet to a merchantable top. The average take red alder is approximately 13 inches DBH and 54 feet to a merchantable top. Average net volume to be harvested per acre is 57 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Units 2, 3, and 6 are partial cut units consisting of 152 acres of approximately 39 to 57 year old Douglas-fir, western hemlock, and minor components of red alder and Sitka spruce. The average take Douglas-fir is approximately 12 inches DBH and 47 feet to a merchantable top. The average take western hemlock is approximately 12 inches DBH and 53 feet to a merchantable top. The average take red alder is approximately 12 inches DBH and 31 feet to a merchantable top. The average take Sitka spruce is approximately 19 inches DBH and 35 feet to a merchantable top. Average net volume to be harvested per acre is 10 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point. The target basal area is 130 to 150 and the target SDI is 35%. Portions of Unit 6 were previously thinned approximately 14 and the average tree size is larger.

Unit 4 is a modified clearcut unit consisting of 14 acres of approximately 39 year old western hemlock, Douglas-fir, Sitka spruce, and red alder. The average take western hemlock is approximately 18 inches DBH and 70 feet to a merchantable top. The average take Douglas-fir is approximately 12 inches DBH and 49 feet to a merchantable top. The average take Sitka spruce is approximately 17 inches DBH and 38 feet to a merchantable top. The average take red alder is approximately 12 inches DBH and 50 feet to a merchantable top. Average net volume to be harvested per acre is 26 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 5 R/W (the in-unit portion) is similar to the timber description above in Units 1, 2, 3 and 6 with the addition of a minor component of western redcedar. The average take western redcedar is 27 inches DBH and 39 feet to a merchantable top. Average net volume to be harvested per acre is 36 MBF.

7. Statistical Analysis and Stand Summary:

Statistics for Stand B.F. volumes*

Unit	Estimated CV	Target SE%	Actual CV	Actual SE%
1	50.0%	9.0%	39.1%	5.8%
2, 3, & 6	35.0%	13.0%	71.5%	7.1%
4	30.0%	12.0%	60.1%	12.5%

*Statistics are based upon combined Take and Leave trees.

8. Take Volumes by Species and Log Grade For All Sale Units by MBF:

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	13"	3,094	447	2,219	428	5.4%	59%
Western hemlock	14"	1,588	628	812	148	4.0%	30%
Sitka spruce	18"	321	138	165	18	5.0%	6%
TOTALS	--	5,003	1,213	3,196	594	--	--

Hardwood

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
Red alder	12"	260	37	28	70	125	4.5%	5%
TOTALS	--	260	37	28	70	125	--	--

TOTAL VOLUME	5,263 MBF
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9. Approvals:

Prepared by: Michele Huffman Date: 8/25/2020
Unit Forester Approval: *JL Tule* Date: 10/23/2020

- 10. Attachments:** Cruise Designs and Maps (9 pages)
Volume Reports (6 pages)
Statistics Reports (11 pages)
Stand Table Summary (2 pages)
Log Stock Table (4 pages)

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: East Summit Combination

Unit 1

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 37 **Estimated CV%** 50 Net BF/Acre **SE% Objective** 9 Net BF/Acre

Planned Sale Volume : 2 MMBF **Estimated Sale Area Value/Acre:** \$20,000/Acre

A. Cruise Goals: (a) Grade minimum 70 conifer and 20 hardwood trees
(b) Sample 45 cruise plots (23 grade/ 22 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 54.45 (Full point)
Cruise Line Directions Unit 1: 90°/270°
Cruise Line Spacing 4 (chains) 264 (Feet)
Cruise Plot Spacing 2 (chains) 132 (Feet)
Grade/Count Ratio 1:1

Take plots as marked on cruise map. All cedar will be reserved. Record all snags as SN.

DO NOT RECORD 12', 22' and 32' (for Hardwoods).

DO NOT RECORD 22' LENGTHS.

DO NOT RECORD SNAGS UNDER 12" IN DIAMETER.

DO NOT MEASURE SNAGS IN COUNT PLOTS.

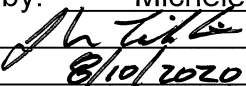
All hardwood will be measured to a G, or as appropriate.

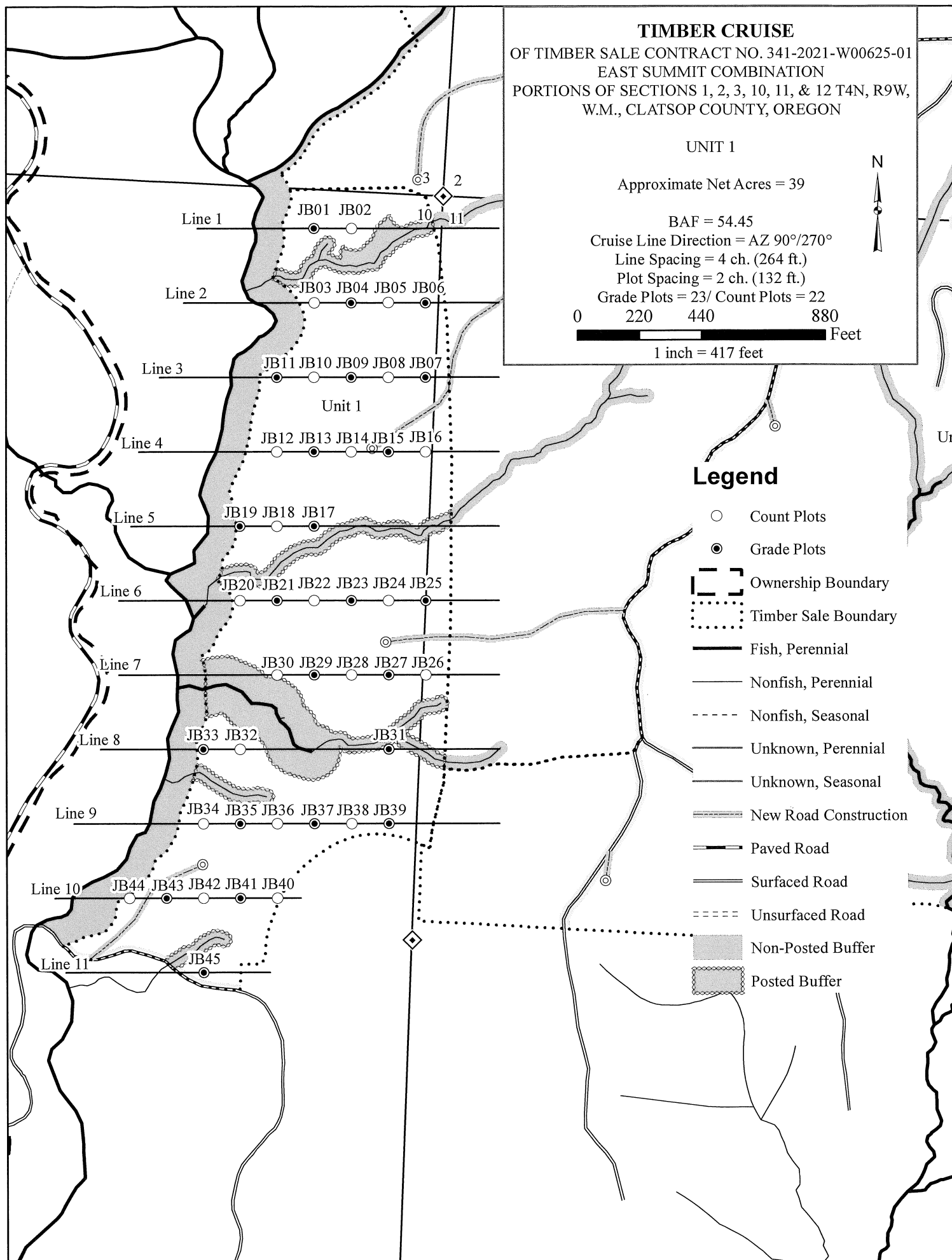
C. Tree Measurements:

- 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.
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.
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: Michele Huffman
Approved by: 
Date: 8/10/2020



TIMBER CRUISE

OF TIMBER SALE CONTRACT NO. 341-2021-W00625-01
EAST SUMMIT COMBINATION
PORTIONS OF SECTIONS 1, 2, 3, 10, 11, & 12 T4N, R9W,
W.M., CLATSOP COUNTY, OREGON

UNIT 1

Approximate Net Acres = 39

BAF = 54.45

Cruise Line Direction = AZ 90°/270°

Line Spacing = 4 ch. (264 ft.)

Plot Spacing = 2 ch. (132 ft.)

Grade Plots = 23/ Count Plots = 22

0 220 440 880 Feet

1 inch = 417 feet

Legend

○ Count Plots

● Grade Plots

— Ownership Boundary

... Timber Sale Boundary

— Fish, Perennial

— Nonfish, Perennial

--- Nonfish, Seasonal

— Unknown, Perennial

— Unknown, Seasonal

--- New Road Construction

--- Paved Road

— Surfaced Road

--- Unsurfaced Road

Non-Posted Buffer

Posted Buffer

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: East Summit Combination

Unit 4

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 14 **Estimated CV%** 30 Net BF/Acre **SE% Objective** 12 Net BF/Acre

Planned Sale Volume : 325 MBF **Estimated Sale Area Value/Acre:** \$10,000/Acre

A. Cruise Goals: (a) Grade minimum 50 conifer and 10 hardwood trees
(b) Sample 24 cruise plots (24 grade/ 0 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 40 (Full point)
Cruise Line Directions Unit 4: 90°/270°
Cruise Line Spacing 2 (chains) 132 (Feet)
Cruise Plot Spacing 3 (chains) 198 (Feet)
Grade/Count Ratio 1:1

Take plots as marked on cruise map. All cedar will be reserved. Record all snags as SN.

