

## TIMBER NOTICE OF SALE

**SALE NAME:** *BISCUIT VDT & VRH*

**AGREEMENT NO:** *30-092183*

**AUCTION:** June 15, 2016 starting at 10:00 a.m.,  
Northwest Region Office, Sedro Woolley, WA

**COUNTY:** Snohomish

**SALE LOCATION:** Sale located approximately 12 miles northeast of Arlington, WA.

**PRODUCTS SOLD  
AND SALE AREA:**

All timber bounded by white timber sale boundary tags, adjacent young stands and the EB-1105 Road, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #1.

All timber described for removal in Schedule B, bounded by white timber sale boundary tags, adjacent young stands and the EB-ML Road in Unit #2 (collectively labeled 2A and 2B).

All timber described for removal in Schedule B, bounded by white timber sale boundary tags, adjacent young stands and the EB-ML and EB-4201 roads in Unit #3.

All timber described for removal in Schedule B, bounded by white timber sale boundary tags and adjacent young stands in Unit #4 (collectively labeled 4A and 4B).

All timber described for removal in Schedule B, bounded by white timber sale boundary tags, adjacent young stands and the EB-2901 Road in Unit #5 (collectively labeled 5A and 5B).

All timber described for removal in Schedule B, bounded by white timber sale boundary tags, adjacent young stands and the EB-29 Road in Unit #6.

All timber described for removal in Schedule B, bounded by white timber sale boundary tags, blue special management tags and the EB-21 Road in Unit #7.

All timber described for removal in Schedule B, bounded by white timber sale boundary tags, blue special management tags and the EB-21 and EB-2109 roads in Unit #8 (collectively labeled 8A, 8B, 8C and 8D).

All timber bounded by white timber sale boundary tags and blue special management tags, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #9.

All timber bounded by white timber sale boundary tags, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #10.

All timber described for removal in Schedule B, bounded by white timber sale boundary tags and the EB-ML, EB-24 and EB-25 roads in Unit #11.

All timber bounded by orange right of way tags.

The above described products on part(s) of Sections 19 and 30 all in Township 32 North, Range 7 East, Sections 13, 14, 22, 23, 24, 25, 26, 27 and 34 all in Township 32 North, Range 6 East, W.M., containing 587 acres, more or less.

**TIMBER NOTICE OF SALE**

**CERTIFICATION:** This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: BV-SFIS-US09000572)

**ESTIMATED SALE VOLUMES AND QUALITY:**

Species	Avg DBH	Ring Count	Total MBF	Total \$/MBF	MBF by Grade								
					1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	13	8	4,245	\$169.40				16		835	2,043	1,213	138
Hemlock	11	8	1,127	\$71.00						52	658	413	4
Red alder	14		130	\$159.00						35	24	30	41
Red cedar	18		51	\$794.00							43	8	
Maple	16		50	\$20.00						12	8	3	27
Cottonwood	27		23	\$20.00						19		1	3
Sale Total			5,626										

**MINIMUM BID:** \$169.4/MBF (est. value \$861,000.00) **BID METHOD:** Sealed Bids

**PERFORMANCE**

**SECURITY:** \$100,000.00 **SALE TYPE:** MBF Scale

**EXPIRATION DATE:** March 31, 2020 **ALLOCATION:** Export Restricted

**BIDDABLE SPECIES:** Douglas fir

**BID DEPOSIT:** \$86,100.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

**HARVEST METHOD:** Cable; cable, shovel or forwarder on sustained slopes 35% or less. Falling and Yarding will not be permitted from October 1 to April 30 unless authorized in writing by the Contract Administrator (THIS PERTAINS TO GROUND-BASED EQUIPMENT ONLY) to reduce soil damage and erosion.

Additional restrictions apply, see Remarks section below.

**ROADS:** 140.91 stations of required construction. 9.42 stations of required reconstruction. 50.00 stations of optional construction. 50.00 stations of road to be abandoned if built. 37.03 stations of required pre-haul maintenance. 35.06 station of required post-haul maintenance.

Rock may be obtained from the following source(s) on State land at no charge to the Purchaser: EB-3802 Pit at station 13+16 of the EB-38 Road. EB-5801-01 Pit at station 4+85 of the EB-5804 Road. EB-1106 Pit at station 30+26 of the EB-11 Road.

Development of existing rock sources will involve clearing, stripping, drilling, shooting, and processing rock to generate riprap and 3-inch-minus ballast.

There is an existing stockpile of 2-inch-minus surface rock available for use for maintenance only in the EB-1106 Pit.

There is an existing stockpile of 3-inch-minus ballast available for use in the EB-5801-01 Pit.

An estimated total quantity of rock needed for this proposal: 1,043 cubic yards of riprap and 7,628 cubic yards of ballast rock.

## TIMBER NOTICE OF SALE

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Additional restrictions apply, see Remarks section below.

Road construction, road reconstruction, road abandonment, and the hauling of rock will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator to reduce soil damage and siltation. The hauling of forest products will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator to reduce soil damage and siltation.

### ACREAGE DETERMINATION

**CRUISE METHOD:** Acres determined by GPS traverse. 676.6 acres gross. 3.1 acres deducted for RMZ/WMZ areas, 3.5 acres deducted for green tree retention clumps, 18.9 acres deducted for existing roads and 64.6 acres deducted for corridors. 586.5 acres net. Cruised using variable plot method. Expansion factor used is 20.0, 40.00 and 46.94. Sighting height is 4.5 and 5.4 feet. A total of 164 plots were taken.

Shapefiles of units are available upon request.

**FEES:** \$99,861.50 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

- SPECIAL REMARKS:**
1. Wildlife timing restrictions are: no falling, bucking, yarding or operation of heavy equipment April 1 to August 31 from one hour before official sunrise to two hours after official sunrise and one hour before and after official sunset. Timing restrictions will be applied as shown on the timber sale map.
  2. No harvesting shall occur between November 15 and March 15 within Units #7 and 8A.
  3. Cutting and yarding in Units 1 and 4 shall not be permitted during the bark slippage season unless authorized in writing by the Contract Administrator. This season is estimated to run from April 1 to July 15 but may vary depending on weather conditions. If permission is granted to operate during the bark slippage season the purchaser shall be required to provide a plan outlining mitigation measures.
  4. Falling and yarding with ground-based equipment is not permitted from October 1 to April 31.
  5. HQ DF noted within the sale area. See cruise for further details (approximately 40 mbf of the above listed DF 2S is deemed high quality by the Department).
  6. The gate code for the Ebey Mtn. gate is available upon request.

**Schedule B**  
**Thinning Prescription**

Units 2A, 2B, 3, 4A, 4B, 5A, 5B, 6, 7, 8A, 8B, 8C, 8D, and 11:

Thin from below and leave the best 100 to 110 trees (approximately 20 x 20 foot spacing) per acre of the preferred species uniformly distributed over the area to achieve an average basal area of 140 square feet per acre. They shall be selected by comparing their characteristics with other trees in the stand.

All Units:

Leave tree species in order of descending preference:

1. western redcedar
2. Douglas-fir
3. western hemlock
4. red alder
5. other hardwood

“Best tree” is defined as the following characteristics:

1. Largest diameter (must be greater than 8 inches DBH)
2. Fullest and most vigorous crown.
3. Free of disease, major defect, and damage.
4. Best form (tallest, straightest bole).

Special Thinning Conditions and Corridors

- Hardwood patches shall be held to the same stocking criteria as the rest of the stand.
- In areas where thinning is not necessary, i.e., prescription is met, do not put in yarding corridors or skid trails. These areas must be identified and agreed upon in advance with the Contract Administrator.
- Landings shall be located to provide for parallel yarding corridors whenever possible.
- Ground-based corridors shall be limited to 14 feet including rub trees. If used, cable corridors shall be limited to 12 feet including rub trees.
- Ground-based corridors shall be no closer than 75 feet apart from center of corridor.
- If radial yarding corridors are required from a central landing, the distance between yarding corridors must be no closer than 100 feet where the corridor leaves the unit as measured from the center of the corridors.

RMZ enhancement activities.

Three conifer trees per acre of RMZ, from the largest thinned DBH class, shall be felled towards the stream where feasible to remain as down woody debris (90 trees). Two conifer trees per acre of RMZ, from the largest thinned DBH class, shall be double girdled for snag recruitment (60 trees). The Purchaser shall mark and fell/girdle upon review/approval of the Contract Administrator. These trees shall be marked IN THE SALE AREA within 25 feet of the white “timber sale boundary” tags (total of 150 trees in the sale area).

Certification of Fallers and Yarder Operators – See clause H-011 of the contract.

The Contract Administrator and Faller/Harvester Operator shall jointly review the take tree selection criteria as outlined in Schedule B of the contract.

In conjunction with the Contract Administrator, the Faller/Harvester Operator shall mark a designated area as a test plot within the sale area boundary.

Satisfactory thinning of the test plot completes the certification process. Certifications shall be issued to individuals when they demonstrate to the contract Administrator their ability to perform within the requirements set forth in the contract.

Certification may be revoked at any time by Contract Administrator if the Contract Administrator determines that the prescription is not being implemented properly.

Damage Compartments:

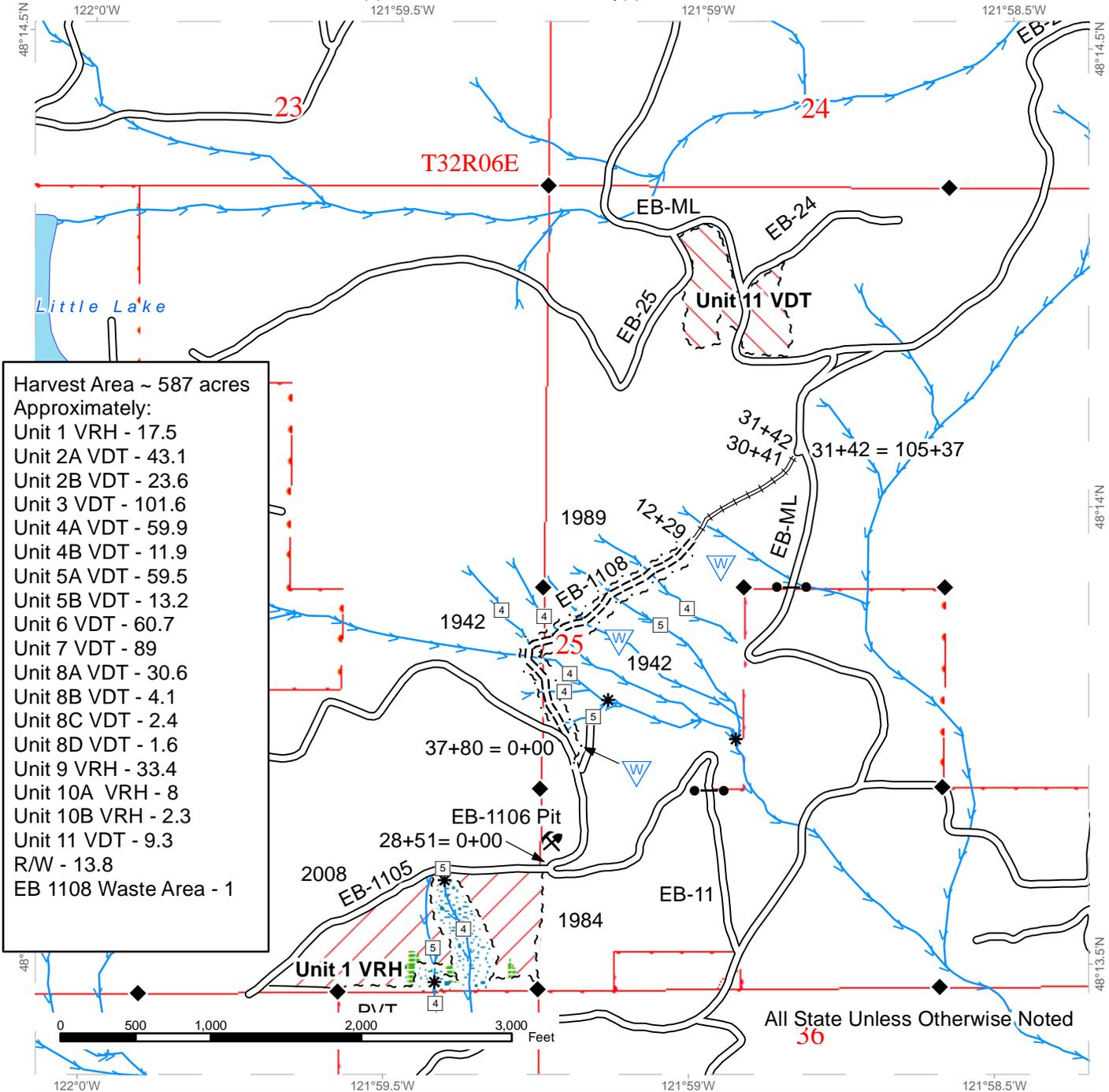
Determination of damage shall be calculated by comparing the percentage of damaged trees to the total number of standing trees by compartment as determined by the Contract Administrator.

Damage compartments are as follows: Unit 2A, 2B; Unit 3; Unit 4A, 4B; Unit 5A, 5B; Unit 6; Unit 7; Unit 8A, 8B, 8C, 8D; and Unit 11.

# TIMBER SALE MAP

**SALE NAME:** BISCUIT VDT and VRH  
**AGREEMENT #:** 92183  
**TOWNSHIP(S):** T32R06E, T32R07E  
**TRUST(S):** State Forest Transfer(1), Common School and Indemnity(3)

**REGION:** Northwest Region  
**COUNTY(S):** SNOHOMISH  
**ELEVATION RGE:** 675-1676



Harvest Area ~ 587 acres  
 Approximately:

Unit 1 VRH	- 17.5
Unit 2A VDT	- 43.1
Unit 2B VDT	- 23.6
Unit 3 VDT	- 101.6
Unit 4A VDT	- 59.9
Unit 4B VDT	- 11.9
Unit 5A VDT	- 59.5
Unit 5B VDT	- 13.2
Unit 6 VDT	- 60.7
Unit 7 VDT	- 89
Unit 8A VDT	- 30.6
Unit 8B VDT	- 4.1
Unit 8C VDT	- 2.4
Unit 8D VDT	- 1.6
Unit 9 VRH	- 33.4
Unit 10A VRH	- 8
Unit 10B VRH	- 2.3
Unit 11 VDT	- 9.3
R/W	- 13.8
EB 1108 Waste Area	- 1

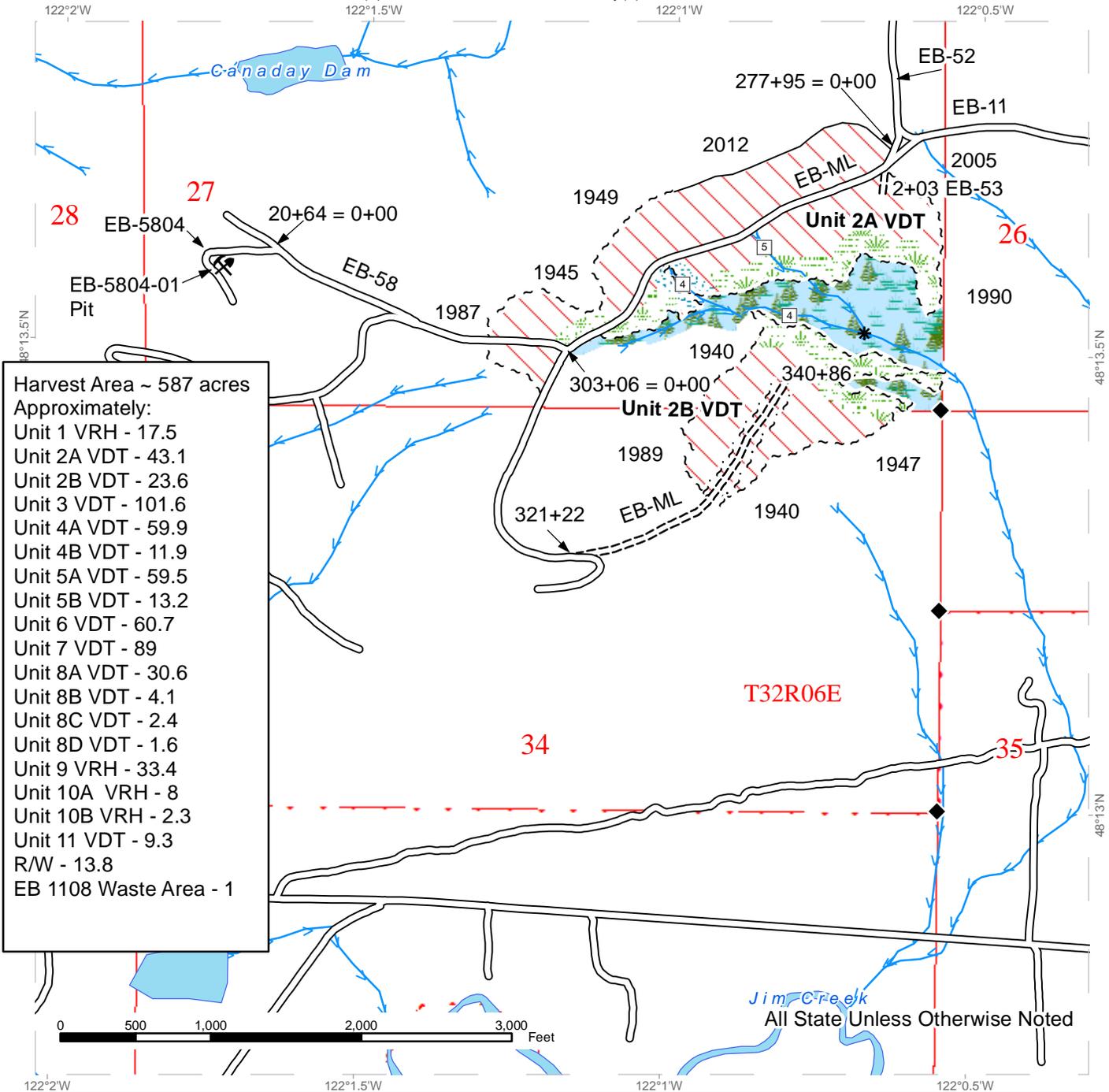
Variable Retention Harvest	Existing Roads	Leave Tree Area
Variable Density Thinning	Required Pre-Haul Maintenance	Unit 7
Sale Boundary Tags	Required Construction	Riparian Mgt Zone
Right of Way Tags	Required Reconstruction	Forested Wetland
Special Mgmt Area	Optional Construction	Wetland Mgt Zone
Sale Boundary - No Tags	Streams	Open Water
Timing Restriction	Gate	Survey Corner
	Rock Pit	Stream Type
		Stream Type Break



