



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Double Bypass
Sale TL-341-2019-037-

District: Tillamook

Date: April 11, 2018

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,037,971.60	\$85,958.40	\$1,123,930.00
		Project Work:	\$0.00
		Advertised Value:	\$1,123,930.00



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Timber Description

Location: Portions of Sections 10 & 15, T1S R7W W.M., Tillamook County, Oregon.

Stand Stocking: 60%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	14	0	95
Western Hemlock / Fir	17	0	95
Alder (Red)	13	0	95

Volume by Grade	2S	3S & 4S 6"-11"	8" - 9"	10" - 11"	12"+	6" - 7"	Total
Douglas - Fir	566	1,610	0	0	0	0	2,176
Western Hemlock / Fir	67	37	0	0	0	0	104
Alder (Red)	0	0	61	51	18	112	242
Total	633	1,647	61	51	18	112	2,522

Comments: Pond Values Used: February, 2018

Western Red Cedar and Other Cedars Stumpage Price = Pond Value – Logging Cost
 $\$1,650/\text{MBF} - \$300/\text{MBF} = \$1,350/\text{MBF}$

Pulp (Conifer and Hardwood) Price = $\$25/\text{MBF}$

SCALING COST ALLOWANCE = $\$5.00/\text{MBF}$

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

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

HAULING COST ALLOWANCE

Hauling cost equivalent to $\$780$ daily truck cost

Other Costs with No Profit and Risk Added:

Machine Cleaning: $\$1,000/\text{machine} \times 2 = \$2,000$

Slash piling and sorting (Cable): $\$5/\text{ac} \times 70 \text{ ac} = \350

Equipment move-in: Dump w/tilt trailer w/medium loader or excavator = $\$890$

Equipment move-in: Lowboy w/ Dozer = $\$1,000$

Non-project road #1 construction: $16+50 \text{ stations} \times \$175/\text{station} = \$2,890$

Non-project road #2 construction: $5+80 \text{ stations} \times \$175/\text{station} = \$1,015$

Non-project road #3 construction: $2+50 \text{ stations} \times \$175/\text{station} = \$440$

Landing construction (clearing and grubbing) = $\$3,000$

Relocate 4" stockpile at Clear Creek Pit = $\$2,000$

Pit-run for landings and approaches 450 yards @ $\$6/\text{yrd} = \$2,700$

Block unsurfaced roads (three non-project roads): $3 \times \$50 = \150

Heliport slash sorting: $4 \text{ hours} \times \$140/\text{hr} = \560

Ditch Cleaning and Bank Sluff Removal:

Mobilization: two times– dump truck w/ tilt bed & small excavator: $\$890 \times 2 = \$1,780$

Excavator (CAT 312 or equivalent): 60 hrs. @ $\$135/\text{hr} = \$8,100$

Dump truck: 60 hrs @ $\$90/\text{hr} = \$5,400$

TOTAL Other Costs no Profit and Risk added = $\$32,275$

ROAD MAINTENANCE:

Spot rocking: $25\text{cy}/\text{mmbf}/\text{mile} \times 2.522 \text{ MMBF} \times \$8.70/\text{cy} \times 12.1 \text{ miles}/2522 \text{ MBF} = \$2.63/\text{MBF}$

Interim Grading: $\$500/\text{mile} \times 12.1 \text{ miles} \times 1 \text{ times}/2522 \text{ MBF} = \$2.40/\text{MBF}$

Final Maintenance Grading: $\$1,500/\text{mile} \times 12.1 \text{ miles}/2522 \text{ MBF} = \$7.20/\text{MBF}$

Final Maintenance Compaction: $\$950/\text{mile} \times 4 \text{ miles}/2522 \text{ MBF} = \$1.51/\text{MBF}$