DO NOT RECORD 12', 22' and 32' (for Hardwoods).

DO NOT RECORD 22' LENGTHS.

DO NOT RECORD SNAGS UNDER 12" IN DIAMETER.

DO NOT MEASURE SNAGS IN COUNT PLOTS.

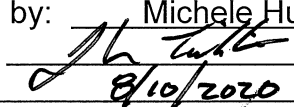
All hardwood will be measured to a G, or as appropriate.

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.
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.
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: Michele Huffman
Approved by: 
Date: 8/10/2020

TIMBER CRUISE
 OF TIMBER SALE CONTRACT NO. 341-2021-W00625-01
 EAST SUMMIT COMBINATION
 PORTIONS OF SECTIONS 1, 2, 3, 10, 11, & 12 T4N, R9W,
 W.M., CLATSOP COUNTY, OREGON

UNIT 4

Approximate Net Acres = 14

BAF = 40

Cruise Line Direction = AZ 90°/270°

Line Spacing = 2 ch. (132 ft.)

Plot Spacing = 3 ch. (198 ft.)

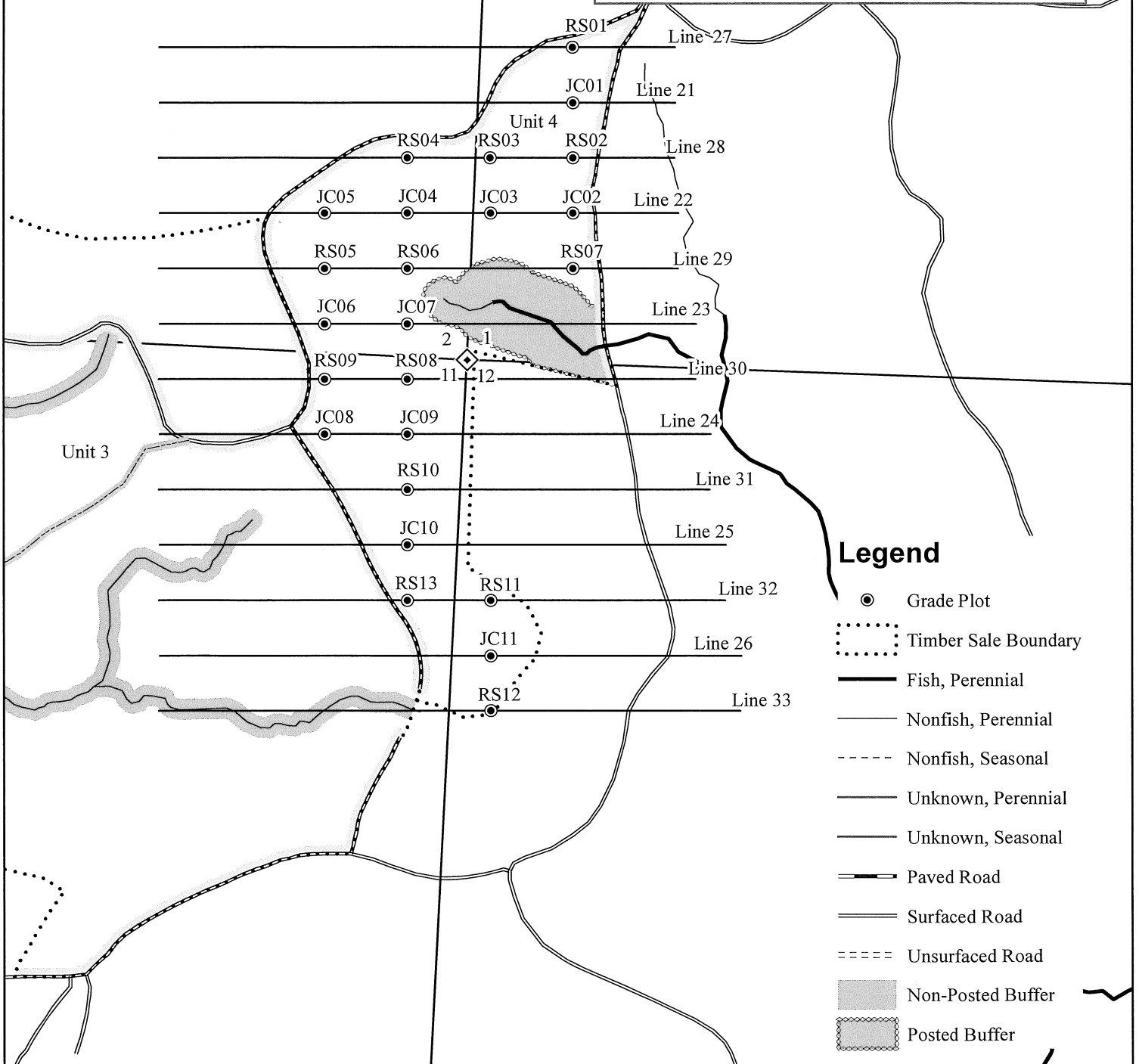
Grade Plots = 24 / Count Plots = 0

0 175 350 700 Feet

1 inch = 333 feet



East Summit Mainline



Legend

- Grade Plot
- ⋯ Timber Sale Boundary
- Fish, Perennial
- Nonfish, Perennial
- - - Nonfish, Seasonal
- Unknown, Perennial
- Unknown, Seasonal
- Paved Road
- Surfaced Road
- - - Unsurfaced Road
- Non-Posted Buffer
- Posted Buffer

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: East Summit Combination

Unit 2,3,& 6

Harvest Type: Partial Cut

Approx. Cruise Acres: 268 **Estimated CV%** 35 Net BF/Acre **SE% Objective** 13 Net BF/Acre

Planned Sale Volume : 1,494 MBF **Estimated Sale Area Value/Acre:** \$2000/Acre

A. Cruise Goals: (a) Grade minimum 70 conifer and 20 hardwood trees
(b) Sample 101 cruise plots (37 grade/ 64 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 33.61 (Full point)
Cruise Line Directions Unit 2: 90°/270°, Unit 3: 90°/270°, Unit 6: 90°/270°
Cruise Line Spacing 8 (chains) 528 (Feet)
Cruise Plot Spacing 3 (chains) 198 (Feet)
Grade/Count Ratio 1:2

Basal Area leave target is 140 sq. ft. Cruiser needs to select 4-5 leave trees per plot. Cruise all take and leave trees. Take plots as marked on cruise map. Do not take plots in stream buffers. Stream buffers are 25' non-posted. Map out non-thinnable areas larger than 1 acre, but do not drop plots. All cedar will be reserved. Record all snags as SN.

Take plots as marked on cruise map. All cedar will be reserved. Record all snags as SN.

DO NOT RECORD 12', 22' and 32' (for Hardwoods).

DO NOT RECORD 22' LENGTHS.

DO NOT RECORD SNAGS UNDER 12" IN DIAMETER.

DO NOT MEASURE SNAGS IN COUNT PLOTS.

All hardwood will be measured to a G, or as appropriate.

C. Tree Measurements:

1. Diameter: Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.
Record dbh to nearest $\frac{1}{2}$ " 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.
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.
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.

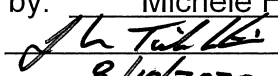
Cruise Design by: Michele Huffman
 Approved by: 
 Date: 8/19/2020

EXHIBIT "A"

OF TIMBER SALE CONTRACT NO. 341-2021-W00625-01
EAST SUMMIT COMBINATION
PORTIONS OF SECTIONS 1, 2, 3, 10, 11, & 12 T4N, R9W,
W.M., CLATSOP COUNTY, OREGON

UNITS 2,3, & 6

Approximate Net Acres = 249

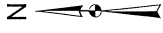
BAF = 33.61

Cruise Line Direction: 90°/270°

Line Spacing = 8 ch. (528 ft.)

Plot Spacing = 3 ch. (198 ft.)

