



TIMBER NOTICE OF SALE

SALE NAME: DABBLER

AGREEMENT NO: 30-106156

AUCTION: October 31, 2024 starting at 10:00 a.m., **COUNTY:** Clark
Pacific Cascade Region Office, Castle Rock, WA

SALE LOCATION: Sale located approximately 28 miles east of Woodland, WA

**PRODUCTS SOLD
AND SALE AREA:**

All timber, except leave trees bound by yellow "Leave Tree Area" tags, leave trees marked with blue paint, all down timber existing 5 years prior to the day of sale, and snags bound by the following:

Unit 1, pink flagging, white "Timber Sale Boundary Tags" with pink flagging, pink flagging, timber type change, the S-8050, S-8054 and the S-8054A road;

Unit 2, white "Timber Sale Boundary" tags with pink flagging and the S-8054 road;

Unit 3, white "Timber Sale Boundary" tags with pink flagging, pink flag line and timber type change;

Unit 4 and 5 ROW, orange "Right of Way" tags;

All forest products above located on part(s) of Sections 35 and 36 all in Township 6 North, Range 4 East, W.M., containing 140 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: BVC-SFIFM-018227)

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	23.4	10	6,041			324	1,308		3,275	1,020	99	15
Hemlock	18.1		2,529						1,828	543	120	38
Maple	15.3		32						12	6	14	
Redcedar	20.8		17							15	2	
Red alder	10.6		2								2	
Sale Total			8,621									

MINIMUM BID: \$3,142,000.00

BID METHOD: Sealed Bids

**PERFORMANCE
SECURITY:**

\$100,000.00

SALE TYPE: Lump Sum

EXPIRATION DATE: October 31, 2026

ALLOCATION: Export Restricted

BID DEPOSIT: \$314,200.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.



TIMBER NOTICE OF SALE

HARVEST METHOD: Cable, Shovel, Track skidder, and Cable-Assist. This sale is estimated to be 75 percent ground based and 25 percent cable harvest systems. Ground based harvesting is restricted to sustained slopes of 45 percent or less, self-leveling equipment to 55 percent or less and cable-assist to 75 percent. Yarding will not be permitted from October 1 to April 30 unless authorized in writing by the Contract Administrator.

ROADS: 36.67 stations of required reconstruction. 16.22 stations of optional construction. 37.80 stations of optional reconstruction. 254.49 stations of required prehaul maintenance. 22.10 stations of abandonment.

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the S-8054A Pit in Section 36, T6N, R4E W.M. on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source.

Rock used in accordance with the quantities on the ROCK LIST may be obtained from any commercial source at the Purchaser's expense. Rock sources are subject to written approval by the Contract Administrator before their use. The hauling of forest products will not be permitted from October 1 to April 30 unless authorized in writing by the Contract Administrator.

ACREAGE DETERMINATION

CRUISE METHOD: The sale acres were determined by GPS delineation. Cruise was completed using variable plot cruise methods.

FEES: \$146,557.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

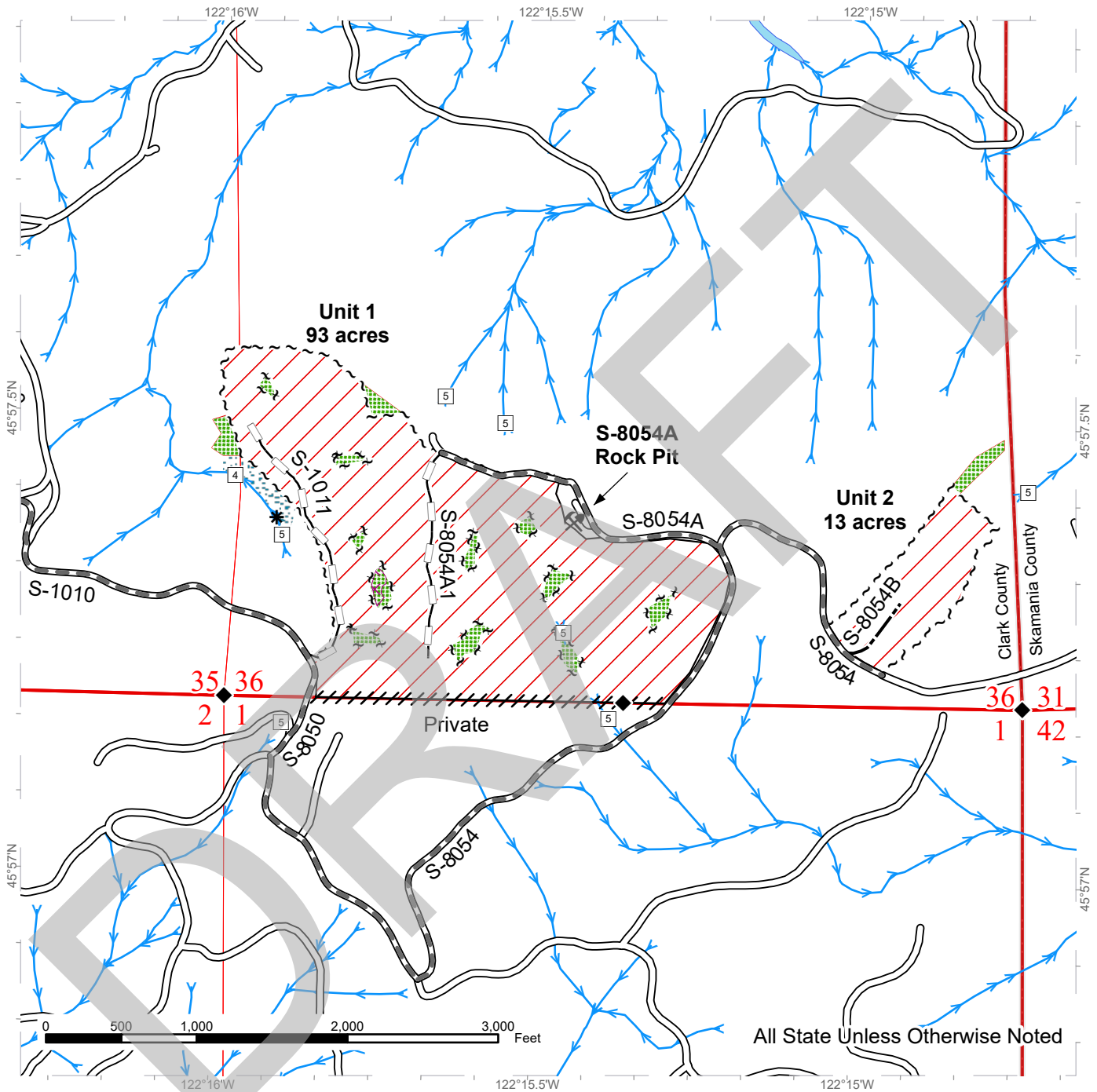
SPECIAL REMARKS: This sale is estimated to contain 330 MBF of 3P Douglas-fir, 1,323 MBF of SM Douglas-fir, 1,263 MBF of HQ Douglas-fir 2 Saw and better, 178 MBF of HQ Douglas-fir 3 Saw and 86 MBF of Pole quality Douglas-fir. See Cruise for further details.

Purchaser must obtain Overloaded Permit from US Forest Service to drive overloaded vehicles over USFS 54 Canyon Creek Bridge. Overloaded vehicles are considered to be anything over 80,000 pounds.

TIMBER SALE MAP

SALE NAME: DABBLER
AGREEMENT #: 30-106156
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1400-1920

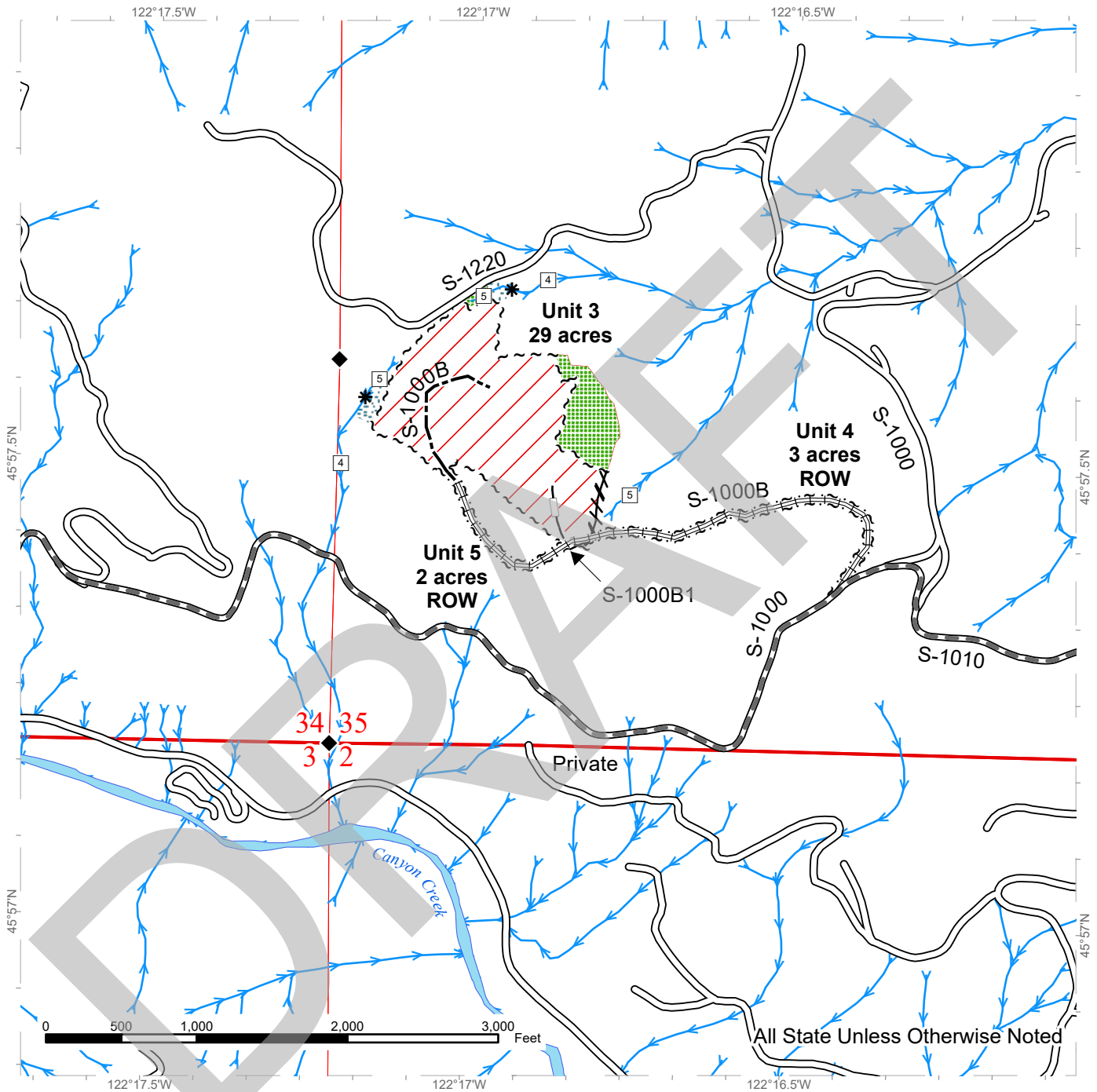


Variable Retention Harvest	Timber Type Change	Streams
Leave Tree Area	Existing Roads	Stream Type
Riparian Mgt Zone	Required Pre-Haul Maintenance	Stream Type Break
Potentially Unstable Slopes	Optional Construction	Rock Pit
Sale Boundary Tags	Optional Reconstruction	
Leave Tree Tags		
Flag Line		

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All State Unless Otherwise Noted

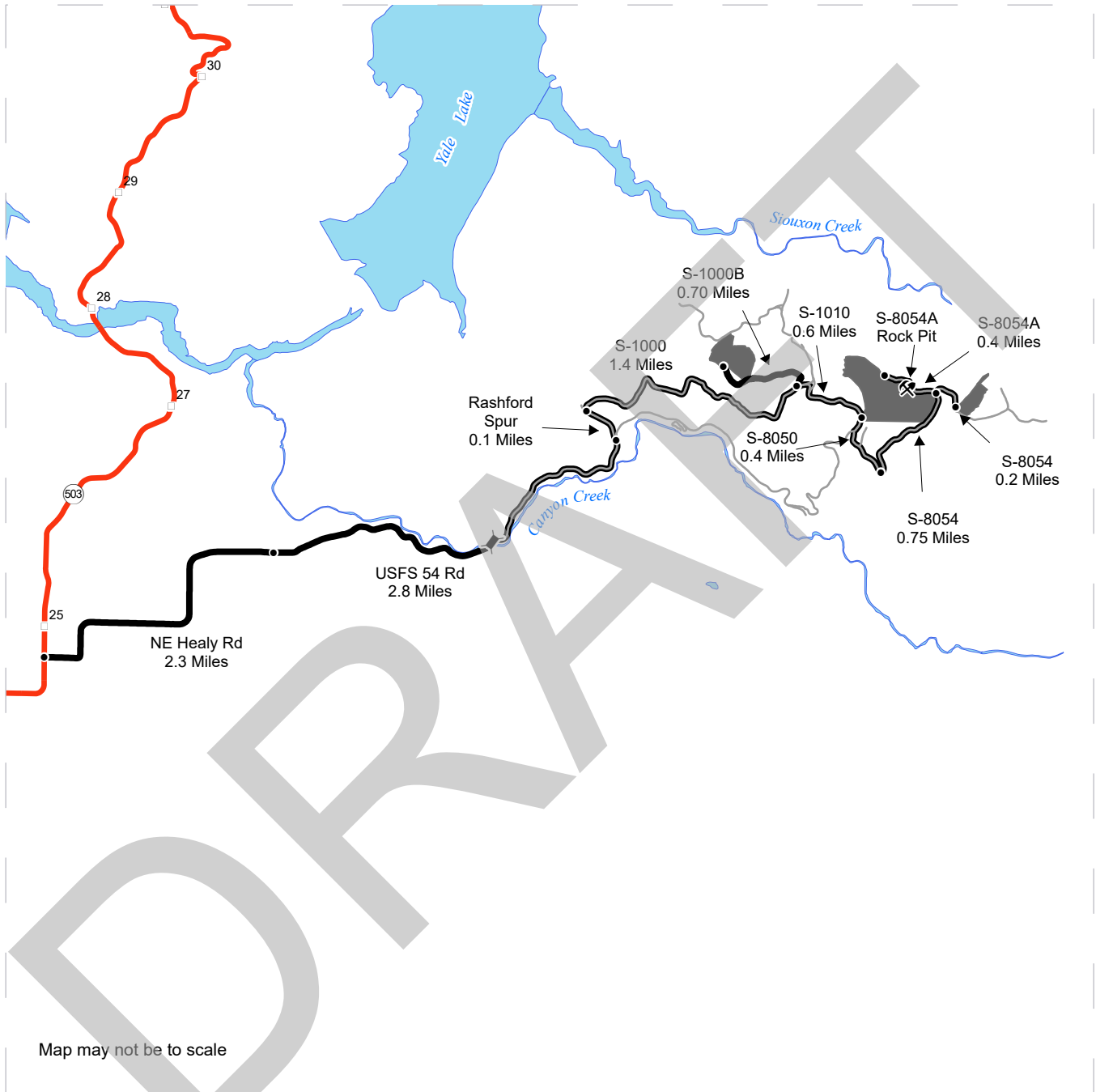
Variable Retention Harvest	Existing Roads	Streams
Leave Tree Area	Required Pre-Haul Maintenance	Stream Type
Riparian Mgt Zone	Required Reconstruction	Stream Type Break
Sale Boundary Tags	Optional Construction	
Right of Way Tags	Optional Reconstruction	
Flag Line		



DRIVING MAP

SALE NAME: DABBLER
AGREEMENT#: None
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1400-1920



Map may not be to scale

<ul style="list-style-type: none"> Timber Sale Unit Highway Haul Route Other Road Bridge Distance Indicator(s) Rock Pit 	<p><u>DRIVING DIRECTIONS:</u></p> <p>From Highway 503, turn east onto NE Healy Rd. Continue on NE Healy Rd for 2.3 miles. NE Healy Rd becomes USFS 54 Rd. Travel on USFS 54 Rd for 2.8 miles. Turn left (North) onto the Rashford Spur and follow for 0.1 miles. Turn right (Northeast) onto the S-1000 and follow for 1.4 miles to Unit 3. Turn right (Southeast) onto the S-1010 and continue for 0.6 miles to the S-8050. Continue on the S-8050 (South) and follow for 0.4 miles. Turn left (North) onto the S-8054 and follow for 0.75 miles to Unit 1. Turn left (East) onto the S-8054A road and drive for 0.15 miles to the S-8054A Rock Pit. Turn right (East) onto the S-8054A road and follow for 0.2 miles to Unit 2.</p>
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Timber Sale Cruise Report Dabbler

Sale Name: DABBLER

Sale Type: LUMP SUM

Region: PACIFIC CASC

District: YACOLT

Lead Cruiser: Dylan Buchanan

Other Cruisers: B. Warnstadt, A. Douglas, Matthew Llobet

Cruise Narrative:

Location: The DABBLER timber sale is located just south of Yale Lake approximately 6 miles northeast of Chelatchie WA. It can be accessed by taking USFS 54 RD to the S-1000 RD and S-8054 RD.

Cruise Design: Units 1,2, and 3 were cruised using variable radius plots with a 54.44 BAF sighted at 4.5 feet. Unit 1 had a cruise to count plot ratio of 1:2. Unit 2 had all plots measured. Unit 3 had a cruise to count plot ratio of 1:1. Unit 4 ROW was cruised using 1/20 acre fixed plots and Unit 5 ROW was cruised with a 33.61 BAF sighted at 4.5 feet. All plots were measured in both ROWs. Conifers were cruised to 40 foot preferred log lengths and hardwoods were cruised to 30 foot preferred lengths. Boles were cruised to an estimated break point of 40% of the diameter at 16 feet.

Timber Quality: This sale is DF dominant with a secondary component of WH. There is a small amount of MA and RC with a trace of RA. Timber quality in Units 1, 2, and 3 was high across the sale. Most trees are large and have good form. DABBLER's DF carries an average diameter of 23.4 inches at 4.5 feet. There is a large amount of HQ A and HQ B sorts with abundant SM and some 3P grade logs present. DF bole lengths in these 3 units average between 99-107 feet. A potential for large poles is definitely present here. WH has an average DBH of 18.1 inches and looks good. WH has some rot present from old bear damage. Other average diameters for this sale include: MA 15.3", RC 20.8", and RA 10.6". A very small amount of conks on live trees were observed. Dead standing wood is present as well as some gaps in the canopy here and there. Some spike knots were seen and small epicormic branching is persistent. There are also some small pockets of root disease throughout.

Unit 4 ROW consists of mostly small 4saw and UT logs with a few scattered larger DF.

Unit 5 ROW is mostly small 10-11" DF and RA. Some black knot observed in RA.

Logging and Stand Conditions: DABBLER is estimated to be 77% ground based logging and 23% uphill cable logging. Stand conditions are nice, light brush, little windfall, and no draws.