Total Road Maintenance: $\$13.74/\text{MBF}$



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Logging Conditions

Combination#: 1

Logging System:	Cable: Medium Tower >40 - <70	Process:	Harvester Head Delimbing
yarding distance:	Medium (800 ft)	downhill yarding:	No
tree size:	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF		
loads / day:	9	bd. ft / load:	3800
cost / mbf:	\$227.50		
machines:	Log Loader (A) Forwarder Harvester Tower Yarder (Medium)		

Combination#: 2	Douglas - Fir	15.00%
	Western Hemlock / Fir	15.00%
	Alder (Red)	15.00%

Logging System:	Cable: Medium Tower >40 - <70	Process:	Harvester Head Delimbing
yarding distance:	Long (1,500 ft)	downhill yarding:	Yes
tree size:	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF		
loads / day:	5	bd. ft / load:	3800
cost / mbf:	\$511.87		
machines:	Log Loader (A) Forwarder Harvester Tower Yarder (Medium)		

Combination#: 3	Douglas - Fir	10.00%
	Western Hemlock / Fir	10.00%
	Alder (Red)	10.00%

Logging System:	Shovel	Process:	Harvester Head Delimbing
yarding distance:	Short (400 ft)	downhill yarding:	No
tree size:	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF		
loads / day:	20	bd. ft / load:	3800
cost / mbf:	\$70.32		
machines:	Forwarder Harvester		

Combination#: 4	Douglas - Fir	75.00%
	Western Hemlock / Fir	75.00%
	Alder (Red)	75.00%

Logging System:	Cable: Small Tower <=40	Process:	Harvester Head Delimbing
yarding distance:	Short (400 ft)	downhill yarding:	No
tree size:	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF		
loads / day:	9	bd. ft / load:	3800
cost / mbf:	\$215.80		

machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Small)



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Logging Costs

Operating Seasons: 2.00	Profit Risk: 10%
Project Costs: \$0.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$32,275.00

Miles of Road

Road Maintenance: \$13.74

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	3.7
Western Hemlock / Fir	\$0.00	3.0	4.0
Alder (Red)	\$0.00	3.0	3.3



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling / Brand & Paint	Other	Total
Douglas - Fir									
\$245.66	\$14.43	\$3.48	\$73.78	\$0.00	\$33.74	\$0.00	\$2.00	\$12.80	\$385.89
Western Hemlock / Fir									
\$245.66	\$14.43	\$3.48	\$68.25	\$0.00	\$33.18	\$0.00	\$2.00	\$12.80	\$379.80
Alder (Red)									
\$245.66	\$14.43	\$3.48	\$82.73	\$0.00	\$34.63	\$0.00	\$2.00	\$12.80	\$395.73

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$846.92	\$461.03	\$0.00
Western Hemlock / Fir	\$0.00	\$714.13	\$334.33	\$0.00
Alder (Red)	\$0.00	\$750.93	\$355.20	\$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
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,176	\$461.03	\$1,003,201.28
Western Hemlock / Fir	104	\$334.33	\$34,770.32
Alder (Red)	242	\$355.20	\$85,958.40

Gross Timber Sale Value

Recovery: \$1,123,930.00

Prepared By: Jonah Horn

Phone: 503-842-2545



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT *Double Bypass*

1. Type of Sale

Regeneration harvest

2. Legal Description

Portions of Sections 10 and 15, T1S, R7W W.M., Tillamook County, Oregon.

3. Sale Acreage

Sale acreage was determined by GPS and orthophotographs along with GIS.

	ACRES	
	<u>Gross</u>	<u>Net</u>
Area 1 (Clearcut)	119	86

Gross Acres

Area within the Timber Sale Boundary signs

Net acres

Used for calculating the advertised volume.

Gross acres, less green tree retention, roads, Non-required thinning areas, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. Cruising Procedures

A. Cruise Method

The timber sale area was cruised using variable plot sampling. A total of 27 plots were cruised with some plots and cruise lines on a 350' by 350' grid. In other portions a grid of 350' x 500' was used due to harvest unit edges and shape. Cruise lines were aligned on the same azimuth to provide uniform coverage.