Grade Plots = 37/ Count Plots = 64



0 350 700 1,400 Feet

1 inch = 667 feet

Legend

○ Count Plot

● Grade Plot

— Ownership Boundary

--- Timber Sale Boundary

▨ New Road Construction

— Fish, Perennial

— Nonfish, Perennial

--- Nonfish, Seasonal

— Unknown, Perennial

— Unknown, Seasonal

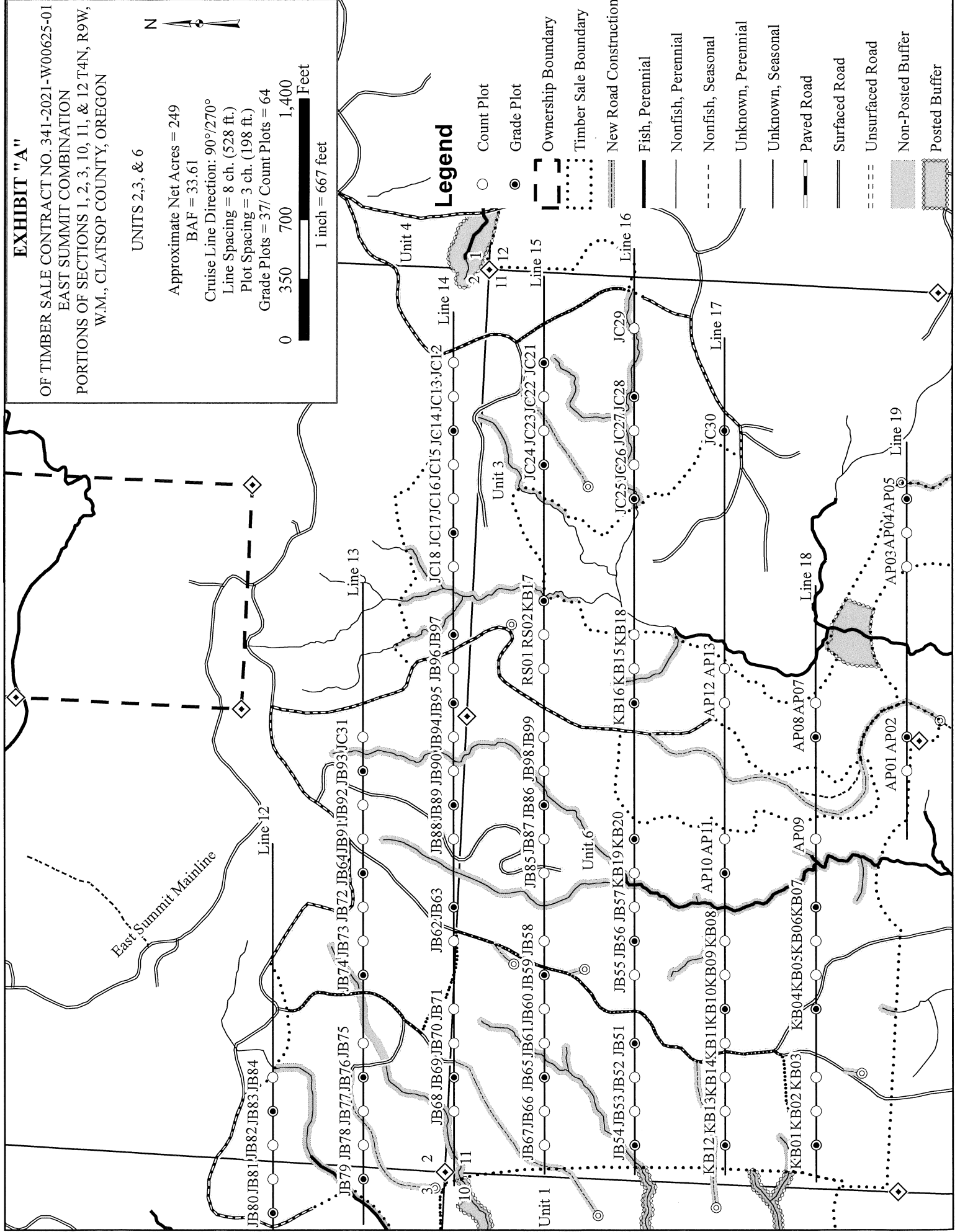
▬ Paved Road

▬ Surfaced Road

--- Unsurfaced Road

▨ Non-Posted Buffer

▨ Posted Buffer



TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T04N R09W S10 Ty00MC THRU T04N R09W S11 Ty00MC				Project:		ESC												Page		1	
				Acres		319.00												Date		10/21/2020	
																		Time		7:03:21AM	
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				
D	DOCU		100.0	251											19	8		0.00	6.6		
D	DO2S	14	1.7	1,427	1,403	447		8	76	16		0		8	92	39	13	249	1.61	5.6	
D	DO3S	72	3.6	7,220	6,956	2,219		99	1	0		0	1	37	62	36	7	77	0.59	90.4	
D	DO4S	14	1.2	1,358	1,342	428	10	90				48	44	7	1	22	6	27	0.36	49.3	
D Totals		59	5.4	10,256	9,701	3,095	1	85	11	3		7	7	28	58	31	7	64	0.57	151.8	
H	DOCU		100.0	95												13	12		0.00	1.8	
H	DO2S	39	1.8	2,004	1,967	628			61	39		0	1	2	97	39	15	352	2.10	5.6	
H	DO3S	51	2.8	2,621	2,547	812		97	2	0		1	2	30	68	37	8	82	0.63	30.9	
H	DO4S	10		463	463	148	0	100				47	36	2	15	22	6	28	0.37	16.5	
H Totals		30	4.0	5,184	4,978	1,588	0	59	25	16		5	5	16	74	32	8	91	0.75	54.8	
S	DOCU		100.0	24												9	25		0.00	.1	
S	DO2S	43	.9	437	433	138			23	77				24	76	38	21	818	4.50	.5	
S	DO3S	51	4.8	544	518	165		45	31	24		11	15	9	64	33	10	141	1.26	3.7	
S	DO4S	6		55	55	18		98		2		76	24			20	7	26	0.53	2.1	
S Totals		6	5.0	1,060	1,007	321		28	26	45		10	9	15	66	29	10	157	1.44	6.4	
A	DOCU		100.0	36												10	10		0.00	1.1	
A	DO1S	14		116	116	37			100						100	38	13	213	1.51	.5	
A	DO2S	10		86	86	28		100					14		86	37	10	142	1.00	.6	
A	DO3S	27	.8	220	219	70		100				5	17		78	35	8	85	0.75	2.6	
A	DO4S	49		391	391	125	0	100				25	30	7	38	27	6	38	0.45	10.4	
A Totals		5	4.5	851	813	260	0	85	14			13	21	4	63	28	7	53	0.58	15.2	
C	DO2S	85	1.9	1	1	0				100		29			71	19	19	418	4.99	.0	
C	DO3S	15		0	0	0			100						100	40	16	400	3.23	.0	
C Totals		0	1.6	1	1	0			15	85		25			75	22	19	415	4.50	.0	
Totals			4.9	17,351	16,499	5,263	1	74	17	9		7	7	23	64	31	8	72	0.64	228.3	

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T04N R09W S10 Ty00MC1.00 T04N R09W S11 Ty00MC3.00						Project: ESC Acres4.00										Page1 Date10/23/2020 Time9:10:53AM					
Spp	S Sort	Gr Grade	%	Bd. Ft. per Acre			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		
				Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
D	DOCU			100.0	375											21	8		0.00	8.3	
D	DO2S		26	2.0	6,165	6,039	24		6	85	9	1		9	90	39	13	238	1.58	25.4	
D	DO3S		64	2.9	14,920	14,487	58		99	1	0	0	1	31	68	37	8	84	0.65	171.5	
D	DO4S		10	.8	2,089	2,073	8	6	94			47	47	6		22	6	27	0.38	77.0	
D Totals			63	4.0	23,550	22,599	90	1	74	23	3	5	5	23	68	32	8	80	0.69	282.2	
H	DOCU			100.0	122											12	13		0.00	1.7	
H	DO2S		47	1.6	4,904	4,827	19			62	38		1	3	96	39	15	345	2.08	14.0	
H	DO3S		46	2.2	4,747	4,641	19		97	3		1	2	26	72	37	8	89	0.69	51.9	
H	DO4S		7		676	676	3	100				52	39		9	22	6	27	0.40	25.0	
H Totals			28	2.9	10,450	10,144	41		51	31	18	4	4	13	79	33	9	110	0.89	92.6	
S	DOCU			100.0	65											10	22		0.00	.3	
S	DO2S		51	.8	968	960	4			22	78			23	77	38	21	863	4.71	1.1	
S	DO3S		44	3.5	838	808	3		49	25	26	8	10	12	69	35	10	141	1.13	5.7	
S	DO4S		5		82	82	0	100				92	8			20	7	24	0.49	3.4	
S Totals			5	5.2	1,952	1,850	7		26	22	52	8	5	17	70	29	10	176	1.47	10.5	
C	DO2S		85	1.9	49	48	0				100	29			71	19	19	418	4.99	.1	
C	DO3S		15		8	8	0			100					100	40	16	400	3.23	.0	
C Totals			0	1.6	57	56	0			15	85	25			75	22	19	415	4.50	.1	
A	DOCU			100.0	52											9	10		0.00	1.8	
A	DO1S		16		244	244	1			100					100	38	13	213	1.51	1.1	
A	DO2S		12		181	181	1	100					14		86	37	10	142	1.00	1.3	
A	DO3S		28	2.2	417	408	2	100				19	16		65	30	9	79	0.77	5.2	
A	DO4S		44		645	645	3	100				22	31	4	42	27	6	37	0.45	17.2	
A Totals			4	4.0	1,539	1,478	6		83	17		15	20	2	63	27	7	56	0.61	26.6	
Totals				3.8	37,548	36,128	145	0	65	25	9	5	5	19	71	32	8	88	0.75	412.1	