General Remarks:

Timber Sale Notice Volume (MBF)

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	23.4	10.5		6,040	324	1,308	3,275	1,020	99	15
WH	18.1			2,529			1,828	543	120	38
MA	15.3			31			12	6	14	
RC	20.8			17				15	2	
RA	10.6			2					2	
ALL	20.9	10.4		8,618	324	1,308	5,114	1,583	236	53

Timber Sale Notice Weight (tons)

Sp	Tons by Grade						
	All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	37,963	1,683	7,548	19,699	8,099	838	95
WH	19,383			12,833	5,046	1,203	301
MA	292			87	49	156	
RC	123				108	15	
RA	18					18	
ALL	57,779	1,683	7,548	32,618	13,303	2,230	397

Timber Sale Overall Cruise Statistics

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
290.4	3.1	211.0	1.5	61,555	3.5

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
DABBLER U1	B1C: VR, 1 BAF (54.44) Measure/ Count Plots, Sighting Ht = 4.5 ft	93.0	102.2	97	37	0
DABBLER U2	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	13.0	14.2	14	14	0
DABBLER U3	B1C: VR, 1 BAF (54.44) Measure/ Count Plots, Sighting Ht = 4.5 ft	29.0	34.6	33	17	0
DABBLER ROW U4	FX: FR plots (20 tree / acre expansion)	3.0	3.4	7	7	0
DABBLER ROW U5	B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	2.0	1.6	3	3	0

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
All		140.0	156.0	154	78	0

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	16.2	39	12,084	11,826	2.1	9,671.3	1,655.6
DF	LIVE	2 SAW	HQ-A	15.7	40	3,030	3,008	0.7	2,589.9	421.1
DF	LIVE	2 SAW	HQ-B	16.3	40	6,091	5,945	2.4	5,146.4	832.3
DF	LIVE	2 SAW	Pole	16.1	40	2,621	2,612	0.3	2,291.6	365.7
DF	LIVE	3 PEELER	Domestic	25.7	40	2,250	2,250	0.0	1,635.5	314.9
DF	LIVE	3 PEELER	HQ-A	24.5	40	62	62	0.0	47.1	8.6
DF	LIVE	3 SAW	Domestic	8.9	37	5,526	5,415	2.0	6,264.0	758.0
DF	LIVE	3 SAW	HQ-B	10.9	40	1,274	1,266	0.6	1,241.4	177.3
DF	LIVE	3 SAW	Pole	10.7	39	602	602	0.0	593.9	84.3
DF	LIVE	4 SAW	Domestic	6.0	27	679	671	1.2	797.3	94.0
DF	LIVE	4 SAW	Pole	8.5	18	32	32	0.0	40.9	4.5
DF	LIVE	CULL	Cull	9.5	7	438	0	100.0	0.0	0.0
DF	LIVE	SPECIAL MILL	HQ-A	19.6	40	9,409	9,344	0.7	7,547.9	1,308.2
DF	LIVE	UTILITY	Pulp	5.8	13	111	106	4.0	95.4	14.9
MA	LIVE	2 SAW	Domestic	12.5	30	99	82	16.6	86.5	11.5
MA	LIVE	3 SAW	Domestic	11.0	26	55	43	22.3	49.1	6.0
MA	LIVE	4 SAW	Domestic	7.2	28	108	98	8.8	156.3	13.7
MA	LIVE	CULL	Cull	5.0	12	4	0	100.0	0.0	0.0
RA	LIVE	4 SAW	Domestic	5.3	36	12	11	11.7	18.0	1.5
RA	LIVE	CULL	Cull	5.0	1	0	0	100.0	0.0	0.0
RC	LIVE	3 SAW	Domestic	12.7	34	114	106	7.1	108.4	14.8
RC	LIVE	4 SAW	Domestic	7.0	20	14	14	0.0	15.1	1.9
WH	LIVE	2 SAW	Domestic	15.9	40	13,402	13,057	2.6	12,832.8	1,827.9
WH	LIVE	3 SAW	Domestic	9.2	37	3,952	3,878	1.9	5,046.1	542.9
WH	LIVE	4 SAW	Domestic	5.7	29	885	858	3.1	1,202.9	120.1
WH	LIVE	CULL	Cull	9.1	4	191	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	6.8	20	270	269	0.2	301.4	37.7

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 7	LIVE	Pulp	5.2	13	98	0.0	82.7	13.7
DF	5 - 7	LIVE	Cull	5.4	4	0	100.0	0.0	0.0

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 7	LIVE	Domestic	6.4	32	1,775	1.6	2,153.5	248.5
DF	8 - 11	LIVE	Pulp	8.7	14	8	34.9	12.7	1.2
DF	8 - 11	LIVE	Cull	9.4	5	0	100.0	0.0	0.0
DF	8 - 11	LIVE	Domestic	9.8	36	4,288	2.0	4,883.4	600.4
DF	8 - 11	LIVE	Pole	10.1	32	550	0.0	554.8	77.0
DF	8 - 11	LIVE	HQ-B	10.9	40	1,266	0.6	1,241.4	177.3
DF	12 - 15	LIVE	Cull	13.5	23	0	100.0	0.0	0.0
DF	12 - 15	LIVE	Domestic	13.9	39	4,348	1.2	3,948.1	608.7
DF	12 - 15	LIVE	Pole	13.9	40	1,085	0.3	1,025.7	151.9
DF	12 - 15	LIVE	HQ-B	14.2	40	2,623	1.7	2,407.7	367.3
DF	12 - 15	LIVE	HQ-A	14.4	40	1,652	0.6	1,459.0	231.3
DF	16 - 19	LIVE	Pole	17.4	40	1,375	0.4	1,169.8	192.6
DF	16 - 19	LIVE	HQ-A	17.8	40	5,559	0.9	4,694.0	778.3
DF	16 - 19	LIVE	Domestic	17.9	40	4,619	1.7	3,609.7	646.7
DF	16 - 19	LIVE	HQ-B	17.9	40	1,370	3.8	1,225.0	191.8
DF	20+	LIVE	Pole	20.4	40	237	0.0	176.2	33.1
DF	20+	LIVE	HQ-A	21.7	40	5,202	0.5	4,031.9	728.3
DF	20+	LIVE	HQ-B	22.4	40	1,952	2.3	1,513.6	273.3
DF	20+	LIVE	Domestic	24.1	40	5,131	2.4	3,773.4	718.4
DF	20+	LIVE	Cull	25.5	9	0	100.0	0.0	0.0
MA	5 - 7	LIVE	Cull	5.0	12	0	100.0	0.0	0.0
MA	5 - 7	LIVE	Domestic	5.6	31	42	11.1	73.7	5.9
MA	8 - 11	LIVE	Domestic	10.2	28	99	14.3	131.6	13.8
MA	12 - 15	LIVE	Domestic	12.9	30	82	16.6	86.5	11.5
RA	5 - 7	LIVE	Cull	5.0	1	0	100.0	0.0	0.0
RA	5 - 7	LIVE	Domestic	5.3	37	11	11.7	18.0	1.5
RC	5 - 7	LIVE	Domestic	6.6	21	14	0.0	15.1	1.9
RC	8 - 11	LIVE	Domestic	11.2	38	60	5.4	66.2	8.5
RC	12 - 15	LIVE	Domestic	12.1	30	14	6.8	12.0	1.9
RC	16 - 19	LIVE	Domestic	17.2	30	31	10.1	30.3	4.4
WH	5 - 7	LIVE	Cull	5.5	5	0	100.0	0.0	0.0
WH	5 - 7	LIVE	Domestic	5.9	31	1,320	2.1	1,816.8	184.9
WH	5 - 7	LIVE	Pulp	6.0	17	96	0.6	122.6	13.4
WH	8 - 11	LIVE	Cull	9.0	5	0	100.0	0.0	0.0
WH	8 - 11	LIVE	Pulp	9.7	30	112	0.0	127.7	15.7
WH	8 - 11	LIVE	Domestic	9.8	35	3,379	2.1	4,381.5	473.1
WH	12 - 15	LIVE	Cull	14.0	5	0	100.0	0.0	0.0
WH	12 - 15	LIVE	Domestic	14.0	39	4,875	2.3	5,252.3	682.5

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	16 - 19	LIVE	Cull	17.7	8	0	100.0	0.0	0.0
WH	16 - 19	LIVE	Domestic	17.7	40	6,037	2.2	5,732.0	845.2
WH	20+	LIVE	Domestic	21.6	39	2,181	4.1	1,899.3	305.3
WH	20+	LIVE	Cull	22.2	6	0	100.0	0.0	0.0
WH	20+	LIVE	Pulp	22.3	40	61	0.0	51.1	8.5

DRAFT

Cruise Unit Report DABBLER U1

Unit Sale Notice Volume (MBF): DABBLER U1

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	23.6	10.5		4,517	194	907	2,566	774	68	9
WH	17.9			1,483			1,027	357	73	27
MA	15.3			14			6		8	
RC	22.1			12				10	1	
ALL	21.1	10.5		6,026	194	907	3,599	1,141	149	36

Unit Cruise Design: DABBLER U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	93.0	102.2	97	37	0

Unit Cruise Summary: DABBLER U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	150	374	3.9	2
WH	72	161	1.7	0
MA	2	3	0.0	0
RC	2	2	0.0	0
ALL	226	540	5.6	2

Unit Cruise Statistics: DABBLER U1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	209.9	63.3	6.4	231.4	21.9	1.8	48,574	67.0	6.7
WH	90.4	98.7	10.0	176.5	34.7	4.1	15,947	104.6	10.8
MA	1.7	562.7	57.1	87.3	6.6	4.6	147	562.7	57.3
RC	1.1	692.8	70.3	110.8	23.8	16.8	124	693.2	72.3
ALL	303.1	38.7	3.9	213.8	28.7	1.9	64,792	48.2	4.4

Unit Summary: DABBLER U1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	150	ALL	23.8	107	137	49,865	48,574	2.6	67.9	209.9	43.0	4,517.3
MA	LIVE	CUT	2	ALL	15.3	56	72	172	147	14.5	1.3	1.7	0.4	13.7
RC	LIVE	CUT	2	ALL	22.1	68	86	131	124	5.2	0.4	1.1	0.2	11.6
WH	LIVE	CUT	72	ALL	18.4	71	92	16,449	15,947	3.1	48.9	90.4	21.1	1,483.1
ALL	LIVE	CUT	226	ALL	21.6	91	117	66,617	64,792	2.7	118.5	303.1	64.8	6,025.7
ALL	ALL	ALL	226	ALL	21.6	91	117	66,617	64,792	2.7	118.5	303.1	64.8	6,025.7

Cruise Unit Report DABBLER U2

Unit Sale Notice Volume (MBF): DABBLER U2

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	24.0	12.0		504	24	178	216	80	5	
WH	19.2			259			171	75	5	9
ALL	21.6	12.0		763	24	178	387	155	11	9

Unit Cruise Design: DABBLER U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	13.0	14.2	14	14	0

Unit Cruise Summary: DABBLER U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	44	44	3.1	1
WH	30	30	2.1	0
ALL	74	74	5.3	1

Unit Cruise Statistics: DABBLER U2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	171.1	52.7	14.1	226.7	19.4	2.9	38,791	56.2	14.4
WH	116.7	77.3	20.7	170.9	27.9	5.1	19,936	82.2	21.3
ALL	287.8	40.9	10.9	204.1	25.9	3.0	58,728	48.5	11.3

Unit Summary: DABBLER U2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	44	ALL	24.0	104	134	39,378	38,791	1.5	54.5	171.1	34.9	504.3
WH	LIVE	CUT	30	ALL	19.2	82	103	20,870	19,936	4.5	58.0	116.7	26.6	259.2
ALL	LIVE	CUT	74	ALL	21.7	93	118	60,249	58,728	2.5	112.5	287.8	61.5	763.5
ALL	ALL	ALL	74	ALL	21.7	93	118	60,249	58,728	2.5	112.5	287.8	61.5	763.5

Cruise Unit Report DABBLER U3

Unit Sale Notice Volume (MBF): DABBLER U3

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	22.6	9.5		952	97	209	478	148	17	3
WH	18.3			782			630	111	39	2
MA	15.3			18			6	6	6	
RC	18.0			5				4	1	
ALL	20.2	9.5		1,757	97	209	1,114	269	63	5

Unit Cruise Design: DABBLER U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	29.0	34.6	33	17	0

Unit Cruise Summary: DABBLER U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	55	83	2.5	2
WH	34	82	2.5	0
MA	4	5	0.2	0
RC	1	1	0.0	0
ALL	94	171	5.2	2

Unit Cruise Statistics: DABBLER U3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	136.9	89.0	15.5	239.8	20.3	2.7	32,837	91.3	15.7
WH	135.3	66.8	11.6	199.4	35.9	6.2	26,978	75.8	13.2
MA	8.2	240.3	41.8	73.5	45.8	22.9	606	244.6	47.7
RC	1.6	574.5	100.0	107.5	0.0	0.0	177	574.5	100.0
ALL	282.1	32.5	5.7	214.8	31.8	3.3	60,599	45.5	6.5

Unit Summary: DABBLER U3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	55	ALL	22.7	99	134	33,510	32,837	2.0	48.7	136.9	28.7	952.3
MA	LIVE	CUT	4	ALL	15.3	42	61	730	606	16.9	6.5	8.2	2.1	17.6
RC	LIVE	CUT	1	ALL	18.0	68	86	194	177	8.7	0.9	1.6	0.4	5.1
WH	LIVE	CUT	34	ALL	18.3	66	90	28,034	26,978	3.8	74.1	135.3	31.6	782.4
ALL	LIVE	CUT	94	ALL	19.9	77	105	62,467	60,599	3.0	130.2	282.1	62.9	1,757.4
ALL	ALL	ALL	94	ALL	19.9	77	105	62,467	60,599	3.0	130.2	282.1	62.9	1,757.4

Cruise Unit Report DABBLER ROW U4

Unit Sale Notice Volume (MBF): DABBLER ROW U4

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	27.9			39	9	14	14	2	0	
WH	10.4			4				1	3	0
RA	9.0			0					0	
ALL	16.0			44	9	14	14	3	3	0

Unit Cruise Design: DABBLER ROW U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
FX: FR plots (20 tree / acre expansion)	3.0	3.4	7	7	0

Unit Cruise Summary: DABBLER ROW U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	4	4	0.6	0
WH	13	13	1.9	0
RA	1	1	0.1	0
ALL	18	18	2.6	0

Unit Cruise Statistics: DABBLER ROW U4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	48.5	171.1	64.7	271.5	41.8	20.9	13,160	176.2	68.0
WH	21.8	59.4	22.5	60.8	20.9	5.8	1,326	63.0	23.2
RA	1.3	264.6	100.0	72.4	0.0	0.0	91	264.6	100.0
ALL	71.5	112.7	42.6	203.7	41.5	9.8	14,577	120.1	43.7

Unit Summary: DABBLER ROW U4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	4	ALL	27.9	100	130	13,360	13,160	1.5	11.4	48.5	9.2	39.5
RA	LIVE	CUT	1	ALL	9.0	32	47	91	91	0.0	2.9	1.3	0.4	0.3
WH	LIVE	CUT	13	ALL	10.4	29	38	1,326	1,326	0.0	37.0	21.8	6.8	4.0
ALL	LIVE	CUT	18	ALL	16.0	45	59	14,777	14,577	1.4	51.3	71.5	16.4	43.7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	ALL	ALL	18	ALL	16.0	45	59	14,777	14,577	1.4	51.3	71.5	16.4	43.7

DRAFT

Cruise Unit Report DABBLER ROW U5

Unit Sale Notice Volume (MBF): DABBLER ROW U5

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	3 Saw	4 Saw	Utility
DF	10.9			26	16	8	3
RA	11.0			1		1	
ALL	10.9			28	16	9	3

Unit Cruise Design: DABBLER ROW U5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	2.0	1.6	3	3	0

Unit Cruise Summary: DABBLER ROW U5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	12	14	4.7	0
RA	1	1	0.3	0
ALL	13	15	5.0	0

Unit Cruise Statistics: DABBLER ROW U5

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	156.8	32.7	18.9	83.7	24.1	7.0	13,124	40.7	20.1
RA	11.2	173.2	100.0	56.1	0.0	0.0	628	173.2	100.0
ALL	168.1	20.0	11.5	81.8	25.6	7.1	13,753	32.5	13.6

Unit Summary: DABBLER ROW U5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	12	ALL	10.9	42	59	13,949	13,124	5.9	242.1	156.8	47.5	26.2
RA	LIVE	CUT	1	ALL	11.0	43	58	747	628	15.9	17.0	11.2	3.4	1.3
ALL	LIVE	CUT	13	ALL	10.9	42	59	14,696	13,753	6.4	259.1	168.1	50.9	27.5
ALL	ALL	ALL	13	ALL	10.9	42	59	14,696	13,753	6.4	259.1	168.1	50.9	27.5

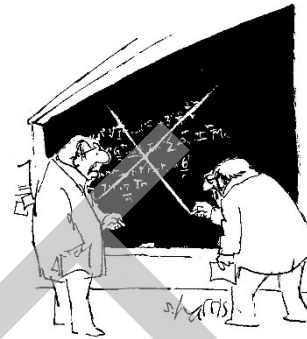
FPHP NEEDED (Y/N) N

Is abandonment of existing road required? (Y/N) N

PACIFIC CASCADE REGION - ENGINEERING

ROAD PLAN PEER REVIEW CHECKLIST

PROJECT: DABBLER



"That's it? That's peer review?"

This project has been reviewed for the following:

Initials:

- CONTRACT CLAUSES – Selection of proper clauses. Clauses adequately describe desired work. Clauses do not conflict with maps, details, pit plans, etc. Punctuation, syntax, grammar and organization is correct.
- TYPICAL SECTION SHEET, ROCK LIST, & CULVERT LIST – Sheets match clauses and maps. Requirements and quantities make sense. Rock List adds up correctly.
- MAPS – All roads listed in Section 1 are shown on maps. Maps identify locations of all culverts, landings, waste areas, endhaul/overhaul areas, etc. Legend, north arrow and scale are shown. Line types are easy to identify. Map is at a legible scale.
- DETAIL SHEETS – All detail sheets referred to in the clauses are included. Detail sheets have been edited as necessary.
- PIT PLANS – Selection of proper clauses. Map clearly shows all areas of development, wasting, stockpiling, reclamation, etc. Development plan appears logical for long term use of pit. Development plan allows for safe operation in the pit.
- ROAD COST SPREADSHEET –All cost elements captured. Material costs used are current. Summary cells are adding correctly. No conflicts exist between pages. Stationing, culverts and rock volume match the road plan.
- EXCISE TAX SHEET – Totals match road plan.
- LOGGING PLAN – Plan matches road plan clauses and maps.

I certify that I have reviewed this project for the elements initialed above and have found that it meets or exceeds Department and Regional Standards to the best of my knowledge.

BRETT WALLACHY

Originator of Project

11/07/2023

Date

REVIEWED

By David Stone at 7:58 pm, Jan 18, 2024

Peer Reviewer

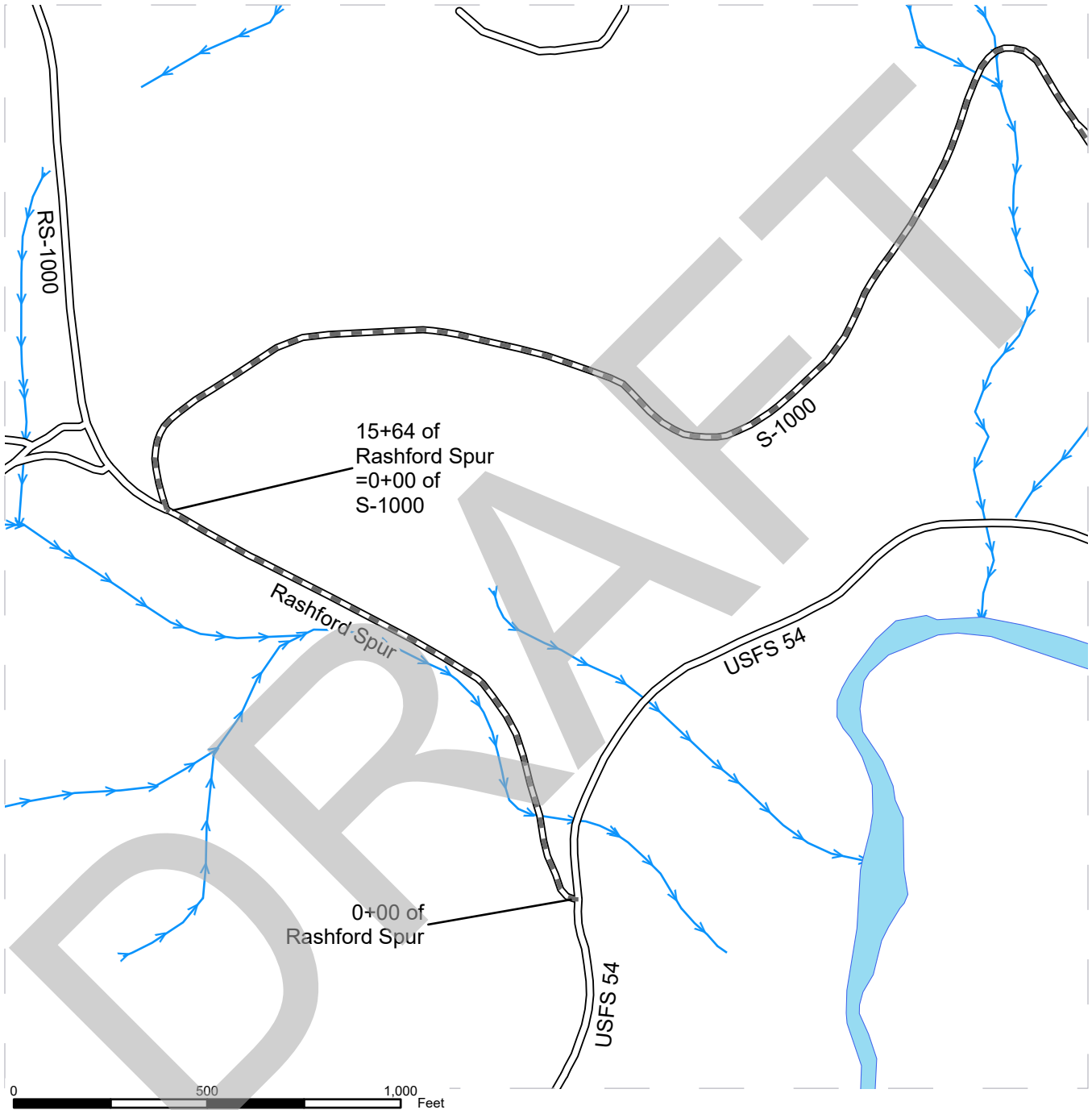
Date

Comments:

ROAD PLAN MAP

SALE NAME: DABBLER
AGREEMENT#: 30-106156
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1400-1920



Legend:

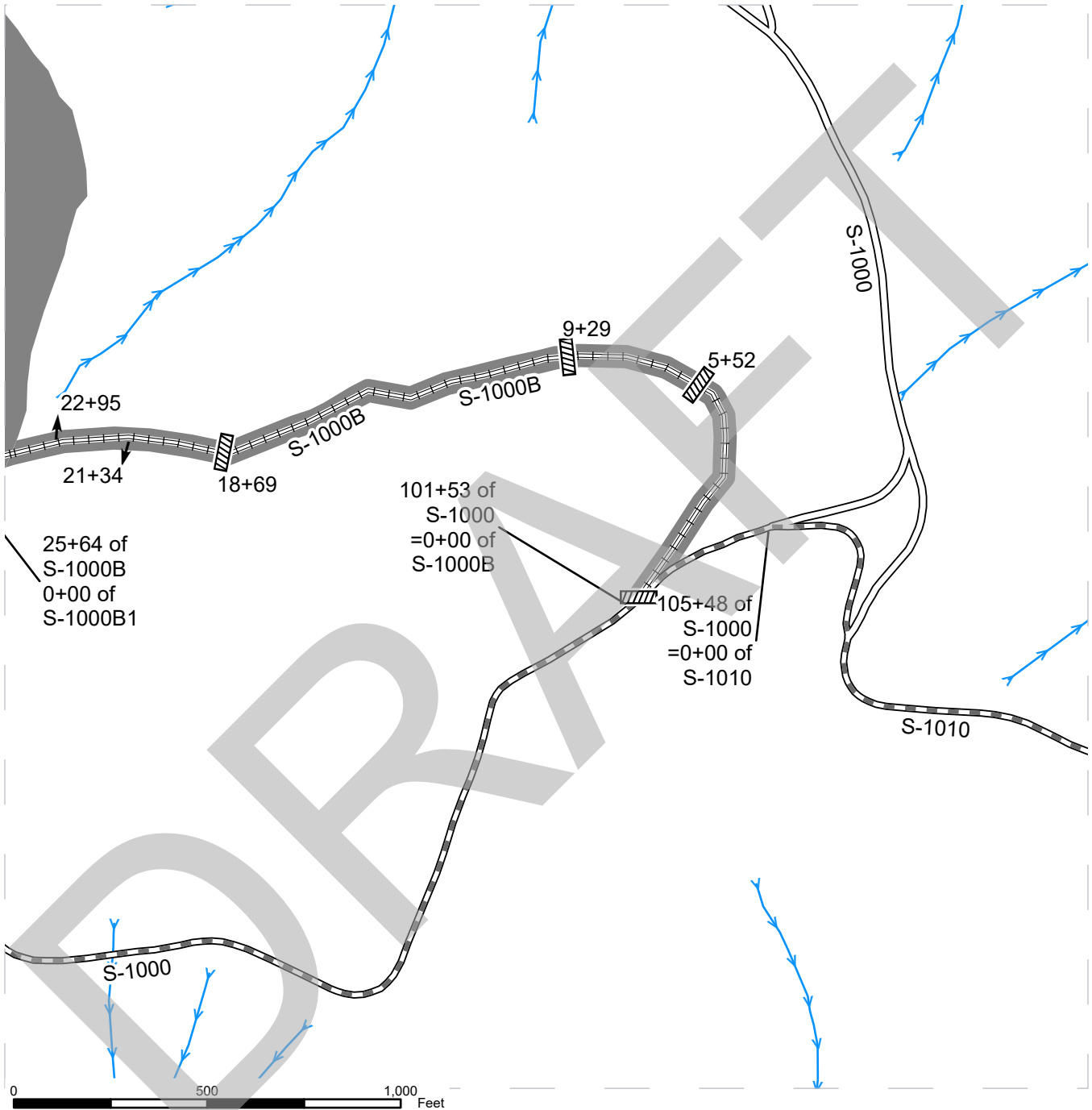
- Existing Roads
- Required Pre-Haul Maintenance
- Streams