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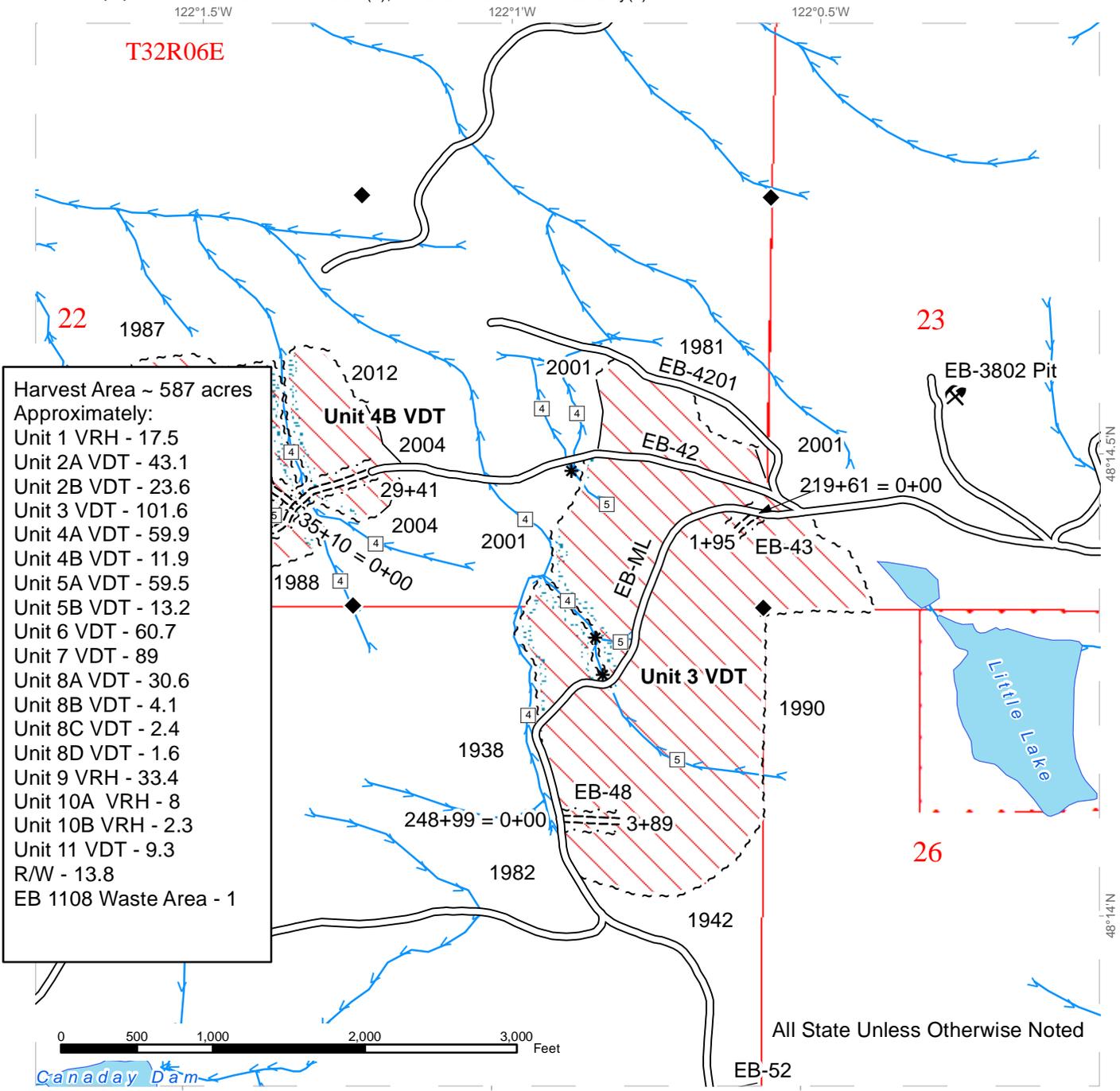
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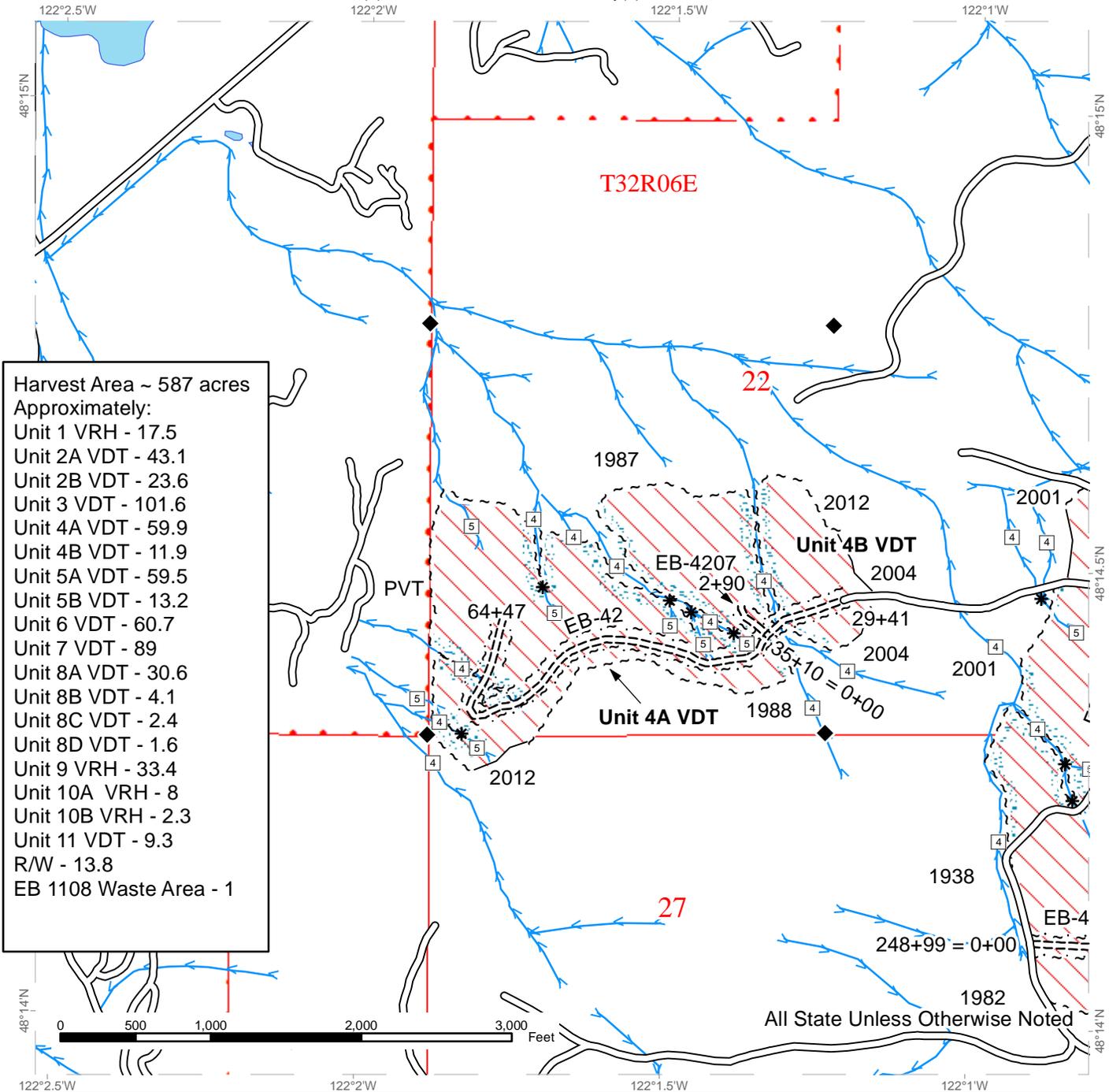
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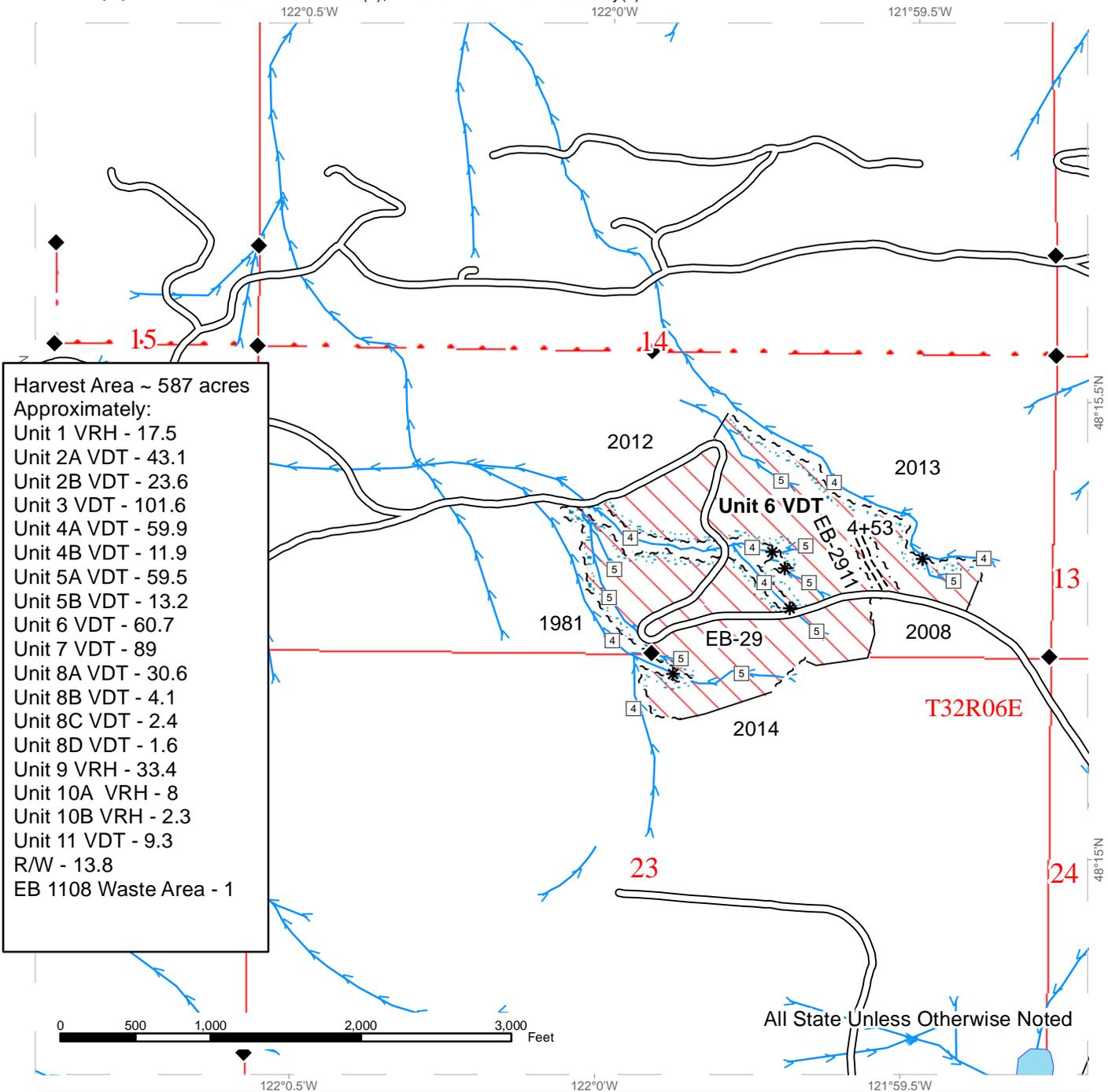
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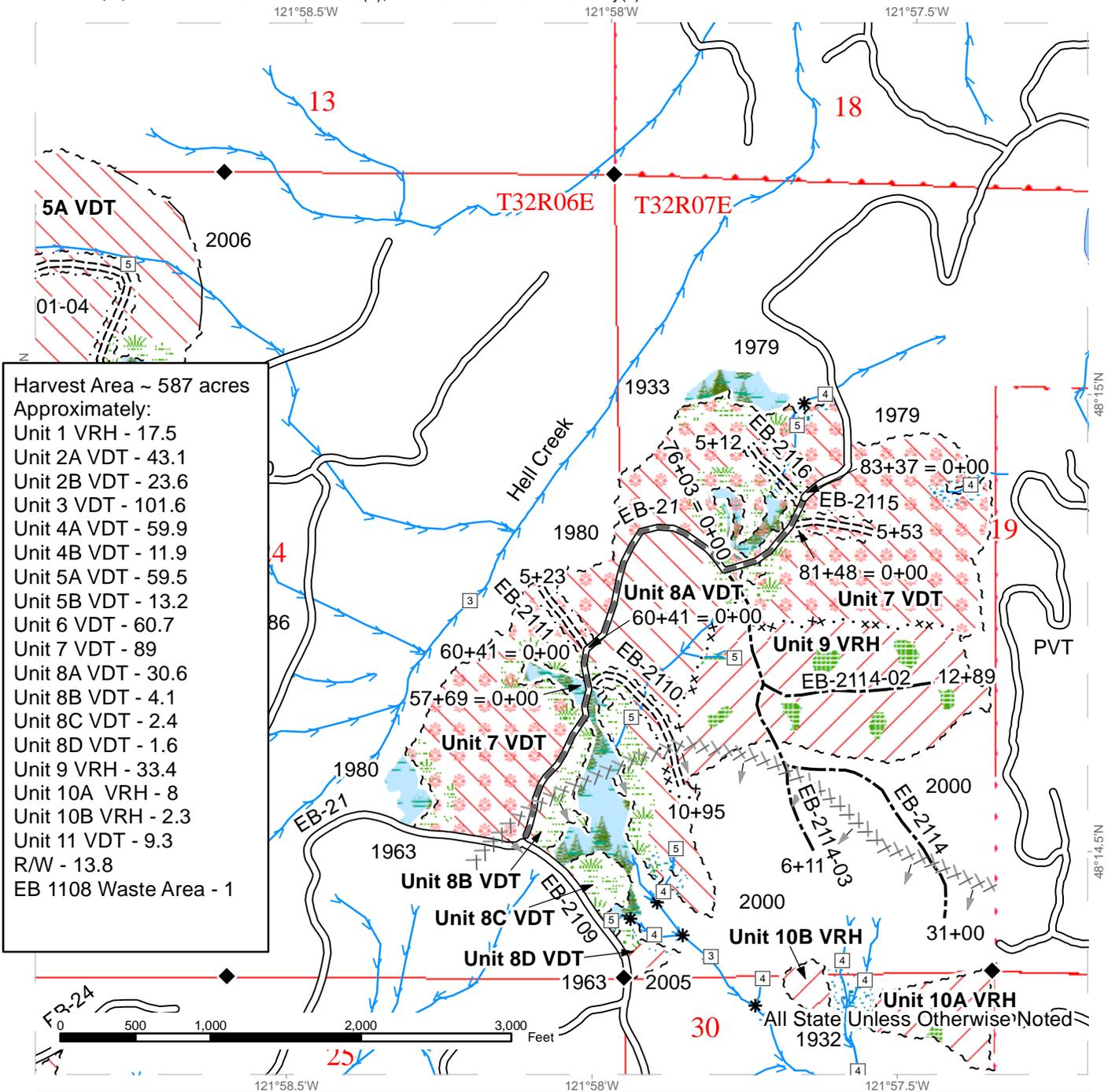
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**REGION:** Northwest Region  
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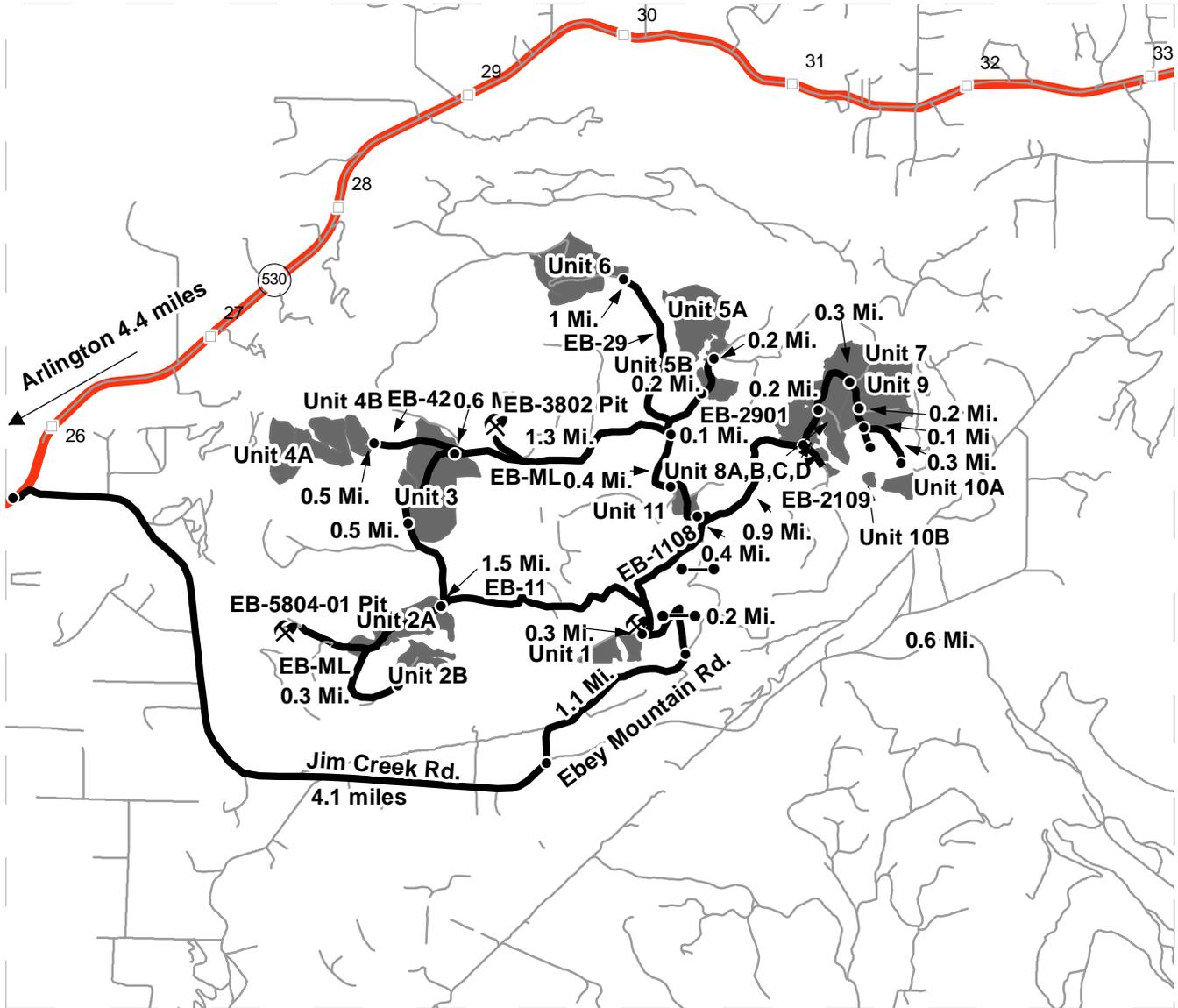
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# DRIVING MAP

**SALE NAME:** BISCUIT VRH & VDT  
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**REGION:** Northwest Region  
**COUNTY(S):** SNOHOMISH  
**ELEVATION RGE:** 780-1263



- Timber Sale Unit
- Highways
- Other Route
- Haul Route
- Milepost Markers
- Gate
- Distance Indicator
- Existing Rock Pit

**DRIVING DIRECTIONS:**

The proposed timber sale is located 12 miles northeast of Arlington. From Arlington, follow SR 530 east 4.4 miles. Turn right onto Jim Creek Road for 4.1 miles. Turn left onto Ebey Mountain Road and proceed 1.1 miles to the EB-11 Road. Turn left onto the EB-11 for 0.2 miles to a gate (Need F1-3 key) continue 0.3 miles to the EB-1105 Road. Turn left onto the EB-1105 to access Unit 1. From the intersection of the EB-11 and EB-1105 travel on the EB-11 for 1.5 miles to the EB-ML. Turn left onto the EB-ML and Unit 2A is on both sides of the road. Continue southwest on the EB-ML for ~0.5 miles to the net intersection, veer left (EB-ML) for 0.3 miles to an abandoned road. Walk 1,100 ft. to Unit 2B. From the intersection of the EB-11 and EB-ML, travel north on the EB-ML for 0.5 miles to the EB-48 road to access Unit 3. From the intersection of the EB-ML and EB-48, travel north on the EB-ML for 0.6 miles to the intersection of the EB-42 and EB-ML. Follow the EB-42 for 0.5 miles to an abandoned road. Walk from here to Unit 4A and 4B. From the intersection of the EB-ML and EB-42, travel east on the EB-ML for 1.3 miles to the intersection of EB-29 and the EB-ML. Turn left for ~0.1 miles and veer left continuing on the EB-29 road for 1 mile to the EB-2911 road to access Unit 6. From the intersection of the EB-ML and EB-29, travel ~0.1 mile and veer right onto the EB-2901 road for 0.2 miles to access Unit 5B. Continue another 0.2 miles to the EB-2901-04 road to access Unit 5A. From the intersection of the EB-ML and EB-29, travel south for 0.4 miles to access Unit 11. Continue for another 0.4 miles to the intersection of the EB-ML and EB-21. From the intersection of the EB-ML and EB-21, travel northeast for 0.9 miles to the intersection of the EB-21 and EB-2109. Turn left to access Unit 7 and Unit 8B. After turning left, proceed 0.2 miles to the EB-2110 to access Unit 8A. Continue for 0.3 miles to the intersection of the EB-21 and EB-2114 to access Unit 9, 10A, and 10B. From the intersection of the EB-21 and EB-2109, travel southeast for 600 feet to access Unit 8C. Continue traveling another 400 feet to access Unit 8D.



**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

**BILL OF SALE AND CONTRACT FOR  
FOREST PRODUCTS**

**Export Restricted MBF Scale AGREEMENT NO. 30-092183**

**SALE NAME: BISCUIT VDT & VRH**

**THE STATE OF WASHINGTON DEPARTMENT OF NATURAL  
RESOURCES, HEREINAFTER ACTING SOLELY, IN ITS PROPRIETARY  
CAPACITY, STATE, AND PURCHASER, AGREE AS FOLLOWS:**

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

**Bill of Sale and Contract for Forest Products:** Contract between the Purchaser and the State, which sets forth the procedures and obligations of the Purchaser in exchange for the right to remove forest products from the sale area. The Bill of Sale and Contract for Forest Products may include a Road Plan for any road construction or reconstruction, where applicable.

**Contract Administrator:** Region Manager's designee responsible for assuring that the contractual obligations of the Purchaser are met.

**Forest Product:** Any material derived from the forest for commercial use.

**Purchaser:** The company or individual that has entered a Bill of Sale and Contract for Forest Products with the State for the right to harvest and remove forest products from the timber sale area.

Road Construction: Includes building new and maintaining existing forest roads and associated work that may be optional or required as described in the Road Plan.

State: The Washington State Department of Natural Resources, landowner and seller of Forest Products from the timber sale area. The State is represented by the Region Manager as designated on the contract signature page. Contractual obligations to the State are enforced by the Region Manager or the designated Contract Administrator.

Subcontractor: Individual or company employed by the Purchaser to perform a portion or all of the services required by The Bill of Sale and Contract for Forest Products. The Purchaser is responsible for independently negotiating, procuring and paying for all subcontracted services rendered.

#### G-010 Products Sold and Sale Area

Purchaser was the successful bidder on June 15, 2016 and the sale was confirmed on \_\_\_\_\_. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase, cut, and remove the following forest products: All timber bounded by white timber sale boundary tags, adjacent young stands and the EB-1105 Road, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #1.

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All timber described for removal in Schedule B, bounded by white timber sale boundary tags, blue special management tags and the EB-21 and EB-2109 roads in Unit #8 (collectively labeled 8A, 8B, 8C and 8D).

All timber bounded by white timber sale boundary tags and blue special management tags, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #9.

All timber bounded by white timber sale boundary tags, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #10.

All timber described for removal in Schedule B, bounded by white timber sale boundary tags and the EB-ML, EB-24 and EB-25 roads in Unit #11.

All timber bounded by orange right of way tags.

The above described products, located on approximately 587 acres on part(s) of Sections 19, and 30 all in Township 32 North, Range 7 East, Sections 13, 14, 22, 23, 24, 25, 26, 27, and 34 all in Township 32 North, Range 6 East W.M. in Snohomish County(s) as shown on the attached timber sale map and as designated on the sale area.

All forest products described above from the bole of the tree that meet or exceed 2 inches diameter inside bark on the small end are eligible for removal. Above ground components of a tree that remain as by-products after the manufacture of logs, including but not limited to tree tops, branches, limbs, needles, leaves, stumps, are not eligible for removal under the terms of this contract.

Forest products purchased under a contract that is designated as export restricted shall not be exported until processed. Forest products purchased under a contract that is designated as exportable may be exported prior to processing.

G-020 Inspection By Purchaser

Purchaser hereby warrants to the State that they have had an opportunity to fully inspect the sale area and the forest products being sold. Purchaser further warrants to the State that they enter this contract based solely upon their own judgment of the value of the forest products, formed after their own examination and inspection of both the timber sale area and the forest products being sold. Purchaser also warrants to the State that they enter this contract without any reliance upon the volume estimates, acreage estimates, appraisals, pre-bid documentation, or any other representations by the State Department of Natural Resources.

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	NW Ground-Based Equip Specifications (Rev 2/11/16)

## B Thinning Prescription

## G-030 Contract Term

Purchaser shall remove the forest products conveyed and complete all work required by this contract prior to March 31, 2020.

## G-040 Contract Term Adjustment - No Payment

Purchaser may request an adjustment in the contract term. A claim must be submitted in writing and received by the State within 30 days after the start of interruption or delay. The claim must also indicate the actual or anticipated length of interruption or delay. The State may grant an adjustment without charge only if the cause for contract term adjustment is beyond Purchaser's control. The cause must be one of the following and the adjustment may be granted only if operations or planned operations under this contract are actually interrupted or delayed:

- a. Road and bridge failures which deny access.
- b. Access road closures imposed by road owner.
- c. Excessive suspensions as provided in clause G-220.
- d. Regulatory actions not arising from Purchaser's failure to comply with this contract which will prevent timber harvest for a period less than 6 months.

## G-050 Contract Term Extension - Payment

Extensions of this contract term may be granted only if, in the judgment of the State, Purchaser is acting in good faith and is endeavoring to remove the forest products conveyed. The term of this contract may be extended for a reasonable time by the State if all of the following conditions are satisfied:

- a. A written request for extension of the contract term must be received prior to the expiration date of the contract.
- b. Completion of all required roads and compliance with all contract and regulatory requirements.
- c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the contract value based on the contract payment rate and advertised volume.

For the second extension, not to exceed 1 year, payment of at least 90 percent of the contract value based on the contract payment rate base and advertised volume.

The payments shall not include the initial deposit which shall be held according to the provisions of RCW 79.15.100.

- d. Payment of an amount based on 12 percent interest per annum on the unpaid portion of the timber value of the contract.

To determine the unpaid portion of the contract, multiply the contract payment rate for each item by the remaining volume for each item based on the volumes from the Timber Notice of Sale. In addition, all cash deposits that can be used for timber payments, except the initial deposit, will be deducted from the unpaid portion of the contract.

- e. Payment of \$3.00 per acre per annum for the acres on which an operating release has not been issued in the Variable Density Thinning (VDT) Units and RMZ/WMZ Thinning areas. Payment of \$16.00 per acre per annum for the acres on which an operating release has not been issued in Variable Retention Harvest (VRH) area.
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

Whenever the State determines that a survey for sensitive, threatened, or endangered species is prudent, or when Purchaser determines a survey is prudent and the State agrees, Purchaser shall perform such surveys at Purchaser's expense and to the standards required by the State. The survey information shall be supplied to the State.

G-060 Exclusion of Warranties

The PARTIES AGREE that the IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE and ALL OTHER WARRANTIES EXPRESSED OR IMPLIED ARE EXCLUDED from this transaction and shall not apply to the goods sold. For example, THE FOLLOWING SPECIFIC MATTERS ARE NOT WARRANTED, and are EXCLUDED from this transaction:

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.

- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.
- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.
- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.
- h. Items contained in any other documents prepared for or by the State.

G-062 Habitat Conservation Plan

The State has entered into a Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) to address state trust land management issues relating to compliance with the Federal Endangered Species Act. The activities to be carried out under this contract are located within the State's HCP area and are subject to the terms and conditions of the HCP, and the Services' Incidental Take Permit Nos. 812521 and 1168 (collectively referred to as ITP), or as amended hereafter by the Services. The ITP authorizes the incidental take of certain federally listed threatened and endangered species, as specified in the ITP conditions. All HCP materials, including the ITP, are available for review at the State's Regional Offices and the administrative headquarters in Olympia, Washington.