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1		
				Project: ESC												Date		10/21/2020		
																Time		7:06:27AM		
T04N R09W S10 T00MC																T04N R09W S10 T00MC				
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt		
04N		09W		10		U1_RW		00MC		1.00		45		128		1		W		
S So Gr Spp T rt ad			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
D DO CU				00.0 247												11	20		0.00	1.3
D DO 2S			40	1.9 10,395 10,202			10		81	19				100		40	14	278	1.74	36.7
D DO 3S			55	2.9 14,442 14,023			14		99	1		0	2	20	78	37	8	97	0.71	144.4
D DO 4S			5	1,179 1,179			1		100			60	40			21	6	24	0.38	49.0
D Totals			45	3.3 26,262 25,404			25		59	33	8	3	3	11	83	34	9	110	0.85	231.5
H DO CU				00.0 91												6	33		0.00	.3
H DO 2S			52	1.4 11,007 10,856			11		59	41			1	2	97	39	15	367	2.08	29.6
H DO 3S			42	.7 8,769 8,706			9		97	3		1		28	71	37	8	92	0.67	94.6
H DO 4S			6	1,061 1,061			1		100			71	29			20	6	24	0.36	43.6
H Totals			36	1.5 20,928 20,623			21		46	32	22	4	2	13	81	33	9	123	0.92	168.1
S DO CU				00.0 177												9	25		0.00	.6
S DO 2S			53	.9 3,422 3,392			3		23	77				26	74	38	22	871	4.75	3.9
S DO 3S			42	2.7 2,795 2,719			3		55	15	31	6	8	15	71	36	10	142	1.06	19.1
S DO 4S			5	287 287			0		100			100				19	7	23	0.46	12.5
S Totals			11	4.2 6,680 6,398			6		28	18	54	7	4	20	70	30	10	177	1.42	36.1
A DO CU				00.0 64												8	9		0.00	3.2
A DO 1S			23	977 977			1		100					100		38	13	213	1.51	4.6
A DO 2S			18	725 725			1		100				14	86		37	10	142	1.00	5.1
A DO 3S			26	1,089 1,089			1		100			5	25	71		33	9	90	0.80	12.0
A DO 4S			33	1,345 1,345			1		100			18	27	55		27	6	39	0.42	34.6
A Totals			7	1.5 4,200 4,136			4		76	24		7	18	75		29	8	69	0.68	59.5
Type Totals				2.6 58,071 56,562			57		52	30	18	4	4	12	80	33	9	114	0.89	495.2

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1		
				Project: ESC												Date		10/21/2020		
																Time		7:06:27AM		
T04N R09W S10 T00MC										T04N R09W S10 T00MC										
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt		
04N		09W		10		U1_TAKE		00MC		37.00		45		126		1		W		
S So Gr Spp T rt ad			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln Dia Bd CF/ Ft In Ft Lf				
D DO CU			40	100.0 247			377	81 19				100				11 20 0.00				1.3
D DO 2S			55	1.9 10,395 10,202			519	99 1				0 2 20 78				40 14 278 1.74				36.7
D DO 3S			5	2.9 14,442 14,023			44	100				60 40				37 8 97 0.71				144.4
D DO 4S				1,179 1,179												21 6 24 0.38				49.0
D Totals			45	3.3 26,262 25,404			940	59 33 8				3 3 11 83				34 9 110 0.85				231.5
H DO CU				100.0 91												6 33 0.00				.3
H DO 2S			52	1.4 11,007 10,856			402	59 41				1 2 97				39 15 367 2.08				29.6
H DO 3S			42	.7 8,769 8,706			322	97 3				1 28 71				37 8 92 0.67				94.6
H DO 4S			6	1,061 1,061			39	100				71 29				20 6 24 0.36				43.6
H Totals			36	1.5 20,928 20,623			763	46 32 22				4 2 13 81				33 9 123 0.92				168.1
S DO CU				100.0 177												9 25 0.00				.6
S DO 2S			53	.9 3,422 3,392			126	23 77				26 74				38 22 871 4.75				3.9
S DO 3S			42	2.7 2,795 2,719			101	55 15 31				6 8 15 71				36 10 142 1.06				19.1
S DO 4S			5	287 287			11	100				100				19 7 23 0.46				12.5
S Totals			11	4.2 6,680 6,398			237	28 18 54				7 4 20 70				30 10 177 1.42				36.1
A DO CU				100.0 64												8 9 0.00				3.2
A DO 1S			23	977 977			36	100				100				38 13 213 1.51				4.6
A DO 2S			18	725 725			27	100				14 86				37 10 142 1.00				5.1
A DO 3S			26	1,089 1,089			40	100				5 25 71				33 9 90 0.80				12.0
A DO 4S			33	1,345 1,345			50	100				18 27 55				27 6 39 0.42				34.6
A Totals			7	1.5 4,200 4,136			153	76 24				7 18 75				29 8 69 0.68				59.5
Type Totals				2.6 58,071 56,562			2,093	52 30 18				4 4 12 80				33 9 114 0.89				495.2

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1			
				Project: ESC												Date		10/21/2020			
																Time		7:06:27AM			
T04N R09W S11 TTAKE																T04N R09W S11 TTAKE					
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt			
04N		09W		11		U236		TAKE		264.00		101		109		1		W			
S So Gr T rt ad				% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln Dia Bd CF/ Ft In Ft Lf				
D	DO	CU			00.0	263											20	7		0.00	7.6
D	DO	2S	1			114	114	30		100					100		32	10	120	0.84	.9
D	DO	3S	81		4.0	6,194	5,945	1,570		100	0			1	43	56	36	7	71	0.55	83.4
D	DO	4S	18		1.2	1,287	1,271	336	11	89			50	43	7		22	6	27	0.35	46.5
D Totals				73	6.7	7,858	7,330	1,935	2	98	0		9	8	38	46	30	7	53	0.49	138.5
H	DO	CU			00.0	95											13	11		0.00	2.0
H	DO	2S	15		3.0	355	344	91			76	24				100	40	15	320	2.14	1.1
H	DO	3S	69		4.9	1,581	1,504	397		100				1	35	65	37	7	73	0.57	20.7
H	DO	4S	16			343	343	91		100			38	39		23	23	6	29	0.37	11.7
H Totals				22	7.7	2,374	2,191	579		84	12	4	6	7	24	64	31	7	62	0.57	35.4
A	DO	CU			00.0	27											12	11		0.00	.7
A	DO	3S	27			95	95	25		100						100	40	7	83	0.70	1.1
A	DO	4S	73			253	253	67		100			30	33	14	24	27	6	37	0.46	6.8
A Totals				3	7.2	375	348	92		100			22	24	10	45	28	7	41	0.49	8.6
S	DO	3S	94		9.6	206	186	49		27	73		24	27		49	29	11	123	1.55	1.5
S	DO	4S	6			12	12	3		100				100			24	8	40	0.87	.3
S Totals				2	9.0	218	198	52		31	69		23	31		46	28	11	110	1.46	1.8
Type Totals					7.0	10,824	10,068	2,658	1	94	4	1	9	9	33	49	30	7	55	0.51	184.3

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)														Page 1						
Project: ESC														Date	10/21/2020							
														Time	7:06:27AM							
T04N R09W S11 T00MC										T04N R09W S11 T00MC												
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt													
04N	09W	11	U236_RW	00MC	3.00	101	263	1	W													
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre		
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf			
										4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft		
D	DO	CU		100.0	418													21	7		0.00	10.6
D	DO	2S	21	2.2	4,754	4,651	14				11	87	2	1		15	84	38	13	215	1.49	21.7
D	DO	3S	68	2.9	15,080	14,642	44				99	1			1	34	65	37	8	81	0.63	180.5
D	DO	4S	11	.9	2,393	2,370	7	7	93					45	49	7		22	6	27	0.38	86.3
D Totals			74	4.3	22,645	21,663	65	1	79	19	1			5	6	27	62	32	8	72	0.64	299.1
H	DO	CU		100.0	132													13	12		0.00	2.2
H	DO	2S	42	1.9	2,870	2,817	8					67	33			5	95	39	15	320	2.08	8.8
H	DO	3S	49	3.5	3,407	3,286	10				96	4			4	24	72	37	8	87	0.71	37.6
H	DO	4S	9		548	548	2				100			40	46		14	23	6	29	0.42	18.8
H Totals			23	4.4	6,957	6,651	20			56	30	14		3	6	14	77	33	8	99	0.86	67.4
A	DO	CU		100.0	48													10	10		0.00	1.4
A	DO	3S	30	6.2	193	181	1			100				47			53	26	9	63	0.73	2.9
A	DO	4S	70		411	411	1			100				27	37	9	28	26	6	36	0.48	11.4
A Totals			2	9.3	653	592	2			100				33	25	6	36	25	7	38	0.51	15.7
S	DO	CU		100.0	27													12	18		0.00	.2
S	DO	2S	44		150	150	0					15	85				100	40	20	805	4.45	.2
S	DO	3S	51	7.8	185	171	1			21	79			20	21		59	30	11	133	1.53	1.3
S	DO	4S	5		14	14	0			100				37	63			21	8	36	0.78	.4
S Totals			1	11.1	376	334	1			15	47	38		12	14		75	28	12	165	1.75	2.0
C	DO	2S	85	1.9	65	64	0				100			29			71	19	19	418	4.99	.2
C	DO	3S	15		11	11	0				100						100	40	16	400	3.23	.0
C Totals			0	1.6	77	75	0				15	85		25			75	22	19	415	4.50	.2
Type Totals					4.5	30,707	29,316	88	1	74	22	4		5	7	23	65	32	8	76	0.68	384.4