North Arrow

ROAD PLAN MAP

SALE NAME: DABBLER
AGREEMENT#: 30-106156
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1400-1920

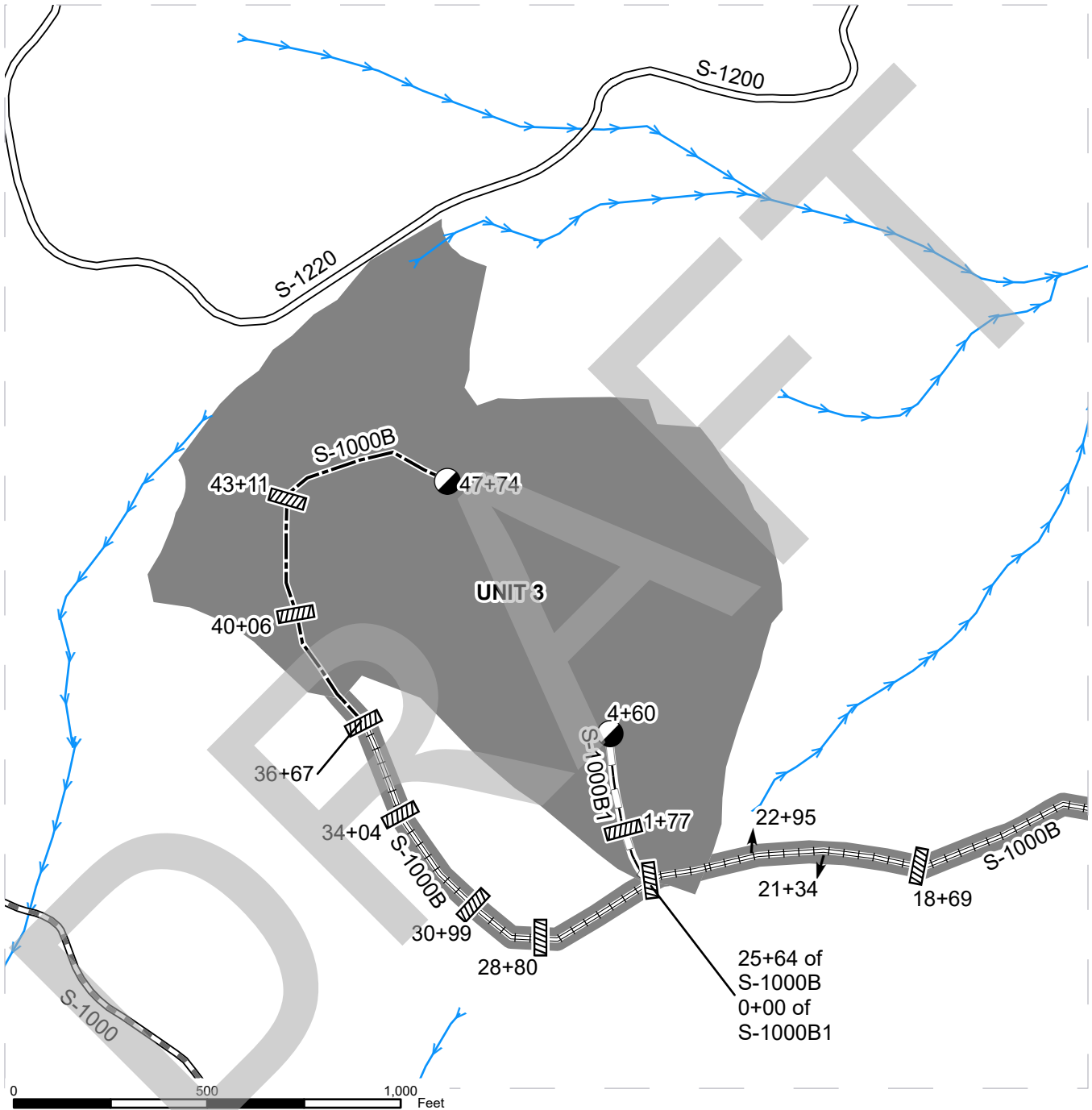


Existing Roads	Culvert
Required Pre-Haul Maintenance	Harvest Type
Required Reconstruction	Streams
Ditchout	

ROAD PLAN MAP

SALE NAME: DABBLER
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TOWNSHIP(S): T6R4E
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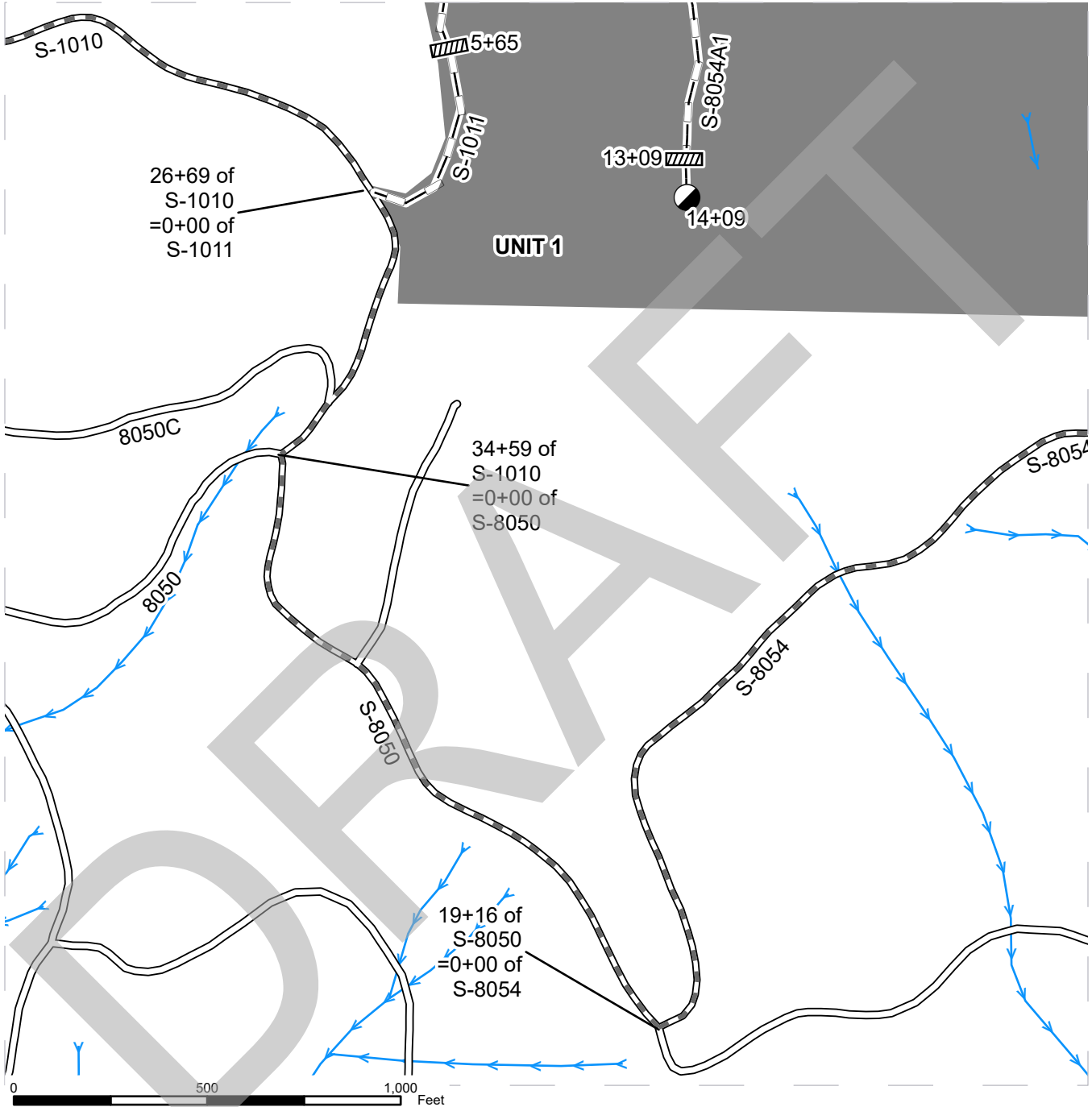


Existing Roads	Culvert
Required Pre-Haul Maintenance	Designated Landing
Required Reconstruction	Harvest Type
Optional Construction	Streams
Optional Reconstruction	
Ditchout	

ROAD PLAN MAP

SALE NAME: DABBLER
AGREEMENT#: 30-106156
TOWNSHIP(S): T6R4E
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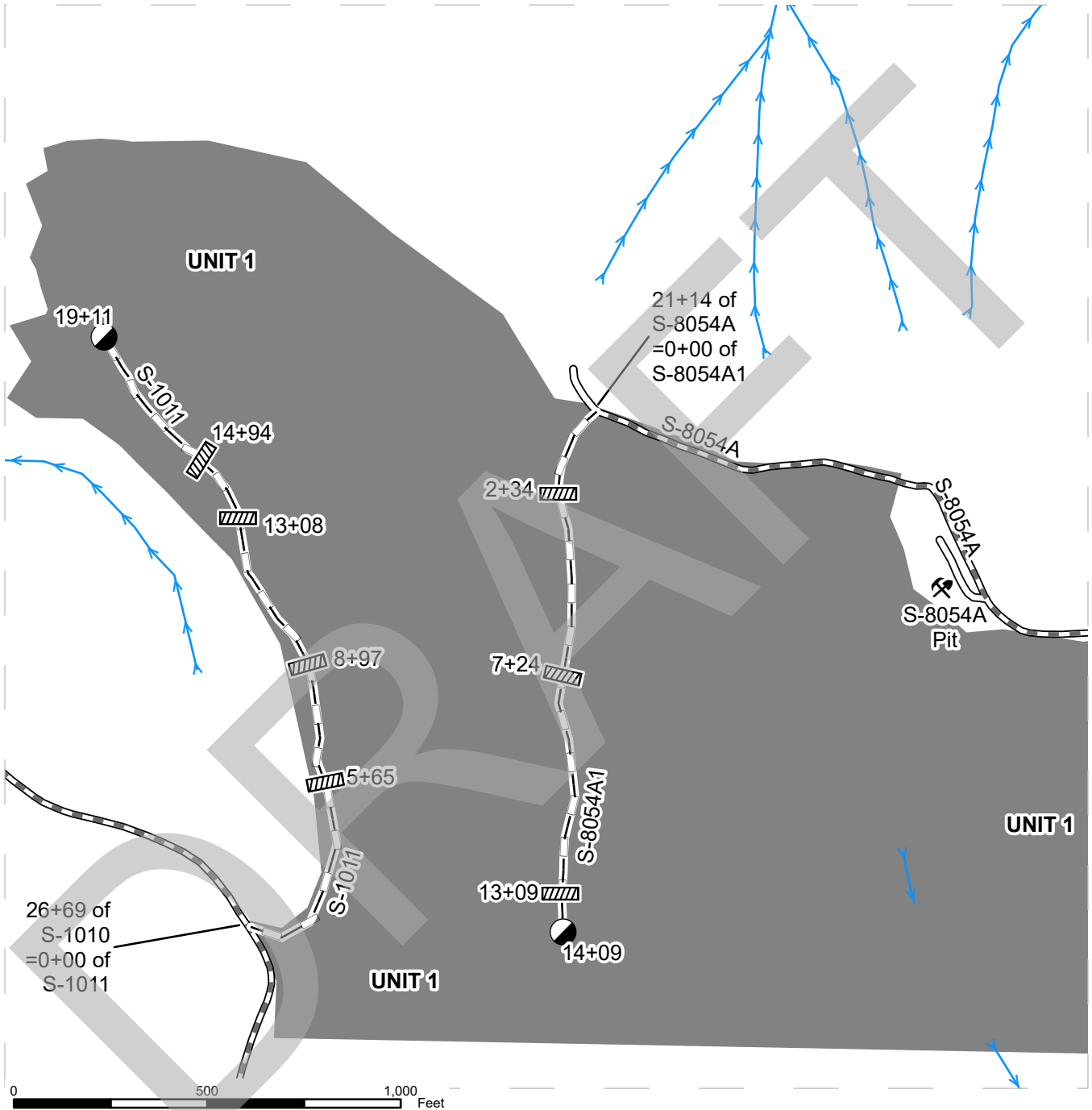
Existing Roads	Designated Landing
Required Pre-Haul Maintenance	Harvest Type
Optional Reconstruction	Streams
Culvert	



ROAD PLAN MAP

SALE NAME: DABBLER
 AGREEMENT#: 30-106156
 TOWNSHIP(S): T6R4E
 TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: Pacific Cascade Region
 COUNTY(S): Clark
 ELEVATION RGE: 1400-1920



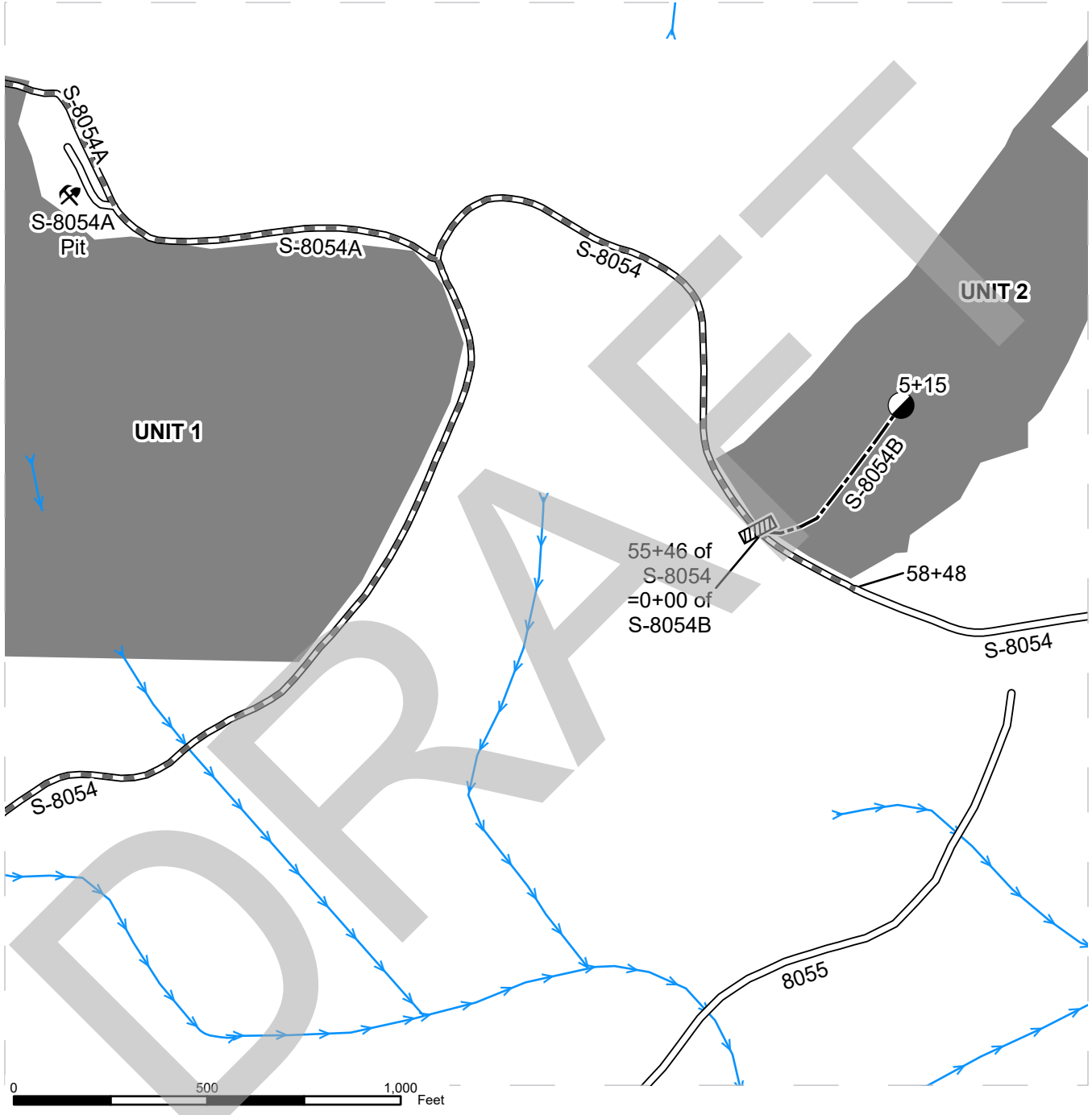
Existing Roads	Designated Landing
Required Pre-Haul Maintenance	Rock Pit
Optional Reconstruction	Harvest Type
Culvert	Streams



ROAD PLAN MAP

SALE NAME: DABBLER
AGREEMENT#: 30-106156
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1400-1920



Existing Roads	Designated Landing
Required Pre-Haul Maintenance	Rock Pit
Optional Construction	Harvest Type
Culvert	Streams

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

DABBLER TIMBER SALE ROAD PLAN
CLARK COUNTY
YACOLT DISTRICT
PACIFIC CASCADE REGION

AGREEMENT NO.: 30-106156

STAFF ENGINEER: BRETT WALLACHY

DRAWN & COMPILED BY: ALCIA COMPTON

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

Clauses in this road plan apply to all road related work, including landings and rock source development, unless otherwise noted.

0-2 REQUIRED ROADS

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
Rashford Spur	0+00 to 15+64	Pre-haul maintenance
S-1000	0+00 to 105+48	Pre-haul maintenance
S-1000B	0+00 to 36+67	Reconstruction
S-1010	0+00 to 34+59	Pre-haul maintenance
S-8050	0+00 to 19+16	Pre-haul maintenance
S-8054	0+00 to 58+48	Pre-haul maintenance
S-8054A	0+00 to 21+14	Pre-haul maintenance

0-3 OPTIONAL ROADS

The specified work on the following roads is not required. Any optional roads built by the Purchaser must meet all the specifications in the road plan.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
S-1000B	36+67 to 47+74	Construction
S-1000B1	0+00 to 4+60	Reconstruction
S-1011	0+00 to 19+11	Reconstruction
S-8054A1	0+00 to 14+09	Reconstruction
S-8054B	0+00 to 5+15	Construction

0-4 CONSTRUCTION

Construction includes, but is not limited to: clearing, grubbing, and organic debris disposal; excavation, embankment, fill, and waste material disposal; turnout, landing, turnaround, ditch, and ditch-out construction; acquisition and installation of drainage structures; shaping and compaction; acquisition, manufacture, and application of rock; acquisition and application of erosion control.

0-5 RECONSTRUCTION

This project includes, but is not limited to the following reconstruction requirements:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
S-1000B	0+00 to 36+67	Clearing and grubbing, widening the road prism, culverts, shaping and compaction, rock, erosion control
S-1000B1	0+00 to 4+60	
S-1011	0+00 to 19+11	
S-8054A1	0+00 to 14+09	

0-6 PRE-HAUL MAINTENANCE

This project includes, but is not limited to the following pre-haul maintenance requirements:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
Rashford Spur	0+00 to 15+64	Maintenance grading, rock
S-1000	0+00 to 105+48	
S-1010	0+00 to 34+59	
S-8050	0+00 to 19+16	
S-8054	0+00 to 58+48	
S-8054A	0+00 to 21+14	

0-10 ABANDONMENT

This project includes abandonment listed in Clause 9-21 ROAD ABANDONMENT.

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source. Rock source development will involve clearing, grubbing, organic debris disposal, stripping overburden, waste material disposal, blasting, etc. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

If the Purchaser desires a change from this road plan including, but not limited to, relocation, extension, change in design, or adding roads; a revised road plan must be submitted in writing to the Contract Administrator for consideration. Before work begins, Purchaser shall obtain approval from the State for the submitted plan.

1-2 UNFORESEEN CONDITIONS

Quantities established in this road plan are minimum acceptable values. Additional quantities required by the state due to unforeseen conditions, or Purchaser's choice of construction season or techniques will be at the Purchaser's expense. Unforeseen conditions include, but are not limited to, solid subsurface rock, subsurface springs, saturated ground, and unstable soils.

1-3 ROAD DIMENSIONS

Purchaser shall perform road work in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan.

1-4 ROAD TOLERANCES

Purchaser shall perform road work within the tolerances listed below. The tolerance class for each road is listed on the TYPICAL SECTION SHEET.

<u>Tolerance Class</u>	<u>A</u>	<u>B</u>	<u>C</u>
Road and Subgrade Width (feet)	+1.5	+1.5	+2.0
Subgrade Elevation (feet +/-)	0.5	1.0	2.0
Centerline alignment (feet lt./rt.)	1.0	1.5	3.0

1-6 ORDER OF PRECEDENCE

Any conflict or inconsistency in the road plan will be resolved by giving the documents precedence in the following order:

1. Addenda.
2. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.
3. Road Plan Clauses.
4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.
7. Road Plan maps.

In case of any ambiguity or dispute over interpreting the road plan, the Contract Administrator's or designee's decision will be final.