By signing this contract, Purchaser agrees to comply with the terms and conditions of the ITP, and the HCP, which shall become terms of this contract. The State agrees to authorize the lawful activities of the Purchaser carried out pursuant to this contract, PROVIDED the Purchaser remains in compliance with the terms and conditions of both the HCP and ITP. The requirements set forth in this contract are intended to comply with the terms and conditions of the HCP and ITP. Accordingly, non-compliance with the terms and conditions of the HCP and ITP will render the authorization provided in this paragraph void, be deemed a breach of the contract and may subject Purchaser to liability for violation of the Endangered Species Act.

Any modifications to the contract shall be proposed in writing by Purchaser, shall continue to meet the terms and conditions of the HCP and ITP, and shall require the prior written approval of the Region Manager before taking effect.

## G-063 Incidental Take Permit Notification Requirements

- a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.
- b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.
- c. Purchaser shall refer to a specific ITP number, PRT-812521 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

## G-064 Permits

Purchaser is responsible for obtaining any permits not already obtained by the State that relate to Purchaser's operation. Forest Practice Application / Hydraulic Project Approval permits obtained by the State shall be transferred to Purchaser. Purchaser is responsible for all permits, amendments and renewals.

## G-065 Regulatory Disclaimer

The State disclaims any responsibility for, or liability relating to, regulatory actions by any government agency, including actions pursuant to the Forest Practices Act, Ch. 76.09 RCW that may affect the operability of the timber sale.

## G-066 Governmental Regulatory Actions

## a. Risk

Purchaser shall be responsible for any increased operational costs arising from any applicable foreign or domestic governmental regulation or order that does not cause contract performance to become commercially impracticable or that does not substantially frustrate the purpose of the contract. If impracticability or frustration results from Purchaser's failure to comply with this contract, Purchaser shall remain responsible for payment of the total contract price notwithstanding the impracticability or frustration.

## b. Sale Area

When portions of the sale area become subject to a foreign or domestic governmental regulation or order that will likely prevent timber harvest for a period that will exceed the expiration date of this contract, and Purchaser has complied with this contract, the following shall apply:

i. RCW 79.15.140 shall govern all adjustments to the contract area.

## c. Adjustment of Price

The State shall adjust the total contract price by subtracting from the total contract price an amount determined in the following manner: The State shall cause the timber sale area subject to governmental regulation or order to be measured. The State shall calculate the percentage of the total sale area subject to the governmental regulation or order. The State shall reduce the total contract price by that calculated percentage. However, variations in species, value, costs, or other items pertaining to the affected sale area will be analyzed and included in the adjustment if deemed appropriate by the State. The State will further reduce the total contract price by the reasonable cost of unamortized roads Purchaser constructed but was unable to fully use for removing timber. A reduction in total contract price terminates all of the Purchaser's rights to purchase and remove the timber and all other interest in the affected sale area.

## G-070 Limitation on Damage

In the event of a breach of any provision of this contract by the State, the exclusive remedy available to Purchaser will be limited to a return of the initial deposit, unapplied payments, and credit for unamortized improvements made by Purchaser.

The State shall not be liable for any damages, whether direct, incidental or consequential.

G-080 Scope of State Advice

No advice by any agent, employee, or representative of the State regarding the method or manner of performing shall constitute a representation or warranty that said method, manner or result thereof will conform to the contract or be suitable for Purchaser's purposes under the contract. Purchaser's reliance on any State advice regarding the method or manner of performance shall not relieve Purchaser of any risk or obligation under the contract. Purchaser retains the final responsibility for its operations under this contract and State shall not be liable for any injuries resulting from Purchaser's reliance on any State advice regarding the method or manner of performance.

G-090 Sale Area Adjustment

The Parties may agree to adjustments in the sale area boundary. The cumulative changes to the sale area during the term of the contract shall not exceed more than four percent of the original sale area. If the sale area is increased, added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-100 Forest Products Not Designated

Any forest products not designated for removal, which must be removed in the course of operations authorized by the State, shall be approved and designated by the Contract Administrator. Added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-105 Adding Naturally Damaged Forest Products

Any forest products not designated for removal that are seriously damaged by disease, insects or wind, or that may contribute seriously to the spread of insect or disease damage may be added to this sale by the Contract Administrator. Additions must be in unlogged areas of the sale and added volume shall not exceed an amount equal to 10 percent of the original advertised volume. Added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-110 Title and Risk of Loss

Title to the forest products conveyed passes at confirmation of the sale. Purchaser bears the risk of loss of or damage to and has an insurable interest in the forest products in this contract from the time of confirmation of the sale of forest products. In the event of loss of or damage to the forest products after passage of title, whether the cause is foreseeable or unforeseeable, the forest products shall be paid for by Purchaser. Breach of this contract shall have no effect on this provision. Title to the forest products not removed from the sale area within the period specified in this contract shall revert to the State as provided in RCW 79.15.100.

G-116 Sustainable Forestry Initiative® (SFI) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative program Standard under certificate number: BV-SFIS-US09000572.

Purchaser shall have at least one person regularly on-site during active operations that have completed training according to the requirements outlined within the SFI® program Standard. Purchaser shall designate in writing the name(s) of the individual(s) who will be on-site and provide proof of their successful completion of an approved training program prior to active operations.

G-120 Responsibility for Work

All work, equipment, and materials necessary to perform this contract shall be the responsibility of Purchaser. Any damage to improvements, except as provided in clause G-121 or unless the State issues an operating release pursuant to clause G-280, shall be repaired promptly to the satisfaction of the State and at Purchaser's expense.

G-121 Exceptions

Exceptions to Purchaser's responsibility in clause G-120 shall be limited exclusively to the following. These exceptions shall not apply where road damage occurs due to Purchaser's failure to take reasonable precautions or to exercise sound forest engineering and construction practices.

Road is defined as the road bed, including but not limited to its component parts, such as subgrade, ditches, culverts, bridges, and cattle guards.

For the purposes of this clause, damage will be identified by the State and is defined as:

1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction completed to the point that authorization to haul has been issued;
2. Caused by a single event from forces beyond the control of Purchaser, its employees, agents, or invitees, including independent contractors; and
3. Includes, but is not limited to natural disasters such as earthquakes, volcanic eruptions, landslides, and floods.

The repair work identified by the State shall be promptly completed by Purchaser at an agreed price. The State may elect to accomplish repairs by means of State-provided resources. The State will bear the cost to repair damages caused by a third party. In all other cases, the Purchaser shall bear responsibility for the costs as described below.

For each event, Purchaser shall be solely responsible for the initial \$5,000 in repairs. For repairs in excess of \$5,000, the parties shall share equally the portion of costs

between \$5,000 and \$15,000. The State shall be solely responsible for the portion of the cost of repairs that exceed \$15,000.

Nothing contained in clauses G-120 and G-121 shall be construed as relieving Purchaser of responsibility for, or damage resulting from, Purchaser's operations or negligence, nor shall Purchaser be relieved from full responsibility for making good any defective work or materials. Authorization to haul does not warrant that Purchaser built roads are free from material defect and the State may require additional work, at Purchasers expense regardless of cost, to remedy deficiencies at any time.

G-140 Indemnity

To the fullest extent permitted by law, Purchaser shall indemnify, defend and hold harmless State, agencies of State and all officials, agents and employees of State, from and against all claims arising out of or resulting from the performance of the contract. "Claim" as used in this contract means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable for bodily injury, sickness, disease or death, or injury to or destruction of tangible property including loss of use resulting therefrom. Purchasers' obligations to indemnify, defend, and hold harmless includes any claim by Purchasers' agents, employees, representatives, or any subcontractor or its employees. Purchaser expressly agrees to indemnify, defend, and hold harmless State for any claim arising out of or incident to Purchasers' or any subcontractors' performance or failure to perform the contract. Purchasers' obligation to indemnify, defend, and hold harmless State shall not be eliminated or reduced by any actual or alleged concurrent negligence of State or its agents, agencies, employees and officials. Purchaser waives its immunity under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless State and its agencies, officials, agents or employees.

G-150 Insurance

Purchaser shall, at its cost and expense, buy and maintain insurance of the types and amounts listed below. Failure to buy and maintain the required insurance may result in a breach and/or termination of the contract at State's option. State may suspend Purchaser operations until required insurance has been secured.

All insurance and surety bonds should be issued by companies admitted to do business within the State of Washington and have a rating of A-, Class VII or better in the most recently published edition of Best's Reports. If an insurer is not admitted, all insurance policies and procedures for issuing the insurance policies must comply with Chapter 48.15 RCW and 284-15 WAC.

The State of Washington, Department of Natural Resources region office of sale origin shall be provided written notice before cancellation or non-renewal of any insurance referred to therein, in accord with the following specifications:

1. Insurers subject to Chapter 48.18 RCW (admitted and regulated by the Insurance Commissioner): The insurer shall give the State 45 days advance

notice of cancellation or non-renewal. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.

2. Insurers subject to Chapter 48.15 RCW (surplus lines): The State shall be given 20 days advance notice of cancellation. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.

Before starting work, Purchaser shall furnish State of Washington, Department of Natural Resources with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements specified in the contract. Insurance coverage shall be obtained by the Purchaser prior to operations commencing and continually maintained in full force until all contract obligations have been satisfied or an operating release has been signed by the State.

Purchaser shall include all subcontractors as insured under all required insurance policies, or shall furnish separate certificates of insurance and endorsements for each subcontractor. Subcontractor(s) must comply fully with all insurance requirements stated herein. Failure of subcontractor(s) to comply with insurance requirements does not limit Purchaser's liability or responsibility.

The State of Washington, Department of Natural Resources, its elected and appointed officials, agents and employees shall be named as an additional insured on all general liability, excess, umbrella, and property insurance policies.

All insurance provided in compliance with this contract shall be primary as to any other insurance or self-insurance programs afforded to or maintained by State. Purchaser waives all rights against State for recovery of damages to the extent these damages are covered by general liability or umbrella insurance maintained pursuant to this contract.

By requiring insurance herein, State does not represent that coverage and limits will be adequate to protect Purchaser and such coverage and limits shall not limit Purchaser's liability under the indemnities and reimbursements granted to State in this contract.

The limits of insurance, which may be increased as deemed necessary by State of Washington, Department of Natural Resources, shall not be less than as follows:

Commercial General Liability (CGL) Insurance. Purchaser shall maintain general liability (CGL) insurance, and, if necessary, commercial umbrella insurance with a limit of not less than \$1,000,000.00 per each occurrence. If such CGL insurance contains aggregate limits, the General Aggregate limit shall be at least twice the "each occurrence" limit. CGL insurance shall have products-completed operations aggregate limit of at least two times the "each occurrence" limit. CGL coverage shall include a Logging and Lumbering Endorsement (i.e. Logger's Broad-Form) to cover the events that include, but are not limited to, fire suppression expenses, accidental timber

trespasses, and wildfire property damage with limits of not less than \$2,000,000.00 each occurrence.

CGL insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01 (or a substitute form providing equivalent coverage). All insurance shall cover liability arising out of premises, operations, independent contractors, products completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another party assumed in a business contract), and contain separation of insured (cross liability) condition.

Employer's Liability "Stop Gap" Insurance. Purchaser shall buy employers liability insurance, and, if necessary, commercial umbrella liability insurance with limits not less than \$1,000,000.00 each accident for bodily injury by accident or \$1,000,000.00 each employee for bodily injury by disease.

Workers' Compensation Coverage. Purchaser shall comply with all State of Washington workers' compensation statutes and regulations. Workers' compensation coverage shall be provided for all employees of Purchaser and employees of any subcontractor or sub-subcontractor. Coverage shall include bodily injury (including death) by accident or disease, which exists out of or in connection with the performance of this contract. Except as prohibited by law, Purchaser waives all rights of subrogation against State for recovery of damages to the extent they are covered by workers' compensation, employer's liability, commercial general liability, or commercial umbrella liability insurance.

If Purchaser, subcontractor or sub-subcontractor fails to comply with all State of Washington workers' compensation statutes and regulations and State incurs fines or is required by law to provide benefits to or obtain coverage for such employees, Purchaser shall indemnify State. Indemnity shall include all fines, payment of benefits to Purchaser or subcontractor employees, or their heirs or legal representatives, and the cost of effecting coverage on behalf of such employees.

Business Auto Policy (BAP). Purchaser shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit not less than \$1,000,000.00 per accident. Such insurance shall cover liability arising out of "Any Auto". Business auto coverage shall be written on ISO form CA 00 01, or substitute liability form providing equivalent coverage. If necessary the policy shall be endorsed to provide contractual liability coverage and cover a "covered pollution cost or expense" as provided in the 1990 or later editions of CA 00 01. Purchaser waives all rights against State for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

#### G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Sedro Woolley, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager has sole authority to waive, modify, or amend the terms of this contract in the manner prescribed in clause

G-180. No agent, employee, or representative of the State has any authority to bind the State to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract.

Purchaser is required to have a person on site during all operations who is authorized to receive instructions and notices from the State. Purchaser shall inform the State in writing who is authorized to receive instructions and notices from the State, and any limits to this person's authority.

G-170 Assignment and Delegation

No rights or interest in this contract shall be assigned by Purchaser without prior written permission of the State. Any attempted assignment shall be void and ineffective for all purposes unless made in conformity with this paragraph. Purchaser may perform any duty through a delegate, but Purchaser is not thereby relieved of any duty to perform or any liability. Any assignee or delegate shall be bound by the terms of the contract in the same manner as Purchaser.

G-180 Modifications

Waivers, modifications, or amendments of the terms of this contract must be in writing signed by Purchaser and the State.

G-190 Contract Complete

This contract is the final expression of the Parties' agreement. There are no understandings, agreements, or representations, expressed or implied, which are not specified in this contract.

G-200 Notice

Notices required to be given under the following clauses shall be in writing and shall be delivered to Purchaser's authorized agent or sent by certified mail to Purchaser's post office address:

G-210 Violation of Contract

G-220 State Suspends Operations

All other notices required to be given under this contract shall be in writing and delivered to the authorized agent or mailed to the Party's post office address. Purchaser agrees to notify the State of any change of address.

G-210 Violation of Contract

- a. If Purchaser violates any provision of this contract, the Contract Administrator, by written notice, may suspend those operations in violation. If the violation is capable of being remedied, Purchaser has 30 days after receipt of a suspension notice to remedy the violation. If the violation cannot be remedied (such as a violation of WAC 240-15-015) or Purchaser fails to remedy the violation within 30 days after receipt of a suspension notice, the State may terminate the rights of Purchaser under this contract and collect damages.

- b. If the contract expires pursuant to clause G-030 or G-031 without Purchaser having performed all its duties under this contract, Purchaser's right to operate is terminated and Purchaser shall not have the right to remedy the breach. This provision shall not relieve Purchaser of any payment obligations.
- c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.
- d. If Purchaser's violation is a result of a failure to make a payment when due, in addition to a. and b. above, interest shall accrue on the unpaid balance at 12 percent per annum, beginning the date payment was due.

#### G-220 State Suspends Operation

The Contract Administrator may suspend any operation of Purchaser under this contract when the State is suffering, or there is a reasonable expectation the State will suffer environmental, monetary, or other damage if the operation is allowed to continue.

Purchaser shall be in breach of this contract if the operation continues after the suspension notice or if the operation resumes without prior approval and notice from the Contract Administrator.

Purchaser may request a modification of a suspension within 30 days of the start of suspension through the dispute resolution process in clause G-240. If this process results in a finding that the suspension exceeded the time reasonably necessary to stop or prevent damage to the State, Purchaser is entitled to request a contract term adjustment under clause G-040.

If it reasonably appears that the damage that the State is suffering, or can reasonably be expected to suffer if the operation is allowed to continue, will prevent harvest for a period that will exceed 6 months, and Purchaser has complied with this contract, the provisions of clause G-066 shall govern just as if the harvest was prevented by an applicable foreign or domestic governmental regulation or order.

#### G-230 Unauthorized Activity

Any cutting, removal, or damage of forest products by Purchaser, its employees, agents, or invitees, including independent contractors, in a manner inconsistent with the terms of this contract or State law, is unauthorized. Such activity may subject Purchaser to liability for triple the value of said forest products under RCW 79.02.320 or RCW 79.02.300 and may result in prosecution under RCW 79.02.330 or other applicable statutes.

**G-240 Dispute Resolution**

The following procedures apply in the event of a dispute regarding interpretation or administration of this contract and the parties agree that these procedures must be followed before a lawsuit can be initiated.

- a. In the event of a dispute, Purchaser must make a written request to the Region Manager for resolution prior to seeking other relief.
- b. The Region Manager will issue a written decision on Purchaser's request within ten business days.
- c. Within ten business days of receipt of the Region Manager's decision, Purchaser may make a written request for resolution to the Deputy Supervisor - Uplands of the Department of Natural Resources.
- d. Unless otherwise agreed, a conference will be held by the Deputy Supervisor - Uplands within 30 calendar days of the receipt of Purchaser's request for review of the Region Manager's written decision. Purchaser and the Region Manager will have an opportunity to present their positions. The Deputy Supervisor - Uplands will issue a decision within a reasonable time of being presented with both Parties' positions.

**G-250 Compliance with All Laws**

Purchaser shall comply with all applicable statutes, regulations and laws, including, but not limited to; chapter 27.53 RCW, chapter 68.50 RCW, WAC 240-15 and WAC 296-54. Failure to comply may result in forfeiture of this contract.

**G-260 Venue**

This contract shall be governed by the laws of the State of Washington. In the event of a lawsuit involving this contract, venue shall be proper only in Thurston County Superior Court.

**G-270 Equipment Left on State Land**

All equipment owned or in the possession of Purchaser, its employees, agents, or invitees, including independent contractors, shall be removed from the sale area and other State land by the termination date of this contract. Equipment remaining unclaimed on State land 60 days after the expiration of the contract period is subject to disposition as provided by law. Purchaser shall pay to the State all costs of moving, storing, and disposing of such equipment. The State shall not be responsible for any damages to or loss of the equipment or damage caused by the moving, storing or disposal of the equipment.

**G-280 Operating Release**

An operating release is a written document, signed by the State and Purchaser, indicating that Purchaser has been relieved of certain rights or responsibilities with regard to the entire or a portion of the timber sales contract. Purchaser and State may agree to an operating release for this sale, or portion of this sale, prior to the contract

expiration, when all contract requirements pertaining to the release area have been satisfactorily completed. Upon issuance of a release, Purchaser's right to cut and remove forest products on the released area will terminate.

**G-310 Road Use Authorization**

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; EB-ML (Ebey Mountain Mainline), EB-11, EB-1105, EB-1108, EB-21, EB-2109, EB-2110, EB-2111, EB-2114, EB-2114-02, EB-2114-03, EB-2115, EB-2116, EB-22, EB-29, EB-2911, EB-2901, EB-2901-04, EB-38, EB-42, EB-4201, EB-4207, EB-43, EB-48, EB-52, EB-53, EB-58, and EB-5804. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

**G-330 Pre-work Conference**

Purchaser shall arrange with the Contract Administrator to review this contract and to examine the sale area before beginning any operations. A plan of operations shall be developed and agreed upon by the Contract Administrator and Purchaser before beginning any operations. To the extent that the plan of operations is inconsistent with the contract, the terms of the contract shall prevail. State's acceptance and approval of Purchaser's plan of operations shall not be construed as any statement or warranty that the plan of operations is adequate for Purchaser's purposes or complies with applicable laws.

**G-340 Preservation of Markers**

Any legal land subdivision survey corners and witness objects are to be preserved. If such are destroyed or disturbed, the Purchaser shall, at the Purchaser's own expense, re-establish them through a licensed land surveyor in accordance with U.S. General Land Office standards. Corners and/or witness objects that must be disturbed or destroyed in the process of road construction or logging shall be adequately referenced and/or replaced in accordance with RCW 58.24.040(8). Such references must be approved by the Contract Administrator prior to removal of said corners and/or witness objects.

**G-360 Road Use Reservation**

The State shall have the right to use, without charge, all existing roads and any road constructed or reconstructed on State lands by Purchaser under this contract. The State may extend such rights to others. If the State grants such rights to others, the State shall require performance or payment, as directed by the State, for their proportionate share of maintenance based on their use.

**G-370 Blocking Roads**

Purchaser shall not block the EB-ML Road, unless authority is granted in writing by the Contract Administrator.

**G-380 Road Easement and Road Use Permit Requirements**

Purchaser agrees to comply with the terms and conditions of the attached:

Easements with:

Charles and Elsie Clark; #55-000700; dated January 7, 1960.  
Gerald Watkins; #55-000701; dated January 23, 1960.  
Gust and Hilma Olson; #55-000702; dated January 26, 1960.  
E. J. Schatz; #55-000703; dated April 6, 1959.  
D. F. and Verna Osborn; #55-000704; dated April 13, 1959.  
Glenn Walker and Rita Walker, #55-000705; dated November, 22, 1957.  
Scott Paper Company; #55-000716; dated September 15, 1970.  
Scott Paper Company; #55-000716 Supplement; dated February 7, 1973.  
Wisconsin Timber Company; #55-086032; dated February 6, 1909.

G-430 Open Fires

Purchaser shall not set, or allow to be set by Purchaser's employees, agents, invitees and independent contractors, any open fire at any time of the year without first obtaining permission, in writing, from the Contract Administrator.

G-450 Encumbrances

This contract and Purchaser's activities are subject to the following:

DATA MISSING

Section P: Payments and Securities

P-010 Initial Deposit

Purchaser paid DATA MISSING initial deposit, which will be maintained pursuant to RCW 79.15.100(3). If the operating authority on this contract expires without Purchaser's payment of the full amount specified in the 'Payment for Forest Products' clause, the initial deposit will be immediately forfeited to the State, and will be offset against Purchaser's remaining balance due. Any excess initial deposit funds not needed to ensure full payment of the contract price, or not needed to complete any remaining obligations of the Purchaser existing after contract expiration, will be refunded to the Purchaser.

P-021 Payment for Forest Products

Purchaser agrees to pay the following rates per MBF Scribner net log scale for forest products conveyed and cut or removed from the sale area plus \$99,861.50 on day of sale and \$9.00 per MBF upon removal in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause.

DATA MISSING

Species that are conveyed but are not listed in the table above shall be paid for at a rate to be determined by the State.

Utility logs, special cull and peelable cull logs of all species, included on loads of logs that are required to be removed and scaled per clause H-150 will be paid for on an adjusted gross scale basis at the rate of \$20.00 per MBF.

P-027 Payment for Removal of Optional Forest Products

Purchaser agrees to pay the rate of \$2.00 per ton for forest products approved for removal from the sale area under clause H-157.

P-040 Weighing and Scaling Costs

Purchaser agrees to pay for all scaling and weighing costs for logs and other products sold under this contract. Purchaser also agrees to pay for all costs associated with the transmission and reporting of scale or weight data.

P-045 Guarantee of Payment

Purchaser will pay for forest products prior to cutting or will guarantee payment by posting an approved payment security. The amount of cash or payment security shall be determined by the State and shall equal or exceed the value of the cutting proposed by Purchaser.

P-050 Billing Procedure

The State will compute and forward to Purchaser statements of charges provided for in the contract. Purchaser shall deliver payment to the State on or before the date shown on the billing statement.

P-070 Payment for Products: Damage, Theft, Loss or Mismatch

Forest products included in this agreement which are destroyed, damaged, stolen, lost, or mismatched shall be paid for by Purchaser on demand of the State. The rates contained in clause P-021 shall apply.

P-080 Payment Account Refund

Advance payments made under P-045 or P-045.2 remaining on account above the value for the charges shall be returned to Purchaser within 30 days following the final report of charges. Refunds not made within the 30 day period will accrue interest at the interest rate, as established by WAC 332-100-030, computed on a daily basis until paid.

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of \$100,000.00. The Security provided shall guarantee performance of all provisions of this contract and payment of any damages caused by operations under this contract or resulting from Purchaser's noncompliance with any rule or law. Acceptable performance security may be in the form of a performance bond, irrevocable letter of credit, cash, savings or certificate of deposit account assignments, and must name the State as the obligee or beneficiary. A letter of credit must comply with Title 62A RCW, Article 5. Performance security must remain in full force over the duration of the contract length. Surety bonds issued shall conform to the issuance and rating requirements in clause G-150. The State shall retain the performance security pursuant to RCW 79.15.100. Purchaser shall not operate unless the performance security has been accepted by the State. If at any time the State decides that the security document or amount has become unsatisfactory, Purchaser agrees to suspend operations and, within 30 days of notification, to replace the security with one acceptable to the State or to supplement the amount of the existing security.