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)														Page 1					
Project: ESC														Date	10/21/2020						
														Time	7:06:27AM						
T04N R09W S11 T00MC										T04N R09W S11 T00MC											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
04N	09W	11	U4_TAKE	00MC	14.00	24	123	1	W												
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
			Log Scale Dia.					Log Length				Ln	Dia	Bd	CF/ Lf						
			4-5	6-11	12-16	17+		12-20	21-30	31-35	36-99	Ft	In	Ft	Lf						
H	DO	CU		00.0	111					7	18		0.00	1.2							
H	DO	2S	56	2.4	8,476	8,274	116			58	42	2	3	1	94	39	15	336	2.14	24.7	
H	DO	3S	36	.8	5,375	5,333	75			85	11	4		15	15	69	36	9	107	0.87	49.7
H	DO	4S	8		1,088	1,088	15	0	100			37	40	22			23	6	32	0.45	34.4
H	Totals		56	2.4	15,049	14,694	206	0	38	37	25	4	10	8	78	32	9	134	1.12	109.9	
D	DO	2S	12	.8	1,141	1,131	16			15	85			27	73	38	12	187	1.40	6.1	
D	DO	3S	56	1.6	5,277	5,195	73			94	6			9	20	71	36	8	92	0.71	56.4
D	DO	4S	32	2.1	2,961	2,899	41	5	95			24	56	11	9		25	6	31	0.39	93.8
D	Totals		35	1.6	9,379	9,226	129	2	85	14		7	23	18	52	29	7	59	0.58	156.2	
S	DO	CU		00.0	49											10	34		0.00	.1	
S	DO	2S	35	1.5	640	630	9			28	72				100	40	16	436	2.83	1.4	
S	DO	3S	50	1.3	888	877	12			34	66	3	26		72	30	13	282	2.50	3.1	
S	DO	4S	15		259	259	4			92	8	68	32			20	7	29	0.52	8.9	
S	Totals		7	3.8	1,836	1,766	25			31	10	59	11	17		71	24	9	131	1.49	13.5
A	DO	CU		00.0	141											9	10		0.00	4.3	
A	DO	3S	32	15.4	235	199	3			100		36	64			23	10	55	0.80	3.6	
A	DO	4S	68		408	408	6	9	91			27	27		46	26	6	33	0.47	12.3	
A	Totals		2	22.6	784	607	8	6	94			30	39		31	22	8	30	0.49	20.2	
Type Totals				2.8	27,048	26,293	368	1	55	26	18	6	16	11	67	30	8	88	0.83	299.9	

TC PSTATS		PROJECT STATISTICS							PAGE	1		
		PROJECT			ESC				DATE	10/16/2020		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt		
04N 04N	09 09W	10 11	U1_RW U4 TAKE	00MC 00MC	THR	319.00	316	1,679	1	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			316	1679	5.3							
CRUISE			140	749	5.3	44,750	1.7					
DBH COUNT												
REFOREST												
COUNT			161	915	5.7							
BLANKS			15									
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			400	95.3	12.5	53	22.9	81.0	10,256	9,701	2,745	2,680
WHEMLOCK			238	29.5	14.1	62	8.5	32.0	5,184	4,978	1,338	1,316
S SPRUCE			35	4.1	18.4	48	1.7	7.5	1,060	1,007	269	265
R ALDER			71	11.3	12.2	40	2.6	9.2	851	813	262	248
SNAG			2	.0	15.8	52	0.0	.0				
WR CEDAR			3	.0	27.3	41	0.0	.0	1	1	0	0
TOTAL			749	140.3	13.0	53	36.0	129.8	17,351	16,499	4,615	4,509
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		85.9	4.3	192	201	210						
WHEMLOCK		91.7	5.9	366	389	412						
S SPRUCE		141.0	23.8	798	1,048	1,297						
R ALDER		81.3	9.6	96	106	117						
SNAG												
WR CEDAR		155.7	107.8		730	1,517						
TOTAL		151.9	5.5	277	293	309		921	230	102		
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		178.2	10.0	86	95	105						
WHEMLOCK		270.5	15.2	25	30	34						
S SPRUCE		451.7	25.4	3	4	5						
R ALDER		405.7	22.8	9	11	14						
SNAG		683.0	38.4	0	0	0						
WR CEDAR		1140.6	64.1	0	0	0						
TOTAL		140.0	7.9	129	140	151		782	196	87		
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		161.1	9.1	74	81	88						
WHEMLOCK		226.7	12.7	28	32	36						
S SPRUCE		434.4	24.4	6	7	9						
R ALDER		389.7	21.9	7	9	11						
SNAG		713.3	40.1	0	0	0						
WR CEDAR		1027.5	57.8	0	0	0						
TOTAL		120.9	6.8	121	130	139		584	146	65		
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		159.3	9.0	8,832	9,701	10,570						
WHEMLOCK		232.3	13.1	4,328	4,978	5,628						
S SPRUCE		443.6	24.9	756	1,007	1,258						
R ALDER		452.1	25.4	606	813	1,019						

TC PSTATS									PROJECT STATISTICS		PAGE	2
									PROJECT	ESC	DATE	10/16/2020
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
04N	09	10	U1_RW	00MC	THR	319.00		316	1,679	1	W	
04N	09W	11	U4 TAKE	00MC								
CL	68.1	COEFF		NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.00	VAR.		S.E.%	LOW	AVG	HIGH	5		10	15	
SNAG												
WR CEDAR			1402.6	78.8	0	1	1					
TOTAL			125.4	7.0	15,336	16,499	17,662	628	157	70		

TC TSTATS				STATISTICS				PAGE 1			
				PROJECT	ESC	DATE 10/16/2020					
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
04N	09W	10	U1 TAKE	00MC	37.00	45	258	1	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		45	258	5.7							
CRUISE		23	126	5.5	8,034	1.6					
DBH COUNT											
REFOREST											
COUNT		22	132	6.0							
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		55	91.4	16.8	90	34.5	141.6	26,262	25,404	6,814	6,749
WHEMLOCK		44	72.4	16.1	80	25.6	102.9	20,928	20,623	5,095	5,080
S SPRUCE		9	20.1	18.2	56	8.5	36.3	6,680	6,398	1,555	1,526
R ALDER		18	33.2	13.2	54	8.7	31.5	4,200	4,136	1,182	1,169
TOTAL		126	217.1	16.2	78	77.5	312.2	58,071	56,562	14,646	14,524
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	61.3	8.3	331	361	391						
WHEMLOCK	83.0	12.5	442	505	568						
S SPRUCE	124.4	43.9	790	1,409	2,028						
R ALDER	54.1	13.1	141	163	184						
TOTAL	131.4	11.7	404	458	511	689 172		77			
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	98.3	14.6	78	91	105						
WHEMLOCK	119.1	17.7	60	72	85						
S SPRUCE	192.6	28.7	14	20	26						
R ALDER	256.4	38.2	21	33	46						
TOTAL	45.6	6.8	202	217	232	83 21		9			
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	91.5	13.6	122	142	161						
WHEMLOCK	108.4	16.1	86	103	119						
S SPRUCE	189.2	28.2	26	36	47						
R ALDER	246.1	36.7	20	31	43						
TOTAL	35.0	5.2	296	312	328	49 12		5			
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	91.5	13.6	21,942	25,404	28,867						
WHEMLOCK	116.2	17.3	17,054	20,623	24,192						
S SPRUCE	194.3	28.9	4,546	6,398	8,250						
R ALDER	251.9	37.5	2,584	4,136	5,688						
TOTAL	39.1	5.8	53,265	56,562	59,859	61 15		7			

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	ESC	DATE				10/16/2020	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
04N	09W	11	U236	TAKE	264.00	101	295	1	W		
				TREES	ESTIMATED				PERCENT		
				PER PLOT	TOTAL				SAMPLE		
				PLOTS	TREES	TREES				TREES	
TOTAL		101	295	2.9							
CRUISE		33	109	3.3	33,321				.3		
DBH COUNT											
REFOREST											
COUNT		55	186	3.4							
BLANKS		13									
100 %											
STAND SUMMARY											
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR		70	94.6	11.7	47	20.7	70.9	7,858	7,330	2,055	
WHEMLOCK		25	22.0	12.3	53	5.2	18.3	2,374	2,191	627	
R ALDER		11	8.1	11.6	31	1.8	6.0	375	348	117	
S SPRUCE		3	1.5	19.0	35	0.7	3.0	218	198	73	
TOTAL		109	126.2	11.9	47	28.4	98.2	10,824	10,068	2,872	
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		60.4	7.2	87	94	101					
WHEMLOCK		90.0	18.4	122	149	177					
R ALDER		69.1	21.8	35	45	54					
S SPRUCE		91.9	63.6	62	170	278					
TOTAL		84.1	8.0	96	104	112	282	71	31		
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		93.5	9.3	86	95	103					
WHEMLOCK		215.8	21.5	17	22	27					
R ALDER		305.4	30.4	6	8	11					
S SPRUCE		508.7	50.6	1	2	2					
TOTAL		72.0	7.2	117	126	135	207	52	23		
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		91.7	9.1	64	71	77					
WHEMLOCK		200.4	19.9	15	18	22					
R ALDER		290.4	28.9	4	6	8					
S SPRUCE		504.4	50.1	1	3	4					
TOTAL		66.7	6.6	92	98	105	178	44	20		
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		94.4	9.4	6,642	7,330	8,018					
WHEMLOCK		199.4	19.8	1,757	2,191	2,626					
R ALDER		290.1	28.8	247	348	448					
S SPRUCE		510.0	50.7	98	198	299					
TOTAL		71.5	7.1	9,352	10,068	10,783	204	51	23		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ESC					DATE 10/16/2020
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	09W	11	U4 TAKE	00MC	14.00	24	123	1	W	

				TREES	ESTIMATED	PERCENT
				PER PLOT	TOTAL	SAMPLE
	PLOTS	TREES			TREES	TREES
TOTAL	24	123		5.1		
CRUISE	22	123		5.6	2,478	5.0
DBH COUNT						
REFOREST						
COUNT						
BLANKS	2					
100 %						

STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	56	52.4	18.1	70	22.0	93.3	15,049	14,694	3,991	3,972
DOUG FIR	52	102.8	12.4	49	24.6	86.7	9,379	9,226	2,683	2,683
S SPRUCE	9	9.5	17.0	38	3.6	15.0	1,836	1,766	507	490
R ALDER	6	12.3	12.2	50	2.9	10.0	784	607	253	219
TOTAL	123	177.0	14.6	55	53.7	205.0	27,048	26,293	7,435	7,363