1-7 TEMPORARY ROAD CLOSURE

Purchaser shall notify the Contract Administrator a minimum of 3 business days before the closure of any road.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer's recommendation and may not begin without written approval from the Contract Administrator.

1-9 DAMAGED METALLIC COATING

Any cut ends, or damaged galvanized or aluminized coating on existing or new bridge components, culverts, downspouts, and flumes must be cleaned and treated with a minimum of two coats of zinc rich paint or cold galvanizing compound.

1-15 ROAD MARKING

Purchaser shall perform road work in accordance with the state's marked location. All road work is marked as follows:

- Stakes, orange ribbon, orange paint, aluminum tags

1-18 REFERENCE POINT DAMAGE

Purchaser shall reset reference points (RPs) that were moved or damaged at any time during construction to their original locations. Excavation and embankment may not proceed on road segments controlled by said RPs until Purchaser resets all moved or damaged RPs.

1-21 HAUL APPROVAL

Purchaser shall not use roads under this road plan for timber haul, other than timber cut on the right-of-way, without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 3 business days before work begins.

1-23 ROAD WORK PHASE APPROVAL

Purchaser shall obtain written approval from the Contract Administrator upon completion of each of the following phases of road work:

- Maintenance grading
- Subgrade construction and reconstruction
- Culvert installations
- Shaping & compaction
- Rock application & compaction
- Post-construction and reconstruction erosion control application
- Abandonment
- Post-abandonment erosion control application

1-25 ACTIVITY TIMING RESTRICTION

The specified activities are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator. Restrictions for hauling forest products are specified in Contract Clause H-130 HAULING SCHEDULE.

<u>Activity</u>	<u>Closure Period</u>
Road construction and reconstruction	October 1 to April 30

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION or Contract Clause H-130 HAULING SCHEDULE, Purchaser shall provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER.

1-29 SEDIMENT RESTRICTION

Purchaser shall not allow silt-bearing runoff to enter any streams.

1-30 CLOSURE TO PREVENT DAMAGE

In accordance with Contract Clause G-220 STATE SUSPENDS OPERATION, the Contract Administrator will suspend road work or hauling right-of-way timber, forest products, or rock under the following conditions:

- Wheel track rutting exceeds 6 inches on jaw and pit run roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Wheel track rutting exceeds 8 inches on native surface roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

Operations must stop unless authority to continue working or hauling is granted in writing by the Contract Administrator. In the event that surface or base stability problems persist, Purchaser shall cease operations, or perform corrective maintenance or repairs, subject to specifications within this road plan. Before and during any suspension, Purchaser shall protect the work from damage or deterioration.

1-32 BRIDGE OR ASPHALT SURFACE RESTRICTION

The use of metal tracked equipment is not allowed on bridge or asphalt surfaces at any time. If Purchaser must run equipment on bridge or asphalt surfaces, then rubber tired equipment or other methods, approved in writing by Contract Administrator, must be used.

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surface(s) and have surface(s) evaluated by the Region Engineer or their designee for any damage caused by transporting equipment. Any damage to the surface(s) will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

Snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contract Administrator upon request. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

Purchaser shall immediately remove any mud, dirt, rock, or other material tracked or spilled on to county roads and state highways.

If additional damage to the surface, signs, guardrails, etc. occurs then the damage will be repaired, at the Purchaser's expense, as directed by the Contract Administrator when authorized by the county or WSDOT.

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

Purchaser shall maintain all roads used under this contract in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS for the entire term of this contract. Maintenance is required even during periods of inactivity.

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

Purchaser shall perform maintenance on roads listed in Contract Clause C-050 PURCHASER ROAD MAINTENANCE AND REPAIR in accordance with FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

Purchaser may be required to perform maintenance on roads listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER as directed by the Contract Administrator. Purchaser shall maintain roads in accordance with FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

2-4 PASSAGE OF LIGHT VEHICLES

Purchaser shall maintain road(s) in a condition that will allow the passage of light administrative vehicles.

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), Purchaser shall use a grader to shape the existing surface before rock application. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
Rashford Spur	0+00 to 15+64	Grade, shape, apply specified rock, compact
S-1000	0+00 to 105+48	
S-1010	0+00 to 34+59	
S-8050	0+00 to 19+16	
S-8054	0+00 to 58+48	
S-8054A	0+00 to 21+14	

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries or, if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-8 PROHIBITED DECKING AREAS

Purchaser shall not deck right-of-way timber in the following areas:

- Within the grubbing limits.
- Within 25 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 45%.
- Against standing trees.

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Grubbing must be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the grubbing limits, on the downhill side of the road, and in compliance with all other clauses in this road plan.

3-20 ORGANIC DEBRIS DEFINITION

Organic debris is defined as all vegetative material not eligible for removal by Contract Clause G-010 PRODUCTS SOLD AND SALE AREA or G-011 RIGHT TO REMOVE FOREST PRODUCTS AND CONTRACT AREA, that is larger than one cubic foot in volume within the grubbing limits.

3-21 DISPOSAL COMPLETION

Purchaser shall remove organic debris from the road surface, ditchlines, and culvert inlets and outlets. Purchaser shall complete all disposal of organic debris before timber haul.

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 25 feet of a cross drain culvert.
- Within 50 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 45%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.
- On the uphill side of the road.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

Purchaser shall not bury organic debris unless otherwise stated in this plan.

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the grubbing limits on the downhill side of the road unless otherwise detailed in this road plan or as directed by the Contract Administrator.

SECTION 4 – EXCAVATION

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. In addition, the following actions must be taken as pioneering progresses:

- Drainage must be provided on all uncompleted construction.
- Road pioneering operations may not undercut the final cut slope or restrict drainage.
- Culverts at live stream crossings must be installed during pioneering operations prior to embankment.

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 12% in 100 feet.
- Maximum grade change for crest vertical curves is 8% in 100 feet.

4-5 CUT SLOPE RATIO

Purchaser shall construct excavation slopes no steeper than shown on the following table:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth	1:1	100
Fractured or loose rock	½:1	200
Hardpan or solid rock	¼:1	400

4-6 EMBANKMENT SLOPE RATIO

Purchaser shall construct embankment slopes no steeper than shown on the following table:

<u>Material Type</u>	<u>Embankment Slope Ratio</u>	<u>Embankment Slope Percent</u>
Sandy Soils	2:1	50
Common Earth and Rounded Gravel	1½:1	67
Angular Rock	1¼:1	80

4-7 SHAPING CUT AND FILL SLOPE

Purchaser shall construct excavation and embankment slopes to a uniform line and left rough for easier revegetation.

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

- 6 feet for curves of 50 to 79 feet radius.
- 4 feet for curves of 80 to 100 feet radius.

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

- 2 feet for embankment heights at centerline of 2 to 6 feet.
- 4 feet for embankment heights at centerline of greater than 6 feet.

Purchaser shall apply embankment widening equally to both sides of the road to achieve the required width.

4-10 WIDEN THE EXISTING SUBGRADE

On the following road(s), Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the TYPICAL SECTION SHEET. If necessary, Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches.

<u>Road</u>	<u>Stations</u>
S-1000B	0+00 to 36+67
S-1000B1	0+00 to 4+60
S-1011	0+00 to 19+11
S-8054A1	0+00 to 14+09

4-21 TURNOUTS

Purchaser shall construct turnouts as designated on the ROCK LIST. Minimum dimensions are shown on the ROCK LIST.

4-22 TURNAROUNDS

Purchaser shall construct turnarounds as designated on the ROCK LIST. Turnarounds must be no larger than 30 feet long and 30 feet wide.

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

Purchaser shall construct and reconstruct ditches into the subgrade as specified on the TYPICAL SECTION SHEET. Ditches must be constructed concurrently with construction of the subgrade.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified on the CULVERT LIST, as needed, and as directed by the Contract Administrator. Ditchouts must be constructed in a manner that diverts ditch water onto the forest floor and must have excavation backslopes no steeper than a 1:1 ratio.

4-35 WASTE MATERIAL DEFINITION

Waste material is defined as all dirt, rock, mud, or related material that is extraneous or unsuitable for construction material. Waste material, as used in Section 4 EXCAVATION, is not organic debris.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas, except as otherwise specified in this plan:

- Within 25 feet of a cross drain culvert.
- Within 50 feet of a live stream or wetland.
- Within a riparian management zone.
- Within a wetland management zone.
- On side slopes steeper than 45%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Within the operational area for cable landings.
- Against standing timber.
- Outside the clearing limits.
- On the uphill side of the road.

4-48 NATIVE MATERIAL

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 4 inches in any dimension.

4-55 ROAD SHAPING

Purchaser shall shape the subgrade and surface as shown on the TYPICAL SECTION SHEET. The subgrade and surface shape must ensure runoff in an even, un-concentrated manner, and must be uniform, firm, and rut-free. Purchaser shall accomplish all shaping using a motor grader.

4-56 DRY WEATHER SHAPING

The Contract Administrator may require the application of water to facilitate shaping activities. The method of water application is subject to written approval by the Contract Administrator.

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. Waste material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rock application.

4-62 DRY WEATHER COMPACTION

The Contract Administrator may require the application of water to facilitate compaction activities. The method of water application is subject to written approval by the Contract Administrator.

4-63 EXISTING SURFACE COMPACTION

Purchaser shall compact maintained road surfaces in accordance with the COMPACTION LIST by routing equipment over the entire width.

SECTION 5 – DRAINAGE

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-15 through 10-24.

5-6 CULVERT TYPE

Purchaser shall install culverts made of plastic in accordance with Clauses 10-15 through 10-24.

5-12 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the CULVERT LIST that are not installed will become the property of the state. Purchaser shall stockpile materials as directed by the Contract Administrator.

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. Culverts shall be banded using lengths of no less than 10 feet, and no more than one length less than 20 feet. Shorter section of banded culvert shall be installed at the inlet end.

5-17 CROSS DRAIN SKEW AND SLOPE

Cross drains, on road grades in excess of 3%, must be skewed at least 30 degrees from perpendicular to the road centerline, except where the cross drain is at the low point in the road culverts will not be skewed. Cross drain culverts must be installed at a slope steeper than the incoming ditch grade, but not less than 3% or more than 10%.

5-18 CULVERT DEPTH OF COVER

All culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point.

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify the placement of rock at the outlet. Energy dissipater installation is subject to approval by the Contract Administrator.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT LIST.

5-25 CATCH BASINS

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts on the CULVERT LIST that specify the placement of rock at the inlet. Rock may not restrict the flow of water into culvert inlets or catch basins. The type and quantity of rock used for headwalls shall be as specified on the CULVERT LIST.

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be waterbarred by November 1. Purchaser shall construct waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between waterbars or between natural drainage paths, and with a maximum spacing of 100 feet.

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following source(s) on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock source(s), a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 3 business days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>
S-8054A Pit	S36 T6N R4E

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from any commercial source at the Purchaser's expense. Rock sources are subject to written approval by the Contract Administrator before their use.

<u>Possible Source</u>	<u>Phone</u>
Storedahl Mountain Top	360-636-2420

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

Purchaser shall conduct rock source development and use at the following sources, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state and included in this road plan. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN and approved in writing by the Contract Administrator. Purchaser shall notify the Contract Administrator a minimum of 3 business days before starting any operations in the rock source.

<u>Source</u>
S-8054A Pit

6-22 FRACTURE REQUIREMENT FOR ROCK

A minimum of 50% by visual inspection of coarse aggregate must have at least one fractured face. Coarse aggregate is the material greater than 1/4-inch in size.

6-23 ROCK GRADATION TYPES

Purchaser shall provide and/or manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

6-28 1 ¼-INCH MINUS CRUSHED ROCK

% Passing 1 ¼" square sieve	100%
% Passing 5/8" square sieve	55 - 75%
% Passing U.S. #4 sieve	20 - 50%

Of the fraction passing the No. 4 sieve, 40% to 60% must pass the No. 10 sieve.

The portion of aggregate retained on the No. 4 sieve may not contain more than 0.2 percent organic debris and trash. All percentages are by weight.

6-37 4-INCH JAW RUN ROCK

% Passing 4" square sieve	95%
% Passing U.S. #40 sieve	16% maximum
% Passing U.S. #200 sieve	5% maximum

The portion of aggregate retained on the No. 4 sieve may not contain more than 0.2 percent organic debris and trash. All percentages are by weight.

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths are defined as the compacted depth(s) using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction. Unless otherwise stated in Clause 6-75 OPTIONAL ROCK EXCEPTION.

6-56 ROCK MEASUREMENT BY TRUCK VOLUME

Measurement of Spot, Culvert, Turnout, Turnaround, and Landing rock is on a cubic yard truck measure basis. Purchaser shall measure each truck box before rock hauling. An average of such volumes for each truck will be used to tally the volume hauled. The Contract Administrator may periodically require that a load be flattened off and its volume calculated. Purchaser shall maintain load tally sheets for each truck and shall give them to the Contract Administrator on a weekly basis during rocking operations.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for shaping and compaction before rock application.

6-71 ROCK APPLICATION

Purchaser shall apply rock in accordance with the specifications and quantities shown on the ROCK LIST. Rock must be spread, shaped, and compacted full width concurrent with rock hauling operations. Road surfaces must be compacted in accordance with the COMPACTION LIST by routing equipment over the entire width.

6-73 ROCK FOR WIDENED PORTIONS

Purchaser shall apply rock to turnarounds, turnouts, and areas with curve widening to the same depth and specifications as the traveled way.

6-75 OPTIONAL ROCK EXCEPTION

On the following roads, if hauling takes place from May 1 to September 30 Purchaser may provide and place less rock than shown on the ROCK LIST, when approved in writing by the Contract Administrator.

If less rock is applied, Purchaser shall submit a written plan, for approval, describing how these roads will be constructed, used, maintained, and treated post-haul. Purchaser shall meet post-haul specifications in Section 9 POST-HAUL ROAD WORK, the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS, or other conditions of the approved plan.

<u>Road</u>	<u>Stations</u>
S-1000B	36+67 to 47+74
S-1000B1	0+00 to 4+60
S-1011	0+00 to 19+11
S-8054A1	0+00 to 14+09
S-8054B	0+00 to 5+15

6-76 DRY WEATHER ROCK COMPACTION

The Contract Administrator may require the application of water to facilitate compaction of the rock surfacing. The method of water application is subject to approval by the Contract Administrator.

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 4-inch layer of straw to all exposed soils within 50 feet of a stream or wetland.

8-15 REVEGETATION

Purchaser shall spread grass seed on all exposed soils resulting from road work activities. Other methods of covering must be approved in writing by the Contract Administrator. Required seed not spread by the termination of this contract will become the property of the state.

<u>Road</u>	<u>Location</u>	<u>Qty (lbs)*</u>	<u>Comments</u>
S-1000B	0+00 to 36+67	84	Reconstruction
S-1000B	36+67 to 47+74	51	Construction
S-1000B	25+64 to 47+74	51	Abandonment
S-1000B1	0+00 to 4+60	11	Reconstruction
S-1011	0+00 to 19+11	44	Reconstruction
S-8054A1	0+00 to 14+09	32	Reconstruction
S-8054B	0+00 to 5+15	24	Construction

*Quantities are estimates only. Actual quantities may vary and are the responsibility of the Purchaser.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the grass seed.

8-17 REVEGETATION TIMING

Purchaser shall revegetate during the first available opportunity after road work is completed.

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soil at a rate of 50 pounds per acre of exposed soil. Grass seed must meet the following specifications:

1. Weed seed may not exceed 0.5% by weight.
2. All seed species must have a minimum 90% germination rate, unless otherwise specified.
3. Seed must be certified.
4. Seed must be furnished in standard containers showing the following information:
 - a. Common name of seed
 - b. Net weight
 - c. Percent of purity
 - d. Percentage of germination
 - e. Percentage of weed seed and inert material
5. Seed must conform to the following mixture unless a comparable mix is approved in writing by the Contract Administrator.

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>
Perennial Rye	35-45
Red Fescue	30-40
Highland Bent	5-15
White Clover	10-20
Inert and Other Crop	0.5

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the EARTHEN BARRICADE DETAIL.

<u>Road</u>	<u>Stations</u>
S-1000B	25+64

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

Culverts removed from roads become the property of the Purchaser and must be removed from state land.

9-5 POST-HAUL MAINTENANCE

Purchaser shall perform post-haul maintenance in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-21 ROAD ABANDONMENT

Purchaser shall abandon the following roads before the termination of this contract.

<u>Road</u>	<u>Stations</u>
S-1000B	25+64 to 47+74

9-22 ABANDONMENT

- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Cover, concurrently with abandonment, all exposed soils within 50 feet of any live stream, with a 4-inch deep layer of straw.

SECTION 10 MATERIALS

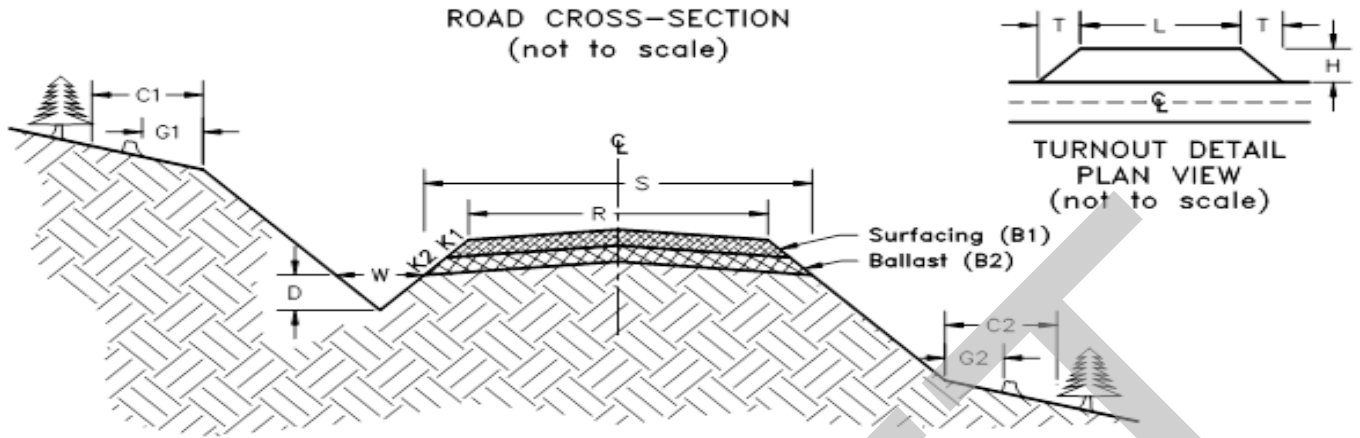
10-17 CORRUGATED PLASTIC CULVERT

Polyethylene culverts must meet AASHTO M-294 specifications, or ASTM F-2648 specifications for recycled polyethylene. Culverts must be Type S – double walled with a corrugated exterior and smooth interior.

10-22 PLASTIC BAND

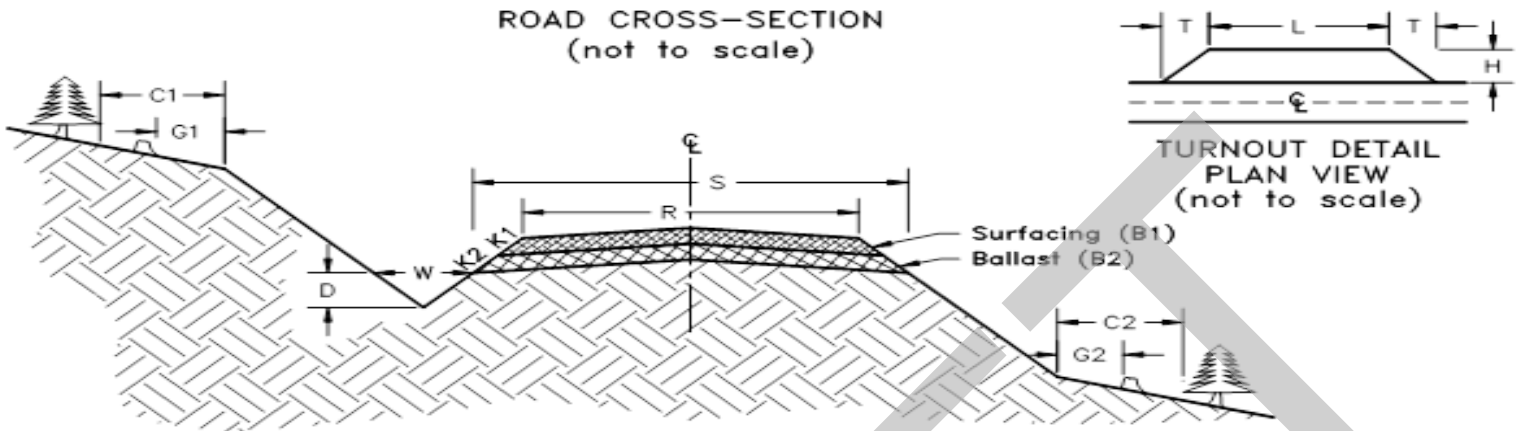
Plastic coupling and end bands must meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer may be used. Couplings must be split coupling band. Split coupling bands must have a minimum of four corrugations, two on each side of the pipe joint.