All conifers 8" DBH and greater containing 20 board feet and all hardwoods 10" DBH and greater containing 30 board feet were recorded on all plots. Species, DBH (to the nearest inch), merchantable bole length (to the nearest foot), form factor, and defect were recorded for all trees. Merchantable heights were recorded to 6" and 7" outside bark for conifers and hardwoods, respectively.

B. Plot size

Plot size BAF used was 40. Point of tree observation was 4.0'.

C. Grading System

All trees were graded according to Columbia River Log Scaling and Grading Rules. Log lengths favored 40' lengths.

5. **Computation Procedure**

Plot data was entered into SuperAce for computation of basal area, advertised volume, volume summary, log stock table, and stand table for each species. Cruise volumes were grown forward to 2018 and net sale acreage was used for calculation.

Cruise Statistics (Board Foot Volumes)			
Area	Number of Plots	SE (%)	CV (%)
1	27	11.1	56.6

6. **Hidden Defect and Breakage**

A 1% reduction was applied to conifers and a 2% reduction to hardwood volumes for hidden defect and breakage.

7. **Timber Description**

The unit is comprised of Douglas-fir with a minor component of red alder and western hemlock scattered throughout the area. There has been no previous management.

Burn History: A small portion of the sale area was burned in 1933 and completely burned in 1939.

Reforestation: Planted between 1961 and 1964.

Forest Health: The alder was aerially sprayed in the 1970's resulting in short boles and multiple tops. Douglas-fir is impacted by Swiss needle cast with slowed growth and poor crown ratios.

Area	Species	DBH	Merchantable Bole Height (feet)	Merchantable top (inches inside bark)
1	Red Alder	13	34	6
	Douglas-fir	14	64	5
	Western hemlock	17	74	5

8. **Cruiser /Dates**

ODF staff/2016.