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		
WHEMLOCK	85.2	11.4	403	455	507					
DOUG FIR	67.7	9.4	114	126	138					
S SPRUCE	154.7	54.6	426	939	1,452					
R ALDER	64.5	28.7	36	50	64					
TOTAL	155.3	14.0	285	332	378	963	241	107		

CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	145.0	30.2	37	52	68					
DOUG FIR	109.3	22.8	79	103	126					
S SPRUCE	452.7	94.3	1	9	18					
R ALDER	180.1	37.5	8	12	17					
TOTAL	57.9	12.1	156	177	198	140	35	16		

CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	121.7	25.3	70	93	117					
DOUG FIR	100.6	21.0	68	87	105					
S SPRUCE	281.5	58.6	6	15	24					
R ALDER	176.9	36.9	6	10	14					
TOTAL	47.6	9.9	185	205	225	94	24	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		
WHEMLOCK	127.0	26.5	10,806	14,694	18,583					
DOUG FIR	103.6	21.6	7,235	9,226	11,216					
S SPRUCE	232.5	48.4	911	1,766	2,621					
R ALDER	209.7	43.7	342	607	872					
TOTAL	60.1	12.5	23,000	26,293	29,586	151	38	17		

TC PSTATS		PROJECT STATISTICS							PAGE	1		
		PROJECT		ESC					DATE	10/23/2020		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt		
04N 04N	09 09W	10 11	U1 RW U236 RW	00MC 00MC		4.00	146	1,003	1	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			146	1003	6.9							
CRUISE			62	391	6.3	917	42.6					
DBH COUNT												
REFOREST												
COUNT			84	597	7.1							
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			223	156.8	14.1	61	45.5	171.2	23,550	22,599	6,376	6,275
WHEMLOCK			113	46.8	15.7	68	15.9	62.9	10,450	10,144	2,716	2,690
R ALDER			36	17.9	12.5	42	4.3	15.4	1,539	1,478	459	442
S SPRUCE			14	6.1	18.9	54	2.7	11.8	1,952	1,850	469	455
SNAG			2	1.6	15.8	52	0.6	2.2				
WR CEDAR			3	.2	27.3	41	0.2	.8	57	56	13	13
TOTAL			391	229.4	14.5	61	69.3	264.2	37,548	36,128	10,033	9,876
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		78.2	5.2	201	213	224						
WHEMLOCK		88.1	8.3	334	365	395						
R ALDER		80.8	13.5	92	106	121						
S SPRUCE		139.3	38.6	659	1,074	1,488						
SNAG												
WR CEDAR		155.7	107.8		730	1,517						
TOTAL		142.3	7.2	260	280	301		809	202	90		
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		74.6	6.2	147	157	166						
WHEMLOCK		141.5	11.7	41	47	52						
R ALDER		290.3	24.0	14	18	22						
S SPRUCE		320.6	26.5	4	6	8						
SNAG		459.3	38.0	1	2	2						
WR CEDAR		773.2	63.9	0	0	0						
TOTAL		43.8	3.6	221	229	238		77	19	9		
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		65.9	5.4	162	171	180						
WHEMLOCK		125.0	10.3	56	63	69						
R ALDER		290.3	24.0	12	15	19						
S SPRUCE		304.9	25.2	9	12	15						
SNAG		480.2	39.7	1	2	3						
WR CEDAR		695.9	57.5	0	1	1						
TOTAL		31.1	2.6	257	264	271		39	10	4		
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		66.5	5.5	21,356	22,599	23,842						
WHEMLOCK		138.5	11.5	8,983	10,144	11,306						
R ALDER		343.7	28.4	1,058	1,478	1,898						
S SPRUCE		332.7	27.5	1,341	1,850	2,359						

PROJECT STATISTICS							PAGE	2	
TC PSTATS			PROJECT	ESC	DATE 10/23/2020				
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
04N	09	10	U1_RW	00MC	4.00	146	1,003	1	W
04N	09W	11	U236_RW	00MC					
CL	68.1		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10
SNAG									
WR CEDAR			952.3	78.7	12	56	101		
TOTAL			40.6	3.4	34,913	36,128	37,342	66	16
									7

TC TSTATS				STATISTICS				PAGE 1			
				PROJECT ESC		DATE		10/16/2020			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
04N	09W	11	U236	LVPC	264.00	101	445	1	W		
				TREES	ESTIMATED TOTAL	PERCENT SAMPLE					
				PER PLOT	TREES	TREES					
PLOTS		TREES									
TOTAL		101	445	4.4							
CRUISE		38	154	4.1		27,448		.6			
DBH COUNT											
REFOREST											
COUNT		63	287	4.6							
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	
DOUGLEAV		98	81.3	15.8	68	27.7	110.1	14,899	14,460	4,141	
HEMLEAV		44	16.5	18.7	70	7.2	31.3	4,577	4,452	1,271	
ALDRLEAV		7	4.6	12.6	34	1.1	4.0	279	245	88	
SNAG		1	1.2	14.0	17	0.4	1.3				
CEDLEAV		2	.2	28.2	27	0.1	.7	77	75	18	
SPRUCELV		2	.1	31.9	76	0.1	.7	98	86	24	
TOTAL		154	104.0	16.2	66	36.8	148.1	19,930	19,318	5,542	
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		
DOUGLEAV		49.4	5.0	203	214	224					
HEMLEAV		54.5	8.2	318	347	375					
ALDRLEAV		33.3	13.6	51	59	67					
SNAG											
CEDLEAV		122.0	114.3		1,095	2,346					
SPRUCELV		106.1	99.3	6	920	1,834					
TOTAL		89.4	7.2	245	264	283	319		80 35		
CL:	68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUGLEAV		49.0	4.9	77	81	85					
HEMLEAV		135.6	13.5	14	16	19					
ALDRLEAV		493.7	49.1	2	5	7					
SNAG		494.9	49.2	1	1	2					
CEDLEAV		842.2	83.7	0	0	0					
SPRUCELV		1005.0	99.9	0	0	0					
TOTAL		26.2	2.6	101	104	107	27		7 3		
CL:	68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUGLEAV		46.3	4.6	105	110	115					
HEMLEAV		129.2	12.8	27	31	35					
ALDRLEAV		494.9	49.2	2	4	6					
SNAG		494.9	49.2	1	1	2					
CEDLEAV		707.1	70.3	0	1	1					
SPRUCELV		1005.0	99.9	0	1	1					
TOTAL		14.1	1.4	146	148	150	8		2 1		
CL:	68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUGLEAV		47.8	4.8	13,772	14,460	15,147					
HEMLEAV		131.5	13.1	3,870	4,452	5,034					
ALDRLEAV		510.6	50.8	120	245	369					
SNAG											

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	ESC				
								DATE	10/16/2020
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
04N	09W	11	U236	LVPC	264.00	101	445	1	W
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.	S.E. %	LOW	AVG	HIGH	5	10	15
CEDLEAV		791.3	78.7	16	75	134			
SPRUCELV		1005.0	99.9	0	86	172			
TOTAL		18.4	1.8	18,964	19,318	19,672	14	3	2