TYPICAL SECTION SHEET



Road Name	From Station	To Station	Tolerance Class	Width (ft)		Ditch (ft)		Crown (%)	Grubbing Limits (ft)		Clearing Limits (ft)	
				Subgrade S	Road R	Width W	Depth D		G1	G2	C1	C2
Rashford Spur	0+00	15+64	A	-	12	-	-	4	-	-	-	-
S-1000	0+00	105+48	A	-	12	-	-	4	-	-	-	-
S-1000B	0+00	36+67	B	16	12	3	1	4	5	5	10	10
S-1000B	36+67	47+74	C	17	12	3	1	4	5	5	10	10
S-1000B1	0+00	4+60	B	16	12	3	1	4	5	5	10	10
S-1010	0+00	34+59	A	-	12	-	-	4	-	-	-	-
S-1011	0+00	19+11	B	16	12	3	1	4	5	5	10	10
S-8050	0+00	19+16	A	-	12	-	-	4	-	-	-	-
S-8054	0+00	58+48	A	-	12	-	-	4	-	-	-	-
S-8054A	0+00	21+14	A	-	12	-	-	4	-	-	-	-
S-8054A1	0+00	14+09	B	16	12	3	1	4	5	5	10	10
S-8054B	0+00	5+15	C	17	12	3	1	4	5	5	10	10

ROCK LIST
(Page 1 of 2)



1 1/4-INCH CRUSHED ROCK

Road	From	To	Rock Slope	Compacted		No. Stations	CY Subtotal	Rock Source	Turnout (ft)		
				Rock Depth (in)	Station				Commercial	L	H
Rashford Spur	0+00	15+64	-				27				
S-1000	0+00	105+48	-				181				
S-1000	Culvert	-	-				30				
S-1010	0+00	34+59	-				59				
S-8050	0+00	19+16	-				33				
S-8054	0+00	58+48	-				101				
S-8054A	0+00	21+14	-				36				
S-8054	Culvert	-	-				30				

REQUIRED 1 1/4-INCH CRUSHED ROCK TOTAL 497 Cubic Yards

ROCK LIST
(Page 2 of 2)

4-INCH JAW RUN ROCK

Road	From	To	Compacted		CY/ Station	No. Stations	CY Subtotal	Rock	Turnout (ft)		
			Rock Slope	Rock Depth (in)				Source	L	H	T
S-1000	Culvert	-	-	-	-	-	2	S-8054A Pit			
S-1000B	0+00	36+67	1-1/2:1	12	63	36.67	2311				
S-1000B	Curve widening	-	-	-	-	-	70				
S-1000B	Turnout	1	-	-	-	-	35		50	10	25
S-1000B	Culvert	-	-	-	-	-	14				
S-1000B	* 36+67	47+74	1-1/2:1	18	100	11.07	1107				
S-1000B	* Curve widening	-	-	-	-	-	34				
S-1000B	* Turnaround	(1)	-	-	-	-	63				
S-1000B	* Landing	(1)	-	-	-	-	100				
S-1000B	* Culvert	-	-	-	-	-	6				
S-1000B1	* 0+00	4+60	1-1/2:1	12	63	4.60	290				
S-1000B1	* Curve widening	-	-	-	-	-	9				
S-1000B1	* Turnaround	(1)	-	-	-	-	42				
S-1000B1	* Landing	(1)	-	-	-	-	63				
S-1000B1	* Culvert	-	-	-	-	-	2				
S-1011	* 0+00	19+11	1-1/2:1	12	63	19.11	1204				
S-1011	* Curve widening	-	-	-	-	-	37				
S-1011	* Turnaround	(1)	-	-	-	-	42				
S-1011	* Landing	(1)	-	-	-	-	63				
S-1011	* Culvert	-	-	-	-	-	8				
S-8054	Culvert	-	-	-	-	-	2				
S-8054A1	* 0+00	14+09	1-1/2:1	12	63	14.09	888				
S-8054A1	* Curve widening	-	-	-	-	-	27				
S-8054A1	* Turnaround	(1)	-	-	-	-	42				
S-8054A1	* Landing	(1)	-	-	-	-	63				
S-8054A1	* Culvert	-	-	-	-	-	6				
S-8054B	* 0+00	5+15	1-1/2:1	18	100	5.15	515				
S-8054B	* Curve widening	-	-	-	-	-	16				
S-8054B	* Turnaround	(1)	-	-	-	-	63				
S-8054B	* Landing	(1)	-	-	-	-	100				

OPTIONAL 4-INCH JAW RUN ROCK SUBTOTAL	<u>4790</u>	Cubic Yards
REQUIRED 4-INCH JAW RUN ROCK SUB'TOTAL	<u>2434</u>	Cubic Yards
4-INCH JAW RUN ROCK TOTAL	<u>7224</u>	Cubic Yards

* Optional rock, see Road Plan Clause 6-75

CULVERT LIST

Road		Culvert		Erosion rock			Bedding/backfill		Remarks
Name	Station	Diameter (in)	Length (ft) Culvert	Inlet (CY)	Outlet (CY)	Type	(CY)	Type	
S-1000	101+53	18	40	1	1	JR	30	CR	Cross drain, S-1000B intersection
S-1000B	5+52	18	30	1	1	JR	-	NT	Cross drain, sag
S-1000B	9+29	18	30	1	1	JR	-	NT	Cross drain, sag
S-1000B	18+69	18	30	1	1	JR	-	NT	Cross drain, sag
S-1000B	21+34	-	-	-	-	-	-	-	DOL
S-1000B	22+95	-	-	-	-	-	-	-	DOR
S-1000B	25+64	18	40	1	1	JR	-	NT	Cross drain, S-1000B1 intersection
S-1000B	28+80	18	30	1	1	JR	-	NT	Cross drain
S-1000B	30+99	18	30	1	1	JR	-	NT	Cross drain
S-1000B	34+04	18	30	1	1	JR	-	NT	Cross drain
S-1000B	36+67	18	30	1	1	JR	-	NT	Cross drain
S-1000B	40+06	18	30	1	1	JR	-	NT	Cross drain
S-1000B	43+11	18	30	1	1	JR	-	NT	Cross drain, sag
S-1000B1	1+77	18	30	1	1	JR	-	NT	Cross drain
S-1011	5+65	18	30	1	1	JR	-	NT	Cross drain
S-1011	8+97	18	30	1	1	JR	-	NT	Cross drain, sag
S-1011	13+08	18	30	1	1	JR	-	NT	Cross drain
S-1011	14+94	18	30	1	1	JR	-	NT	Cross drain, sag
S-8054A1	2+34	18	30	1	1	JR	-	NT	Cross drain, sag
S-8054A1	7+24	18	30	1	1	JR	-	NT	Cross drain
S-8054A1	13+09	18	30	1	1	JR	-	NT	Cross drain, sag
S-8054	55+46	18	40	1	1	JR	30	CR	Cross drain, S-8054B intersection

Key

- CR- 1 1/4-INCH MINUS CRUSHED ROCK
- JR- 4-INCH JAW RUN ROCK
- NT- NATIVE MATERIAL
- DOL- Ditchout left
- DOR- Ditchout right

COMPACTION LIST

				<u>Maximum</u>				<u>Maximum</u>	<u>Maximum</u>
				<u>Depth</u>		<u>Equipment</u>	<u>Minimum</u>	<u>Operating</u>	<u>Amount of</u>
<u>Road</u>	<u>From</u>	<u>To</u>		<u>Per Lift</u>	<u>Equipment</u>	<u>Weight</u>	<u>Number</u>	<u>Speed</u>	<u>Deflection</u>
<u>Name</u>	<u>Station</u>	<u>Station</u>	<u>Type</u>	<u>(inches)</u>	<u>Type</u>	<u>(pounds)</u>	<u>of Passes</u>	<u>(MPH)</u>	<u>(inches)</u>
All	-	-	Existing Surface	-	Vibratory Smooth Drum	20000	5	3	1
All	-	-	Subgrade	-	Vibratory Smooth Drum	20000	4	3	1
All	-	-	Embankment	12	Excavation	30000	4	3	2
All	-	-	Fill	24	Excavation	30000	4	3	2
All	-	-	Rock	-	Vibratory Smooth Drum	20000	5	3	1
All	-	-	Waste Area	24	Excavation	30000	-	-	4

DRAFT

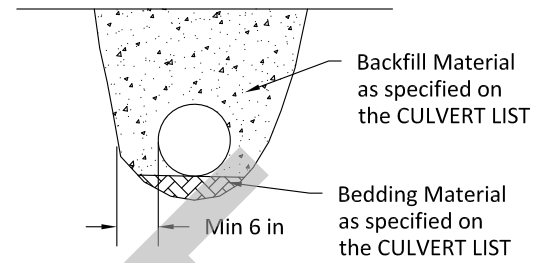
CULVERT AND DRAINAGE SPECIFICATION DETAIL
PAGE 1 OF 2

INSTALLATION REQUIREMENTS:

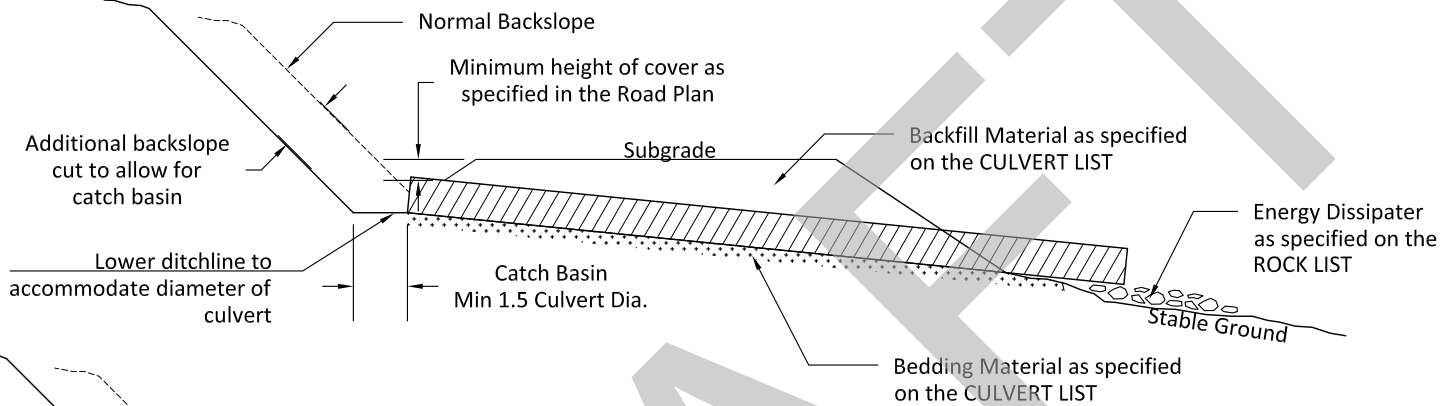
1. Proper preparation of foundation and placement of any required bedding material shall precede the installation of all culverts. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform, dense, unyielding base. The pipe must be uniformly supported along the barrel.
2. Backfill material shall be compacted under the culvert haunches, around the sides, and above the culvert in accordance with the COMPACTION LIST.

ALL DRAWINGS ARE NOT TO SCALE

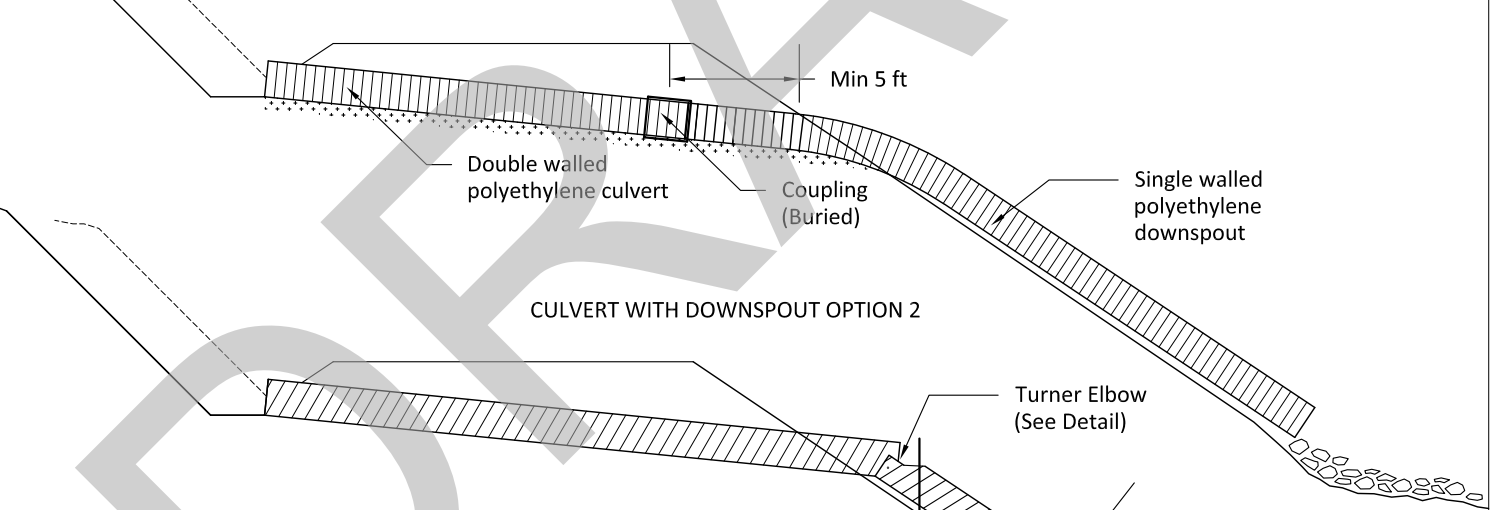
CROSS SECTION



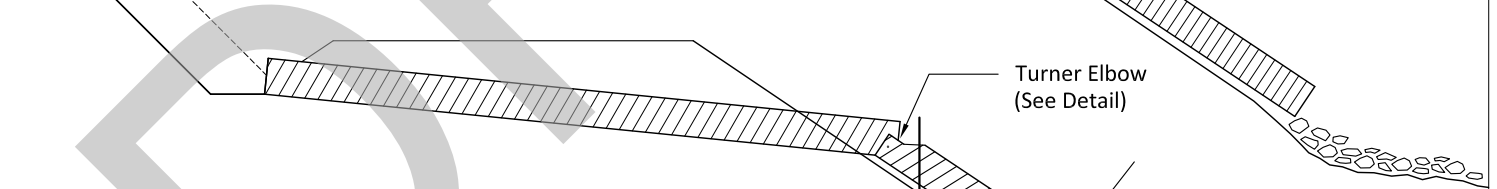
CULVERT PROFILE (TYPICAL)



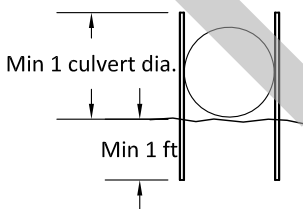
CULVERT WITH DOWNSPOUT OPTION 1



CULVERT WITH DOWNSPOUT OPTION 2

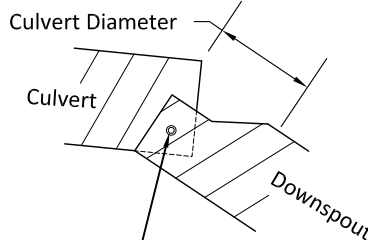


SUPPORT STAKES



Stake Material: T-post with rust protection coating.
Connections: Bolt support stakes to the culvert with $\frac{5}{8}$ " u-bolts, with washers on both the inside and outside of the culvert.
Alternative staking methods may be approved, in writing, by the Contract Administrator.

TURNER ELBOW

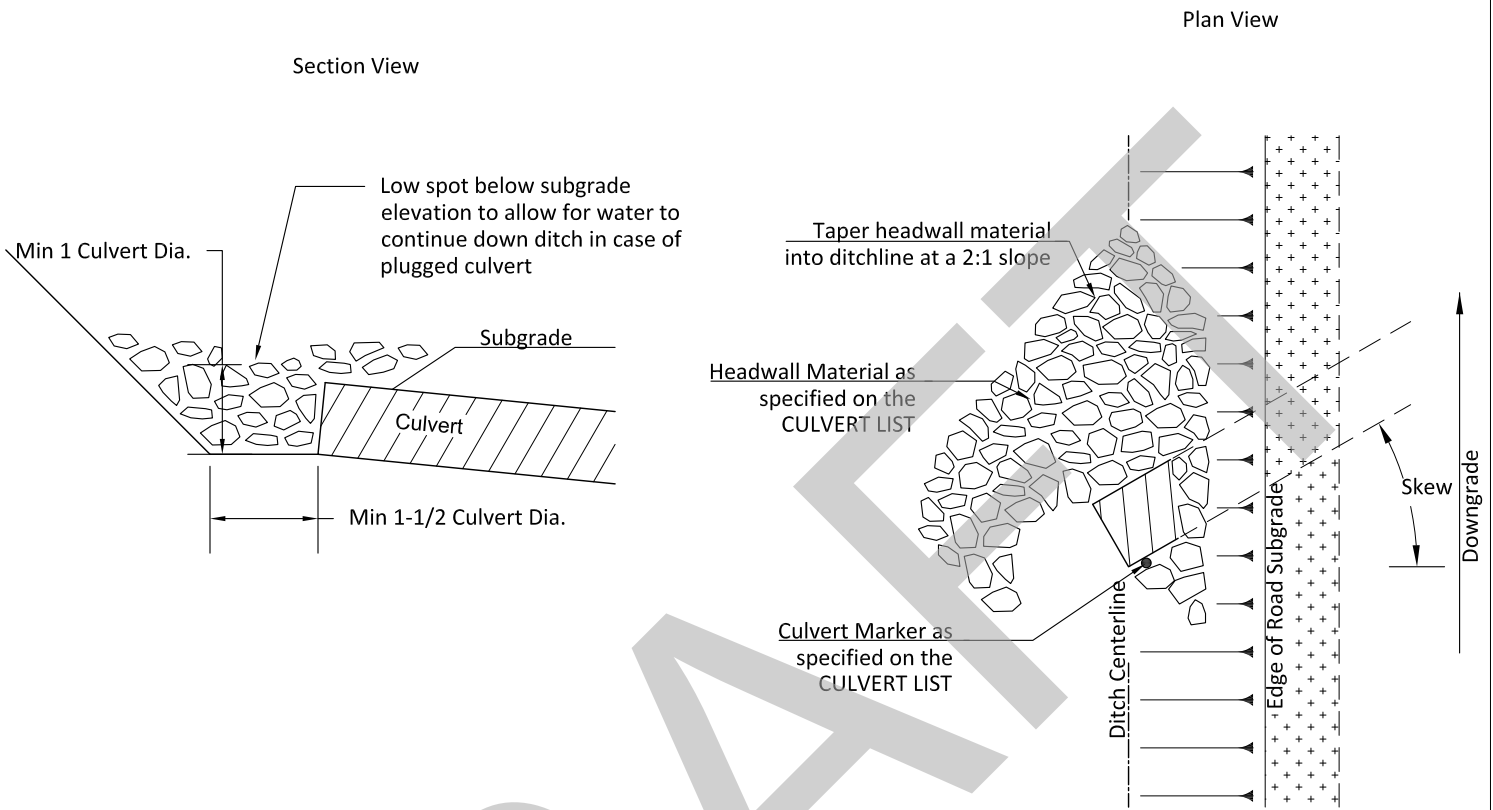


Bolted with $\frac{5}{8}$ " galvanized bolts and washers (both sides)
Downspout must be 6 inches larger in diameter than the culvert.

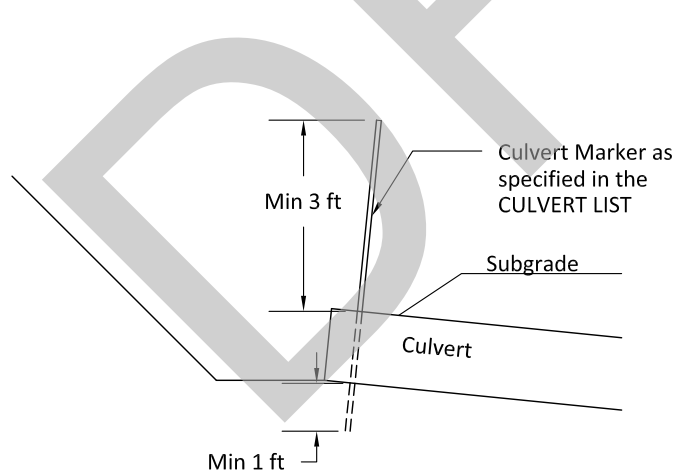
Support Stakes (See Detail)

CULVERT AND DRAINAGE SPECIFICATION DETAIL
PAGE 2 OF 2

HEADWALLS

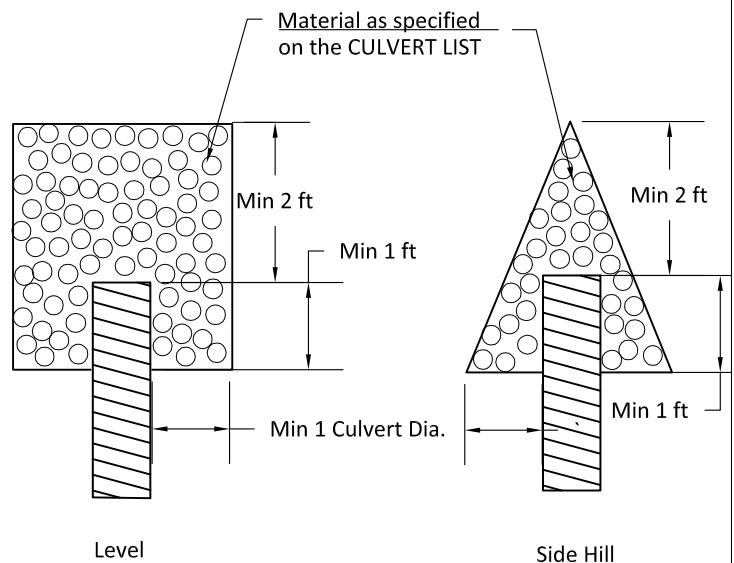


CULVERT MARKERS



Culvert Marker Material: 1 Inch I.D., Schedule 40 PVC Pipe, White. Marker must be capped on the top.
 Culvert Marker Placement: Place on uphill side of culvert, between corrugations if possible.
 Alternative culvert marker types may be approved, in writing, by the Contract Administrator.

ENERGY DISSIPATERS



Min Energy Dissipater Depth: 1 Culvert Dia.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the construction materials. Remove slides from ditches and the roadway. Repair fill-failures with selected material or material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

Surface

- Grade and shape the road surface, turnouts, and shoulders to the original shape on the TYPICAL SECTION SHEET to provide a smooth, rut-free traveled surface and maintain surface water runoff in an even, unconcentrated manner.
- Blading shall not undercut the backslope or cut into geotextile fabric on the road.
- If required by the Contract Administrator, water shall be applied as necessary to control dust and retain fine surface rock.
- Surface material shall not be bladed off the roadway. Replace surface material when lost or worn away, or as directed by the Contract Administrator.
- Remove shoulder berms, created by grading, to facilitate drainage, except as marked or directed by the Contract Administrator.
- For roads with geotextile fabric: spread surface aggregate to fill in soft spots and wheel ruts (barrel spread) to prevent damage to the geotextile fabric.