9. **Revenue Distribution**

FDF: 100%

Tax Code: 902

Deed Numbers: 161 - 100%

10. Attachments

Stand Table

Volume Summaries

Log Stock Tables

Logging Plan Map

11. Stand and Log Stock Tables Species Key

DF – Douglas-fir

RA – Red alder

WH – Western hemlock

FI	TSTNDSUM															Stand Table Summary									
																Project 773									
TT1S RR7W S15 TSALE																TT1S RR7W S15 TSAL									
Twp		Rge	Sec	Tract	Type			Acres		Plots	Sample Trees			Page: 1											
T1S		R7W	15	AREA1	SALE			86.00		27	153			Date: 04/23/2011											
														Time: 10:13:34AM											
S Spc	T	Sample		FF	Ht	Trees/ Acre	BA/	Logs	Average Log		Tons/ Acre	Net	Net	Totals											
		DBH	Trees	16'	Tot		Acre	Acre	Acre	Net		Net	Cu.Ft.	Bd.Ft.	Tons	Cunits	MBF								
DF		8		80	64	16.669	6.11	17.41	7.4	35.4	3.65	128	616	314	110	53									
DF		9		74	77	9.878	4.58	13.75	7.9	35.4	3.09	108	487	266	93	42									
DF		10		84	117	13.335	7.64	25.07	9.9	46.0	7.05	247	1,152	606	213	99									
DF		11		85	98	33.063	22.91	62.15	11.3	47.6	20.07	704	2,956	1,726	606	254									
DF		12		86	96	12.965	10.69	25.15	13.7	56.9	9.85	345	1,431	847	297	123									
DF		13		84	113	23.672	22.91	47.80	17.7	72.1	24.16	848	3,444	2,078	729	296									
DF		14		83	109	8.165	9.16	17.05	18.9	68.9	9.18	322	1,175	789	277	101									
DF		15		88	110	9.483	12.22	19.81	23.3	101.4	13.17	462	2,007	1,132	397	173									
DF		16		87	114	8.335	12.22	19.58	24.9	103.4	13.90	488	2,025	1,195	419	174									
DF		17		88	108	8.306	13.74	20.24	26.1	108.3	15.07	529	2,192	1,296	455	189									
DF		18		88	110	4.939	9.16	12.04	31.1	125.9	10.65	374	1,516	916	321	130									
DF		19		91	110	2.216	4.58	5.40	33.9	133.7	5.22	183	722	449	157	62									
DF		20		89	116	3.334	7.64	9.05	35.1	144.8	9.06	318	1,311	779	273	113									
DF		22		88	119	1.814	4.58	5.68	33.3	151.2	5.39	189	859	464	163	74									
DF		23		92	112	.551	1.53	1.73	36.4	181.4	1.79	63	313	154	54	27									
DF		25		85	124	.926	3.05	2.90	46.9	212.2	3.88	136	616	334	117	53									
DF		26		92	119	.427	1.53	1.34	51.8	261.2	1.97	69	349	170	60	30									
DF		27		86	117	.395	1.53	.82	75.9	331.9	1.78	63	274	153	54	24									
DF		28		88	122	1.098	4.58	3.44	59.8	276.9	5.86	206	952	504	177	82									
DF		32		98	81	.278	1.53	.58	85.5	468.0	1.41	50	271	122	43	23									
DF		34		78	134	.245	1.53	.77	90.2	355.5	1.97	69	273	170	59	23									
DF		36		87	119	.218	1.53	.68	95.4	504.3	1.85	65	344	159	56	30									
DF		38		87	121	.195	1.53	.61	112.3	558.7	1.95	69	341	168	59	29									
DF		Totals		84	101	160.506	166.45	313.05	19.3	81.9	171.98	6,035	25,627	14,791	5,190	2,204									
RA		8		82	53	4.034	1.50	4.03	14.6	69.2	1.66	59	279	142	51	24									
RA		9		68	30	12.749	6.02	3.26	5.9	22.3	.53	19	72	45	17	6									
RA		10		72	35	7.745	4.51	5.27	8.0	27.8	1.17	42	147	101	36	13									
RA		11		65	58	4.267	3.01	2.18	6.6	22.3	.39	14	48	34	12	4									
RA		12		81	83	7.172	6.02	10.99	14.5	57.5	4.35	159	632	374	137	54									
RA		13		81	65	4.583	4.51	7.80	14.0	46.7	2.99	109	365	257	94	31									
RA		14		74	76	6.586	7.52	6.73	16.1	62.3	2.97	108	419	256	93	36									
RA		16		83	84	1.147	1.50	2.34	16.4	72.3	1.05	38	170	90	33	15									
RA		17		76	65	4.034	6.02	6.18	16.9	57.5	2.87	105	355	247	90	31									
RA		19		83	67	.797	1.50	.81	47.8	155.8	1.07	39	127	92	33	11									
RA		20		58	59	.715	1.50	.73	12.6	33.4	.25	9	24	22	8	2									
RA		22		50	51	.585	1.50	.60	7.3	22.3	.12	4	13	10	4	1									
RA		23		52	89	.533	1.50	.54	32.5	77.9	.49	18	42	42	15	4									
RA		25		79	74	.896	3.01	.46	62.4	200.3	.78	29	92	67	25	8									
RA		26		67	51	.413	1.50	.42	55.5	66.8	.64	23	28	55	20	2									
RA		Totals		74	56	56.258	51.14	52.34	14.8	53.7	21.33	776	2,813	1,834	667	242									
OC		17		94	43	1.977	3.05	1.98	67.9	258.5	3.36	134	511	289	115	44									
OC		19		86	58	.781	1.52	.78	86.0	327.2	1.68	67	255	144	58	22									
OC		23		86	64	.523	1.52	.52	128.4	488.8	1.68	67	255	144	58	22									
OC		28		85	52	.347	1.52	.35	193.4	736.2	1.68	67	255	144	58	22									
OC		32		89	108	.281	1.52	.28	238.8	908.9	1.68	67	255	144	58	22									
OC		Totals		90	54	3.908	9.15	3.91	103.0	392.2	10.07	403	1,533	866	346	132									
WH		12		92	93	2.091	1.52	4.36	11.2	52.4	1.56	49	228	134	42	20									
WH		20		97	106	.701	1.52	1.46	47.0	209.6	2.20	69	306	189	59	26									
WH		22		94	122	.574	1.52	1.79	42.6	209.6	2.44	76	376	210	66	32									
WH		27		94	99	.374	1.52	.78	85.8	390.0	2.14	67	304	184	58	26									