TC		PSTNDSUM		Stand Table Summary										Page		1	
														Date:		10/16/2020	
T04N R09W S10 Ty00MC THRU T04N R09W S11 Ty00MC				Project		ESC				Time:		8:46:40AM					
				Acres		319.00				Grown Year:							
S Spc	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		
D		8	5	87 37	5.069	1.77	5.07	5.5	24.8		28	126		89	40		
D		9	14	86 62	8.672	3.83	6.92	9.6	33.3		67	230		212	73		
D		10	30	86 80	19.465	10.62	21.15	13.0	51.4		274	1,087		875	347		
D		11	31	86 91	16.249	10.72	24.65	12.9	45.7		319	1,127		1,018	360		
D		12	40	87 90	11.294	8.87	19.12	14.4	49.7		275	950		878	303		
D		13	35	87 92	10.503	9.68	16.38	18.0	64.0		294	1,048		939	334		
D		14	39	84 99	8.676	9.27	15.77	20.2	69.9		319	1,102		1,017	351		
D		15	37	87 107	4.817	5.91	10.32	22.7	83.4		234	860		748	274		
D		16	32	85 108	3.352	4.68	7.26	25.0	91.5		182	664		580	212		
D		17	26	85 122	1.681	2.65	4.14	29.0	105.6		120	437		383	139		
D		18	27	85 115	1.776	3.14	4.25	32.5	108.5		138	461		441	147		
D		19	20	84 110	1.347	2.65	3.48	30.6	108.1		106	376		339	120		
D		20	17	85 132	.953	2.08	2.75	38.2	143.6		105	395		335	126		
D		21	16	86 114	.451	1.08	1.17	40.1	151.3		47	177		149	56		
D		22	7	86 139	.159	.42	.43	50.2	195.2		22	85		70	27		
D		23	7	86 134	.322	.93	.96	48.9	197.8		47	191		150	61		
D		24	4	89 144	.104	.33	.31	57.8	254.3		18	79		57	25		
D		25	2	86 140	.090	.31	.27	58.0	230.0		16	62		50	20		
D		27	2	82 149	.077	.31	.23	70.7	290.0		16	67		52	21		
D		28	1	83 95	.002	.01	.00	79.0	260.0		0	1		1	0		
D		29	2	80 132	.067	.31	.20	74.3	296.7		15	59		48	19		
D		32	2	71 152	.055	.31	.16	51.7	230.0		9	38		27	12		
D		33	2	83 140	.052	.31	.15	87.0	376.7		13	58		43	19		
D		37	2	89 43	.114	.85	.11	127.0	180.0		14	20		46	7		
D		Totals	400	86 88	95.347	81.03	145.28	18.4	66.8		2,680	9,701		8,548	3,095		
H		9	2	88 90	1.387	.61	1.39	15.0	60.0		21	83		66	27		
H		10	18	87 94	8.029	4.38	12.55	11.7	42.2		147	530		470	169		
H		11	24	86 101	7.800	5.15	11.77	14.8	52.7		174	620		555	198		
H		12	7	85 128	1.157	.91	2.31	18.3	68.0		42	157		135	50		
H		13	5	85 90	.831	.77	1.66	17.7	48.3		29	80		94	26		
H		14	12	87 94	1.879	2.01	3.75	21.7	82.4		81	309		259	99		
H		15	19	86 106	1.780	2.18	4.01	24.4	93.7		98	376		312	120		
H		16	10	85 94	.762	1.06	1.52	28.5	97.0		43	148		139	47		
H		17	9	86 74	.629	.99	.87	32.0	88.0		28	77		89	24		
H		18	22	84 104	1.437	2.54	3.27	31.5	110.9		103	363		329	116		
H		19	6	85 93	.426	.84	.85	39.4	121.8		34	104		107	33		
H		20	16	86 122	.809	1.76	2.29	39.6	155.8		91	357		289	114		
H		21	17	88 113	.765	1.84	1.91	48.5	198.5		93	379		295	121		
H		22	4	86 116	.136	.36	.41	42.4	173.0		17	70		55	22		
H		23	13	88 127	.421	1.21	1.25	52.9	230.9		66	289		211	92		
H		24	7	84 103	.121	.38	.27	62.9	228.8		17	61		53	19		
H		25	11	83 103	.392	1.34	.99	60.1	226.3		59	224		190	71		
H		26	5	86 121	.117	.43	.33	65.1	273.0		21	90		68	29		
H		27	7	82 95	.196	.78	.43	73.3	264.6		32	114		101	36		
H		28	3	85 118	.020	.09	.06	73.1	322.6		4	19		14	6		
H		29	3	85 140	.077	.35	.23	87.1	403.1		20	93		64	30		
H		30	3	87 108	.072	.35	.21	78.3	366.7		17	79		54	25		
H		31	1	85 139	.014	.07	.04	100.0	453.3		4	19		13	6		
H		32	3	90 133	.063	.35	.18	115.7	595.4		20	105		65	33		
H		33	5	82 105	.084	.50	.23	99.6	418.2		23	95		72	30		
H		34	3	83 116	.056	.35	.17	100.9	447.5		17	75		54	24		
H		37	2	83 111	.037	.28	.07	138.5	625.0		10	47		33	15		
H		39	1	91 99	.009	.07	.03	126.7	613.3		3	16		11	5		

TC		PSTNDSUM		Stand Table Summary										Page		2	
														Date:		10/16/2020	
T04N R09W S10 Ty00MC THRU T04N R09W S11 Ty00MC				Project		ESC				Time:		8:46:40AM					
				Acres		319.00				Grown Year:							
S Spc	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
H		Totals	238	86	100	29.505	31.96	53.06	24.8	93.8		1,316	4,978	4,198	1,588		
S	9	1	77	34	.166	.07	.17	7.0	20.0		1	3		4	1		
S	10	2	80	33	.881	.48	.88	9.0	20.0		8	18		25	6		
S	12	1	82	25	.093	.07	.09	12.0	30.0		1	3		4	1		
S	13	2	86	120	.521	.48	1.04	22.5	90.0		23	94		75	30		
S	14	2	82	93	.449	.48	.90	21.5	65.0		19	58		62	19		
S	15	1	83	72	.060	.07	.12	19.5	70.0		2	8		7	3		
S	16	2	81	51	.597	.83	.60	30.0	70.0		18	42		57	13		
S	18	1	86	85	.041	.07	.08	35.0	110.0		3	9		9	3		
S	19	2	82	29	.423	.83	.42	31.0	90.0		13	38		42	12		
S	22	2	81	79	.182	.48	.36	48.0	140.0		17	51		56	16		
S	23	1	65	83	.025	.07	.05	50.0	95.0		3	5		8	2		
S	24	2	83	108	.153	.48	.46	49.0	183.3		22	84		72	27		
S	25	2	82	79	.244	.83	.49	62.0	175.0		30	86		97	27		
S	28	1	64	87	.002	.01	.00	33.5	115.0		0	0		0	0		
S	29	2	85	122	.105	.48	.31	82.7	390.0		26	123		83	39		
S	33	1	83	112	.012	.07	.04	97.7	446.7		4	17		12	5		
S	37	1	72	99	.010	.07	.02	156.0	495.0		3	10		10	3		
S	38	1	85	102	.001	.01	.00	178.0	805.0		0	1		1	0		
S	47	2	85	84	.040	.48	.08	225.0	1055.0		18	84		57	27		
S	52	2	82	108	.033	.48	.10	203.3	1020.0		20	100		63	32		
S	55	2	85	132	.029	.48	.09	313.3	1726.7		27	151		87	48		
S	56	1	49	111	.004	.07	.01	121.0	465.0		1	4		3	1		
S	57	1	82	121	.004	.07	.01	303.0	1530.0		4	19		12	6		
S		Totals	35	82	67	4.075	7.50	6.33	41.9	159.1		265	1,007	846	321		
A	9	7	87	62	1.986	.88	1.99	10.6	39.0		21	78		67	25		
A	10	8	87	54	2.889	1.58	2.89	12.1	40.3		35	116		111	37		
A	11	4	86	108	.537	.35	.85	14.0	48.7		12	42		38	13		
A	12	13	86	51	2.859	2.25	3.39	15.1	42.5		51	144		164	46		
A	13	6	86	57	.329	.30	.50	13.5	34.8		7	17		21	6		
A	14	8	87	88	.594	.64	1.18	20.8	71.4		25	84		78	27		
A	15	10	87	74	1.252	1.54	1.76	26.5	86.9		47	153		149	49		
A	16	2	86	92	.149	.21	.30	27.5	105.0		8	31		26	10		
A	18	7	86	96	.356	.63	.83	32.7	117.0		27	97		86	31		
A	19	2	87	77	.106	.21	.21	36.0	115.0		8	24		24	8		
A	21	4	62	49	.276	.66	.17	45.0	150.0		8	26		25	8		
A		Totals	71	86	63	11.333	9.24	14.07	17.6	57.8		248	813	790	259		
C	22	1	81	17	.001	.00	.00	33.0	150.0		0	0		0	0		
C	26	1	70	79	.001	.00											
C	47	1	82	114	.000	.00	.00	248.5	1020.0		0	1		0	0		
C		Totals	3	77	53	.002	.01	.00	98.7	415.1		0	1	1	0		
SN	14	1	88	17	.012	.01											
SN	18	1	86	99	.009	.02											
SN		Totals	2	87	52	.020	.03										
Totals		749	86	88	140.283	129.76	218.73	20.6	75.4		4,509	16,499		14,382	5,263		

Log Stock Table - MBF

T04N R09W S10 Ty00MC
THRU
T04N R09W S11 Ty00MC

Project: ESC
Acres 319.00

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Date 10/16/2020
Time 8:47:26AM

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+
D	DO CU	6	10	100.0														
D	DO CU	8	9	100.0														
D	DO CU	10	7	100.0														
D	DO CU	16	5	100.0														
D	DO CU	20	0	100.0														
D	DO CU	34	31	100.0														
D	DO CU	38	18	100.0														
D	DO CU	40	0	100.0														
D	DO 2S	16	0	12.5	0	.0								0				
D	DO 2S	32	34		34	1.1					33	1	0					
D	DO 2S	34	2		2	.1						2						
D	DO 2S	36	12	2.7	12	.4									12			
D	DO 2S	40	406	1.8	399	12.9					1	189	120	88				
D	DO 3S	20	1		1	.0				1								
D	DO 3S	24	13		13	.4				13								
D	DO 3S	26	6	5.6	6	.2				0				5				
D	DO 3S	28	4		4	.1				2	2							
D	DO 3S	30	6	5.3	5	.2				0	5							
D	DO 3S	32	726	5.4	687	22.2				198	320	167	2					
D	DO 3S	34	127		127	4.1				125	2							
D	DO 3S	36	85	2.1	83	2.7				76		7						
D	DO 3S	38	53	7.8	49	1.6				49								
D	DO 3S	40	1,284	3.0	1,245	40.2				515	391	337	0	3				
D	DO 4S	14	1		1	.0				1								
D	DO 4S	16	91		91	2.9		16		61	14							
D	DO 4S	18	33		33	1.1		1		32								
D	DO 4S	20	81		81	2.6				69	12							
D	DO 4S	24	85		85	2.7				83	2							
D	DO 4S	25	0		0	.0				0								
D	DO 4S	26	38		38	1.2		24		14								
D	DO 4S	28	27	1.3	27	.9				27								
D	DO 4S	30	44	9.8	40	1.3		0		39								
D	DO 4S	32	3		3	.1				3								
D	DO 4S	34	26		26	.9				26								
D	DO 4S	36	4		4	.1				4								
D	Totals		3,272	5.4	3,095	58.8		41	1324	761	538	202	123	94	12			