Drainage

- Prevent silt bearing road surface and ditch runoff from delivering sediment to any streams or wetlands.
- Maintain rolling dips and drivable waterbars as needed to keep them functioning as intended.
- Maintain headwalls to the road shoulder level with material that will resist erosion.
- Maintain energy dissipaters at culvert outlets with non-erodible material or rock.
- Keep ditches, culverts, and other drainage structures clear of obstructions and functioning as intended.
- Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This shall be done even during periods of inactivity.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

Preventative Maintenance

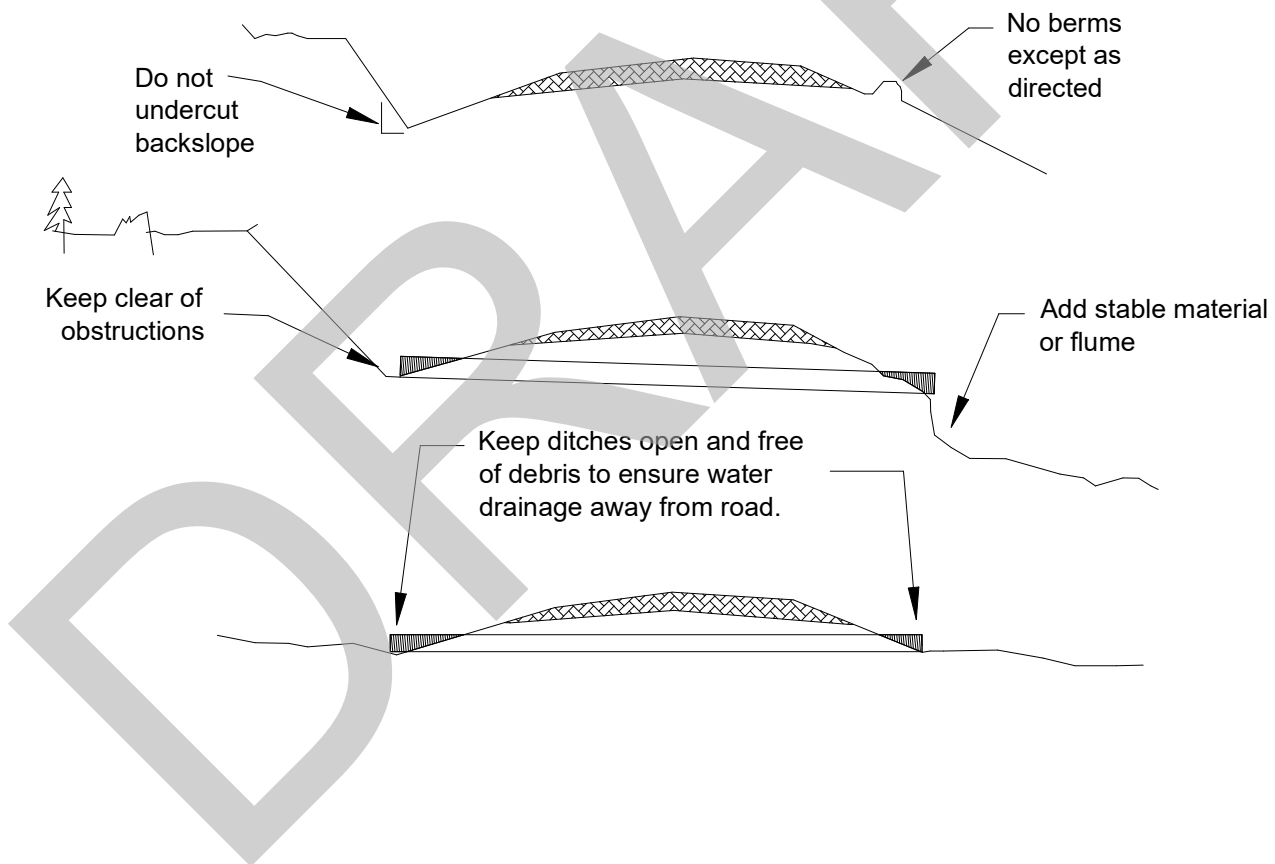
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

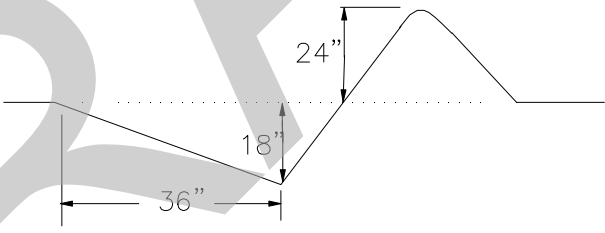
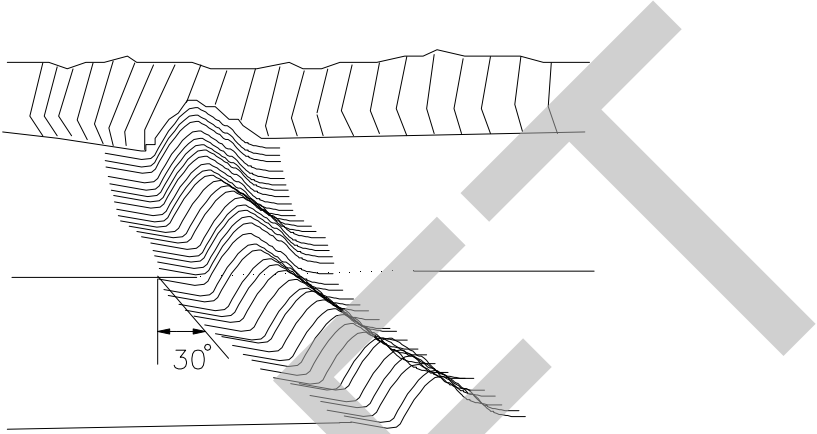
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



NON-DRIVABLE WATER BAR DETAIL



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

DABBLER ROCK SOURCE DEVELOPMENT PLAN
S-8054A Pit
Page 1 of 3

1. Mining shall be within the Mining Area as shown on the MAP.
2. Vegetation shall be cleared a minimum of $\frac{3}{4}$ tree height beyond the top of the overburden top of cut.
3. Stumps shall be grubbed a minimum of 5 feet beyond the top of the overburden top of cut.
4. Overburden shall be stripped to rock a minimum of 5 feet beyond the top of all pit faces and sloped no steeper than a 1:1 to daylight.
5. The Operator shall submit an informational drilling and shooting plan to the Contract Administrator prior to any drilling. (Form #M-126PAC)
6. Drilling and rock extraction may begin when the Contract Administrator has approved the clearing and grubbing, overburden removal, and informational drilling and shooting plan.
7. Pit faces shall not exceed 30 feet in height. Faces shall be sloped at $\frac{1}{4}$:1. Working bench width shall be a minimum of 20 feet.
8. The pit floor shall have continuity of slope and be left in a smooth and neat condition, providing drainage at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques.
9. No sediment shall enter live water.
10. The location and amount of material to be placed in a temporary stockpile are subject to approval of the Contract Administrator. All stockpiled material shall be maintained in a neat and useable condition.
11. Oversize material remaining in the pit at the conclusion of use shall not exceed 5 percent of the total volume mined during that operation. Oversize material is defined as rock fragments larger than two feet in any direction. At the conclusion of operations, all remaining oversize material shall be placed as directed by the Contract Administrator.
12. All operations shall be carried out in compliance with all regulations of:
 - a. Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
 - b. "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.

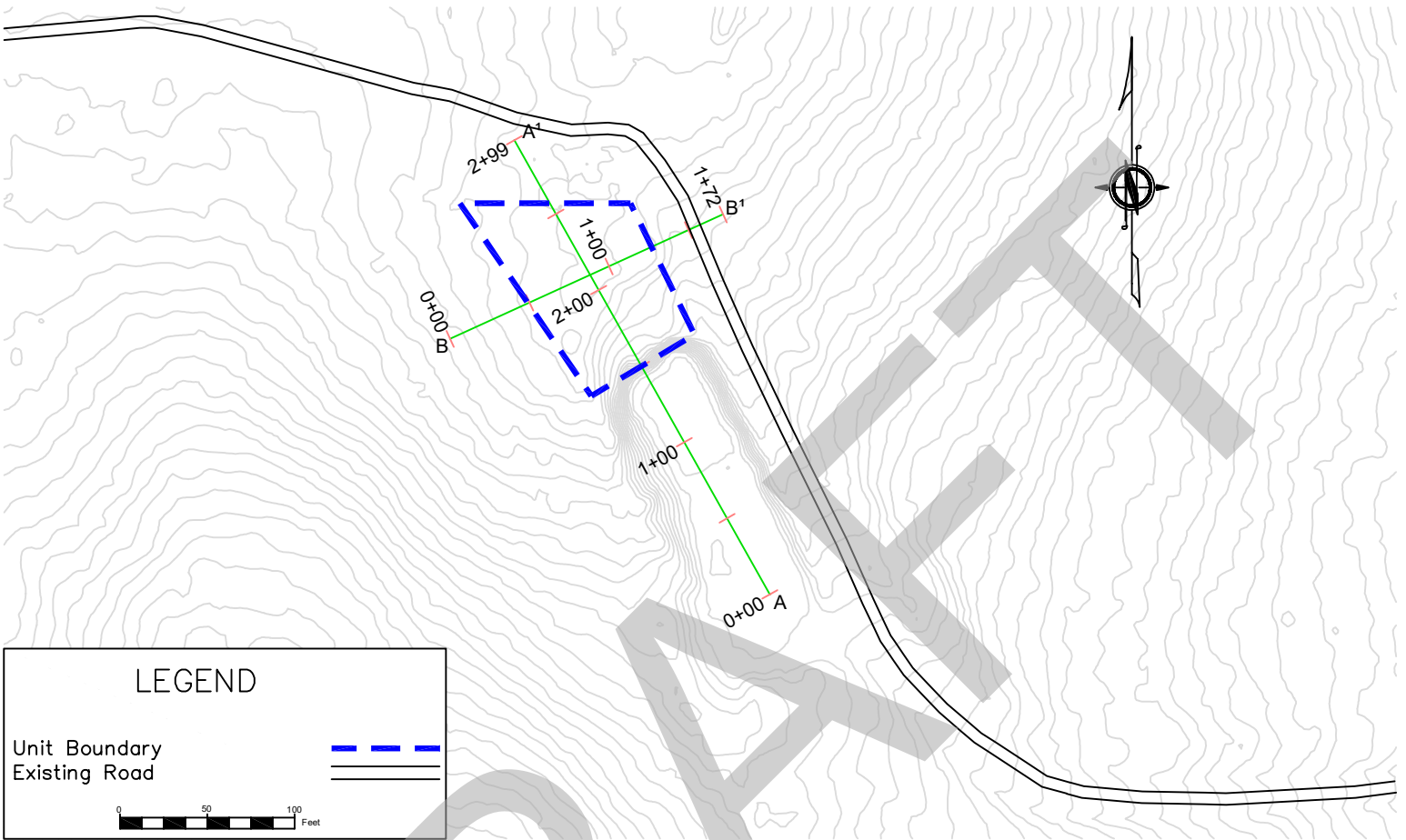
STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

DABBLER ROCK SOURCE DEVELOPMENT PLAN
S-8054A Pit
Page 2 of 3

13. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material; benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life.
14. All exposed soil in the waste area shall be revegetated in accordance with ROAD PLAN clause 8-15 through 8-25.
15. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.
16. Upon completion of operations, the site shall be cleared of all temporary structures and left in a neat and presentable condition. Access shall be blocked with rip rap as directed by the Contract Administrator.
17. At the completion of rock source operations, the Contractor shall obtain written approval of final rock source condition and compliance with the terms of this plan.

DABBLER ROCK SOURCE DEVELOPMENT PLAN

S-8054A Pit
Page 3 of 3



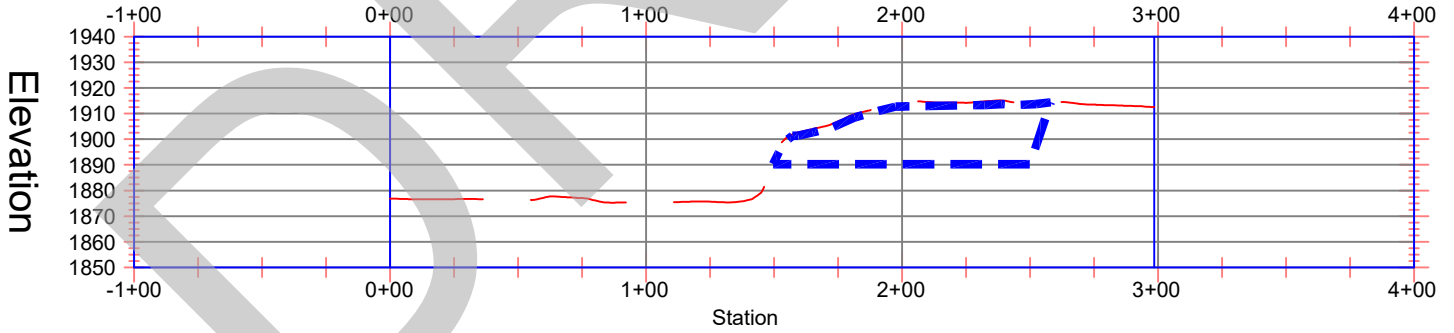
LEGEND

Unit Boundary
Existing Road



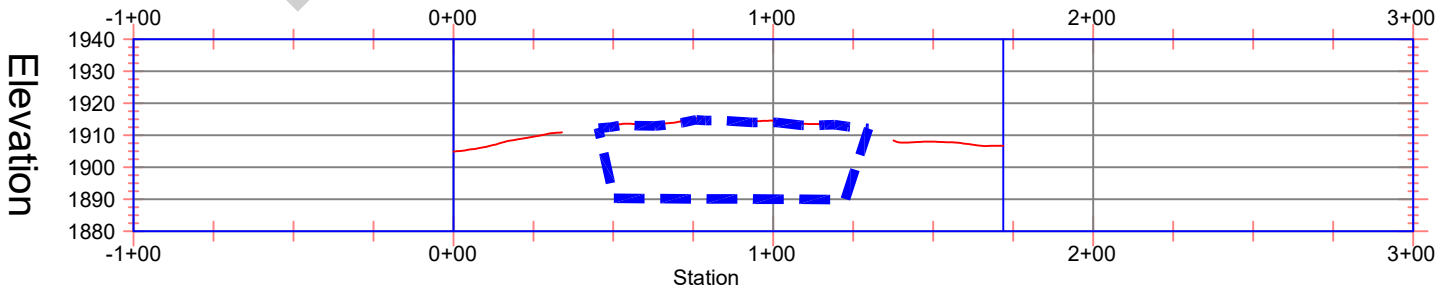
CROSS SECTION PROFILE

Not to Scale
A - A'



CROSS SECTION PROFILE

Not to Scale
B - B'



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
PACIFIC CASCADE REGION

INFORMATIONAL BLASTING PLAN

Timber Sale/Project Name: _____ App./Project No.: _____

1. Blaster-in-Charge: Name: _____
Company: _____
Address: _____
Telephone: _____
2. Quarry Name/Location: _____
3. Total Estimated Cubic Yards in Blast (loose): _____
4. Hole Spacing: _____
5. Burden: _____
6. Hole Diameter: _____
7. Hole Depth: _____
8. Sub Drill: _____
9. Number of Holes: _____
10. Stemming Depth: _____
11. Explosive (mfg., name, density, %, V.O.D.): _____
12. Type and Size of Primer (if applicable): _____
13. Total Weight of Primers for Shot: _____
14. Calculated Powder Factor/Cubic Yard: _____
15. Number of Delays (in M.S.): _____

M-126PAC (03/04)

INFORMATIONAL BLASTING PLAN

Page 2 of 3

16. Number of Holes Fired on Each Delay: _____

17. Total Amount of Explosives Fired on Each Delay: _____

18. Type of Blasting Machine: _____

19. Date, Start Drilling: _____

20. Date and Time, Start Loading: _____

21. Date and Time of Blast (approx.): _____

DRAFT

INFORMATIONAL BLASTING PLAN

Page 3 of 3

22. Detail drawing of delay system (show hole pattern and delays in milliseconds). Attach additional sheets if required:

23. Typical cross-section of hole (show primer, main charge, sub drill, and stemming):

23. Submitted by: _____ Date: _____

24. Received by: _____ Date: _____

Note: Attach copies of manufacturer=s data sheet(s) for explosive and caps.

M-126PAC (03/04)

SUMMARY Road Development Estimate
 REGION Pacific Cascade
 DISTRICT St Helens

SALE/PROJECT NAME Dabblers

AGREEMENT NO. 30-106156

ROAD NAME	S-1000B, S-8054B	S-1000B, S-1000B1, S-1011, S-8054A1	Rashford Spur, S-1000, S-1010, S-8050, S-8054, S-8054A
ROAD STANDARD	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS	16+22	74+47	254+49
CLEARING & GRUBBING	\$ 5,028	\$ 17,671	\$ -
EXCAVATION AND FILL	\$ 8,852	\$ 20,279	\$ -
MISC. MAINTENANCE	\$ 271	\$ 622	\$ 8,252
ROAD ROCK	Optional \$ 49,996 Required \$ - Total \$ 49,996	\$ 62,365 \$ 63,411 \$ 125,776	\$ - \$ 16,976 \$ 16,976
ROCK STOCKPILE PROD	\$ -	\$ -	\$ -
CULVERTS AND FLUMES	\$ 1,880	\$ 9,782	\$ 1,672
STRUCTURES	\$ -	\$ -	\$ -
MOBILIZATION	\$ 3,033	\$ 3,033	\$ 3,033
TOTAL COSTS	\$ 69,061	\$ 177,164	\$ 29,933
COST PER STATION	\$ 4,258	\$ 2,379	\$ 117.62
ROAD DEACTIVATION & ABANDONMENT COSTS		\$ 6,316	

TOTAL (All Roads) \$282,474
TOTAL (Minus Optional Rock) \$170,114
SALE VOLUME MBF 6050
TOTAL \$/MBF \$ 46.69
TOTAL \$/MBF (Minus Optional Rock) \$ 28.12

ESTIMATED BY Brett Wallachy

ROCK SOURCE SUMMARY

SALE/PROJECT NAME Dabbler
CONTRACT # 30-106156

PIT NAME S-8054A Pit
LOCATION S36 T6N R4E

ASSUMED COMMERCIAL SOURCE Storedahl Mountain Top
ASSUMED ROCK SWELL FACTOR LOOSE/COMPACTED 1.25
ASSUMED ROCK DENSITY TONS/CY 1.3

DRAFT

MOBILIZATION

SALE/PROJECT NAME Dabbler
CONTRACT # 30-106156

PRE-HAUL/CONSTRUCTION EQUIPMENT

MOBILIZATION

Grader	\$ 1,000	each x 1	\$ 1,000
Loader	\$ 1,000	each x 1	\$ 1,000
Dump truck	\$ 100	each x 6	\$ 600
Dozer, small	\$ 500	each x 1	\$ 500
Dozer, large	\$ 1,000	each x 1	\$ 1,000
Excavator, small	\$ 500	each x 1	\$ 500
Excavator, large	\$ 1,000	each x 1	\$ 1,000
Roller	\$ 500	each x 1	\$ 500
Rock drill	\$ 1,000	each x 1	\$ 1,000
Jaw	\$ 2,000	each x 1	\$ 2,000
Jaw & cone	\$ 4,000	each x 0	\$ -

MOBILIZATION TOTAL \$ 9,100

SUMMARY OF ROAD

SALE/PROJECT NAME Dabbler
CONTRACT # 30-106156
ROAD NAME Rashford Spur

Required pre-haul maintenance (stations) 15+64
Distance to commercial rock source (miles) 15.6

REQUIRED PRE-HAUL MAINTENANCE

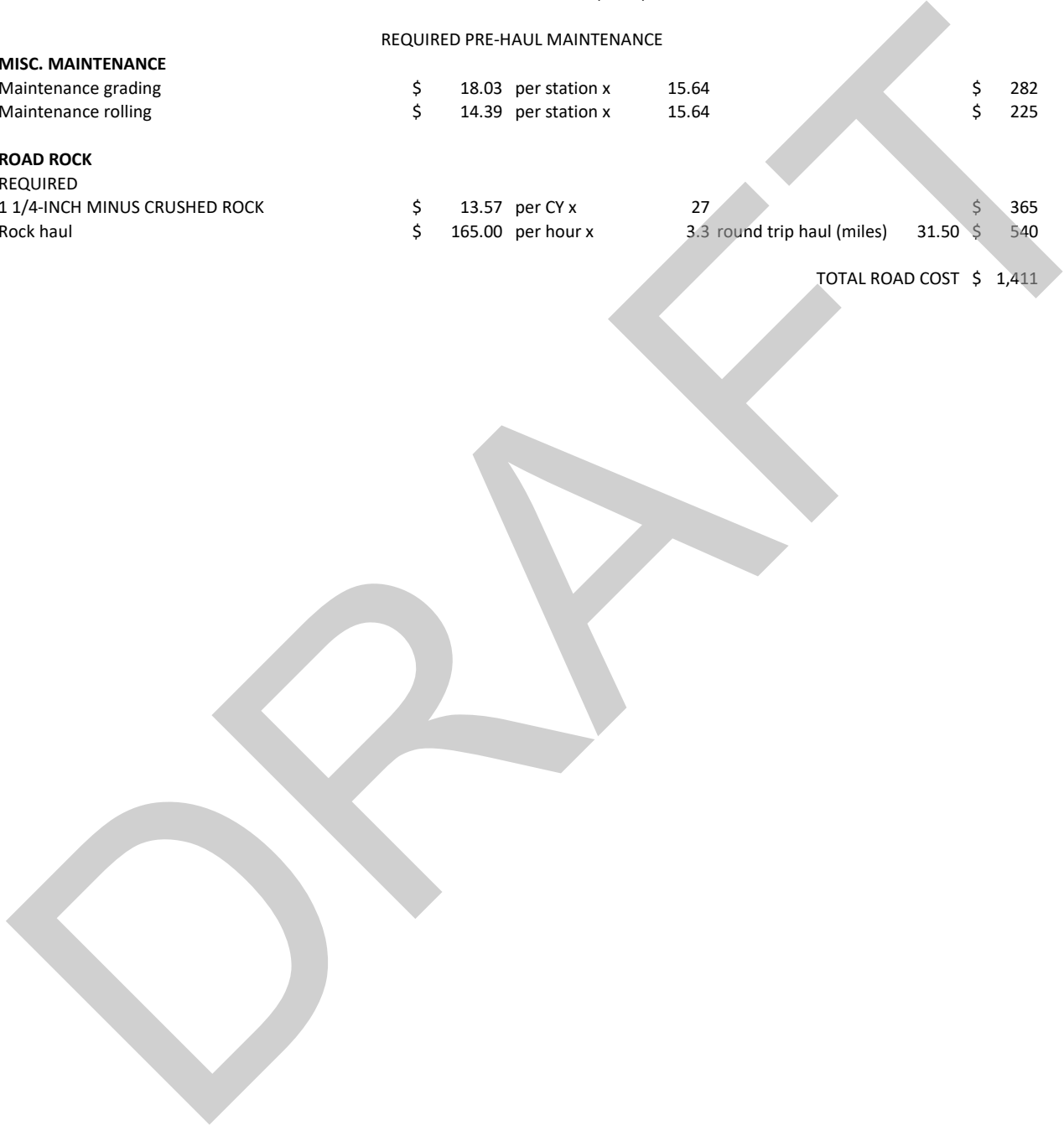
MISC. MAINTENANCE

Maintenance grading	\$ 18.03	per station x	15.64	\$ 282
Maintenance rolling	\$ 14.39	per station x	15.64	\$ 225