FI		TSTNDSUM															Stand Table Summary																											
															Project															773														
TT1S RR7W S15 TSALE																														TT1S RR7W S15 TSAL														
Twp		Rge		Sec		Tract									Type		Acres		Plots		Sample Trees					Page:		2																
T1S		R7W		15		AREA1									SALE		86.00		27		153					Date:		04/23/2011																
																														Time:		10:13:34AM												
S Spc		T		Sample DBH		Av FF Ht Trees 16' Tot		Trees/ Acre		BA/ Acre		Logs Acre		Average Log Net Net Cu.Ft. Bd.Ft.		Tons/ Acre		Net Cu.Ft. Acre		Net Bd.Ft. Acre		T o t a l s																						
																						Tons		Cunits		MBF																		
WH				Totals		93 100		3.740 6.10		8.39		31.1 144.7		8.35 261		1,215		718 224		104																								
Totals						82 89		224.412 232.83		377.70		19.8 82.6		211.73 7474		31,188		18,209 6,427		2,682																								

FI TLOGSTVB				Log Stock Table - MBF Project: 773															
TT1S RR7W S15 TSALE										TT1S RR7W S15 TSAL									
Twp	Rge	Sec	Tract	Type		Acres	Plots	Sample Trees		Page	2								
T1S	R7W	15	AREA1	SALE		86.00	27	153		Date	4/23/2018								
										Time	10:14:24AM								
S Spp	So	Gr	Log	Gross MBF	% Def	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
RA	H	4	23	3		3	1.2		3										
RA	H	4	24	11		11	4.4		11										
RA	H	4	26	18		18	7.6		5	13									
RA	H	4	27	2		2	.9		2										
RA	H	4	28	3		3	1.2		3										
RA	H	4	31	5		5	2.1		5										
RA	H	4	35	5		5	2.0		5										
RA	H	4	36	2		2	1.0		2										
RA	H	4	38	10		10	4.3			10									
RA	H	4	40	56		56	23.0		26	29									
RA	Totals			242		242	9.0		113	61	51	18							
OC	*	*	32	132		132	100.0		132										
OC	Totals			132		132	4.9		132										
WH	CO	2	40	69		69	65.7						21	47					
WH	CO	3	40	30		30	29.0		23	7									
WH	CO	4	17	1		1	1.1	1											
WH	CO	4	18	4		4	4.2	4											
WH	Totals			104		104	3.9	6	23	7			21	47					
Total All Species				2,685		2,682	100.0	368	697	514	419	294	140	151	57	41			