P-100 Performance Security Reduction

The State may reduce the performance security after an operating release has been issued if the State determines that adequate security exists for any remaining obligations of Purchaser.

Section L: Log Definitions and Accountability

L-010 Forest Products Conveyed

Forest products conveyed are all logs or parts of logs described by the 'Products Sold and Sale Area' (G-010) clause meeting the removal requirements listed in the 'Required Removal of Forest Products' (H-150) clause.

L-020 Short Logs - Peeler Blocks

Logs or parts of logs which are removed from the sale area that fail to meet the minimum gross length requirements shall be scaled and graded as short logs or peeler blocks. Such material shall be paid for at the forest products rates specified in this contract.

L-060 Load Tickets

Purchaser shall complete and use load tickets as directed by the Contract Administrator and, if required, use other identification as directed by the State to ensure accounting of forest products removed from the sale area. A load ticket must be fixed, as designated by the Contract Administrator, to each truck and trailer load prior to leaving the landing.

Purchaser shall account for all load tickets issued by the Contract Administrator. The State may treat load tickets not accounted for as lost forest products. All costs associated with computing the billings for lost loads shall be borne by Purchaser.

L-071 Log and Load Reporting Service

This contract requires the use of a State approved third party Log and Load Reporting Service (LLRS). Purchaser shall ensure log volume measurement data and/or load and weight data is received by the LLRS within 1 business day of logs being measured or weighed. Purchaser agrees to pay the LLRS for log and load data supplied to the State.

If during the term of this contract, the State discontinues use of the LLRS, the State will notify the Purchaser in writing and the Purchaser will then be responsible to send log scale and/or weight information to the State.

L-080 Scaling Rules

Determination of volume and grade of any forest products shall be conducted by a state approved third party scaling organization and in accordance with the Westside log scaling and grading rules and Scribner Volume Table, revised July 1, 1972, contained in the Northwest Log Rules Eastside and Westside Log Scaling Handbook (developed and produced by the Northwest Log Rules Advisory Group) and in effect on the date of confirmation of this contract.

Special scaling specifications shall be noted on the State's Brand Designation form which is hereby incorporated to this contract by reference.

L-110 State Approval of Log Scaling and Weighing Locations

Forest Product measurement and weighing facilities required by this contract must be approved by the State. Forest products sold under the contract which require log scaling shall be scaled, measured, or counted by a State approved third party log scaling organization. Forest products sold under the contract which require weighing shall be weighed at a location that meets Washington State Department of Agriculture approval.

Prior to forest products being hauled, the Contract Administrator must authorize in writing the use of State approved measurement and/or weighing facilities that are at or en-route to final destinations. Forest products from this sale shall be measured or weighed at facilities, which are currently approved for use by the State and are currently authorized for this sale. The State reserves the right to verify load volume and weights with State employees or contractors at the State's own expense. The State reserves the right to revoke the authorization of previously approved measurement locations.

L-120 Long Log Taper Distribution

Forest products over 40 feet long plus trim shall be segment scaled and the lower segment diameters shall be determined using actual taper. In order to utilize taper rules for determining segment diameters for poles and pilings greater than 40 feet in length plus trim, Purchaser must request use of a Pole and Piling Scaling Specification Agreement on file in the region office. Approval for usage of a special Pole and Piling Scaling Specification Agreement may be granted at the sole discretion of the State.

Following State approval for usage of the Pole and Piling Scaling Specification Agreement, the Brand Designation form shall be amended to incorporate the long log taper rules. The volume reported by the scaling organization for forest products over 40 feet plus trim will be expanded by 5 percent and the additional 5 percent volume shall be billed to the purchaser at the contract rate.

L-130 Conversion Factors

Forest products removed from the sale area that are not measured in units specified in the 'Payment for Forest Products' clause of this contract shall be converted to board feet using Department of Natural Resources' standard conversion factors.

Section H: Harvesting Operations

H-001 Operations Outside the Sale Boundaries

No operations shall occur outside the sale boundaries, as described within the contract, unless approved in writing by the State.

H-010 Cutting and Yarding Schedule

Falling and Yarding will not be permitted from October 1 to April 30 BY GROUND-BASED EQUIPMENT unless authorized in writing by the Contract Administrator.

**H-011 Certification of Fallers and Yarder Operators**

All persons engaged in the felling and yarding of timber must receive certification in writing from the Contract Administrator. Certification may be revoked when the Contract Administrator determines that non-compliance of leave tree selection criteria or cut tree selection criteria is occurring, or excessive damage to leave trees or skid trails is occurring.

Excessive damage for leave trees is defined in clause H-012.

Excessive skid trail damage is defined in clause H-015 or H-016.

When leave tree damage exceeds the limits set forth in clause H-012, Purchaser shall be subject to liquidated damages (clause D-040 or D-041).

**H-012 Leave Tree Damage Definition**

Leave trees are trees required for retention within the sale boundary. Purchaser shall protect leave trees from being cut, damaged, or removed during operations.

Leave tree damage exists when more than 5 percent of the leave trees are damaged in a unit and when one or more of the following criteria occur as a result of Purchaser's operation, as determined by the Contract Administrator:

- a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 200 square inches.
- b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

If the Contract Administrator determines that a leave tree has been cut or damaged, the Purchaser may be required to pay liquidated damages for Excessive Leave Tree Damage as detailed in clause D-040.

**H-013 Reserve Tree Damage Definition**

Reserve trees are trees required and designated for retention within the sale boundary. Purchaser shall protect reserve trees from being cut, damaged, or removed during operations.

Reserve tree damage exists when one or more of the following criteria occur as a result of Purchaser's operation, as determined by the Contract Administrator:

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 200 square inches.

- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

If the Contract Administrator determines that a reserve tree has been cut or damaged, the Purchaser shall provide a replacement reserve tree of like condition, size, and species within the sale area, as approved by the Contract Administrator. Purchaser may be required to pay liquidated damages for Excessive Reserve Tree Damage as detailed in clause D-041.

Removal of designated reserve trees from the sale area is unauthorized, and may invoke the use of the G-230 'Trespass and Unauthorized Activity' clause. Purchaser is required to leave all cut or damaged reserve trees on site.

#### H-016 Skid Trail Requirements

A skid trail is defined as an area that is used for more than three passes by any equipment.

Purchaser shall comply with the following during the yarding operation:

- a. A skid trail will not exceed 12 feet in width, including rub trees.
- b. Skid trails shall not cover more than 15 percent of the total acreage on one unit.
- c. Location of the skid trails must be marked by Purchaser and approved by the Contract Administrator.
- d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.
- f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- g. Purchaser will not have more than two skid trails open to active skidding at any one time. All other skid trails used for skidding timber will be closed.
- h. Once a skid trail is closed, Purchaser will not reopen a skid trail unless approved in writing by the Contract Administrator.
- i. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

Purchaser shall not deviate from the requirements set forth in this clause without prior written approval from the Contract Administrator.

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 4 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-030 Timber Falling

Trees shall be felled and logs shall be bucked to obtain the greatest practicable utilization of forest products and other valuable materials conveyed.

H-035 Fall Trees Into Sale Area

Trees shall be felled into the sale area unless otherwise approved by the Contract Administrator.

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for the sale area. The plan shall address the falling, yarding and hauling of forest products, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-050 Rub Trees

Trees designated for cutting along skid trails and cable corridors shall be left standing as rub trees until all timber that is tributary to the skid trail or cable corridor has been removed.

H-052 Branding and Painting

Forest products shall be branded with a brand furnished by the State prior to removal from the landing. All purchased timber shall be branded in a manner that meets the requirements of WAC 240-15-030(2)(a)(i). All timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

For pulp loads purchased under a contract designated as export restricted, Purchaser shall brand at least 3 logs with legible brands at one end. Also, 10 logs shall be painted at one end with durable red paint.

H-080 Snags Not to be Felled

Snags not required to be felled for safety reasons may be left standing. Snags felled for safety reasons shall not be removed and must remain where felled.

## H-110 Stump Height

Trees shall be cut as close to the ground as practicable. Stump height shall not exceed 12 inches in height measured on the uphill side, or 2 inches above the root collar, whichever is higher.

## H-120 Harvesting Equipment

Forest products sold under this contract shall be felled by chainsaw and yarded by cable; felled by chainsaw or feller-buncher and yarded by cable, shovel or forwarder on sustained slopes 35% or less, unless authority to use other equipment is granted in writing by the State.

## H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

## H-126 Tailholds on State Land

If Purchaser tailholds on State land, methods to minimize damage to live trees outside the sale area shall be employed and must be approved in writing by the Contract Administrator.

## H-127 Tailholds on Private Land

If Purchaser chooses to tailhold on private property, Purchaser shall obtain permit(s) and assumes responsibility for all costs and damages associated with the permit(s). Purchaser must provide the State with a copy of the executed permit(s) or a letter from the landowner indicating that a satisfactory tailhold permit(s) has been consummated between Purchaser and the landowner.

## H-130 Hauling Schedule

The hauling of forest products will not be permitted on any road from November 1 to March 31 unless authorized in writing by the Contract Administrator .

## H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- A. An on-site pre-work meeting shall be scheduled with the Contract Administrator, which shall include the operator and fallers, prior to commencement of any activities on site.
- B. A copy of the timber sale map and contract shall be present on site during active operations.
- C. Marked leave trees may be traded for trees of the same size and species with prior approval from the Contract Administrator.
- D. Purchaser shall not operate ground-based equipment in areas where there is potential for ruts to form (wet/soft soils). Directional falling and/or operating on mats of slash shall be utilized to avoid this.

- E. Full suspension of logs over all typed water is required where feasible. If full suspension is not possible, log cribbing or other methods shall be put in place along the stream channel to protect the integrity of the channel banks. Corridor widths shall be no more than 12 feet in width and rub trees shall be cut.
- F. All yarding across stream channels shall be marked by the purchaser and approved by the Contract Administrator.
- G. Purchaser must close and lock the EB-ML and EB-11 gates at the end of each day of activities associated with timber sale. The gate must be swung shut after each truck, unless a watchman is posted.
- H. Trees must be felled away from stream channels, RMZ areas, and any standing water or wet swales when feasible.
- I. BARK SLIPPAGE: Cutting and yarding within the Variable Density Thinning areas shall not be permitted during the bark slippage season, unless authorized in writing by the Contract Administrator. This season is estimated to run from April 1 to July 15, but shall vary dependent on weather conditions. If permission is granted to operate during the bark slippage season, the Purchaser shall be required to provide a plan outlining mitigation measures.
- J. Yarding corridors through the adjacent plantation to Unit 10A must be marked by the Purchaser and approved in writing by the Contract Administrator prior to operations.

Permission to do otherwise must be granted in writing by the Contract Administrator.

#### H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- A. Wildlife timing restrictions are: no falling, bucking, yarding or operation of heavy equipment April 1 to August 31 from one hour before official sunrise to two hours after official sunrise and one hour before and after official sunset. Timing restrictions will be applied as shown on the timber sale map.
- B. No harvesting shall occur between November 15 and March 15 within Units #7 and 8A.
- C. When it is necessary to yard across stream channels, crossings shall be as close to perpendicular as possible and shall be marked by the Purchaser and approved in writing by the Contract Administrator prior to felling. Channel integrity shall be protected by using temporary crossing structures; when harvesting.

D. When harvesting, avoid exposing mineral soil within 50 feet of any type 3, 4, or 5 stream or wetland.

E. Avoid construction, earth work and grubbing of skid trails.

F. Falling patterns shall facilitate yarding away from draws and streams.

G. Falling and yarding with ground based equipment is not permitted from October 1 to April 31.

Permission to do otherwise must be granted in writing by the State.

H-150 Required Removal of Forest Products

Purchaser shall remove from the sale area and present for scaling or weighing all forest products conveyed in the G-010 clause that meet the following minimum dimensions:

Species	Net bd ft	Log length (ft)	Log dib
All species	10	12	5

The State may treat failure to remove forest products left on the sale area that meet the above specifications as a breach of this contract. At the State's option, forest products that meet the above specifications and are left on the sale area may be scaled for volume or measured and converted to weight by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling, measuring and computing the billing will be borne by the Purchaser.

H-157 Optional Removal of Forest Products Not Designated

If in the course of operations, Purchaser decides to remove forest products that are below the minimum designated removal specifications per the 'Required Removal of Forest Products' (H-150), the payment rates in clause P-027 shall apply.

Forest products designated as optional shall be decked separately from forest products designated as required for removal. Prior to removal from the sale area, optional forest products as described in this clause must be inspected and approved by the Contract Administrator. Optional forest products may not be mixed with forest products that are required for removal by this contract and shall be removed from the sale area in separate truck loads using load tickets specified by the Contract Administrator.

All material removed under this clause is subject to the same log and load accountability rules as defined in the Log Definitions and Accountability section of this contract. Purchaser shall follow the payment procedures as required in the P-052 clause and will submit a separate summary report for all forest products removed from the sale area under the authority of this clause.

**H-160 Mismanufacture**

Mismanufacture is defined as forest products remaining on the sale area that would have met the specifications in clause H-150 if bucking lengths had been varied to include such products.

The State may treat mismanufacture as a breach of this contract. At the State's option, forest products that are left on the sale area may be scaled for volume by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling and computing the billing will be borne by Purchaser.

**H-180 Removal of Specialized Forest Products or Firewood**

Prior to the removal of conveyed specialized forest products or firewood from the sale area, Purchaser and the State shall agree in writing to the method of accounting for/and removal of such products.

**H-190 Completion of Settings**

Operations begun on any setting of the sale area shall be completed before any operation begins on subsequent settings unless authorized in writing by the Contract Administrator.

**H-220 Protection of Residual or Adjacent Trees**

Unless otherwise specified by this contract, the Contract Administrator shall identify damaged adjacent or leave trees that shall be paid for according to clause G-230.

**Section C: Construction and Maintenance****C-040 Road Plan**

Road construction and associated work provisions of the Road Plan for this sale, dated 10/5/2015 are hereby made a part of this contract.

**C-050 Purchaser Road Maintenance and Repair**

Purchaser shall perform work at their own expense on the EB-ML (Ebey Mountain Mainline), EB-11, EB-1105, EB-1108, EB-21, EB-2109, EB-2110, EB-2111, EB-2114, EB-2114-02, EB-2114-03, EB-2115, EB-2116, EB-22, EB-29, EB-2911, EB-2901, EB-2901-04, EB-38, EB-42, EB-4201, EB-4207, EB-43, EB-48, EB-52, EB-53, EB-58, and EB-5804 roads. All work shall be completed to the specifications detailed in the Road Plan.

**C-080 Landing Locations Approved Prior to Construction**

Landings shall be marked by Purchaser and approved by the Contract Administrator prior to construction.

**C-130 Dust Abatement**

Purchaser shall abate dust on the on EB-ML Road while hauling from July 1 to October 1, or as directed by the Contract Administrator. The Contract Administrator may require the Purchaser to develop a dust abatement plan which may include but is not limited to application of water, lignin, magnesium chloride, or reduction in truck speed.

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

An Emergency Response Plan (ERP) shall be provided to the Contract Administrator containing but not limited to, valid contact numbers and procedures for medical emergencies, fire, hazardous spills, forest practice violations and any unauthorized or unlawful activity on or in the vicinity of the sale area. The Contract Administrator and the State shall be promptly notified whenever an incident occurs requiring an emergency response.

The ERP must be presented for inspection at the prework meeting and kept readily available to all personnel, including subcontractors, on site during active operations.

S-010 Fire Hazardous Conditions

Purchaser acknowledges that operations under this Contract may increase the risk of fire. Purchaser shall conduct all operations under this agreement following the requirements of WAC 332-24-005 and WAC 332-24-405 and further agrees to use the highest degree of care to prevent uncontrolled fires from starting.

In the event of an uncontrolled fire, Purchaser agrees to provide equipment and personnel working at the site to safely and effectively engage in first response fire suppression activity.

Purchaser's failure to effectively engage in fire-safe operations is considered a breach and may result in suspension of operations.

S-030 Landing Debris Clean Up

Landing debris shall be disposed of in a manner approved in writing by the Contract Administrator.

S-035 Logging Debris Clean Up

Slash and debris created from harvest activities shall be treated in a manner approved in writing by the Contract Administrator.

S-050 Cessation of Operations for Low Humidity

During the "closed season", when the humidity is 30 percent or lower on the sale area, all operations must cease unless authority to continue is granted by the State in writing.

S-060 Pump Truck or Pump Trailer

Purchaser shall provide a fully functional pump truck or pump trailer equipped to meet the specifications of WAC 332-24-005 and WAC 332-24-405 during the "closed season" or as extended by the State and shall provide trained personnel to operate this equipment on the sale area during all operating periods.

S-100 Stream Cleanout

Slash or debris which enters any stream, unless permission is granted otherwise by the Contract Administrator, as a result of operations under this contract and which is

identified by the Contract Administrator shall be removed and deposited in a stable position. Removal of slash or debris shall be accomplished in a manner that avoids damage to the natural stream bed and bank vegetation.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

Purchaser is responsible for understanding and complying with all applicable local, state, and federal hazardous material/waste laws and regulations for operations conducted under this contract. Such regulations pertain to, but may not be limited to, hazardous material storage, handling and transport, personnel protection, release notification and emergency response, cleanup and waste disposal. Purchaser shall be responsible for restoring the site in the event of a spill.

b. Hazardous Materials Spill Prevention

All operations shall be conducted in a manner that avoids the release of hazardous materials, including petroleum products, into the environment (water, air or land).

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 4 to 6 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain & recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

Releases of oil or hazardous materials to the environment must be reported according to the State Department of Ecology (ECY). It is the responsibility of the Purchaser to have all emergency contact information readily available and a means of remote communication for purposes of quick notification. In the event of a spill, the Purchaser is responsible for notifying the following:

Appropriate Department of Ecology regional office (contact information below).

DNR Contract Administrator

ECY - Northwest Region:  
1-425-649-7000

(Island, King, Kitsap, San Juan, Skagit, Snohomish, and Whatcom counties)

ECY - Southwest Region:

1-360-407-6300

(Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, and Wahkiakum counties)

ECY - Central Region:

1-509-575-2490

(Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima counties)

ECY - Eastern Region:

1-509-329-3400

(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties)

S-131 Refuse Disposal

As required by RCW 70.93, All Purchaser generated refuse shall be removed from state lands for proper disposal prior to termination of this contract. No refuse shall be burned, buried or abandoned on state forest lands. All refuse shall be transported in a manner such that it is in compliance with RCW 70.93 and all loads or loose materials shall be covered/secured such that these waste materials are properly contained during transport.

Section D: Damages

D-010 Liquidated Damages

The clauses in the DAMAGES section of this contract provide for payments by Purchaser to the State for certain breaches of the terms of this contract. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State caused by Purchaser's breach. These liquidated damages provisions are agreed to by the State and Purchaser with the understanding of the difficulty of proving loss and the inconvenience or infeasibility of obtaining an adequate remedy. These liquidated damages provisions provide greater certainty for the Purchaser by allowing the Purchaser to better assess its responsibilities under the contract.

D-020 Failure to Remove Forest Products

Purchaser's failure to remove all or part of the forest products sold in this agreement prior to the expiration of the contract term results in substantial injury to the State. The value of the forest products sold at the time of breach is not readily ascertainable. Purchaser's failure to perform disrupts the State's management plans, the actual cost of which is difficult to assess. A resale involves additional time and expense and is not an adequate remedy. Therefore, Purchaser agrees to pay the State as liquidated damages a sum calculated using the following formula:

LD = .35V-ID-P+C+A

Where:

LD = Liquidated Damage value.

V = The unremoved value at the date of breach of contract. The value is determined by subtracting the removal volume to date from the State's cruise volume multiplied by the contract bid rates.

ID = Initial Deposit paid at date of contract that has not been applied to timber payments.

P = Advance payments received but not yet applied to specific contract requirements.

C = Charges assessed for contract requirements completed prior to breach of contract but not paid for.

A = Administrative Fee = \$2,500.00.

The above formula reflects the Purchaser's forfeiture of the initial deposit in accordance with clause P-010 by deducting the initial deposit from the amount owed. In no event shall the liquidated damages be less than zero. Interest on the liquidated damage is owed from the date of breach until final payment, calculated using the following formula:  $\text{Interest} = r \times \text{LD} \times N$ .

Where:

r = daily equivalent of an annual interest at current interest rate as established by WAC 332-100-030.

LD = Liquidated damage value.

N = Number of days from date of breach to date payment is received.

#### D-030 Inadequate Log Accountability

Removal of forest products from the sale area without adequate branding and/or valid load tickets attached to the load and scaling forest products in a location other than the facility approved by the State can result in substantial injury to the State. Failure to properly account for loads and scaling and/or weighing information can result in loss to the State. The potential loss from not having proper branding, ticketing, scaling and/or weighing location and accountability is not readily ascertainable. Purchaser's failure to perform results in a loss of log weight and scale accountability, increases the potential for unauthorized removal of forest products, and increases the State's administration costs, the actual costs of which are difficult to assess.

Enforcement actions for unauthorized removal of forest products for each improperly branded load, improperly ticketed load, lost or unaccounted for tickets, or use of a facility not authorized for this sale or improper submission of scaling data are

impractical, expensive, time consuming and are not an adequate remedy. Therefore, Purchaser agrees to pay the State, as liquidated damages, a sum of \$100 each time a load of logs does not have branding as required in the contract, \$250 each time a load of logs does not have a load ticket as required by the contract, \$250 each time a load ticket has not been filled out as required by the plan of operations, \$250 each time a load is weighed or scaled at a location not approved as required under this contract, \$250 each time a log ticket summary report is not submitted properly, and if a third party Log and Load Reporting Service is required, \$250 each time scaling or weight data is not properly submitted to the Log and Load Reporting Service within 24 hours of log removal, and \$250 each time a ticket is either lost or otherwise unaccounted for.

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of \$50.00 per tree for all damaged trees in the Variable Density Thinning area.

D-041 Reserve Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-013, Reserve Tree Damage Definition, and when the Contract Administrator determines that a suitable replacement for a damaged reserve tree is not possible, the damaged trees result in substantial injury to the State. The value of the damaged reserve trees at the time of the breach is not readily ascertainable. Therefore, the Purchaser agrees to pay the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged reserve trees that are not replaced in the Variable Retention Harvest area.

IN WITNESS WHEREOF, the Parties hereto have entered into this contract.

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

\_\_\_\_\_  
Purchaser

\_\_\_\_\_  
Jean Fike  
Northwest Region Manager

Date: \_\_\_\_\_  
Address: \_\_\_\_\_

Date: \_\_\_\_\_

CORPORATE ACKNOWLEDGEMENT

STATE OF \_\_\_\_\_ )

COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally appeared \_\_\_\_\_

\_\_\_\_\_ to me known to be the \_\_\_\_\_ of the corporation that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of the corporation, for the uses and purposes therein mentioned, and on oath stated that (he/she was) (they were) authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

\_\_\_\_\_  
Notary Public in and for the State of

\_\_\_\_\_  
My appointment expires \_\_\_\_\_

**Schedule A**  
**NW Ground-Based Equip Specifications (Rev 2/11/16)**

The following types of equipment are considered ground-based equipment: feller-buncher, processor, forwarder, skidder and shovel.

SHOVEL is defined as a low ground pressure track-mounted machine with hydraulic boom and grapple capable of picking up one end of the largest log 25 feet from the center of the machine.

LOG PROCESSOR/DE-LIMBER is defined as a mobile machine with a hydraulic boom capable of simultaneously bucking, delimiting and/or debarking and chipping whole trees while sitting stationary at the landing.