ROAD ROCK

REQUIRED				
1 1/4-INCH MINUS CRUSHED ROCK	\$ 13.57	per CY x	27	\$ 365
Rock haul	\$ 165.00	per hour x	3.3 round trip haul (miles)	31.50 \$ 540

TOTAL ROAD COST \$ 1,411



SUMMARY OF ROAD

SALE/PROJECT NAME Dabbler
CONTRACT # 30-106156
ROAD NAME S-1000

Required pre-haul maintenance (stations) 105+48
Distance to commercial rock source (miles) 15.9

REQUIRED PRE-HAUL MAINTENANCE

MISC. MAINTENANCE

Maintenance grading	\$ 18.03 per station x	105.48	\$ 1,902
Maintenance rolling	\$ 14.39 per station x	105.48	\$ 1,518

ROAD ROCK

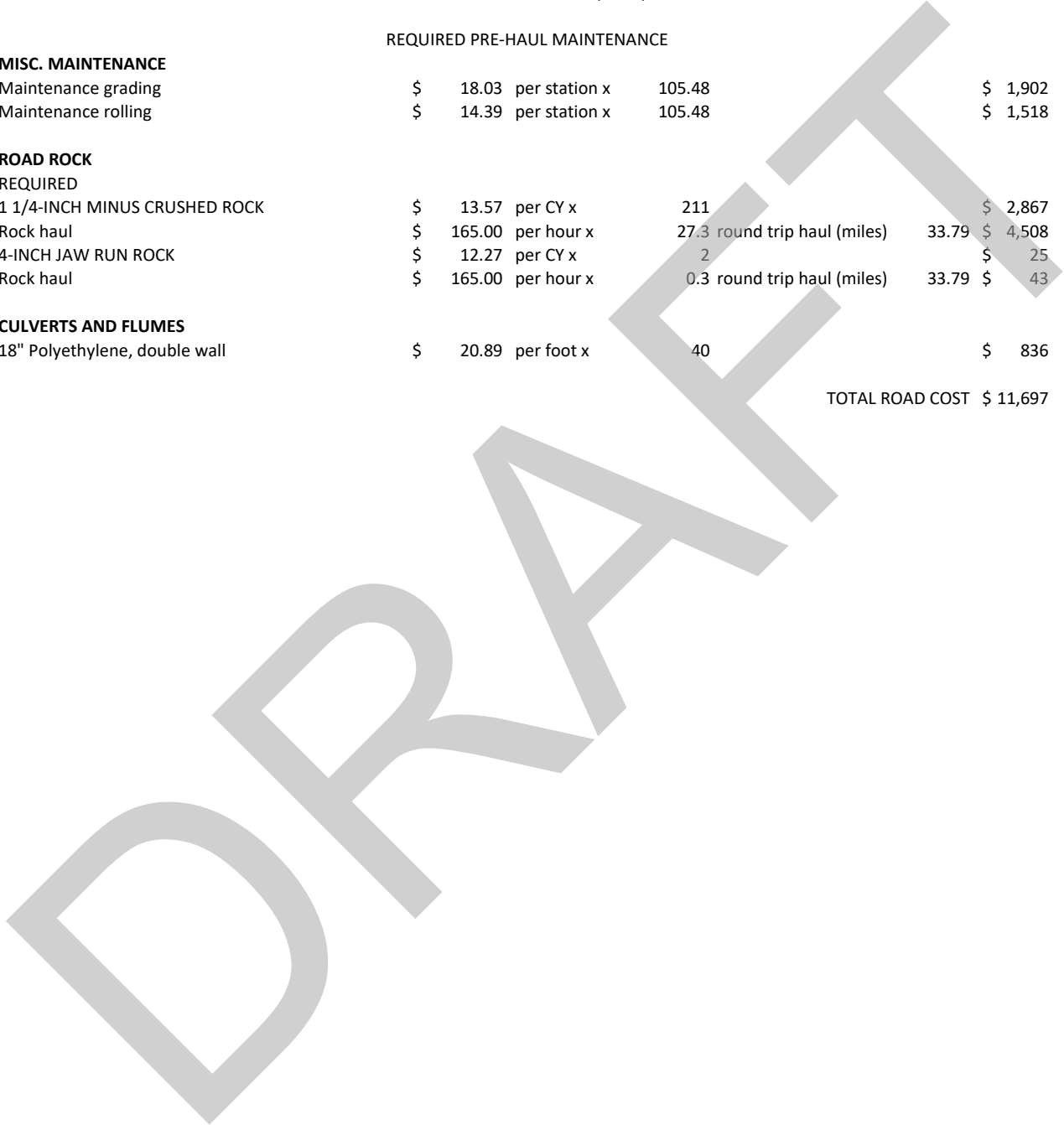
REQUIRED

1 1/4-INCH MINUS CRUSHED ROCK	\$ 13.57 per CY x	211	\$ 2,867
Rock haul	\$ 165.00 per hour x	27.3 round trip haul (miles)	33.79 \$ 4,508
4-INCH JAW RUN ROCK	\$ 12.27 per CY x	2	\$ 25
Rock haul	\$ 165.00 per hour x	0.3 round trip haul (miles)	33.79 \$ 43

CULVERTS AND FLUMES

18" Polyethylene, double wall	\$ 20.89 per foot x	40	\$ 836
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TOTAL ROAD COST \$ 11,697



SUMMARY OF ROAD

SALE/PROJECT NAME Dabblers
 CONTRACT # 30-106156
 ROAD NAME S-1000B

Total road length (stations) 47+74
 Required reconstruction (stations) 36+67
 Distance to S-8054A Pit (miles) 2.1
 Optional construction (stations) 11+07
 Distance to S-8054A Pit (miles) 2.8

REQUIRED RECONSTRUCTION

CLEARING & GRUBBING

Clearing & grubbing \$ 232.50 per station x 36.67 \$ 8,526

EXCAVATION AND FILL

Reconstruction \$ 197.40 per station x 36.67 \$ 7,239
 Turnout \$ 284.00 each x 1 \$ 284
 Shape & compact subgrade \$ 36.03 per station x 36.67 \$ 1,321

MISC. MAINTENANCE

Grass seeding \$ 3.64 per pound x 84 \$ 306

ROAD ROCK

REQUIRED

4-INCH JAW RUN ROCK \$ 12.27 per CY x 2430 \$ 29,808
 Rock haul \$ 165.00 per hour x 159 round trip haul (miles) 4.86 \$ 26,175
 Spread & compact rock \$ 3.06 per CY x 2430 \$ 7,429

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 20.89 per foot x 220 \$ 4,597

REQUIRED RECONSTRUCTION SUBTOTAL \$ 85,684

OPTIONAL CONSTRUCTION

CLEARING & GRUBBING

Clearing & grubbing \$ 310.00 per station x 11.07 \$ 3,432

EXCAVATION AND FILL

Construction \$ 460.60 per station x 11.07 \$ 5,099
 Landing \$ 284.00 each x 1 \$ 284
 Turnaround \$ 284.00 each x 1 \$ 284
 Shape & compact subgrade \$ 36.03 per station x 11.07 \$ 399

MISC. MAINTENANCE

Grass seeding \$ 3.64 per pound x 51 \$ 185

ROAD ROCK

OPTIONAL

4-INCH JAW RUN ROCK \$ 12.27 per CY x 1310 \$ 16,069
 Rock haul \$ 165.00 per hour x 97 round trip haul (miles) 5.73 \$ 15,996
 Spread & compact rock \$ 3.06 per CY x 1310 \$ 4,005

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 20.89 per foot x 90 \$ 1,880

ROAD DEACTIVATION & ABANDONMENT

Light abandonment \$ 143.50 per station x 22.10 \$ 3,171
 Cross drain removal and disposal \$ 370.00 each x 8 \$ 2,960
 Grass seeding \$ 3.64 per pound x 51 \$ 185

OPTIONAL CONSTRUCTION SUBTOTAL \$ 53,949

TOTAL ROAD COST \$ 139,633

SUMMARY OF ROAD

SALE/PROJECT NAME Dabbler
CONTRACT # 30-106156
ROAD NAME S-1000B1

Optional reconstruction (stations) 4+60
Distance to S-8054A Pit (miles) 2.5
Distance to waste area (miles) 0.00

OPTIONAL RECONSTRUCTION

CLEARING & GRUBBING

Clearing & grubbing \$ 310.00 per station x 4.60 \$ 1,426

EXCAVATION AND FILL

Construction \$ 394.80 per station x 4.60 \$ 1,816

Landing \$ 284.00 each x 1 \$ 284

Turnaround \$ 284.00 each x 1 \$ 284

Shape & compact subgrade \$ 36.03 per station x 4.60 \$ 166

MISC. MAINTENANCE

Grass seeding \$ 3.64 per pound x 11 \$ 38

ROAD ROCK

OPTIONAL

4-INCH JAW RUN ROCK \$ 12.27 per CY x 406 \$ 4,980

Rock haul \$ 165.00 per hour x 27 round trip haul (miles) 5.10 \$ 4,536

Spread & compact rock \$ 3.06 per CY x 406 \$ 1,241

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 20.89 per foot x 30 \$ 627

TOTAL ROAD COST \$ 15,399

SUMMARY OF ROAD

SALE/PROJECT NAME Dabblar
CONTRACT # 30-106156
ROAD NAME S-1010

Required pre-haul maintenance (stations) 34+59
Distance to commercial rock source (miles) 17.9

REQUIRED PRE-HAUL MAINTENANCE

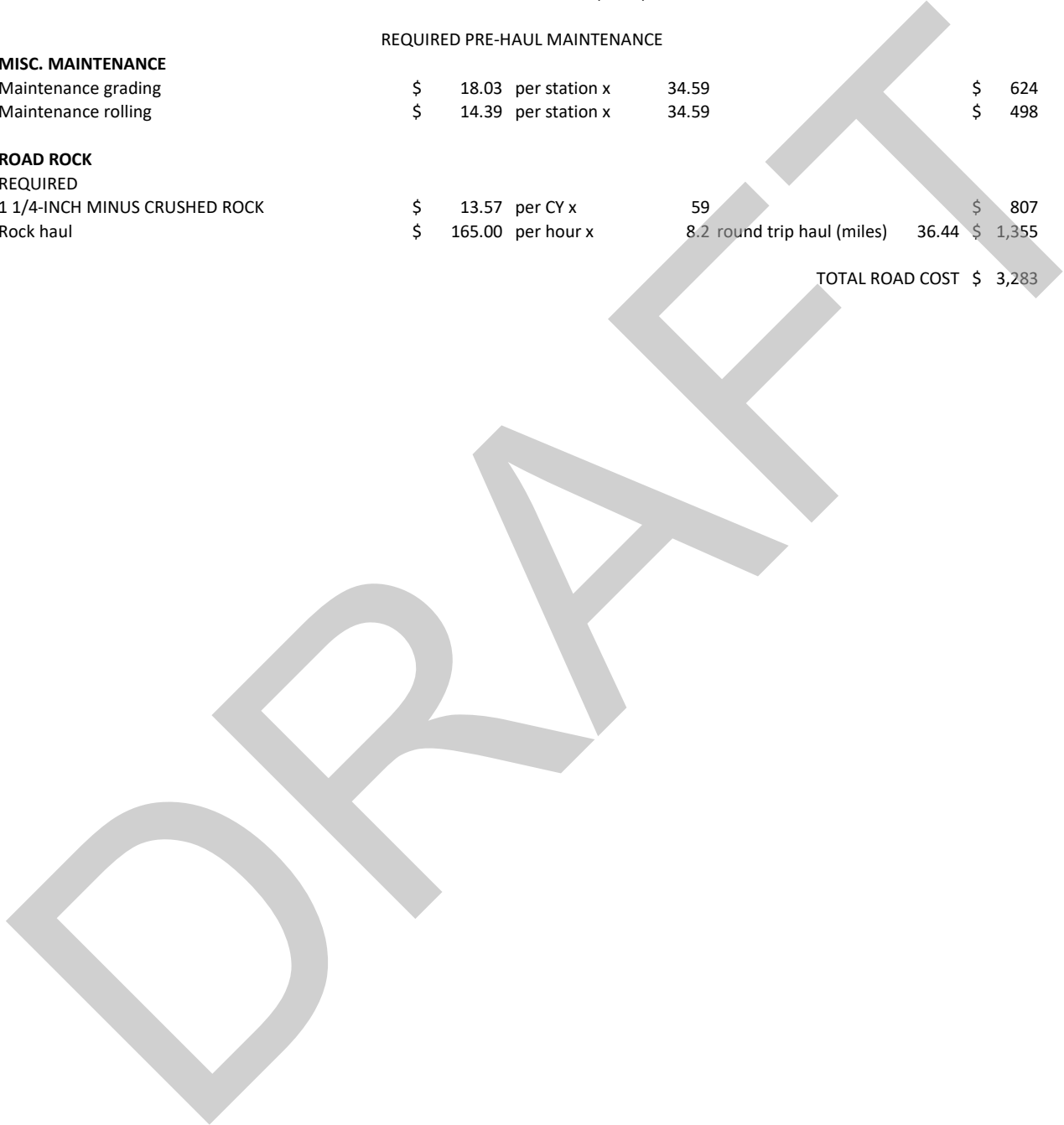
MISC. MAINTENANCE

Maintenance grading	\$ 18.03	per station x	34.59	\$ 624
Maintenance rolling	\$ 14.39	per station x	34.59	\$ 498

ROAD ROCK

REQUIRED				
1 1/4-INCH MINUS CRUSHED ROCK	\$ 13.57	per CY x	59	\$ 807
Rock haul	\$ 165.00	per hour x	8.2 round trip haul (miles) 36.44	\$ 1,355

TOTAL ROAD COST \$ 3,283



SUMMARY OF ROAD

SALE/PROJECT NAME Dabblers
 CONTRACT # 30-106156
 ROAD NAME S-1011

Optional reconstruction (stations) 19+11
 Distance to S-8054A Pit (miles) 1.5

OPTIONAL RECONSTRUCTION

CLEARING & GRUBBING

Clearing & grubbing \$ 232.50 per station x 19.11 \$ 4,443

EXCAVATION AND FILL

Reconstruction \$ 197.40 per station x 19.11 \$ 3,772

Landing \$ 284.00 each x 1 \$ 284

Turnaround \$ 284.00 each x 1 \$ 284

Shape & compact subgrade \$ 36.03 per station x 19.11 \$ 688

MISC. MAINTENANCE

Grass seeding \$ 3.64 per pound x 44 \$ 160

ROAD ROCK

OPTIONAL

4-INCH JAW RUN ROCK \$ 12.27 per CY x 1354 \$ 16,609

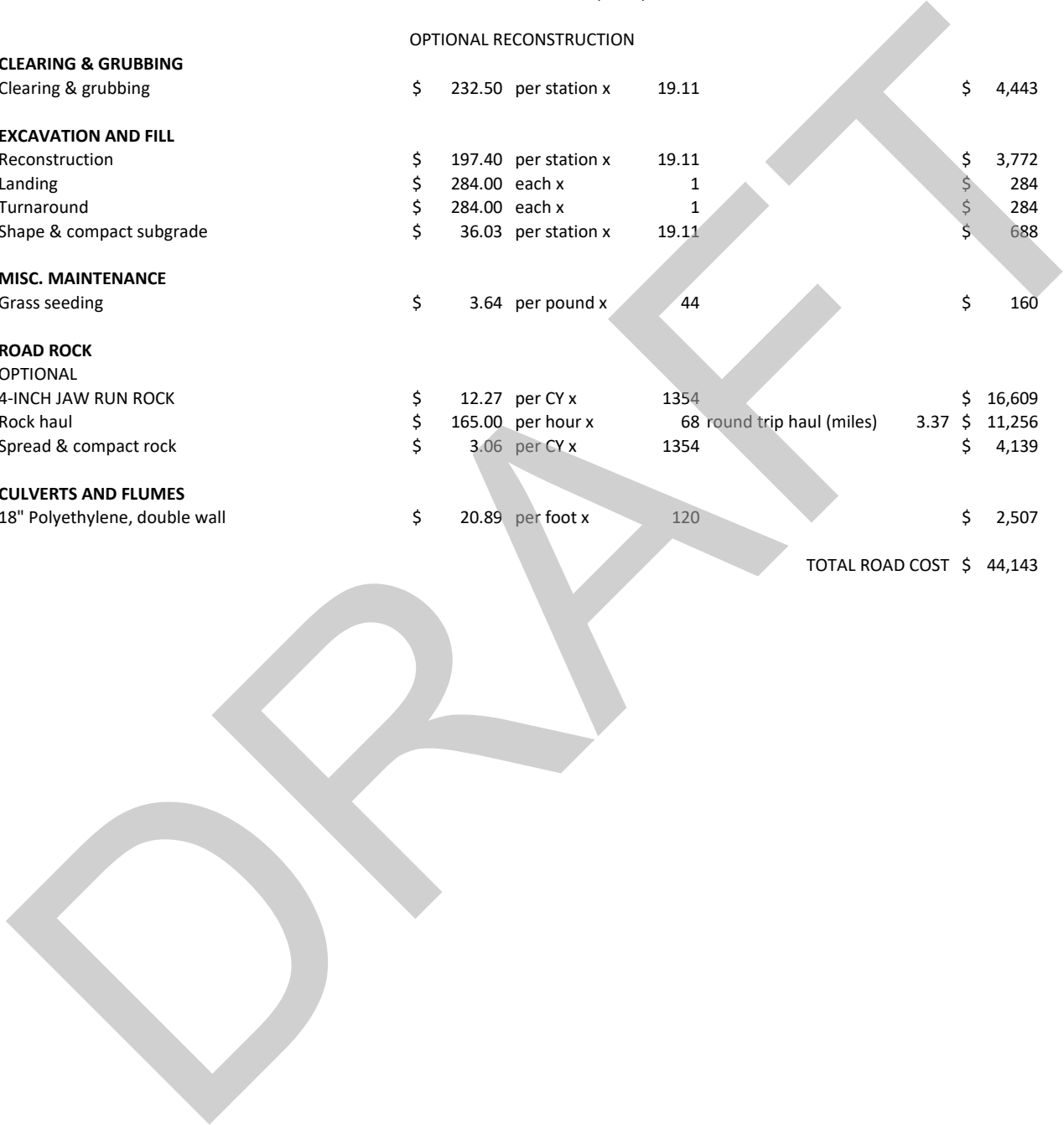
Rock haul \$ 165.00 per hour x 68 round trip haul (miles) 3.37 \$ 11,256

Spread & compact rock \$ 3.06 per CY x 1354 \$ 4,139

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 20.89 per foot x 120 \$ 2,507

TOTAL ROAD COST \$ 44,143



SUMMARY OF ROAD

SALE/PROJECT NAME Dabblers
CONTRACT # 30-106156
ROAD NAME S-8050

Required pre-haul maintenance (stations) 19+16
Distance to commercial rock source (miles) 18.5

REQUIRED PRE-HAUL MAINTENANCE

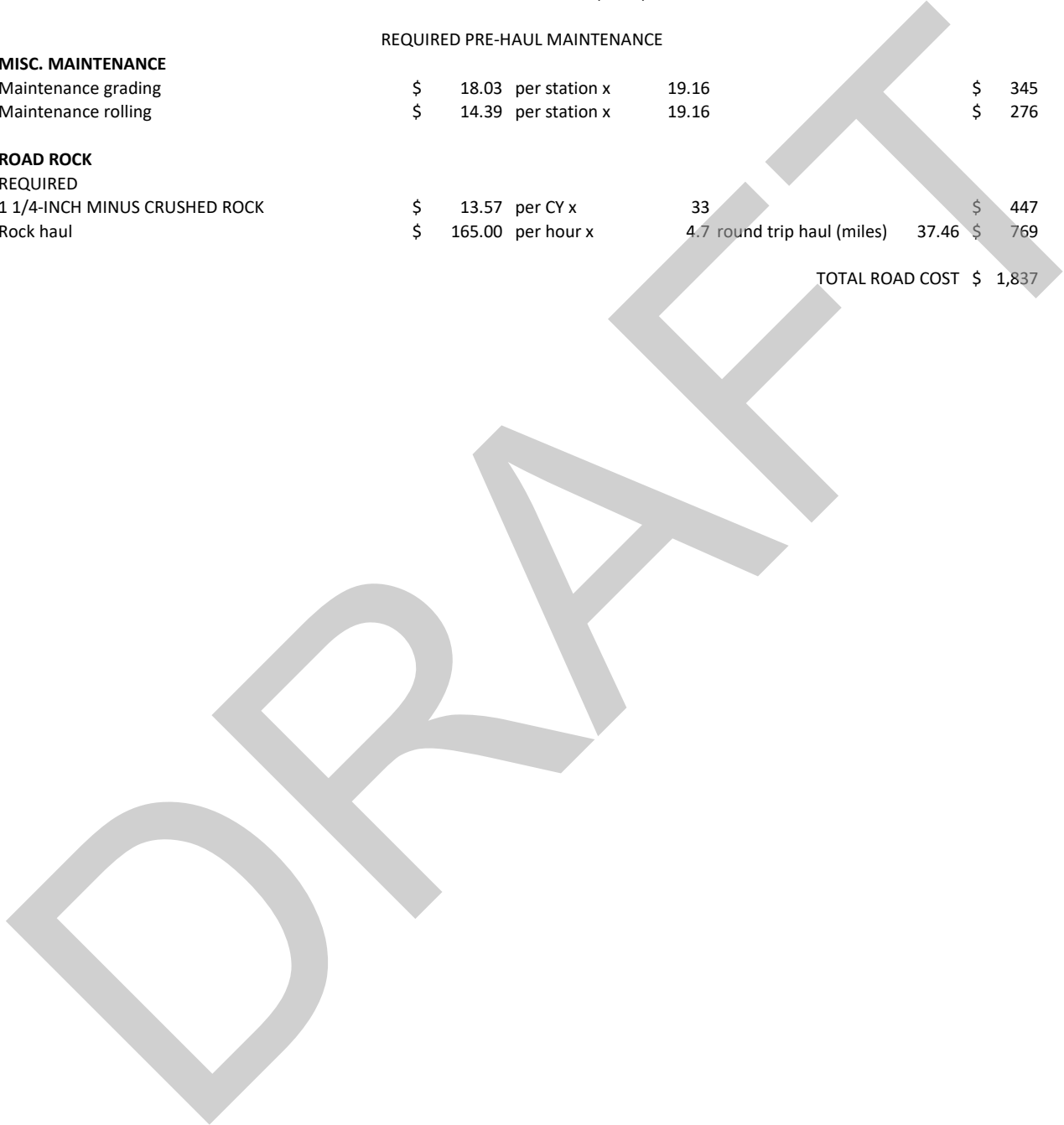
MISC. MAINTENANCE

Maintenance grading	\$ 18.03	per station x	19.16	\$ 345
Maintenance rolling	\$ 14.39	per station x	19.16	\$ 276