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT 773				DATE	4/23/2018	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T1S	R7W	15	AREA1	SALE	86.00	27	153	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
PLOTS		TREES		TREES		TREES				
TOTAL		27		153		5.7				
CRUISE		27		153		5.7		19,854		.8
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
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		109	163.5	13.5	64	44.0	161.5	22,987	22,963	5,512
R ALDER		34	59.2	12.5	34	14.3	50.4	2,488	2,488	717
OTH CONF-1		4	2.3	21.8	40	1.3	5.9			
OTH CONF-2		2	1.9	16.9	62	0.7	3.0			
WHEMLOCK		4	4.0	16.5	74	1.5	5.9	1,075	1,075	238
TOTAL		153	230.9	13.4	56	61.9	226.7	26,550	26,525	6,467
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		106.4	10.2	214	238	263				
R ALDER		103.8	17.8	51	63	74				
OTH CONF-1										
OTH CONF-2										
WHEMLOCK		60.5	34.6	271	415	559				
TOTAL		121.6	9.8	176	195	214	590	148	66	
CL:	68.1 %	COEFF		SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15	
DOUG FIR		95.6	9.1	51	56	61				
R ALDER		97.7	16.7	16	19	22				
OTH CONF-1										
OTH CONF-2										
WHEMLOCK		60.6	34.6	60	92	124				
TOTAL		108.3	8.8	42	46	50	469	117	52	
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		77.3	15.2	139	163	188				
R ALDER		165.2	32.4	40	59	78				
OTH CONF-1		280.0	54.9	1	2	4				
OTH CONF-2		363.0	71.2	1	2	3				
WHEMLOCK		327.2	64.1	1	4	7				
TOTAL		48.2	9.4	209	231	253	96	24	11	
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		66.1	13.0	141	161	182				
R ALDER		147.1	28.8	36	50	65				
OTH CONF-1		244.4	47.9	3	6	9				
OTH CONF-2		360.3	70.6	1	3	5				
WHEMLOCK		307.8	60.3	2	6	10				
TOTAL		36.0	7.1	211	227	243	54	13	6	

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	773				
								DATE	4/23/2018
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
T1S	R7W	15	AREA1	SALE	86.00	27	153	S	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
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		71.3	14.0	19,753	22,963	26,173			
R ALDER		210.6	41.3	1,461	2,488	3,515			
OTH CONF-1									
OTH CONF-2									
WHEMLOCK		311.7	61.1	418	1,075	1,732			
TOTAL		56.6	11.1	23,583	26,525	29,468	133	33	15
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR		69.0	13.5	4,766	5,511	6,256			
R ALDER		196.6	38.5	440	716	993			
OTH CONF-1									
OTH CONF-2									
WHEMLOCK		315.1	61.8	91	238	386			
TOTAL		51.4	10.1	5,814	6,466	7,118	110	27	12



"STEWARDSHIP IN FORESTRY"

WRITTEN PLAN

SALE NAME: Double Bypass 341-19 -037

PROTECTED WATERS: Tributary of Michael Creek, a medium Type N stream.

Definitions: Stream buffer: at least 100 feet horizontal distance from the high water mark on each side of the stream.

LOCATION: Section 15, T1S, R7W, W.M., Tillamook County, Oregon.

Activity: Cable yarding across medium Type N stream.

Protection measures:

- All trees in the RMA are reserved from cutting.
- Cable yarding lines will be pulled out of the RMA prior to rigging the next yarding road.
- If trees or logs fall or slide into a stream channel they will not be limbed, bucked, or removed without prior approval from ODF.
- Cable lines will be an average of at least 150 feet apart where they extend over or through the Type N stream and buffer.
- Full suspension yarding is required when yarding across Medium Type N Streams.