Log Stock Table - MBF

T04N R09W S10 Ty00MC
THRU
T04N R09W S11 Ty00MC

Project: ESC
Acres 319.00

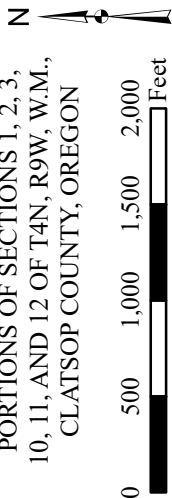
Page 3
Date 10/16/2020
Time 8:47:26AM

S Spp	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+	
S		DO	CU	10	6	100.0														
S		DO	CU	12	0	100.0														
S		DO	2S	32	33		33	10.3						11				22		
S		DO	2S	40	107	1.2	105	32.8					3		19	32	0	22	30	
S		DO	3S	18	1		1	.4					1							
S		DO	3S	20	19	7.2	17	5.4					0	12		5				
S		DO	3S	24	11		11	3.3			2		5			3				
S		DO	3S	28	1		1	.4							1					
S		DO	3S	30	13		13	4.1				13								
S		DO	3S	32	15		15	4.7					7				8			
S		DO	3S	36	10		10	3.1			10									
S		DO	3S	38	0		0	.1					0							
S		DO	3S	40	103	6.7	96	30.0				34	2	14	24		1	2	15	4
S		DO	4S	12	0		0	.1				0								
S		DO	4S	14	1		1	.3				1								
S		DO	4S	16	0		0	.1							0					
S		DO	4S	18	1		1	.3			1									
S		DO	4S	20	11		11	3.4			11									
S		DO	4S	24	4		4	1.2			1	3								
S		DO	4S	26	0		0	.1			0									
S		Totals			338	5.0	321	6.1			25	52	14	30	24	35	38	11	59	34
A		DO	CU	6	5	100.0														
A		DO	CU	8	2	100.0														
A		DO	CU	14	1	100.0														
A		DO	CU	25	2	100.0														
A		DO	1S	38	30		30	11.7					23	7						
A		DO	1S	40	7		7	2.6					7							
A		DO	2S	28	4		4	1.4					4							
A		DO	2S	38	16		16	6.0					16							
A		DO	2S	40	8		8	3.1					8							
A		DO	3S	14	0		0	.0					0							
A		DO	3S	16	2	33.3	1	.4					1							
A		DO	3S	20	2		2	.8			2	0								
A		DO	3S	28	4		4	1.6			4									

TC PLOGSTVB		Log Stock Table - MBF																	
T04N R09W S10 Ty00MC THRU T04N R09W S11 Ty00MC					Project: ESC Acres 319.00										Page 4 Date 10/16/2020 Time 8:47:26AM				
S T Spp	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	3S	30	8		8	3.0			8									
A	DO	3S	38	14		14	5.6			7	8								
A	DO	3S	40	40		40	15.5			11	29								
A	DO	4S	14	0		0	.0			0									
A	DO	4S	16	4		4	1.6			4									
A	DO	4S	18	6		6	2.2			5	1								
A	DO	4S	20	21		21	8.2			21									
A	DO	4S	24	8		8	3.0			8									
A	DO	4S	26	4		4	1.7			4									
A	DO	4S	28	6		6	2.5			6									
A	DO	4S	30	19		19	7.2			19									
A	DO	4S	34	9		9	3.6			9									
A	DO	4S	36	3		3	1.0		1	2									
A	DO	4S	38	19		19	7.5			11	8								
A	DO	4S	40	25		25	9.7			25									
A	Totals			271	4.5	259	4.9		1	126	59	36	30	7					
C	DO	2S	14	0	6.2	0	25.1							0					
C	DO	2S	40	0		0	60.2											0	
C	DO	3S	40	0		0	14.7							0					
C	Totals			0	1.6	0	.0							0				0	
Total	All Species			5,535	4.9	5,263	100.0		41	2012	1000	864	408	301	367	114	63	60	34

LOGGING PLAN MAP

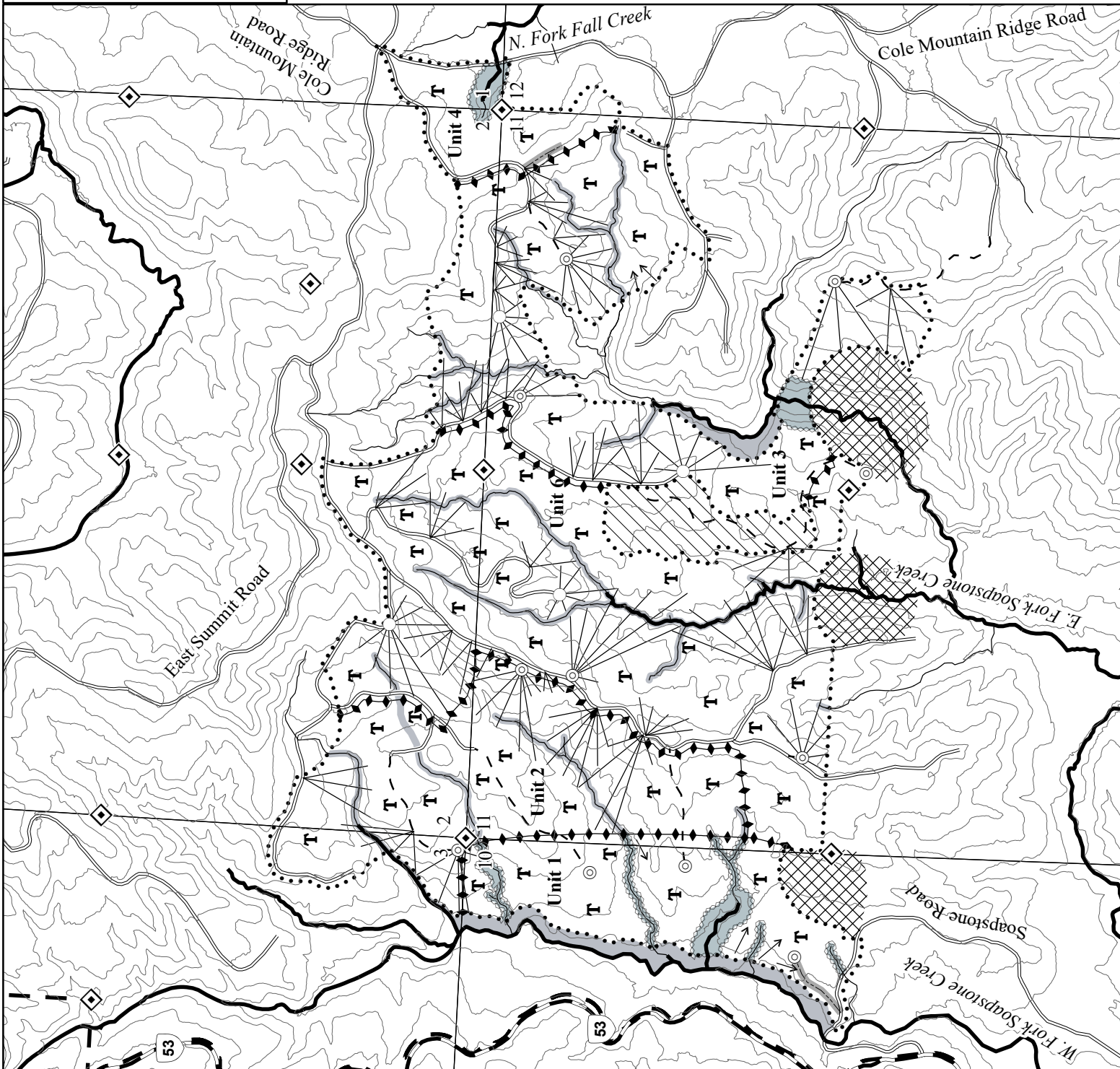
OF TIMBER SALE CONTRACT
NO. AT-341-2021-W00625-01
EAST SUMMIT COMBINATION
PORTIONS OF SECTIONS 1, 2, 3,
10, 11, AND 12 OF T4N, R9W, W.M.,
CLATSOP COUNTY, OREGON



Logging Breakdown	Tractor	Cable	Acres
Unit 1 (MC)	97%	3%	37
Unit 2 (PC)	64%	36%	67
Unit 3 (PC)	53%	47%	79
Unit 4 (MC)	100%	0%	14
Unit 5 (R/W)	100%	0%	4
Unit 6 (PC)	61%	39%	118
Total	66%	34%	319

Legend

- Ownership Boundary
- Timber Sale Boundary
- Area Boundary
- Paved Road
- Surfaced Road
- New Road Construction - Surfaced
- New Road Construction - Unsurfaced
- New Landing
- Existing Landing
- Type "F" Stream
- Type "N" Stream
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Reforestation Area
- Operationally Restricted Area
- Cable Based Yarding
- Ground Based Yarding
- Survey Monument
- Line Pull



LOGGING PLAN MAP

OF TIMBER SALE CONTRACT
NO. AT-341-2021-W00625-01
EAST SUMMIT COMBINATION
PORTIONS OF SECTIONS 1, 2, 3,
10, 11, AND 12 OF T4N, R9W, W.M.,
CLATSOP COUNTY, OREGON



1 inch = 1,000 feet

Logging Breakdown	Tractor	Cable	Acres
Unit 1 (MC)	97%	3%	37
Unit 2 (PC)	64%	36%	67
Unit 3 (PC)	53%	47%	79
Unit 4 (MC)	100%	0%	14
Unit 5 (R/W)	100%	0%	4
Unit 6 (PC)	61%	39%	118
Total	66%	34%	319

Legend

- Ownership Boundary
- Timber Sale Boundary
- Area Boundary
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