FELLER-BUNCHER/HARVESTER is defined as a track mounted machine with hydraulic boom and cutter head capable of felling, bucking, limbing, and decking logs in one operation.

FORWARDER is defined as a track or rubber tire machine used for transporting logs to a landing by use of a bunk with self loading boom in which logs are carried free of the ground.

RUBBER-TIRED SKIDDER is defined as a skidder mounted on rubber tires used to drag logs to a landing. Logs are generally pulled in groups of six or less, with one end on the ground.

TRACKED SKIDDER is defined as any tracked tractor or skidder, fixed or articulated, used to drag logs to landings. Logs are generally pulled in groups of six or less, with one end on the ground.

Harvester shall not deviate from the requirements set forth in this Schedule without prior written approval from the Contract Administrator.

**FOR ALL YARDING:**

Equipment will remain at least 30 feet from all water courses or areas of wet/soft soils, except as necessary to cross at approved locations. Water course crossing structures must be approved by the Contract Administrator.

Logging debris created by the operation will be removed from water courses concurrently with yarding.

**WHEN SHOVEL YARDING IS AUTHORIZED:**

S1. When yarding and loading operations are occurring simultaneously, an additional shovel will be required for loading to avoid extra trips to the landing.

S2. Shovel yarding will not be allowed to create ruts or soil puddling. Shovel routes should be dispersed to prevent creation of definable trails.

S3. Within shovel logged areas, to facilitate proper reforestation, logging debris will be dispersed as necessary to create clear, plantable spots at approximately a 11 foot x 11 foot spacing. Planting spots will be created concurrently with yarding.

LOG PROCESSORS will be allowed within the sale area only under one of the following conditions:

1. No tops or limbs will be allowed to accumulate on any landings, and all tops and limbs will be re-distributed into the unit, to the satisfaction of the Contract Administrator, and will provide for plantable spots every 11 feet by 11 feet.
2. Harvester must provide a written slash treatment plan, acceptable to the Contract Administrator, to address the additional slash accumulation. The Slash Treatment Plan will be a part of the Plan of Operations.

**Schedule B**  
**Thinning Prescription**

Units 2A, 2B, 3, 4A, 4B, 5A, 5B, 6, 7, 8A, 8B, 8C, 8D, and 11:

Thin from below and leave the best 100 to 110 trees (approximately 20 x 20 foot spacing) per acre of the preferred species uniformly distributed over the area to achieve an average basal area of 140 square feet per acre. They shall be selected by comparing their characteristics with other trees in the stand.

All Units:

Leave tree species in order of descending preference:

1. western redcedar
2. Douglas-fir
3. western hemlock
4. red alder
5. other hardwood

“Best tree” is defined as the following characteristics:

1. Largest diameter (must be greater than 8 inches DBH)
2. Fullest and most vigorous crown.
3. Free of disease, major defect, and damage.
4. Best form (tallest, straightest bole).

Special Thinning Conditions and Corridors

- Hardwood patches shall be held to the same stocking criteria as the rest of the stand.
- In areas where thinning is not necessary, i.e., prescription is met, do not put in yarding corridors or skid trails. These areas must be identified and agreed upon in advance with the Contract Administrator.
- Landings shall be located to provide for parallel yarding corridors whenever possible.
- Ground-based corridors shall be limited to 14 feet including rub trees. If used, cable corridors shall be limited to 12 feet including rub trees.
- Ground-based corridors shall be no closer than 75 feet apart from center of corridor.
- If radial yarding corridors are required from a central landing, the distance between yarding corridors must be no closer than 100 feet where the corridor leaves the unit as measured from the center of the corridors.

RMZ enhancement activities.

Three conifer trees per acre of RMZ, from the largest thinned DBH class, shall be felled towards the stream where feasible to remain as down woody debris (90 trees). Two conifer trees per acre of RMZ, from the largest thinned DBH class, shall be double girdled for snag recruitment (60 trees). The Purchaser shall mark and fell/girdle upon review/approval of the Contract Administrator. These trees shall be marked IN THE SALE AREA within 25 feet of the white “timber sale boundary” tags (total of 150 trees in the sale area).

Certification of Fallers and Yarder Operators – See clause H-011 of the contract.

The Contract Administrator and Faller/Harvester Operator shall jointly review the take tree selection criteria as outlined in Schedule B of the contract.

In conjunction with the Contract Administrator, the Faller/Harvester Operator shall mark a designated area as a test plot within the sale area boundary.

Satisfactory thinning of the test plot completes the certification process. Certifications shall be issued to individuals when they demonstrate to the contract Administrator their ability to perform within the requirements set forth in the contract.

Certification may be revoked at any time by Contract Administrator if the Contract Administrator determines that the prescription is not being implemented properly.

Damage Compartments:

Determination of damage shall be calculated by comparing the percentage of damaged trees to the total number of standing trees by compartment as determined by the Contract Administrator.

Damage compartments are as follows: Unit 2A, 2B; Unit 3; Unit 4A, 4B; Unit 5A, 5B; Unit 6; Unit 7; Unit 8A, 8B, 8C, 8D; and Unit 11.



## 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 (specifically required by the contract) prior to haul*

#### EXCISE TAX EXEMPT ACTIVITIES

**Temporary Optional Construction:** **linear feet**  
*Optional roads to be constructed and then abandoned*

**Temporary Optional Reconstruction:** **linear feet**  
*Optional roads to be reconstructed and then abandoned*

**New Abandonment:** **linear feet**  
*Abandonment of roads constructed or reconstructed under the contract*

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 6/13)

## Cruise Narrative

<b>Sale Name:</b> Biscuit VRH & VDT	<b>Region:</b> Northwest
<b>Agree. #:</b> 30-092183	<b>District:</b> Cascade
<b>Lead cruiser:</b> Matt Llobet	<b>Completion date:</b> 1-5-16
<b>Other cruisers on sale:</b> PK	

### Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	17.5	Yes	
2	445.9	No	-Combined units: 2A,2B,3,4A,4B,5A,5B,6,7,8A,8B,8C,8D,11 -Extracted 64.6ac of Corridor out of original gross acres
9	33.4	Yes	
10	8.0	Yes	
10B	2.3	Yes	
ROW	10.8	NO	Combined ROW units: 2B,3,4A,4B,5A,6,7,8A
CORR	64.6	Yes	
Waste	1.0	Yes	
EB ROW	3.0	Yes	
Total	586.5	Yes	

### Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (cruise:count)	Total number of plots
1	V.P.	40.0 BAF	4.5'	225' x 225'	Cruise All	16
2	V.P.	46.94 BAF	4.5'	1plot/6.75ac	Cruise All	66
9	V.P.	40.0 BAF	4.5'	225' x 225'	1:1	28
10	V.P.	40.0 BAF	4.5'	1plot/ac	1:1	8
10B	V.P.	40.0 BAF	5.4'	1plot/ac	Cruise All	2
ROW	V.P.	20.0 BAF	5.4'	1plot/ac	Cruise All	10

CORR	V.P.	46.94 BAF	4.5'	1plot/2.15ac	Cruise All	30
EM ROW	V.P.	46.94 BAF	4.5'	1plot/ac	Cruise All	3
Waste Area	V.P.	46.94 BAF	4.5'	1plot/ac	Cruise All	1

**Sale/Cruise Description:**

<b>Minor species cruise intensity:</b>	Cruised all units using a full prism					
<b>Minimum cruise spec:</b>	Minimum DBH 8 inches, 10 Net Board feet, Minimum Top Diameter 5 inches or 40% of 16-foot form point					
<b>Avg ring count by sp:</b>	<b>DF =</b>	8	<b>WH =</b>	8	<b>SS =</b>	
<b>Leave/take tree description:</b>	<p><b>Variable Retention Harvest</b> – All timber is bound by white Timber Sale boundary tags, and existing roads. Trees marked with yellow leave tree area tags are designated leave trees. Any blue painted trees are leave trees as well.</p> <p><b>VDT-</b> See Schedule B</p> <p><b>ROW-</b> Harvest all timber bounded by orange right-of-way tags. Centerline is marked with stakes.</p> <p><b>Waste Area-</b> Marked with orange right-of-way boundary signs.</p>					
<b>Other conditions</b>						

**Field observations:**

<p>All timber was graded in variable log lengths with the Scaling Bureaus Westside/ Northwest log rules. The utility wood was given a board ft. volume. Biscuit timber sale was cruised using the variable plot sample method. Biscuit timber sale is 586 acres, with good road access.</p> <p><b>General Location</b></p> <ul style="list-style-type: none"> <li>- Off Jim Creek Road</li> </ul> <p><b>Harvest Method</b></p> <ul style="list-style-type: none"> <li>- Cable-18%, Ground Base- 82%</li> </ul> <p><b>Plots dropped</b></p> <ul style="list-style-type: none"> <li>- Sample points were dropped due to leave tree clumps and unit boundary</li> </ul>
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**Prepared by:** Matt Llobet

**Title: Northwest  
Region Timber  
Cruiser**

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																					
T32N R06E S24 TyCORR THRU T32N R07E S30 TyU10B				Project: <b>BISCUIT</b>											Page <b>1</b>										
				Acres <b>586.50</b>											Date <b>1/27/2016</b>										
															Time <b>8:09:59AM</b>										
S Spp	So T	Gr rt	ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre				
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf					
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99									
DF	L	D	2S	8	7.7	1,053	972	570	100				6	22	72	36	12	178	1.41	5.5					
DF	L	D	3S	66	9.0	7,826	7,124	4,178	100				0	51	48	35	9	94	0.78	75.8					
DF	L	D	4S	22	2.8	2,423	2,356	1,382	96	4					6	47	27	19	28	5	30	0.32	79.3		
DF	L	D	UT	4	414			414	243	14	51	35					38	15	15	33	23	8	62	0.73	6.7
<b>DF Totals</b>				53	7.3	11,716	10,866	6,373	21	68	10	3	12	42	44	31	7	65	0.61	167.2					
DF	T	D	2S	18	4.4	1,419	1,356	795	67				33	1	3	97	39	14	302	1.90	4.5				
DF	T	D	3S	48	6.7	3,733	3,483	2,043	100				0	0	46	53	36	8	83	0.68	42.1				
DF	T	D	4S	29	7.3	2,232	2,069	1,213	85	15					12	30	29	29	29	5	30	0.31	68.0		
DF	T	D	UT	3	234			234	138	88	4	8					47	3	33	17	22	5	26	0.33	9.1
DF	T	HASM		1	2.6	28	27	16					100					40	18	549	2.99	.0			
DF	T	HA2S		1	1.1	69	69	40	80				20					40	15	317	1.95	.2			
<b>DF Totals</b>				35	6.2	7,715	7,238	4,245	27	53	14	7	5	9	32	54	31	7	58	0.54	124.0				
WH	T	D	2S	4	9.9	98	88	52	100				8	59	33	34	13	175	1.43	.5					
WH	T	D	3S	59	5.5	1,188	1,122	658	100				0	66	34	34	8	81	0.66	13.9					
WH	T	D	4S	36	4.4	737	705	413	100	0					13	44	16	28	26	5	26	0.28	27.1		
WH	T	D	UT	1	6			6	3	90	10					91	9	15	5	16	0.24	.3			
<b>WH Totals</b>				9	5.3	2,029	1,921	1,127	37	59	5	5	17	47	31	29	6	46	0.44	41.9					
RA	T	D	2S	26	12.3	67	59	35	79				21	23	77	27	15	193	1.83	.3					
RA	T	D	3S	19	15.2	49	41	24	100								30	11	109	1.09	.4				
RA	T	D	4S	23	9.4	56	51	30	18	82					88	12	31	7	47	0.59	1.1				
RA	T	D	UT	32	69			69	41	77	19	4	15	12	65	9	26	5	33	0.42	2.1				
<b>RA Totals</b>				1	8.7	242	221	129	28	44	23	6	11	63	20	6	28	7	57	0.65	3.9				
BM	T	D	2S	24	24.9	28	21	12	71				29	12	88	27	14	154	1.92	.1					
BM	T	D	3S	15	21.1	17	13	8	100								28	72	26	11	87	1.09	.2		
BM	T	D	4S	7	37.5	8	5	3	100								36	64	23	9	38	0.81	.1		
BM	T	D	UT	54	19.3	57	46	27	57	31	12	16	57	5	21	28	6	38	0.66	1.2					
<b>BM Totals</b>				0	22.4	110	85	50	31	38	17	14	18	67	3	11	27	8	52	0.81	1.6				
RC	T	D	3S	85	10.3	83	74	43	35	43	21					3	97	36	10	140	1.80	.5			
RC	T	D	4S	15	10.0	15	13	8	68	32					21	43	36	25	5	27	0.49	.5			
RC	T	D	UT	100.0			2													32	5	0.59		.1	
<b>RC Totals</b>				0	12.1	99	87	51	10	35	37	18	3	6	8	82	31	8	81	1.25	1.1				
RC	L	D	4S	100	25.0	16	12	7	100												36	5	30	0.86	.4
<b>RC Totals</b>				0	25.0	16	12	7	100												36	5	30	0.86	.4
CW	T	D	2S	82	13.0	37	33	19	23				77	12	88	38	18	484	2.88	.1					
CW	T	D	4S	5	2			2	1	100								100	30	9	70	0.76	.0		
CW	T	D	UT	13	5			5	3	24	76					24	76	35	12	187	1.55	.0			
<b>CW Totals</b>				0	11.0	44	40	23	8	28	64	18	82	36	15	319	2.16	.1							
<b>Totals</b>					6.8	21,972	20,470	12,006	25	61	11	3	4	12	38	46	31	7	60	0.57	340.3				

TC PSTATS		PROJECT STATISTICS							PAGE 1		
		PROJECT BISCUIT							DATE 1/27/2016		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
32N	06E	24	BISCUIT	CORR	THR	586.50	164	750	S	W	
32N	07E	30	BISCUIT	U10B							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			164	750	4.6						
CRUISE			145	671	4.6	115,334	.6				
DBH COUNT											
REFOREST											
COUNT			17	79	4.6						
BLANKS			2								
100 %											
STAND SUMMARY											
		SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L		197	86.4	15.0	67	27.5	106.5	11,716	10,866	3,195	3,195
DOUG FIR-T		332	77.1	12.9	62	19.6	70.3	7,715	7,238	2,049	2,049
R ALDER-T		29	2.5	14.0	51	0.7	2.7	242	221	71	71
WHEMLOCK-T		67	28.2	11.3	56	5.9	19.8	2,029	1,921	538	538
WR CEDAR-L		1	.4	15.7	41	0.1	.5	16	12	12	12
WR CEDAR-T		20	.8	18.4	49	0.3	1.5	99	87	41	41
BL MAPLE-T		22	1.2	15.8	44	0.4	1.6	110	85	36	36
COTWOOD-T		3	.1	26.9	89	0.0	.2	44	40	10	10
<b>TOTAL</b>		<b>671</b>	<b>196.6</b>	<b>13.8</b>	<b>63</b>	<b>54.8</b>	<b>203.2</b>	<b>21,972</b>	<b>20,470</b>	<b>5,951</b>	<b>5,951</b>
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	7	10		
DOUG FIR-L		36.8	2.6	137	141	145					
DOUG FIR-T		142.8	7.8	245	266	286					
R ALDER-T		66.6	12.6	132	151	170					
WHEMLOCK-T		81.6	10.0	101	112	123					
WR CEDAR-L											
WR CEDAR-T		91.5	21.0	164	208	252					
BL MAPLE-T		90.8	19.8	80	100	120					
COTWOOD-T		65.7	45.5	498	913	1,328					
<b>TOTAL</b>		<b>140.5</b>	<b>5.4</b>	<b>193</b>	<b>204</b>	<b>215</b>	<b>788</b>	<b>402</b>	<b>197</b>		
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-L		149.8	11.7	76	86	96					
DOUG FIR-T		126.6	9.9	70	77	85					
R ALDER-T		523.7	40.9	1	2	3					
WHEMLOCK-T		279.0	21.8	22	28	34					
WR CEDAR-L		1280.6	99.9	0	0	1					
WR CEDAR-T		507.3	39.6	0	1	1					
BL MAPLE-T		640.7	50.0	1	1	2					
COTWOOD-T		1280.6	99.9	0	0	0					
<b>TOTAL</b>		<b>105.8</b>	<b>8.3</b>	<b>180</b>	<b>197</b>	<b>213</b>	<b>447</b>	<b>228</b>	<b>112</b>		
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-L		140.8	11.0	95	107	118					
DOUG FIR-T		88.7	6.9	65	70	75					
R ALDER-T		392.4	30.6	2	3	3					
WHEMLOCK-T		243.9	19.0	16	20	24					
WR CEDAR-L		1280.6	99.9	0	1	1					
WR CEDAR-T		497.2	38.8	1	1	2					

TC PSTATS		PROJECT STATISTICS							PAGE	2
		PROJECT		BISCUIT			DATE		1/27/2016	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
32N	06E	24	BISCUIT	CORR	THR	586.50	164	750	S	W
32N	07E	30	BISCUIT	U10B						
CL	68.1		COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
BL MAPLE-T			519.1	40.5	1	2	2			
COTWOOD-T			1280.6	99.9	0	0	0			
<b>TOTAL</b>			87.8	6.9	189	203	217	308	157	77
CL	68.1		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-L			141.8	11.1	9,664	10,866	12,069			
DOUG FIR-T			86.9	6.8	6,747	7,238	7,729			
R ALDER-T			381.7	29.8	155	221	286			
WHEMLOCK-T			255.1	19.9	1,539	1,921	2,303			
WR CEDAR-L			1280.6	99.9	0	12	24			
WR CEDAR-T			547.2	42.7	50	87	124			
BL MAPLE-T			568.0	44.3	47	85	123			
COTWOOD-T			1280.6	99.9	0	40	79			
<b>TOTAL</b>			84.7	6.6	19,117	20,470	21,823	287	146	72
CL	68.1		COEFF	V BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-L			141.8	11.1	91	102	113			
DOUG FIR-T			73.1	5.7	96	103	110			
R ALDER-T			375.9	29.3	58	83	108			
WHEMLOCK-T			247.0	19.3	78	97	117			
WR CEDAR-L			1280.6	99.9	0	22	45			
WR CEDAR-T			540.4	42.2	34	59	84			
BL MAPLE-T			568.0	44.3	29	52	75			
COTWOOD-T			1280.6	99.9	0	177	353			
<b>TOTAL</b>			80.3	6.3	94	101	107	257	131	64

<b>T32N R06E S24 TCORR</b>	<b>T32N R06E S24 TCORR</b>
<b>Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt</b>	<b>BdFt</b>
<b>32N 06E 24 BISCUIT CORR 64.60 30 126 S</b>	<b>W</b>

Spp	Sp	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	T	DM	2S	3	8.6	694	635	41	100				13	87			37	12	167	1.37	3.8
DF	T	DM	3S	67	9.2	13,001	11,803	762	100				1	47	53	36	9	89	0.75	132.8	
DF	T	DM	4S	27	3.6	4,745	4,572	295	95	5			7	42	24	27	29	5	30	0.31	152.1
DF	T	DM	UT	3	.0	515	515	33	58	9	33		60	4	19	17	22	6	34	0.43	15.0
<b>DF</b>	<b>T</b>	<b>Totals</b>		92	7.5	18,956	17,525	1,132	27	69	5		4	12	38	46	31	7	58	0.55	303.6
WH	T	DM	3S	35	6.0	584	549	35	100				46			54	35	8	77	0.60	7.2
WH	T	DM	4S	65	3.1	1,013	982	63	100				6	37	16	41	29	5	30	0.28	33.3
<b>WH</b>	<b>T</b>	<b>Totals</b>		8	4.1	1,597	1,531	99	64	36		4	24	26	46	30	6	38	0.34	40.4	
<b>Type Totals</b>					7.3	20,553	19,056	1,231	30	66	4		4	13	37	46	31	7	55	0.52	344.1

<b>T32N R06E S25 T0ROW</b>	<b>T32N R06E S25 T0ROW</b>
Twp <b>32N</b> Rge <b>06E</b> Sec <b>25</b> Tract <b>EBROW</b> Type <b>0ROW</b> Acres <b>3.00</b> Plots <b>3</b> Sample Trees <b>9</b> CuFt <b>S</b>	BdFt <b>W</b>

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs					
								Net	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
													BdFt	4-5	6-11	12-16	17+	12-20	21-30						31-35
RA	T	DM	4S	83	5.7	5,934	5,594	17	9	91					91	9	31	8	56	0.72	99.9				
RA	T	DM	UT	17		1,146	1,146	3	100					74	26		15	5	13	0.26	87.2				
<b>RA</b>	<b>T</b>	<b>Totals</b>		79	4.8	7,079	6,740	20	25	75				13	80	8	24	7	36	0.58	187.1				
DF	T	DM	4S	48		861	861	3	100						100		32	5	30	0.34	28.7				
DF	T	DM	UT	52		896	896	3	100					100			20	5	20	0.20	44.8				
<b>DF</b>	<b>T</b>	<b>Totals</b>		21		1,757	1,757	5	100					51	49		25	5	24	0.27	73.5				
<b>Type</b>	<b>Totals</b>				3.8	8,836	8,497	25	40	60				21	63	10	24	6	33	0.49	260.6				

<b>T32N R06E S25 TWAST</b>										<b>T32N R06E S25 TWAST</b>				
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>					
<b>32N</b>	<b>06E</b>	<b>25</b>	<b>WASTE</b>	<b>WAST</b>	<b>1.00</b>	<b>1</b>	<b>5</b>	<b>S</b>	<b>W</b>					

S Spp	So T	Gr rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf		
DF	T	DM	3S	79	4.2	12,180	11,671	12	100				100				32	8	72	0.76	162.1	
DF	T	DM	4S	21		3,068	3,068	3	100				45	55			19	5	19	0.26	162.1	
<b>DF</b>	<b>T</b>	<b>Totals</b>		87	3.3	15,249	14,740	15	21	79			9	11	79			26	7	45	0.57	324.1
RA	T	DM	4S	100	25.0	2,845	2,134	2	100				100				36	5	30	0.46	71.1	
<b>RA</b>	<b>T</b>	<b>Totals</b>		13	25.0	2,845	2,134	2	100				100				36	5	30	0.46	71.1	
<b>Type Totals</b>					6.7	18,094	16,873	17	31	69			8	10	69	13		27	6	43	0.55	395.3

**T32N R06E S26 T00U1** **T32N R06E S26 T00U1**  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt  
 32N 06E 26 BISCUIT 00U1 17.50 16 79 S W

Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs Per /Acre						
									Net BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/Lf	
														4-5	6-11	12-16	17+	12-20	21-30		31-35					36-99
DF	T	DM	2S	77	6.1	8,804	8,264	145		39	61			0	7	93	39	17	438	2.57	18.9					
DF	T	DM	3S	14	7.4	1,592	1,475	26		100				4	7	34	34	9	91	0.79	16.2					
DF	T	DM	4S	3	11.9	312	275	5	57	43			17	83			22	6	24	0.32	11.5					
DF	T	DM	UT	3		295	295	5	49	51			49	51			19	6	27	0.34	11.0					
DF	T	HA	2S	3		293	293	5		100					100		40	16	400	2.54	.7					
<b>DF</b>	<b>T</b>	<b>Totals</b>		51	6.1	11,296	10,602	186	3	16	33	48	2	5	10	83	30	10	182	1.44	58.2					
BM	T	DM	2S	24	24.9	933	700	12		71	29		12	88			27	14	154	1.92	4.6					
BM	T	DM	3S	15	21.1	553	436	8		100			28	72			26	11	87	1.09	5.0					
BM	T	DM	4S	7	37.5	283	177	3		100			36	64			23	9	38	0.81	4.6					
BM	T	DM	UT	54	19.3	1,908	1,540	27	57	31		12	16	57	5	21	28	6	38	0.66	40.3					
<b>BM</b>	<b>T</b>	<b>Totals</b>		14	22.4	3,677	2,853	50	31	38	17	14	18	67	3	11	27	8	52	0.81	54.5					
RA	T	DM	2S	43	13.0	1,708	1,487	26		72	28		31	69			27	15	187	1.87	7.9					
RA	T	DM	3S	28	16.8	1,141	949	17		100				100			30	11	107	1.11	8.9					
RA	T	DM	4S	9	5.2	342	324	6	10	90				100			28	7	46	0.56	7.1					
RA	T	DM	UT	20		653	653	11	37	48	16		20	25	33	22	29	6	46	0.52	14.3					
<b>RA</b>	<b>T</b>	<b>Totals</b>		16	11.2	3,844	3,414	60	8	46	34	12	17	72	6	4	29	9	89	0.93	38.3					
RC	T	DM	3S	89	10.8	2,038	1,817	32		30	41	29			4	96	36	11	166	2.10	11.0					
RC	T	DM	4S	11	3.8	229	220	4	58	42			35	65			22	6	27	0.52	8.1					
RC	T	DM	UT		100.0	70											32	5		0.59	2.3					
<b>RC</b>	<b>T</b>	<b>Totals</b>		10	12.8	2,336	2,037	36	6	31	37	26	4	7	4	86	30	8	95	1.48	21.5					
CW	T	DM	2S	82	13.0	1,254	1,091	19		23	77		12		88		38	18	484	2.88	2.3					
CW	T	DM	4S	5		73	73	1		100				100			30	9	70	0.76	1.0					
CW	T	DM	UT	13		161	161	3		24	76		24		76		35	12	187	1.55	.9					
<b>CW</b>	<b>T</b>	<b>Totals</b>		6	11.0	1,488	1,325	23		8	28	64	18		82		36	15	319	2.16	4.2					
WH	T	DM	2S	54	10.3	301	270	5		100					100		40	14	260	1.74	1.0					
WH	T	DM	3S	46	10.6	256	229	4		100					59	41	34	7	61	0.59	3.8					
<b>WH</b>	<b>T</b>	<b>Totals</b>		2	10.5	558	499	9		46	54				27	73	35	9	104	0.87	4.8					
<b>Type Totals</b>					10.6	23,200	20,730	363	8	26	32	35	7	25	8	60	29	9	114	1.17	181.4					

<b>T32N R06E S27 T0ROW</b>	<b>T32N R06E S27 T0ROW</b>
<b>Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt</b>	<b>BdFt</b>
<b>32N 06E 27 BISCUIT 0ROW 10.80 10 36 S</b>	<b>W</b>

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre		
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft		CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	T	DM	3S	71	7.8	4,167	3,841	41	100				67 33				34	9	96	0.84	39.9	
DF	T	DM	4S	28	3.0	1,516	1,471	16	91	9			10	40		21	29	28	5	30	0.33	48.2
DF	T	DM	UT	1		43	43	0	100				100				24	5	30	0.29	1.4	
<b>DF</b>	<b>T</b>	<b>Totals</b>		82	6.5	5,726	5,354	58	26	74			3	12	54	32	31	7	60	0.58	89.6	
WH	T	DM	3S	65		667	667	7	100				71 29				33	8	90	0.75	7.4	
WH	T	DM	4S	30	13.1	346	301	3	100				17	30	13	40	29	5	26	0.32	11.4	
WH	T	DM	UT	5		50	50	1	100				43	57				16	5	14	0.30	3.6
<b>WH</b>	<b>T</b>	<b>Totals</b>		16	4.3	1,063	1,018	11	34	66			7	12	51	31	28	6	45	0.49	22.4	
RC	T	DM	4S	100		65	65	1	100				100				32	5	30	0.60	2.2	
<b>RC</b>	<b>T</b>	<b>Totals</b>		1		65	65	1	100				100				32	5	30	0.60	2.2	
RA	T	DM	4S	100		110	110	1	100				100				30	5	30	0.34	3.7	
<b>RA</b>	<b>T</b>	<b>Totals</b>		2		110	110	1	100				100				30	5	30	0.34	3.7	
<b>Type Totals</b>					6.0	6,964	6,548	71	29	71			3	13	53	31	30	7	56	0.56	117.8	

<b>T32N R06E S27 T0VDT</b>									<b>T32N R06E S27 T0VDT</b>				
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>				
<b>32N</b>	<b>06E</b>	<b>27</b>	<b>BISCUIT</b>	<b>0VDT</b>	<b>445.90</b>	<b>66</b>	<b>291</b>	<b>S</b>	<b>W</b>				

Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs Per /Acre				
									Net BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft
					4-5	6-11	12-16							17+	12-20	21-30	31-35	36-99						
DF	L	DM	2S	8	7.7	1,384	1,278	570	100				6	22	72	36	12	178	1.41	7.2				
DF	L	DM	3S	66	9.0	10,294	9,370	4,178	100				0	51	48	35	9	94	0.78	99.7				
DF	L	DM	4S	22	2.8	3,187	3,099	1,382	96	4					6	47	27	19	28	5	30	0.32	104.3	
DF	L	DM	UT	4	545		545	243	14	51	35					38	15	15	33	23	8	62	0.73	8.8
<b>DF</b>	<b>L</b>	<b>Totals</b>		<b>71</b>	<b>7.3</b>	<b>15,411</b>	<b>14,292</b>	<b>6,373</b>	<b>21</b>	<b>68</b>	<b>10</b>	<b>3</b>	<b>12</b>	<b>42</b>	<b>44</b>	<b>31</b>	<b>7</b>	<b>65</b>	<b>0.61</b>	<b>220.0</b>				
DF	T	DM	3S	47	5.6	1,962	1,852	826	100				60 40				35	8	71	0.59	26.1			
DF	T	DM	4S	47	9.0	2,008	1,828	815	82	18					14	26	31	30	29	5	30	0.31	60.0	
DF	T	DM	UT	6	214		214	96	100				41	41 18				22	5	24	0.31	9.1		
<b>DF</b>	<b>T</b>	<b>Totals</b>		<b>19</b>	<b>6.9</b>	<b>4,184</b>	<b>3,894</b>	<b>1,736</b>	<b>44</b>	<b>56</b>	<b>3</b>	<b>9</b>	<b>12</b>	<b>45</b>	<b>34</b>	<b>30</b>	<b>6</b>	<b>41</b>	<b>0.40</b>	<b>95.2</b>				
WH	T	DM	2S	2	12.5	67	59	26	100				100				32	12	140	1.28	.4			
WH	T	DM	3S	61	5.6	1,265	1,194	533	100				72 28				34	8	79	0.64	15.2			
WH	T	DM	4S	37	4.8	763	726	324	100				15	45	14	25	26	5	25	0.28	28.9			
<b>WH</b>	<b>T</b>	<b>Totals</b>		<b>10</b>	<b>5.5</b>	<b>2,095</b>	<b>1,979</b>	<b>883</b>	<b>37</b>	<b>60</b>	<b>3</b>	<b>5</b>	<b>17</b>	<b>52</b>	<b>26</b>	<b>29</b>	<b>6</b>	<b>44</b>	<b>0.43</b>	<b>44.5</b>				
RA	T	DM	UT	100	48		48	22	100				100				33	5	40	0.40	1.2			
<b>RA</b>	<b>T</b>	<b>Totals</b>		<b>0</b>	48		48	22	100				100				33	5	40	0.40	1.2			
RC	L	DM	4S	100	25.0	21	16	7	100				100				36	5	30	0.86	.5			
<b>RC</b>	<b>L</b>	<b>Totals</b>		<b>0</b>	25.0	21	16	7	100				100				36	5	30	0.86	.5			
<b>Type Totals</b>					7.0	21,759	20,230	9,020	27	65	8	4	12	44	40	31	7	56	0.53	361.4				

<b>T32N R07E S19 T00U9</b>		<b>T32N R07E S19 T00U9</b>
<b>Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt</b>		<b>BdFt</b>
<b>32N 07E 19 BISCUIT 00U9 33.40 28 69 S</b>		<b>W</b>

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre		
									Log Scale Dia.				Log Length				Ln	Dia	Bd		CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft		Lf	
DF	T	DM	2S	46	4.3	9,599	9,189	307	100				100				40	13	228	1.61	40.3	
DF	T	DM	3S	44	3.6	8,924	8,600	287	100				9 91				39	8	104	0.80	82.4	
DF	T	DM	4S	10	2.4	1,812	1,768	59	87	13			14	15	28	42	30	5	33	0.35	53.3	
<b>DF</b>	<b>T</b>	<b>Totals</b>		<b>88</b>	<b>3.8</b>	<b>20,335</b>	<b>19,557</b>	<b>653</b>	<b>8</b>	<b>45</b>	<b>47</b>			<b>1</b>	<b>1</b>	<b>7</b>	<b>91</b>	<b>37</b>	<b>8</b>	<b>111</b>	<b>0.89</b>	<b>176.0</b>
WH	T	DM	2S	7	4.2	190	182	6	100				100				40	13	230	1.66	.8	
WH	T	DM	3S	72	5.0	1,978	1,879	63	100				32 68				36	9	104	0.84	18.0	
WH	T	DM	4S	18		481	481	16	93	7			59	30	11			29	5	30	0.32	15.9
WH	T	DM	UT	3		58	58	2	100				100				16	5	20	0.20	2.9	
<b>WH</b>	<b>T</b>	<b>Totals</b>		<b>12</b>	<b>3.9</b>	<b>2,706</b>	<b>2,600</b>	<b>87</b>	<b>19</b>	<b>73</b>	<b>7</b>			<b>2</b>	<b>11</b>	<b>28</b>	<b>59</b>	<b>32</b>	<b>7</b>	<b>69</b>	<b>0.64</b>	<b>37.6</b>
RA	T	DM	4S	80	20.0	108	87	3	100				100				30	7	40	0.46	2.2	
RA	T	DM	UT	20		22	22	1	100				100				12	5	10	0.20	2.2	
<b>RA</b>	<b>T</b>	<b>Totals</b>		<b>0</b>	<b>16.7</b>	<b>130</b>	<b>108</b>	<b>4</b>	<b>20</b>	<b>80</b>			<b>20</b>	<b>80</b>			<b>21</b>	<b>6</b>	<b>25</b>	<b>0.39</b>	<b>4.3</b>	
<b>Type Totals</b>					<b>3.9</b>	<b>23,171</b>	<b>22,265</b>	<b>744</b>	<b>9</b>	<b>49</b>	<b>42</b>			<b>1</b>	<b>3</b>	<b>9</b>	<b>86</b>	<b>35</b>	<b>8</b>	<b>102</b>	<b>0.85</b>	<b>217.9</b>

<b>T32N R07E S30 T0U10</b>		<b>T32N R07E S30 T0U10</b>
<b>Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt</b>		<b>BdFt</b>
<b>32N 07E 30 BISCUIT 0U10 8.00 8 41 S</b>		<b>W</b>

Spp	Sp	So	Gr	T	rt	ad	%	Percent Net Board Foot Volume										Average Log			Logs Per /Acre								
								Bd. Ft. per Acre			Total Net MBF	Log Scale Dia.				Log Length				Ln Ft		Dia In	Bd Ft	CF/ Lf					
								Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99										
DF	T	DM	2S				65	3.1	37,631	36,480	292			44	56			4	96	39	16	417	2.28	87.5					
DF	T	DM	3S				19	3.5	11,310	10,912	87			100				3	27	70	36	9	107	0.80	101.7				
DF	T	DM	4S				4	7.8	2,407	2,220	18	48	52					15	46	15	24	26	6	30	0.34	73.1			
DF	T	DM	UT						36	36	0			100						100			10	10	30	0.67	1.2		
DF	T	HA	SM				4	2.6	2,052	1,998	16			100						100			40	18	549	2.99	3.6		
DF	T	HA	2S				8	1.2	4,445	4,390	35			77	23					100			40	14	308	1.88	14.3		
<b>DF</b>	<b>T</b>	<b>Totals</b>					97	3.2	57,881	56,036	448	2	22	35	42			1	2	8	89	35	11	199	1.32	281.3			
WH	T	DM	3S				56	3.5	1,025	990	8			100						100			40	9	110	0.77	9.0		
WH	T	DM	4S				44		759	759	6	100											40	60	37	0.29	20.3		
<b>WH</b>	<b>T</b>	<b>Totals</b>					3	2.0	1,784	1,748	14	43	57										18	82	37	6	60	0.45	29.3
<b>Type</b>	<b>Totals</b>							3.2	59,665	57,784	462	3	23	34	40			1	2	9	88	35	10	186	1.24	310.7			

**T32N R07E S30 TU10B**  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt  
 32N 07E 30 BISCUIT U10B 2.30 2 15 S W

S Sp	So T	Gr rt	%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre		
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft		CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
RC	T	DM	3S	78	8.7	5,565	5,082	12	51	49					100	36	9	99	1.34	51.6	
RC	T	DM	4S	22	18.3	1,658	1,355	3	74	26			7	26	67	27	5	26	0.43	51.3	
<b>RC</b>	<b>T</b>	<b>Totals</b>		20	10.9	7,223	6,437	15	16	45	39		1	5	14	79	31	7	63	0.95	102.8
RA	T	DM	2S	40	10.4	4,170	3,737	9			100				100	30	14	214	1.72	17.5	
RA	T	DM	3S	36	11.5	3,724	3,295	8			100				100	30	11	115	1.03	28.6	
RA	T	DM	4S	7	20.0	716	573	1			100				100	30	7	40	0.46	14.3	
RA	T	DM	UT	17		1,530	1,530	4	37	63			9	28	30	33	24	5	33	0.53	46.1
<b>RA</b>	<b>T</b>	<b>Totals</b>		29	9.9	10,141	9,135	21	6	53	41		2	88	5	5	28	9	86	0.88	106.6
WH	T	DM	2S	59	7.0	6,848	6,367	15			100			29	28	44	33	14	234	1.66	27.2
WH	T	DM	3S	34	9.2	3,994	3,625	8			100			19	81		32	8	74	0.69	48.9
WH	T	DM	4S	3	27.5	462	335	1	38	62				100			16	6	17	0.33	19.6
WH	T	DM	UT	4		369	369	1	59	41				100			12	6	13	0.25	29.3
<b>WH</b>	<b>T</b>	<b>Totals</b>		34	8.4	11,673	10,696	25	3	37	60		7	23	44	26	25	8	86	0.89	125.0
DF	T	DM	2S	92	3.4	4,951	4,782	11			100				100	40	22	845	3.96	5.7	
DF	T	DM	3S	8	18.7	453	368	1			100				100	35	11	130	1.31	2.8	
<b>DF</b>	<b>T</b>	<b>Totals</b>		16	4.7	5,404	5,150	12		7	93				7	93	38	18	607	3.16	8.5
<b>Type</b>	<b>Totals</b>				8.8	34,440	31,417	72	6	39	40	15	3	35	21	42	28	8	92	0.98	342.9

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	BISCUIT			DATE	1/27/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	06E	24	BISCUIT	CORR	64.60	30	126	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	30		126	4.2						
CRUISE	30		126	4.2	13,071	1.0				
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-T	115	169.1	14.0	65	48.1	179.9	18,956	17,525	5,211	5,211
WHEMLOCK-T	11	33.3	9.7	53	5.5	17.2	1,597	1,531	423	423
<b>TOTAL</b>	<i>126</i>	<i>202.3</i>	<i>13.4</i>	<i>63</i>	<i>53.9</i>	<i>197.1</i>	<i>20,553</i>	<i>19,056</i>	<i>5,634</i>	<i>5,634</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	41.0	3.8	115	120	125					
WHEMLOCK-T	71.1	22.5	47	60	73					
<b>TOTAL</b>	<i>44.8</i>	<i>4.0</i>	<i>110</i>	<i>115</i>	<i>119</i>	80	41	20		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	52.6	9.8	153	169	186					
WHEMLOCK-T	219.8	40.8	20	33	47					
<b>TOTAL</b>	<i>52.3</i>	<i>9.7</i>	<i>183</i>	<i>202</i>	<i>222</i>	113	58	28		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	42.3	7.8	166	180	194					
WHEMLOCK-T	208.6	38.7	11	17	24					
<b>TOTAL</b>	<i>38.7</i>	<i>7.2</i>	<i>183</i>	<i>197</i>	<i>211</i>	62	32	16		
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	45.2	8.4	16,056	17,525	18,994					
WHEMLOCK-T	221.6	41.1	901	1,531	2,161					
<b>TOTAL</b>	<i>41.2</i>	<i>7.7</i>	<i>17,597</i>	<i>19,056</i>	<i>20,515</i>	70	36	18		
CL: 68.1 %	COEFF	<b>V-BAR/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	45.2	8.4	89	97	106					
WHEMLOCK-T	221.6	41.1	52	89	126					
<b>TOTAL</b>	<i>41.2</i>	<i>7.7</i>	<i>89</i>	<i>97</i>	<i>104</i>	70	36	18		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT BISCUIT				DATE	1/27/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	06E	25	EBROW	ORO	3.00	3	9	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES				
TOTAL	3	9	3.0							
CRUISE	3	9	3.0	520			1.7			
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
R ALDER-T	7	99.9	14.2	48	29.1	109.5	7,079	6,740	2,572	2,572
DOUG FIR-T	2	73.5	8.8	40	10.5	31.3	1,757	1,757	494	494
<b>TOTAL</b>	<b>9</b>	<b>173.4</b>	<b>12.2</b>	<b>45</b>	<b>40.3</b>	<b>140.8</b>	<b>8,836</b>	<b>8,497</b>	<b>3,066</b>	<b>3,066</b>
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	7	10		
R ALDER-T	30.9	12.6	60	69	77					
DOUG FIR-T	28.3	26.5	18	25	32					
<b>TOTAL</b>	<b>45.3</b>	<b>16.0</b>	<b>49</b>	<b>59</b>	<b>68</b>	<b>92</b>	<b>47</b>	<b>23</b>		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
R ALDER-T	62.1	43.0	57	100	143					
DOUG FIR-T	92.7	64.1	26	74	121					
<b>TOTAL</b>	<b>3.5</b>	<b>2.4</b>	<b>169</b>	<b>173</b>	<b>178</b>	<b>1</b>	<b>0</b>	<b>0</b>		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
R ALDER-T	65.5	45.3	60	110	159					
DOUG FIR-T	86.6	59.9	13	31	50					
<b>TOTAL</b>	<b>33.3</b>	<b>23.1</b>	<b>108</b>	<b>141</b>	<b>173</b>	<b>64</b>	<b>33</b>	<b>16</b>		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
R ALDER-T	54.3	37.6	4,207	6,740	9,272					
DOUG FIR-T	86.7	60.0	704	1,757	2,811					
<b>TOTAL</b>	<b>26.6</b>	<b>18.4</b>	<b>6,934</b>	<b>8,497</b>	<b>10,059</b>	<b>41</b>	<b>21</b>	<b>10</b>		
CL: 68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
R ALDER-T	54.3	37.6	38	62	85					
DOUG FIR-T	86.7	60.0	22	56	90					
<b>TOTAL</b>	<b>26.6</b>	<b>18.4</b>	<b>49</b>	<b>60</b>	<b>71</b>	<b>41</b>	<b>21</b>	<b>10</b>		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	BISCUIT			DATE	1/27/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	06E	25	WASTE	WAST	1.00	1	5	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	1	5	5.0							
CRUISE	1	5	5.0		233		2.1			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	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-T	4	162.1	14.6	58	49.2	187.8	15,249	14,740	4,745	4,745
R ALDER-T	1	71.1	11.0	45	14.2	46.9	2,845	2,134	1,180	1,180
<b>TOTAL</b>	<b>5</b>	<b>233.2</b>	<b>13.6</b>	<b>54</b>	<b>63.7</b>	<b>234.7</b>	<b>18,094</b>	<b>16,873</b>	<b>5,925</b>	<b>5,925</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	27.9	15.9	80	95	110					
R ALDER-T										
<b>TOTAL</b>	<b>45.1</b>	<b>22.4</b>	<b>64</b>	<b>82</b>	<b>100</b>	<b>101</b>	<b>51</b>	<b>25</b>		

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				BISCUIT				DATE	1/27/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	06E	26	BISCUIT	00U1	17.50	16	79	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	16	79	4.9							
CRUISE	15	79	5.3	1,888		4.2				
DBH COUNT										
REFOREST										
COUNT										
BLANKS	1									
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-T	25	28.4	20.1	73	13.9	62.5	11,296	10,602	2,538	2,538
BL MAPLE-T	22	40.5	15.8	44	13.8	55.0	3,677	2,853	1,196	1,196
R ALDER-T	14	18.8	18.5	63	8.1	35.0	3,844	3,414	1,023	1,023
WR CEDAR-T	13	14.6	20.2	50	7.2	32.5	2,336	2,037	959	958
COTWOOD-T	3	1.9	26.9	89	1.4	7.5	1,488	1,325	319	319
WHEMLOCK-T	2	3.8	15.6	58	1.3	5.0	558	499	147	147
<b>TOTAL</b>	<b>79</b>	<b>107.9</b>	<b>18.3</b>	<b>57</b>	<b>46.1</b>	<b>197.5</b>	<b>23,200</b>	<b>20,730</b>	<b>6,182</b>	<b>6,182</b>
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	7	10	
DOUG FIR-T	83.6	17.0		692	834	976				
BL MAPLE-T	90.8	19.8		80	100	120				
R ALDER-T	43.9	12.1		181	206	232				
WR CEDAR-T	80.0	23.1		201	262	322				
COTWOOD-T	65.7	45.5		498	913	1,328				
WHEMLOCK-T	106.1	99.3		1	200	399				
<b>TOTAL</b>	<b>127.9</b>	<b>14.4</b>		<b>352</b>	<b>411</b>	<b>470</b>	<b>653</b>	<b>333</b>	<b>163</b>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T	183.4	47.3		15	28	42				
BL MAPLE-T	181.2	46.7		22	40	59				
R ALDER-T	147.8	38.1		12	19	26				
WR CEDAR-T	184.4	47.6		8	15	22				
COTWOOD-T	400.0	103.2			2	4				
WHEMLOCK-T	302.7	78.1		1	4	7				
<b>TOTAL</b>	<b>71.4</b>	<b>18.4</b>		<b>88</b>	<b>108</b>	<b>128</b>	<b>217</b>	<b>111</b>	<b>54</b>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T	155.0	40.0		38	63	87				
BL MAPLE-T	135.1	34.8		36	55	74				
R ALDER-T	149.7	38.6		21	35	49				
WR CEDAR-T	175.3	45.2		18	33	47				
COTWOOD-T	400.0	103.2			8	15				
WHEMLOCK-T	273.3	70.5		1	5	9				
<b>TOTAL</b>	<b>48.8</b>	<b>12.6</b>		<b>173</b>	<b>198</b>	<b>222</b>	<b>101</b>	<b>52</b>	<b>25</b>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T	164.7	42.5		6,099	10,602	15,105				
BL MAPLE-T	154.1	39.7		1,719	2,853	3,987				
R ALDER-T	153.3	39.5		2,064	3,414	4,764				
WR CEDAR-T	200.1	51.6		986	2,037	3,088				
COTWOOD-T	400.0	103.2			1,325	2,692				

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT	BISCUIT		DATE	1/27/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	06E	26	BISCUIT	00U1	17.50	16	79	S	W	
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK-T		304.1	78.4	108	499	891				
<b>TOTAL</b>		<i>70.3</i>	<i>18.1</i>	<i>16,971</i>	<i>20,730</i>	<i>24,488</i>	<i>210</i>	<i>107</i>	<i>53</i>	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T		164.7	42.5	98	170	242				
BL MAPLE-T		154.1	39.7	31	52	72				
R ALDER-T		153.3	39.5	59	98	136				
WR CEDAR-T		200.1	51.6	30	63	95				
COTWOOD-T		400.0	103.2		177	359				
WHEMLOCK-T		304.1	78.4	22	100	178				
<b>TOTAL</b>		<i>70.3</i>	<i>18.1</i>	<i>86</i>	<i>105</i>	<i>124</i>	<i>210</i>	<i>107</i>	<i>53</i>	