Date: April 26th, 2018

Prepared by: Jonah Horn, Contract Administrator



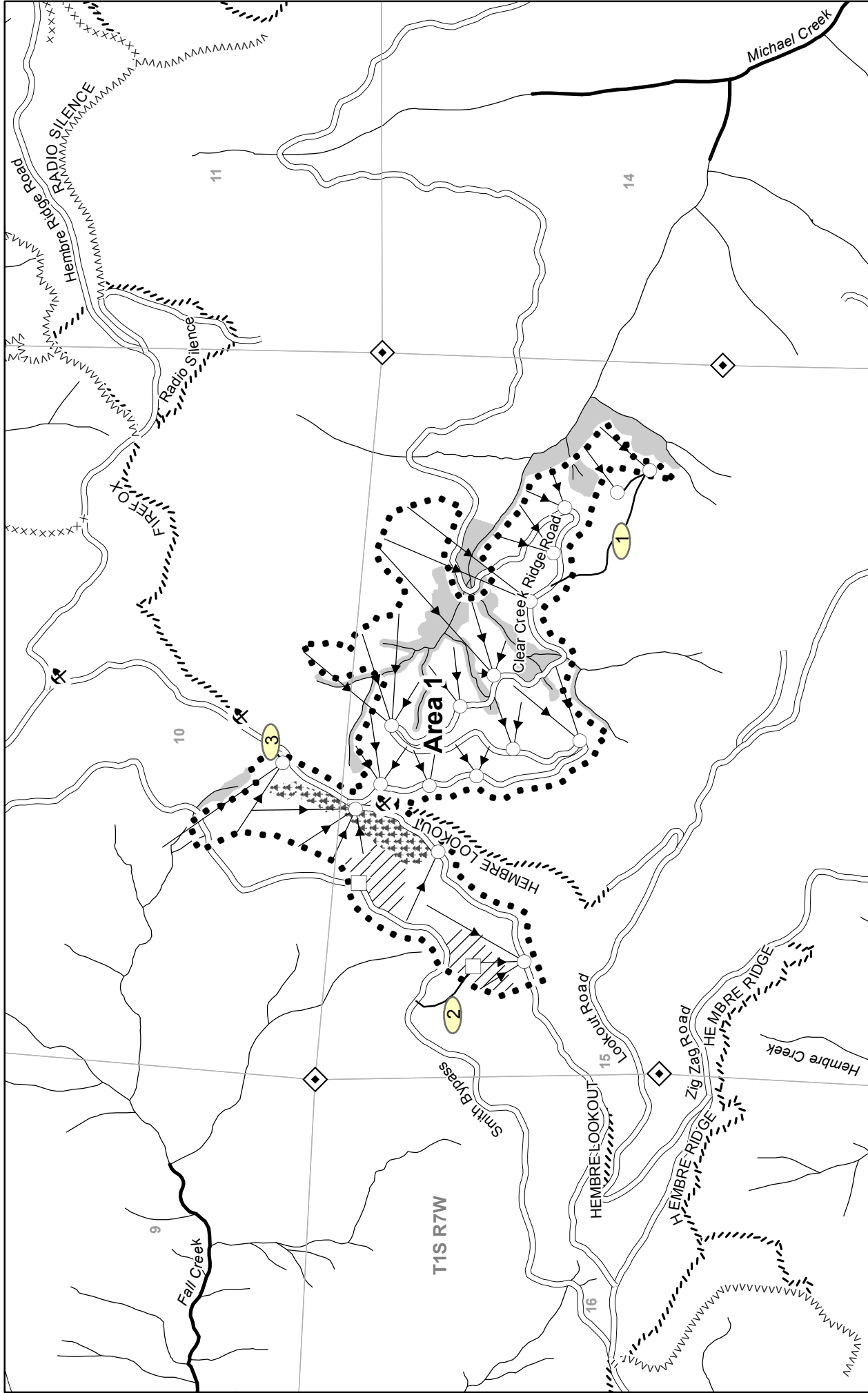
"STEWARDSHIP IN FORESTRY"

Double Bypass

Volume Summary

Area 1-Modified Clearcut				
773		86 acres		
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	25.627	2203.9	1%	2182
Hemlock	1.215	104	1%	103
Spruce	0.000	0	1%	0
Noble Fir	0.000	0	1%	0
Alder	2.813	241.9	2%	237
TOTAL	29.655	2550		2522

TOTAL SALE VOLUME			86	acres
SPECIES	Cruised Net (MBF)		Net Sale (MBF)	
Douglas-fir	2204		2182	
Hemlock	104		103	
Spruce	0		0	
Noble Fir	0		0	
Red Alder	242		237	
TOTAL	2550		2522	



Type of Operation	Area	Gross Net
1 Modified Clearcut	119	86
Total	119	86

LOGGING PLAN
 Timber Sale Contract No. 341-19-37
 DOUBLE BYPASS
 Portions of Sections 10 & 15
 T1S, R7W, W.M.,
 Tillamook County, Oregon

1,000 0 1,000 Feet

Tillamook District GIS
 4/23/2018

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