ROAD ROCK

REQUIRED				
1 1/4-INCH MINUS CRUSHED ROCK	\$ 13.57	per CY x	33	\$ 447
Rock haul	\$ 165.00	per hour x	4.7 round trip haul (miles) 37.46	\$ 769

TOTAL ROAD COST \$ 1,837



SUMMARY OF ROAD

SALE/PROJECT NAME Dabblar
 CONTRACT # 30-106156
 ROAD NAME S-8054

Required pre-haul maintenance (stations) 58+48
 Distance to commercial rock source (miles) 18.9

REQUIRED PRE-HAUL MAINTENANCE

MISC. MAINTENANCE

Maintenance grading	\$ 18.03	per station x	58.48	\$ 1,054
Maintenance rolling	\$ 14.39	per station x	58.48	\$ 842

ROAD ROCK

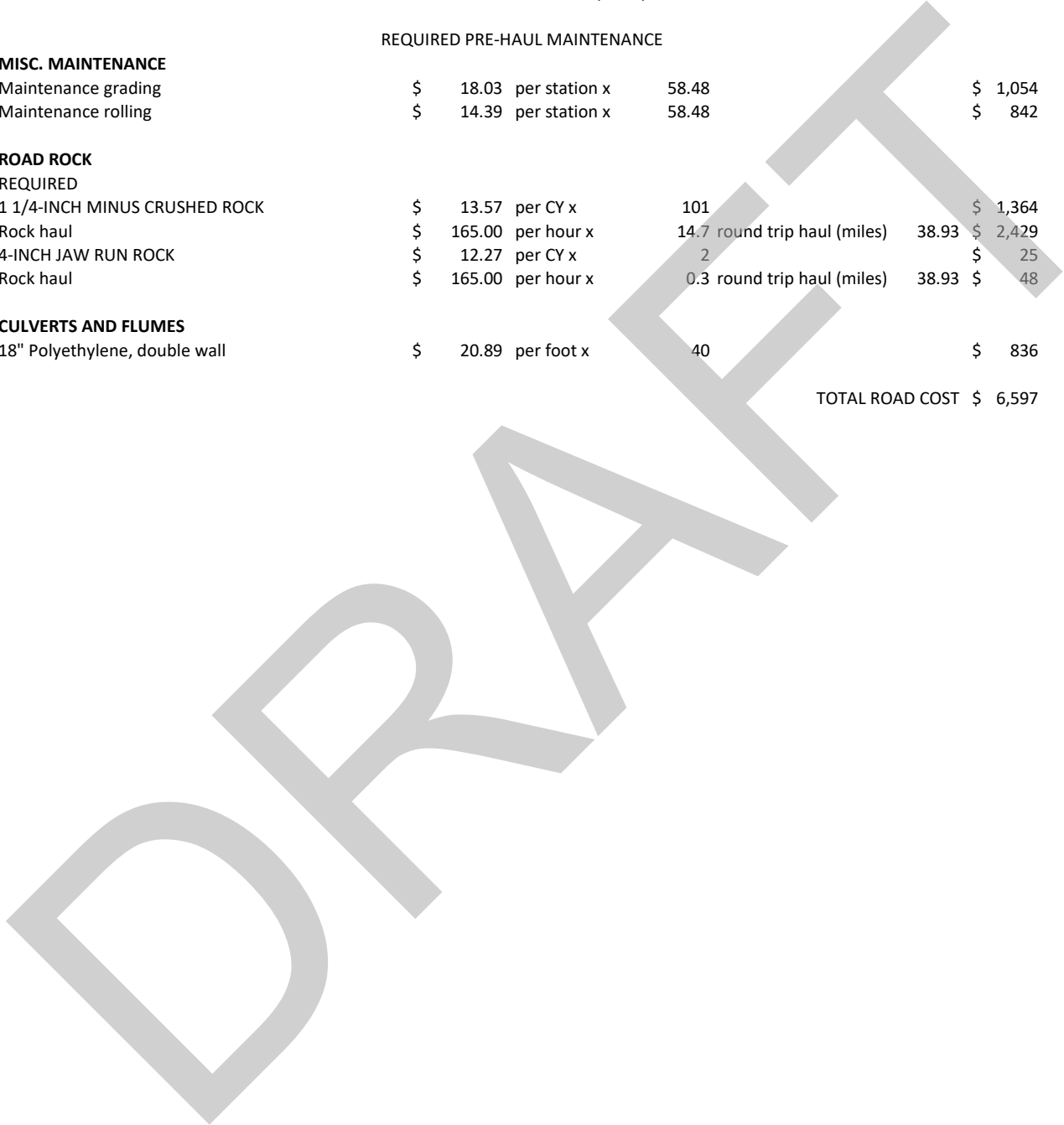
REQUIRED

1 1/4-INCH MINUS CRUSHED ROCK	\$ 13.57	per CY x	101	\$ 1,364
Rock haul	\$ 165.00	per hour x	14.7 round trip haul (miles)	38.93 \$ 2,429
4-INCH JAW RUN ROCK	\$ 12.27	per CY x	2	\$ 25
Rock haul	\$ 165.00	per hour x	0.3 round trip haul (miles)	38.93 \$ 48

CULVERTS AND FLUMES

18" Polyethylene, double wall	\$ 20.89	per foot x	40	\$ 836
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TOTAL ROAD COST \$ 6,597



SUMMARY OF ROAD

SALE/PROJECT NAME Dabbler
CONTRACT # 30-106156
ROAD NAME S-8054A

Required pre-haul maintenance (stations) 21+14
Distance to commercial rock source (miles) 19.7

REQUIRED PRE-HAUL MAINTENANCE

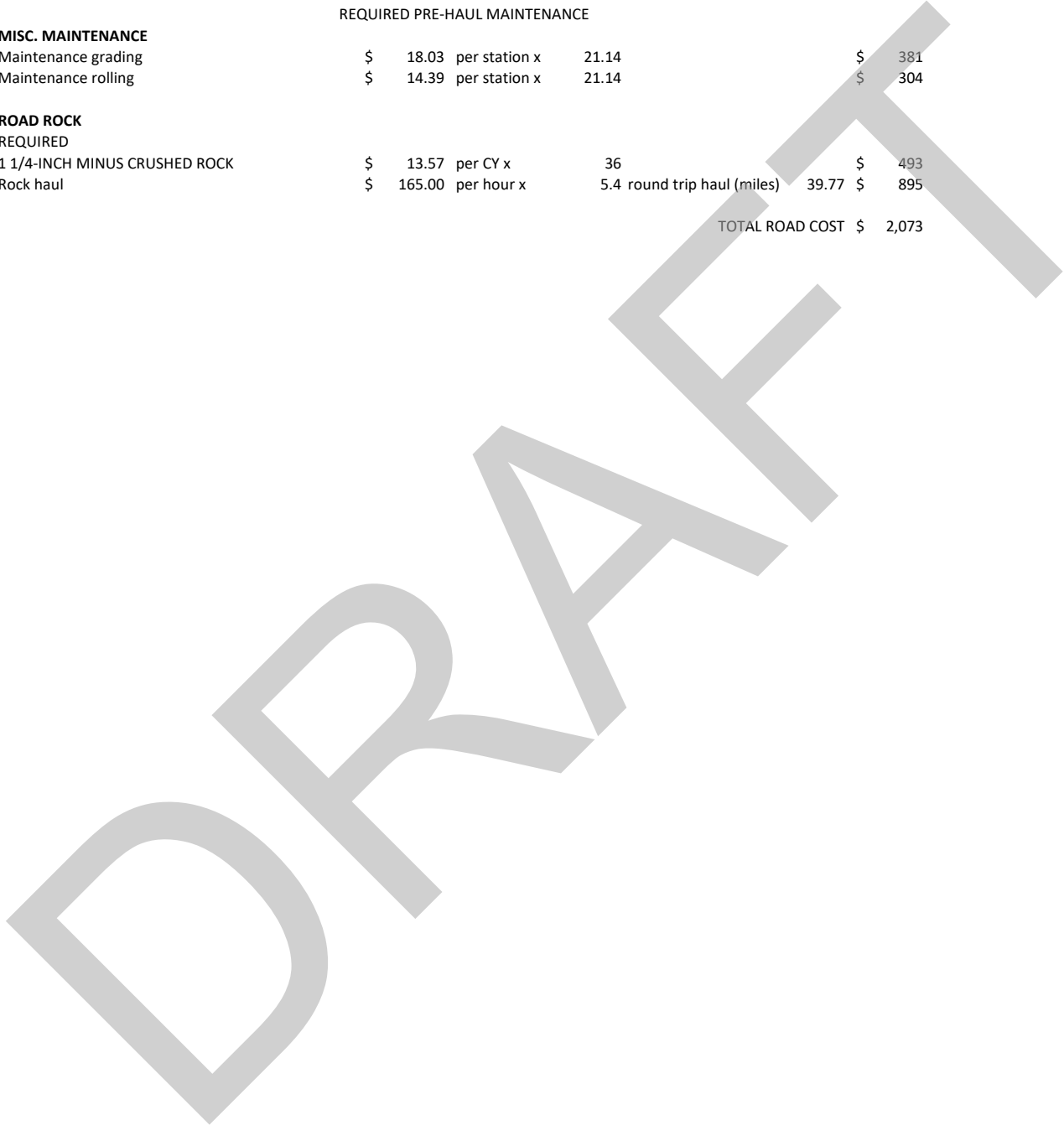
MISC. MAINTENANCE

Maintenance grading	\$	18.03	per station x	21.14	\$	381
Maintenance rolling	\$	14.39	per station x	21.14	\$	304

ROAD ROCK

REQUIRED						
1 1/4-INCH MINUS CRUSHED ROCK	\$	13.57	per CY x	36	\$	493
Rock haul	\$	165.00	per hour x	5.4 round trip haul (miles)	39.77	\$ 895

TOTAL ROAD COST \$ 2,073



SUMMARY OF ROAD

SALE/PROJECT NAME Dabblers
 CONTRACT # 30-106156
 ROAD NAME S-8054A1

Optional reconstruction (stations) 14+09
 Distance to S-8054A Pit (miles) 0.2

OPTIONAL RECONSTRUCTION

CLEARING & GRUBBING

Clearing & grubbing \$ 232.50 per station x 14.09 \$ 3,276

EXCAVATION AND FILL

Reconstruction \$ 197.40 per station x 14.09 \$ 2,781

Landing \$ 284.00 each x 1 \$ 284

Turnaround \$ 284.00 each x 1 \$ 284

Shape & compact subgrade \$ 36.03 per station x 14.09 \$ 508

MISC. MAINTENANCE

Grass seeding \$ 3.64 per pound x 32 \$ 118

ROAD ROCK

OPTIONAL

4-INCH JAW RUN ROCK \$ 12.27 per CY x 1026 \$ 12,585

Rock haul \$ 165.00 per hour x 24 round trip haul (miles) 0.63 \$ 3,881

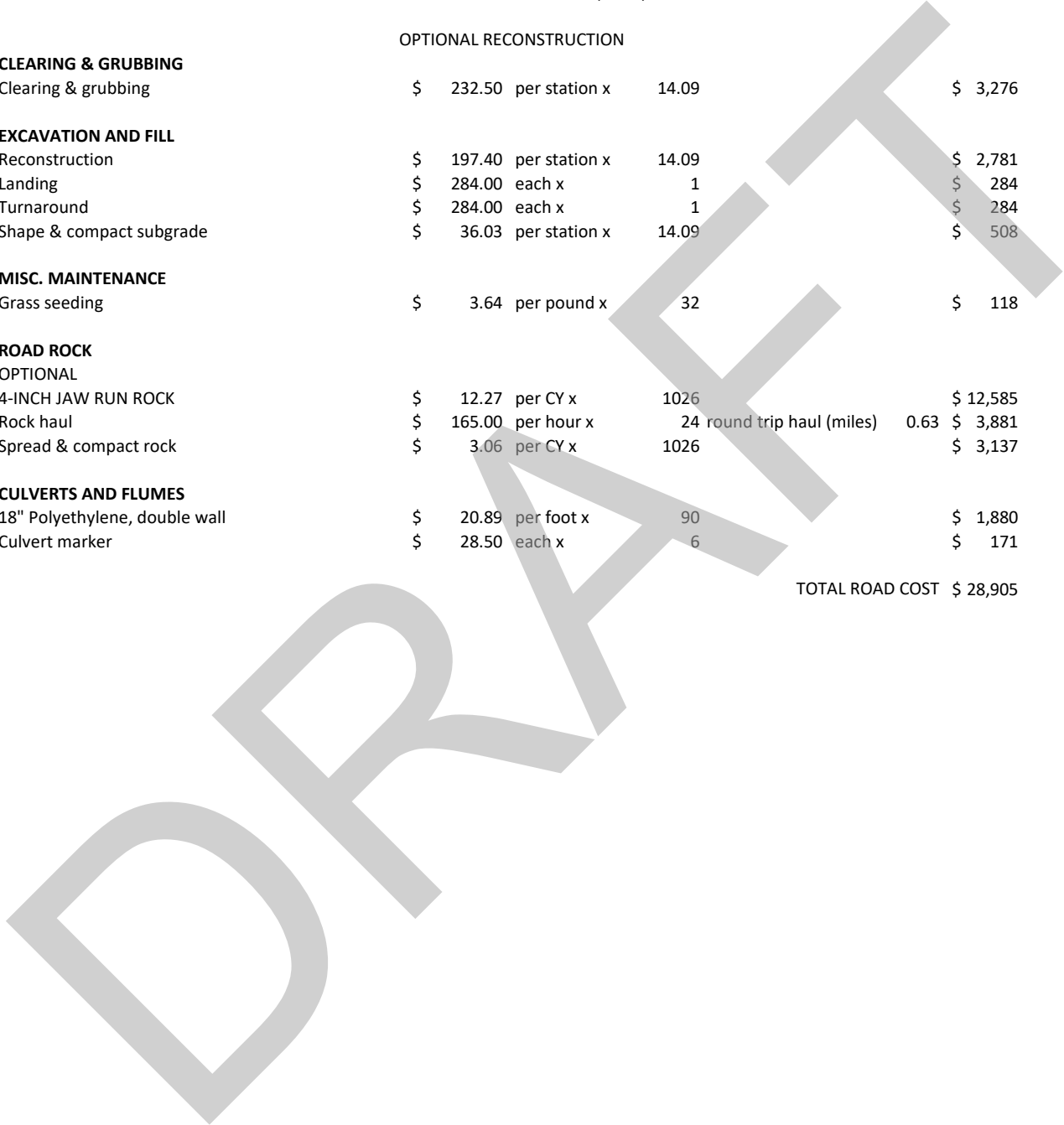
Spread & compact rock \$ 3.06 per CY x 1026 \$ 3,137

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 20.89 per foot x 90 \$ 1,880

Culvert marker \$ 28.50 each x 6 \$ 171

TOTAL ROAD COST \$ 28,905



SUMMARY OF ROAD

SALE/PROJECT NAME Dabbler
 CONTRACT # 30-106156
 ROAD NAME S-8054B

Optional construction (stations) 5+15
 Distance to S-8054A Pit (miles) 0.6

OPTIONAL CONSTRUCTION

CLEARING & GRUBBING

Clearing & grubbing \$ 310.00 per station x 5.15 \$ 1,597

EXCAVATION AND FILL

Construction \$ 394.80 per station x 5.15 \$ 2,033

Landing \$ 284.00 each x 1 \$ 284

Turnaround \$ 284.00 each x 1 \$ 284

Shape & compact subgrade \$ 36.03 per station x 5.15 \$ 186

MISC. MAINTENANCE

Grass seeding \$ 3.64 per pound x 24 \$ 86

ROAD ROCK

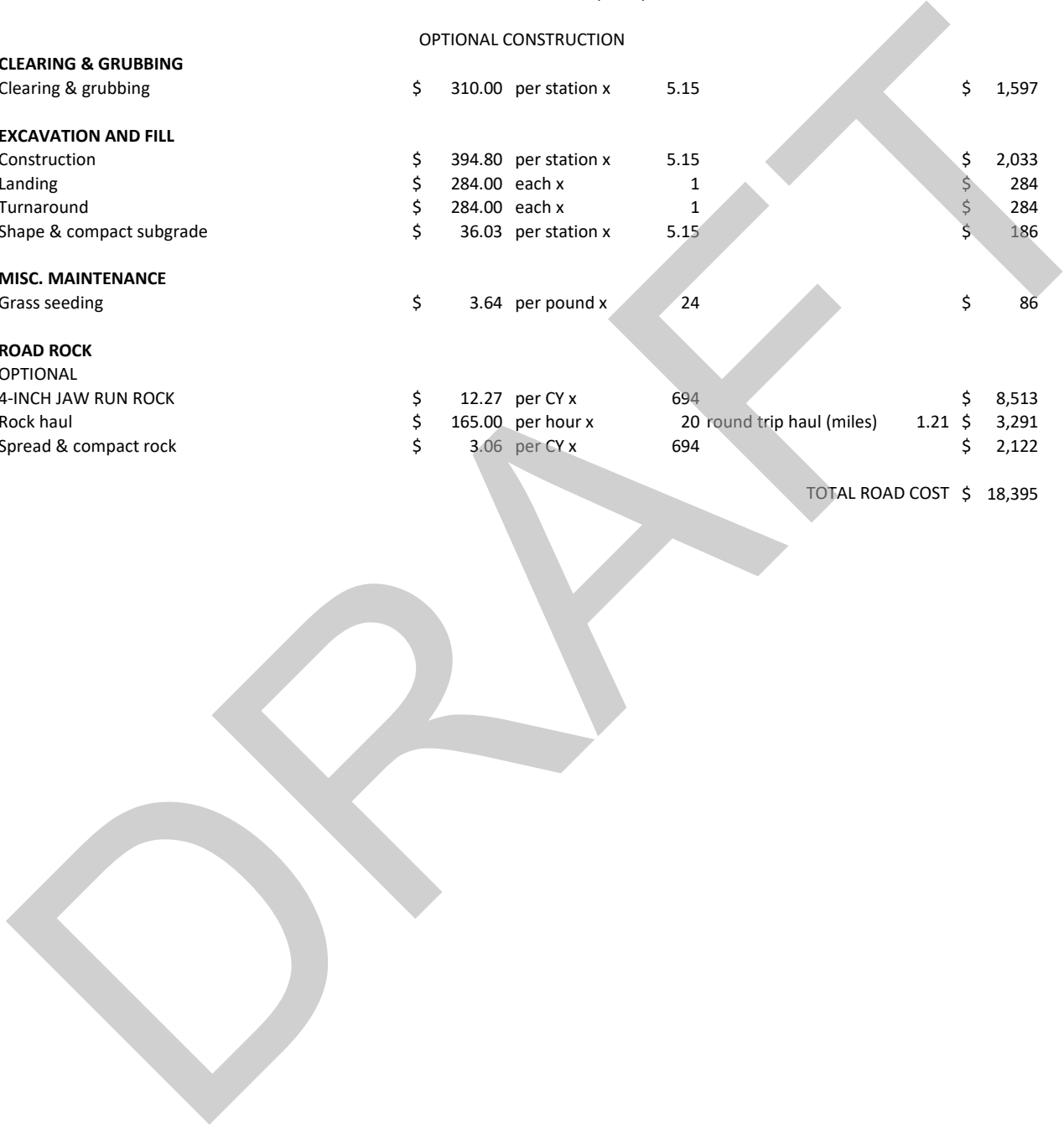
OPTIONAL

4-INCH JAW RUN ROCK \$ 12.27 per CY x 694 \$ 8,513

Rock haul \$ 165.00 per hour x 20 round trip haul (miles) 1.21 \$ 3,291

Spread & compact rock \$ 3.06 per CY x 694 \$ 2,122

TOTAL ROAD COST \$ 18,395





WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

Construction: linear feet
Road to be constructed (optional and required) but not abandoned

Reconstruction: linear feet
Road to be reconstructed (optional and required) but not abandoned

Abandonment: linear feet
Abandonment of existing roads not reconstructed under the contract

Decommission: linear feet
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: linear feet
Existing road to receive maintenance work (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Construction: linear feet
Roads to be constructed (optional and required) and then abandoned

Temporary Reconstruction: linear feet
Roads to be reconstructed (optional and required) and then abandoned

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.

(Revised 9/18)