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				BISCUIT				DATE	1/27/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	06E	27	BISCUIT	ORO	10.80	10	36	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	10	36	3.6							
CRUISE	9	36	4.0	761		4.7				
DBH COUNT										
REFOREST										
COUNT										
BLANKS	1									
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-T	28	49.7	14.4	63	14.8	56.0	5,726	5,354	1,602	1,602
WHEMLOCK-T	6	15.0	12.1	51	3.4	12.0	1,063	1,018	306	306
WR CEDAR-T	1	2.2	13.0	38	0.6	2.0	65	65	42	42
R ALDER-T	1	3.7	10.0	46	0.6	2.0	110	110	38	38
<b>TOTAL</b>	<b>36</b>	<b>70.5</b>	<b>13.7</b>	<b>58</b>	<b>19.5</b>	<b>72.0</b>	<b>6,964</b>	<b>6,548</b>	<b>1,988</b>	<b>1,988</b>
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	7	10		
DOUG FIR-T	34.4	6.6	112	120	128					
WHEMLOCK-T	67.0	29.8	63	90	117					
WR CEDAR-T										
R ALDER-T										
<b>TOTAL</b>	<b>44.0</b>	<b>7.3</b>	<b>102</b>	<b>110</b>	<b>118</b>	<b>77</b>	<b>40</b>	<b>19</b>		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	107.2	35.7	32	50	67					
WHEMLOCK-T	176.8	58.8	6	15	24					
WR CEDAR-T	316.2	105.2		2	4					
R ALDER-T	316.2	105.2		4	8					
<b>TOTAL</b>	<b>78.9</b>	<b>26.3</b>	<b>52</b>	<b>70</b>	<b>89</b>	<b>276</b>	<b>141</b>	<b>69</b>		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	96.4	32.1	38	56	74					
WHEMLOCK-T	161.0	53.6	6	12	18					
WR CEDAR-T	316.2	105.2		2	4					
R ALDER-T	316.2	105.2		2	4					
<b>TOTAL</b>	<b>74.3</b>	<b>24.7</b>	<b>54</b>	<b>72</b>	<b>90</b>	<b>245</b>	<b>125</b>	<b>61</b>		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	103.2	34.3	3,515	5,354	7,194					
WHEMLOCK-T	165.2	55.0	458	1,018	1,578					
WR CEDAR-T	316.2	105.2		65	134					
R ALDER-T	316.2	105.2		110	226					
<b>TOTAL</b>	<b>83.3</b>	<b>27.7</b>	<b>4,732</b>	<b>6,548</b>	<b>8,363</b>	<b>307</b>	<b>157</b>	<b>77</b>		
CL: 68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	103.2	34.3	63	96	128					
WHEMLOCK-T	165.2	55.0	38	85	131					
WR CEDAR-T	316.2	105.2		33	67					
R ALDER-T	316.2	105.2		55	113					
<b>TOTAL</b>	<b>83.3</b>	<b>27.7</b>	<b>66</b>	<b>91</b>	<b>116</b>	<b>307</b>	<b>157</b>	<b>77</b>		

TC TSTATS		STATISTICS					PAGE	1		
		PROJECT BISCUIT					DATE	1/27/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	06E	27	BISCUIT	0VDT	445.90	66	291	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		66	291	4.4						
CRUISE		66	291	4.4	93,934	.3				
DBH COUNT										
REFOREST COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	197	113.6	15.0	67	36.1	140.1	15,411	14,292	4,202	4,202
DOUG FIR-T	63	65.6	11.2	57	13.4	44.8	4,184	3,894	1,120	1,120
WHEMLOCK-T	29	29.7	11.3	56	6.1	20.6	2,095	1,979	553	553
R ALDER-T	1	1.2	10.4	44	0.2	.7	48	48	16	16
WR CEDAR-L	1	.5	15.7	41	0.2	.7	21	16	16	16
<b>TOTAL</b>	<b>291</b>	<b>210.7</b>	<b>13.4</b>	<b>62</b>	<b>56.5</b>	<b>207.0</b>	<b>21,759</b>	<b>20,230</b>	<b>5,907</b>	<b>5,907</b>
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	7	10	
DOUG FIR-L		36.8	2.6	137	141	145				
DOUG FIR-T		54.6	6.9	65	70	74				
WHEMLOCK-T		52.9	10.0	78	87	96				
R ALDER-T										
WR CEDAR-L										
<b>TOTAL</b>		<b>48.4</b>	<b>2.8</b>	<b>116</b>	<b>119</b>	<b>123</b>	<b>93</b>	<b>48</b>	<b>23</b>	
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		55.2	6.8	106	114	121				
DOUG FIR-T		103.8	12.8	57	66	74				
WHEMLOCK-T		204.3	25.1	22	30	37				
R ALDER-T		812.4	99.9	0	1	2				
WR CEDAR-L		812.4	99.9	0	1	1				
<b>TOTAL</b>		<b>47.1</b>	<b>5.8</b>	<b>198</b>	<b>211</b>	<b>223</b>	<b>89</b>	<b>45</b>	<b>22</b>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		44.6	5.5	132	140	148				
DOUG FIR-T		90.8	11.2	40	45	50				
WHEMLOCK-T		179.1	22.0	16	21	25				
R ALDER-T		812.4	99.9	0	1	1				
WR CEDAR-L		812.4	99.9	0	1	1				
<b>TOTAL</b>		<b>33.3</b>	<b>4.1</b>	<b>198</b>	<b>207</b>	<b>215</b>	<b>44</b>	<b>23</b>	<b>11</b>	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		45.8	5.6	13,487	14,292	15,098				
DOUG FIR-T		95.0	11.7	3,439	3,894	4,349				
WHEMLOCK-T		191.1	23.5	1,514	1,979	2,445				
R ALDER-T		812.4	99.9	0	48	96				
WR CEDAR-L		812.4	99.9	0	16	32				
<b>TOTAL</b>		<b>34.6</b>	<b>4.3</b>	<b>19,369</b>	<b>20,230</b>	<b>21,091</b>	<b>48</b>	<b>24</b>	<b>12</b>	
CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		45.8	5.6	96	102	108				

TC TSTATS				<b>STATISTICS</b>			PAGE 2			
				<b>PROJECT BISCUIT</b>			DATE 1/27/2016			
<b>TWP</b>	<b>RGE</b>	<b>SECT</b>	<b>TRACT</b>	<b>TYPE</b>	<b>ACRES</b>	<b>PLOTS</b>	<b>TREES</b>	<b>CuFt</b>	<b>BdFt</b>	
<b>32N</b>	<b>06E</b>	<b>27</b>	<b>BISCUIT</b>	<b>0VDT</b>	445.90	66	291	S	W	
CL: 68.1 %	COEFF		<b>V-BAR/ACRE</b>			# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	95.0	11.7	77	87	97					
WHEMLOCK-T	191.1	23.5	73	96	119					
R ALDER-T	812.4	99.9	0	68	136					
WR CEDAR-L	812.4	99.9	0	22	45					
<b>TOTAL</b>	<b>34.6</b>	<b>4.3</b>	<b>94</b>	<b>98</b>	<b>102</b>	<b>48</b>	<b>24</b>	<b>12</b>		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT BISCUIT				DATE	1/27/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	07E	19	BISCUIT	00U9	33.40	28	129	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	28	129	4.6							
CRUISE	14	69	4.9	3,518			2.0			
DBH COUNT										
REFOREST										
COUNT	14	60	4.3							
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-T	56	84.4	18.6	80	37.1	160.0	20,335	19,557	5,746	5,746
WHEMLOCK-T	12	18.8	14.9	69	5.9	22.9	2,706	2,600	758	758
R ALDER-T	1	2.2	11.0	50	0.4	1.4	130	108	35	35
<b>TOTAL</b>	<b>69</b>	<b>105.3</b>	<b>17.9</b>	<b>77</b>	<b>43.5</b>	<b>184.3</b>	<b>23,171</b>	<b>22,265</b>	<b>6,539</b>	<b>6,539</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				<b># OF TREES REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	34.0	4.5	241	253	264					
WHEMLOCK-T	35.5	10.7	136	153	169					
R ALDER-T										
<b>TOTAL</b>	<b>39.4</b>	<b>4.7</b>	<b>221</b>	<b>232</b>	<b>243</b>	<b>62</b>	<b>32</b>	<b>16</b>		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	37.5	7.2	78	84	90					
WHEMLOCK-T	156.5	30.1	13	19	24					
R ALDER-T	529.2	101.8		2	4					
<b>TOTAL</b>	<b>34.7</b>	<b>6.7</b>	<b>98</b>	<b>105</b>	<b>112</b>	<b>50</b>	<b>25</b>	<b>12</b>		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	37.3	7.2	149	160	171					
WHEMLOCK-T	153.8	29.6	16	23	30					
R ALDER-T	529.2	101.8		1	3					
<b>TOTAL</b>	<b>29.7</b>	<b>5.7</b>	<b>174</b>	<b>184</b>	<b>195</b>	<b>37</b>	<b>19</b>	<b>9</b>		
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T	39.4	7.6	18,075	19,557	21,038					
WHEMLOCK-T	152.8	29.4	1,836	2,600	3,364					
R ALDER-T	529.2	101.8		108	218					
<b>TOTAL</b>	<b>31.3</b>	<b>6.0</b>	<b>20,925</b>	<b>22,265</b>	<b>23,605</b>	<b>41</b>	<b>21</b>	<b>10</b>		
CL: 68.1 %	COEFF	<b>V-BAR/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-T			113	122	131					
WHEMLOCK-T	137.1	26.4	80	114	147					
R ALDER-T	529.2	101.8		76	153					
<b>TOTAL</b>	<b>172.6</b>	<b>33.2</b>	<b>114</b>	<b>121</b>	<b>128</b>	<b>1,234</b>	<b>630</b>	<b>309</b>		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	BISCUIT			DATE	1/27/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	07E	30	BISCUIT	0U10	8.00	8	60	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	8	60	7.5							
CRUISE	5	41	8.2	995		4.1				
DBH COUNT										
REFOREST										
COUNT	3	19	6.3							
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	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-T	38	104.0	22.4	99	60.2	285.0	57,881	56,036	12,943	12,943
WHEMLOCK-T	3	20.3	11.6	64	4.4	15.0	1,784	1,748	485	485
<b>TOTAL</b>	<b>41</b>	<b>124.4</b>	<b>21.0</b>	<b>93</b>	<b>65.4</b>	<b>300.0</b>	<b>59,665</b>	<b>57,784</b>	<b>13,428</b>	<b>13,428</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T	64.6	10.5		690	770	851				
WHEMLOCK-T	62.0	42.9		65	113	162				
<b>TOTAL</b>	<b>70.5</b>	<b>11.0</b>		<b>643</b>	<b>722</b>	<b>802</b>	<b>198</b>	<b>101</b>	<b>50</b>	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T	48.9	18.4		85	104	123				
WHEMLOCK-T	210.3	79.3		4	20	36				
<b>TOTAL</b>	<b>34.7</b>	<b>13.1</b>		<b>108</b>	<b>124</b>	<b>141</b>	<b>55</b>	<b>28</b>	<b>14</b>	
CL:	68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T	38.6	14.5		244	285	326				
WHEMLOCK-T	198.4	74.8		4	15	26				
<b>TOTAL</b>	<b>33.4</b>	<b>12.6</b>		<b>262</b>	<b>300</b>	<b>338</b>	<b>51</b>	<b>26</b>	<b>13</b>	
CL:	68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T	41.0	15.5		47,367	56,036	64,705				
WHEMLOCK-T	193.0	72.8		476	1,748	3,021				
<b>TOTAL</b>	<b>38.5</b>	<b>14.5</b>		<b>49,395</b>	<b>57,784</b>	<b>66,174</b>	<b>67</b>	<b>34</b>	<b>17</b>	
CL:	68.1 %	COEFF	<b>V-BAR/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T				166	197	227				
WHEMLOCK-T	193.0	72.8		32	117	201				
<b>TOTAL</b>	<b>129.5</b>	<b>48.8</b>		<b>165</b>	<b>193</b>	<b>221</b>	<b>763</b>	<b>389</b>	<b>191</b>	

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				BISCUIT				DATE	1/27/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
32N	07E	30	BISCUIT	U10B	2.30	2	15	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	2	15	7.5							
CRUISE	2	15	7.5	413			3.6			
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
WR CEDAR-T	6	81.9	16.4	47	29.6	120.0	7,223	6,437	3,068	3,066
R ALDER-T	4	46.1	17.8	66	18.9	80.0	10,141	9,135	2,580	2,580
WHEMLOCK-T	4	48.9	17.3	68	19.2	80.0	11,673	10,696	2,775	2,775
DOUG FIR-T	1	2.8	36.0	118	3.3	20.0	5,404	5,150	1,027	1,027
<b>TOTAL</b>	<b>15</b>	<b>179.7</b>	<b>17.5</b>	<b>59</b>	<b>71.7</b>	<b>300.0</b>	<b>34,440</b>	<b>31,417</b>	<b>9,451</b>	<b>9,448</b>
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	7	10		
WR CEDAR-T	81.1	36.1	78	122	166					
R ALDER-T	33.8	19.3	171	213	254					
WHEMLOCK-T	71.9	41.1	177	300	423					
DOUG FIR-T										
<b>TOTAL</b>	<b>144.1</b>	<b>38.5</b>	<b>189</b>	<b>307</b>	<b>425</b>	<b>889</b>	<b>454</b>	<b>222</b>		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WR CEDAR-T	4.0	3.7	79	82	85					
R ALDER-T	2.6	2.4	45	46	47					
WHEMLOCK-T	141.4	132.4	49	114						
DOUG FIR-T	141.4	132.4	3	7						
<b>TOTAL</b>	<b>41.8</b>	<b>39.2</b>	<b>109</b>	<b>180</b>	<b>250</b>	<b>123</b>	<b>63</b>	<b>31</b>		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WR CEDAR-T			120	120	120					
R ALDER-T			80	80	80					
WHEMLOCK-T	141.4	132.4	80	186						
DOUG FIR-T	141.4	132.4	20	46						
<b>TOTAL</b>	<b>47.1</b>	<b>44.1</b>	<b>168</b>	<b>300</b>	<b>432</b>	<b>156</b>	<b>80</b>	<b>39</b>		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WR CEDAR-T	24.4	22.9	4,964	6,437	7,909					
R ALDER-T	11.2	10.5	8,176	9,135	10,094					
WHEMLOCK-T	141.4	132.4	10,696	24,861						
DOUG FIR-T	141.4	132.4	5,150	11,969						
<b>TOTAL</b>	<b>79.6</b>	<b>74.5</b>	<b>8,002</b>	<b>31,417</b>	<b>54,833</b>	<b>444</b>	<b>227</b>	<b>111</b>		
CL: 68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WR CEDAR-T	24.4	22.9	41	54	66					
R ALDER-T	11.2	10.5	102	114	126					
WHEMLOCK-T	141.4	132.4	134	311						
DOUG FIR-T	141.4	132.4	257	598						
<b>TOTAL</b>	<b>79.6</b>	<b>74.5</b>	<b>27</b>	<b>105</b>	<b>183</b>	<b>444</b>	<b>227</b>	<b>111</b>		



**Species Summary - Trees, Logs, Tons, CCF, MBF**

T32N R06E S24 TyCOR	64.6
T32N R06E S25 TyORO	3.0
T32N R07E S30 TyU10	2.3

**Project BISCUIT**  
**Acres 586.50**

**Page No 1**  
**Date: 1/27/2016**  
**Time 8:10:00AM**

Species	S T	Total	Total	Total	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
		Trees	Logs	Tons	Tree	Log		Gross	Net	Gross	Net
DOUG FIR	L	50,663	98,089	53,399	36.98	19.10	0.62	18,736	18,736	6,872	6,373
DOUG FIR	T	45,242	72,726	34,245	26.56	16.52	0.55	12,016	12,016	4,525	4,245
WHEMLOCK	T	16,528	24,576	10,095	19.09	12.84	0.45	3,155	3,155	1,190	1,127
R ALDER	T	1,455	2,270	1,138	28.44	18.23	0.65	414	414	142	129
WR CEDAR	T	468	635	571	51.89	38.20	1.24	243	243	58	51
BL MAPLE	T	708	953	555	29.55	21.95	0.81	209	209	64	50
COTWOOD	T	33	73	137	167.88	76.80	2.13	56	56	26	23
WR CEDAR	L	236	236	171	30.83	30.83	0.86	73	73	9	7
<b>Totals</b>		115,334	199,558	100,309	30.26	17.49	0.58	34,901	34,901	12,886	12,006

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log		Gross	Net	Gross	Net
C	113,137	196,262	98,480	30.25	17.44	0.57	34,222	34,222	12,654	11,803
H	2,196	3,296	1,829	30.91	20.60	0.74	679	679	232	203
<b>Totals</b>	115,334	199,558	100,309	30.26	17.49	0.58	34,901	34,901	12,886	12,006

## PRE-CRUISE NARRATIVE

Sale Name: <b>Biscuit VRH &amp; VDT</b>	Region: <b>Northwest</b>
Agreement #: <b>30-092183</b>	District: <b>Cascade</b>
Contact Forester: <b>Douglas Cochran</b> Phone / Location: <b>(360) 547-9085</b>	County(s): <b>Choose a county, Snohomish</b>
Alternate Contact: <b>Greg Anderson</b> Phone / Location: <b>(360) 856-3500</b>	Other information: <a href="#">Click here to enter text.</a>

Type of Sale: <b>MBF Scale</b>	
Harvest System: <b>Uphill Cable</b> <a href="#">Click here to enter text.</a>	18%
Harvest System: <b>Ground based</b> <a href="#">Click here to enter text.</a>	82%

### UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit)  Sec/Twp/Rng	Grant or Trust	Gross Proposa l Acres	Deductions from Gross Acres (No harvest acres)				Net Harve st Acres	Acreage Determinatio n  (List method and error of closure if applicable)
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres Corridor s		
1VRH	26/T32N/R06E	01	18.2		0.7			17.5	GPS (Garmin)
2A VDT	27/T32N/R06E	01	45.8			2.7	5.8	37.3	GPS (Garmin)
2B VDT	27,34/T32N/R06E	01	24.0			0.4	2.7	20.9	GPS (Garmin)
3 VDT	22,23,27/T32N/R06E	01	105.0			3.4	9.9	91.7	GPS (Garmin)
4A VDT	22,27/T32N/R06E	01	61.4			1.5	8.8	51.1	GPS (Garmin)
4B VDT	22/T32N/R06E	01	12.2			0.3	1.8	10.1	GPS (Garmin)
5A VDT	13,24/T32N/R06E	01	60.4			0.9	5.7	53.8	GPS (Garmin)
5B VDT	24/T32N/R06E	01	13.8			0.6	1.3	11.9	GPS (Garmin)
6 VDT	14,23/T32N/R06E	01	63.2			2.5	8	52.7	GPS (Garmin)
7 VDT	24/T32N/R06E, 19/T32N/R07E	01	94.0	3.1		1.9	13.5	75.5	GPS (Garmin)
8A VDT	24/T32N/R06E, 19/T32N/R07E	01	32.2			1.6	4.7	25.9	GPS (Garmin)
8B VDT	24/T32N/R06E, 19/T32N/R07E	01	4.9			0.8	0.6	3.5	GPS (Garmin)
8C VDT	24/T32N/R06E, 19/T32N/R07E	01	2.4				0.4	2.0	GPS (Garmin)
8D VDT	24/T32N/R06E, 19/T32N/R07E	01	1.6				0.2	1.4	GPS (Garmin)
9 VRH	19/T32N/R07E	01	37.8		2.4	2.0		33.4	GPS (Garmin)

10A VRH	19,30/T32N/R07E	01	8.4		0.4			8.0	GPS (Garmin)
10B VRH	19,30/T32N/R07E	01	2.3					2.3	GPS (Garmin)
11 VDT	25,26/T32N/R06E	01	9.6			0.3	1.9	7.4	GPS (Garmin)
2A VDT Corridors	27/T32N/R06E	01	5.1					5.1	<u>Length x Width</u> 43,560
2B VDT Corridors	27,34/T32N/R06E	01	2.7					2.7	<u>Length x Width</u> 43,560
3 VDT Corridors	22,23,27/T32N/R06E	01	9.9					9.9	<u>Length x Width</u> 43,560
4A VDT Corridors	22,27/T32N/R06E	01	8.8					8.8	<u>Length x Width</u> 43,560
4B VDT Corridors	22/T32N/R06E	01	1.8					1.8	<u>Length x Width</u> 43,560
5A VDT Corridors	13,24/T32N/R06E	01	5.7					5.7	<u>Length x Width</u> 43,560
5B VDT Corridors	24/T32N/R06E	01	1.3					1.3	<u>Length x Width</u> 43,560
6 VDT Corridors	14,23/T32N/R06E	01	8.0					8.0	<u>Length x Width</u> 43,560
7 VDT Corridors	24/T32N/R06E, 19/T32N/R07E	01	13.5					13.5	<u>Length x Width</u> 43,560
8A VDT Corridors	24/T32N/R06E, 19/T32N/R07E	01	4.7					4.7	<u>Length x Width</u> 43,560
8B VDT Corridors	24/T32N/R06E, 19/T32N/R07E	01	0.6					0.6	<u>Length x Width</u> 43,560
8C VDT Corridors	24/T32N/R06E, 19/T32N/R07E	01	0.4					0.4	<u>Length x Width</u> 43,560
8D VDT Corridors	24/T32N/R06E, 19/T32N/R07E	01	0.2					0.2	<u>Length x Width</u> 43,560
11 VDT Corridors	25,26/T32N/R06E	01	1.9					1.9	
2B VDT R/W	27,34/T32N/R06E	01	1.0					1.0	<u>Length x Width</u> 43,560
3 VDT R/W	22,23,27/T32N/R06E	01	0.6					0.6	<u>Length x Width</u> 43,560
4A VDT R/W	22,27/T32N/R06E	01	3.0					3.0	<u>Length x Width</u> 43,560
4B VDT R/W	22/T32N/R06E	01	0.6					0.6	<u>Length x Width</u> 43,560
5A VDT R/W	13,24/T32N/R06E	01	2.0					2.0	<u>Length x Width</u> 43,560
6 VDT R/W	14,23/T32N/R06E	01	0.4					0.4	<u>Length x Width</u> 43,560
7 VDT	24/T32N/R06E,	01	2.2					2.2	<u>Length x Width</u>

R/W	19/T32N/R07E								43,560
8A VDT R/W	24/T32N/R06E, 19/T32N/R07E	01	1.0					1.0	<u>Length x Width</u> 43,560
EB-1108 R/W	25,26/T32N/R0 6E	01,0 3	3.0					3.0	<u>Length x Width</u> 43,560
Waste Area	25/T32N/R06E	3	1					1	
<b>TOTAL ACRES</b>			676.6	3.1	3.5	18.9	64.6	586.5	

### HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1 VRH	Variable Retention Harvest. All timber is bound by white Timber Sale Boundary tags, and existing roads. Trees marked with yellow leave tree area tags are designated leave trees. Any blue painted trees are leave trees as well.		Clumped= 95 Scattered= 49 Total= 144
2A VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing roads.		Prescription below.
2B VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and abandoned roads.		Prescription below.
3 VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing and abandoned roads.		Prescription below.
4A VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and abandoned roads.		Prescription below.
4B VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and abandoned roads.		Prescription below.
5A VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing and		Prescription below.

	abandoned roads.		
5B VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing roads.		Prescription below.
6 VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing and abandoned roads.		Prescription below.
7 VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing and abandoned roads.	Blue Special Management tags mark the boundary between U7, U8A and U9.	Prescription below.
8A VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, blue Special Management Area tags, and existing roads.	Blue Special Management tags mark the boundary between U7, U8A and U9.	Prescription below.
8B VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing roads.		Prescription below.
8C VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing roads.		Prescription below.
8D VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing roads.		Prescription below.
9 VRH	Variable Retention Harvest. All timber is bound by white Timber Sale Boundary tags, and abandoned and existing roads. Trees marked with yellow leave tree area tags are designated leave trees. Any blue painted trees are leave trees as well.	Blue Special Management tags mark the boundary between U7, U8A and U9.	Clumped= 292 Scattered= 16 Total= 308
10A VRH	Variable Retention Harvest. All timber is bound by white Timber Sale Boundary tags. Trees marked with yellow leave tree area tags are designated leave trees. Any blue painted trees are leave trees as well.		Clumped= 59 Scattered= 13 Total= 72
10B VRH	Variable Retention Harvest. All timber is bound by white Timber Sale Boundary		Clumped= 16 Scattered= 0

	tags. Trees marked with yellow leave tree area tags are designated leave trees. Any blue painted trees are leave trees as well.		Total= 16
11 VDT	VDT. Trees will be thinned following the prescription listed in the Schedule B. All timber is bound by white Timber Sale Boundary tags, and existing roads.		Prescription below.
2B VDT R/W	Marked with orange right-of-way boundary signs. Centerline is marked with stakes.		
3 VDT R/W	Marked with orange right-of-way boundary signs. Centerline is marked with stakes.		
4A VDT R/W	Marked with orange right-of-way boundary signs. Centerline is marked with stakes.		
4B VDT R/W	Marked with orange right-of-way boundary signs. Centerline is marked with stakes.		
5A VDT R/W	Marked with orange right-of-way boundary signs. Centerline is marked with stakes.		
6 VDT R/W	Marked with orange right-of-way boundary signs. Centerline is marked with stakes.		
7 VDT R/W	Marked with orange right-of-way boundary signs. Centerline is marked with stakes.		
8A VDT R/W	Marked with orange right-of-way boundary signs. Centerline is marked with stakes.		
EB-1108 R/W	Marked with orange right-of-way boundary signs. Centerline is marked with stakes.		
Waste Area	Marked with orange right-of-way boundary signs.		

**OTHER PRE-CRUISE INFORMATION:**

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1VRH	DF,WRC/718 mbf	Access from EB-11 through DNR gate (F1 key needed).	Traverse and vicinity maps are attached.
2A VDT	DF/259 mbf	Access from EB-11 through DNR gate (F1 key needed).	
2B VDT	DF/ 142 mbf	Access from EB-11 through DNR gate (F1 key needed).	

3 VDT	DF/ 610 mbf	Access from EB-11 through DNR gate (F1 key needed).	
4A VDT	DF/ 359 mbf	Access from EB-11 through DNR gate (F1 key needed).	
4B VDT	DF/ 71 mbf	Access from EB-11 through DNR gate (F1 key needed).	
5A VDT	DF/ 357 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
5B VDT	DF/ 79 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
6 VDT	DF/364 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
7 VDT	DF/ 534 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
8A VDT	DF/ 184 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
8B VDT	DF/ 25 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
8C VDT	DF/ 14 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
8D VDT	DF/ 10 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
9 VRH	DF,WH/ 1 MMBF	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
10A VRH	DF,WH/ 360 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
10B VRH	WH,WRC/ 69 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
11 VDT	DF/ 56 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
2B VDT R/W	DF/ 12 mbf	Access from EB-11 through DNR gate (F1 key needed).	
3 VDT	DF/ 7 mbf	Access from EB-11 through DNR gate (F1 key	

R/W		needed).	
4A VDT R/W	DF/ 36 mbf	Access from EB-11 through DNR gate (F1 key needed).	
4B VDT R/W	DF/ 7 mbf	Access from EB-11 through DNR gate (F1 key needed).	
5A VDT R/W	DF/ 24 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
6 VDT R/W	DF/ 5 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
7 VDT R/W	DF/ 26 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
8A VDT R/W	DF/ 12 mbf	Access from EB-ML through private electronic gate on Ebey Mtn. Road (code available at NW region office) and DNR gate (F1 key needed).	
EB-1108 R/W	DF,RA/ 68 mbf	Access from EB-11 through DNR gate (F1 key needed).	
Waste Area	DF/20 mbf	Access from EB-11 through DNR gate (F1 key needed).	
Corridors	DF/ 1.3 MMBF		
TOTAL MBF	6.7 MMBF		

**REMARKS:**

Prescription:

Thin from below and leave the best 100 To 110 trees (approximately 20' x 20' spacing) per acre uniformly distributed over the area to achieve an average basal area of 140 ft<sup>2</sup> per acre.

To accomplish this prescription, fallers shall harvest trees starting with the smallest diameter trees working up to the largest (thin from below), cutting:

- 1) All hardwoods
- 2) All WH
- 3) Douglas-fir up to 13" DBH.

GPS points are marked with lime & pink flagging.

**Driving Directions:**

The proposed timber sale is located 12 miles northeast of Arlington. From Arlington, follow SR 530 east 4.4 miles. Turn right onto Jim Creek Road and follow Jim Creek Road for 4.1 miles. Turn left onto Ebey Mountain Road (private) and proceed 1.1 miles to the EB-11 road. Turn left onto the EB-11 road for 0.2 miles to a gate (need F1-3 key) continue 0.3 miles to the EB-1105 road. Turn left onto the EB1105 road and unit 1 is below the road.

From intersection of EB-11 and EB-1105 travel on the EB-11 for 1.5 miles to the EB-ML. Turn left onto the

EB-ML and unit 2A is on both sides of the EB-ML west of the three way intersection. Continue southwest on the EB-ML for ~0.5 miles to the next intersection, veer left (EB-ML) for 0.3 miles to the abandoned road. Walk 1100 feet to unit 2B.

From intersection of EB-11 and EB-ML travel north on the EB-ML for 0.5 miles to the EB-48 road of unit 3 on the right.

From the intersection of EB-ML and EB-48 travel north on the EB-ML for 0.6 miles to the intersection of EB-42 road and EB-ML. Follow the EB-42 road for 0.5 miles to the abandoned road. Walk from here to unit 4A and 4B.

From the intersection of EB-ML and EB-42 travel east on the EB-ML for 1.3 miles to the intersection of EB-29 road and EB-ML. Turn left for ~0.1 miles and veer left continuing on the EB-29 road for 1.0 mile to the EB-2911 road on the right side of the EB-29 road at unit 6.

From the intersection of EB-ML and EB-29 travel ~0.1 mile and veer right onto the EB-2901 road for 0.2 miles to unit 5B on both sides of the road. Continue another 0.2 miles to the EB-2901-04 road. Unit 5A is on the left.

From the intersection of EB-ML and EB-29 travel south for 0.4 miles to unit 11 on the right. Continue another 0.4 miles to the intersection of the EB-ML and EB-21.

From the intersection of EB-ML and EB-21 travel northeast for 0.9 miles to the intersection of EB-21 and EB-2109. Turn left where unit 7 is on the left and unit 8B is on the right. After turning left, proceed 0.2 miles to the EB-2110 road on the right. This is at unit 8A. Continue for 0.3 miles to an intersection. Walk in 400 feet on the abandoned road to unit 9. Continue walking south on the EB-2114 (abandoned road) for ~400 feet to an intersection with the EB-2114-02 road. Veer right and continue walking south for ~600 feet to an intersection with the EB-2114-03 road. Continue south for ~600 feet to the end of the road. Walk ~800 feet downhill through a young stand to unit 10B. At the intersection of EB-2114 and EB-2114-03 walk east for 0.3 miles to the end of the EB-2114 road. Walk ~500 feet downhill through a young stand to unit 10A.

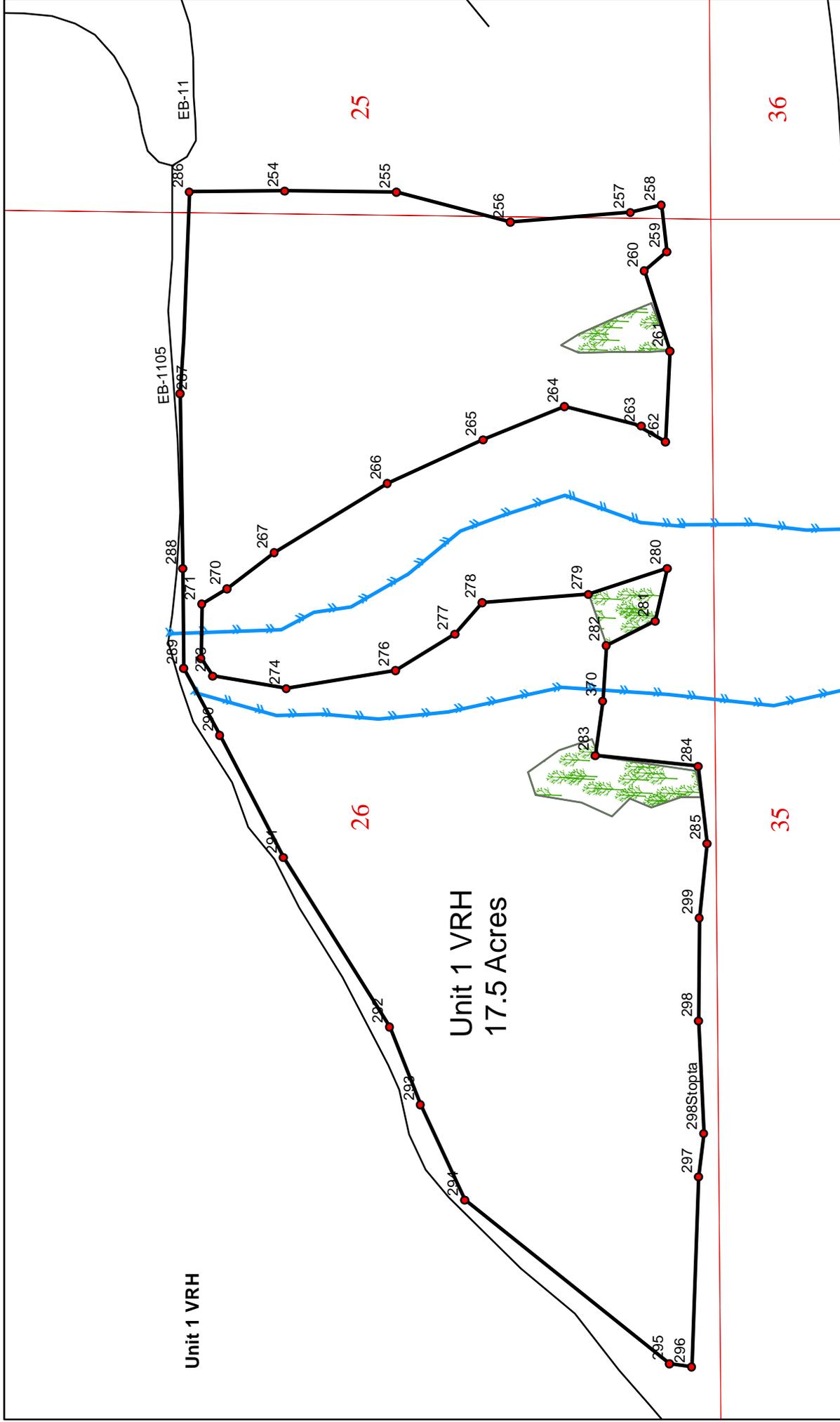
From the intersection of EB-21 and EB-2109 travel southeast for 600 feet to unit 8C on the left. Continue traveling another 400 feet to unit 8D on the left.

Leave tree areas were calculated using GPS.

<b>Prepared By: Douglas Cochran</b> Date: 01/04/16	<b>Title: NRS I</b>	<b>CC:</b>
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# Biscuit VRH & VDT



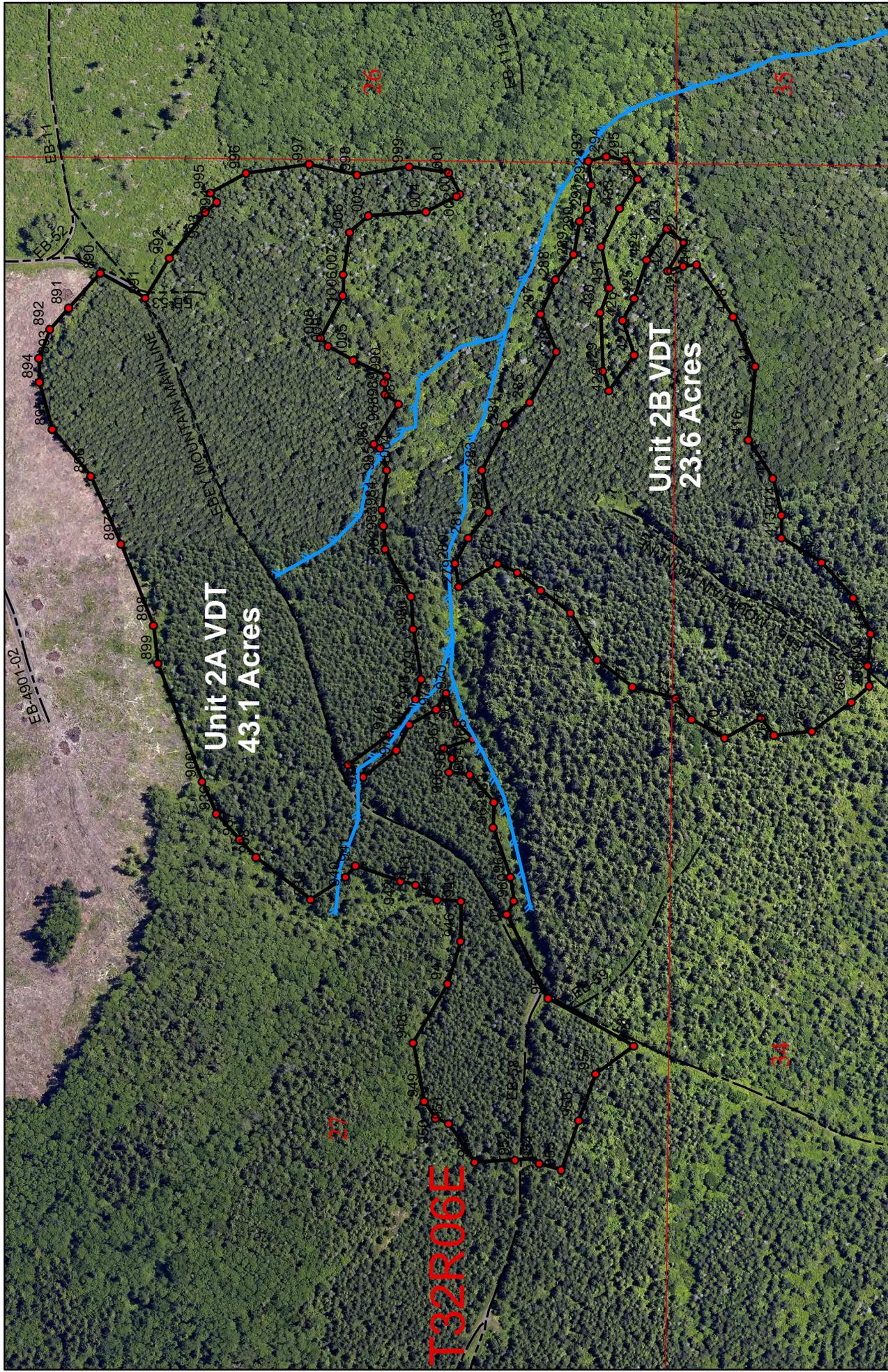
## Legend

- biscuit\_boundary\_points
- Biscuit\_ROW\_Tags
- biscuit\_streams
- Roads
- biscuit\_boundary

1 inch = 200 ft.

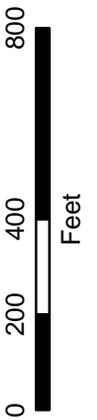


# Biscuit VRH & VDT



**Unit 2A VDT**  
**43.1 Acres**

**Unit 2B VDT**  
**23.6 Acres**



1 in = 400 ft.



- Legend
- Biscuit\_ROW\_Trap
- biscuit\_streams
- biscuit\_boundary\_points
- biscuit\_boundary

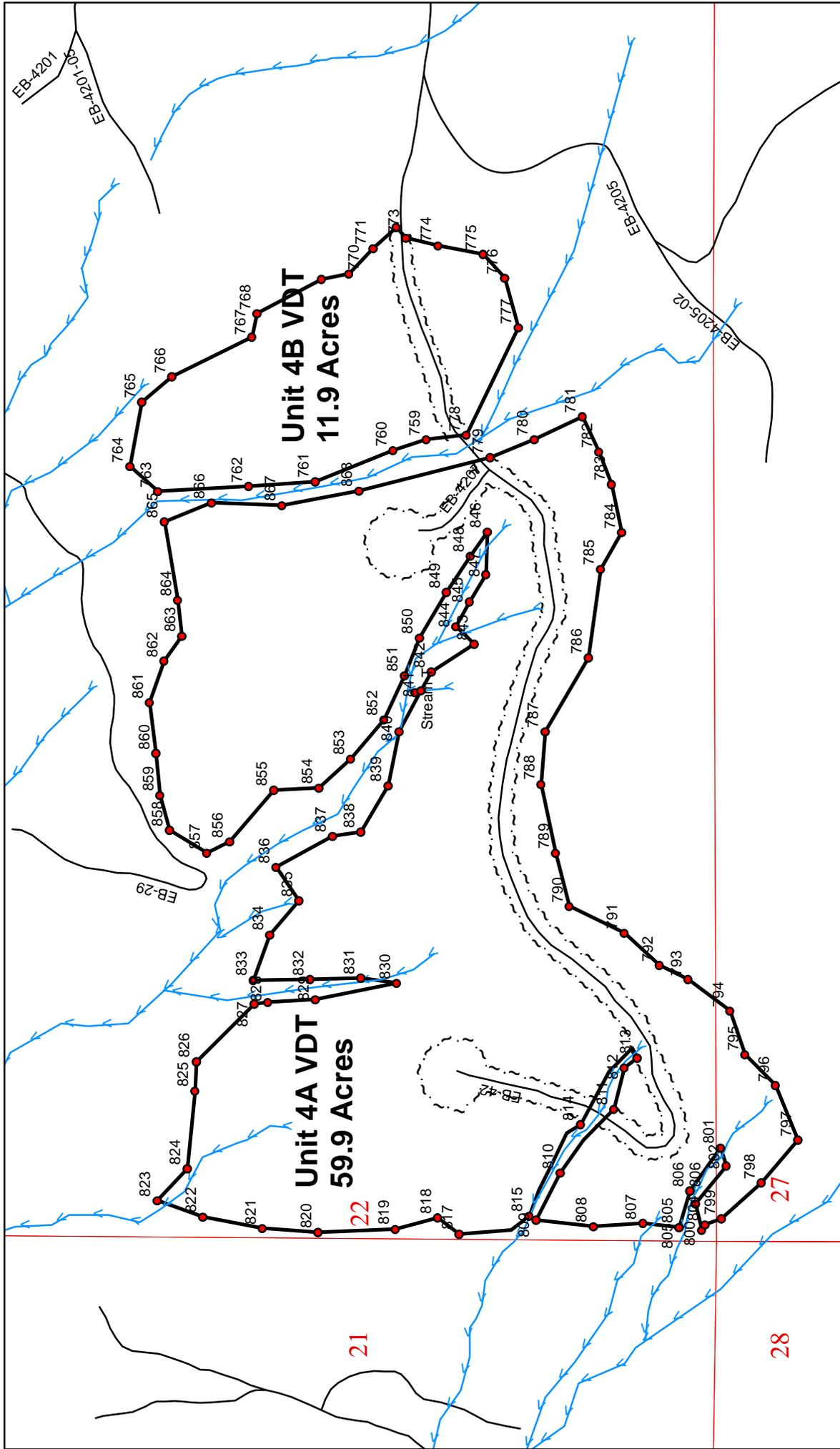








# Biscuit VRH & VDT



## Legend

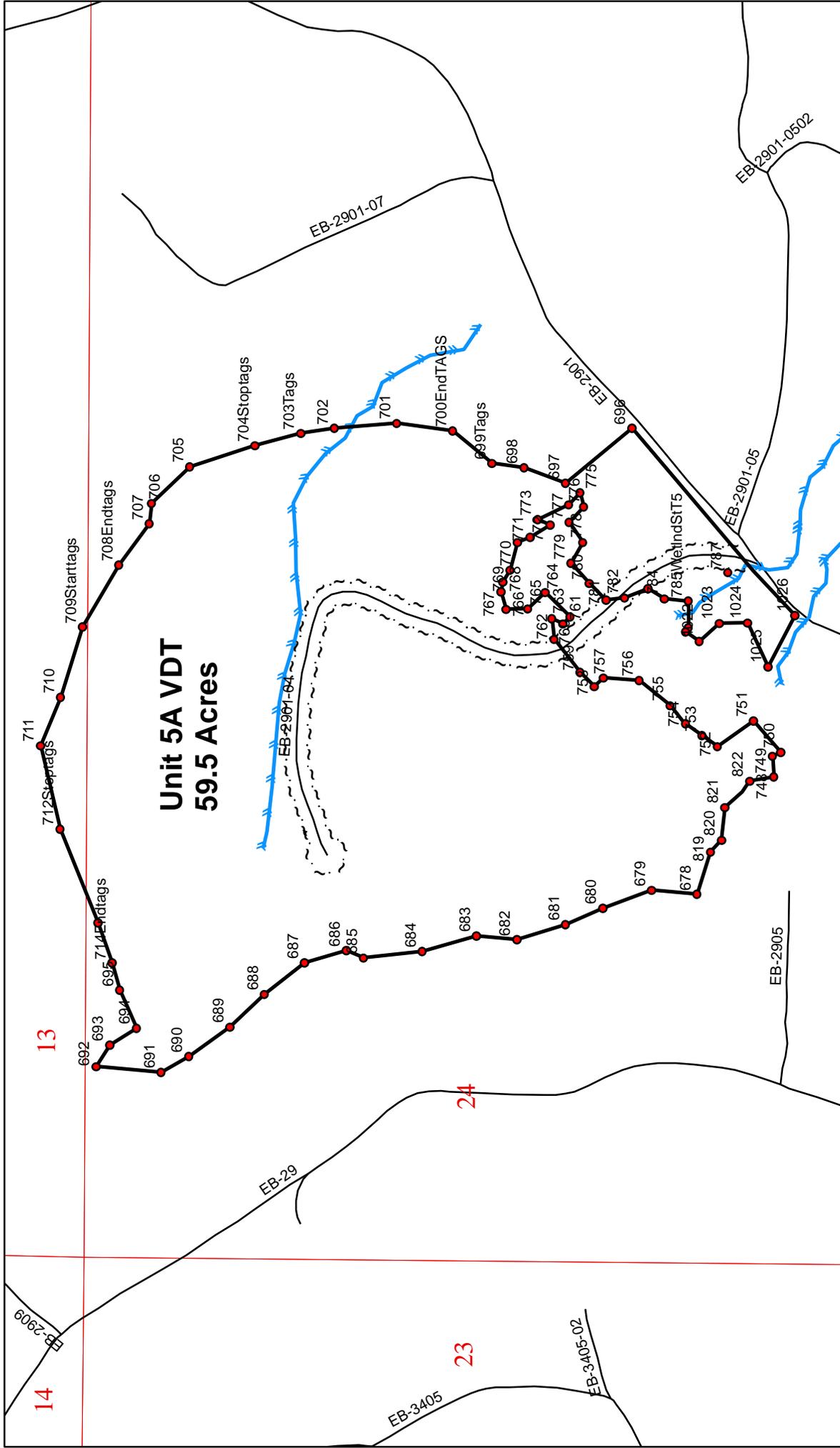
- biscuit\_boundary\_points
- Biscuit\_ROW\_Tags
- biscuit\_streams
- Roads
- biscuit\_boundary

1 inch = 400 ft.





# Biscuit VRH & VDT

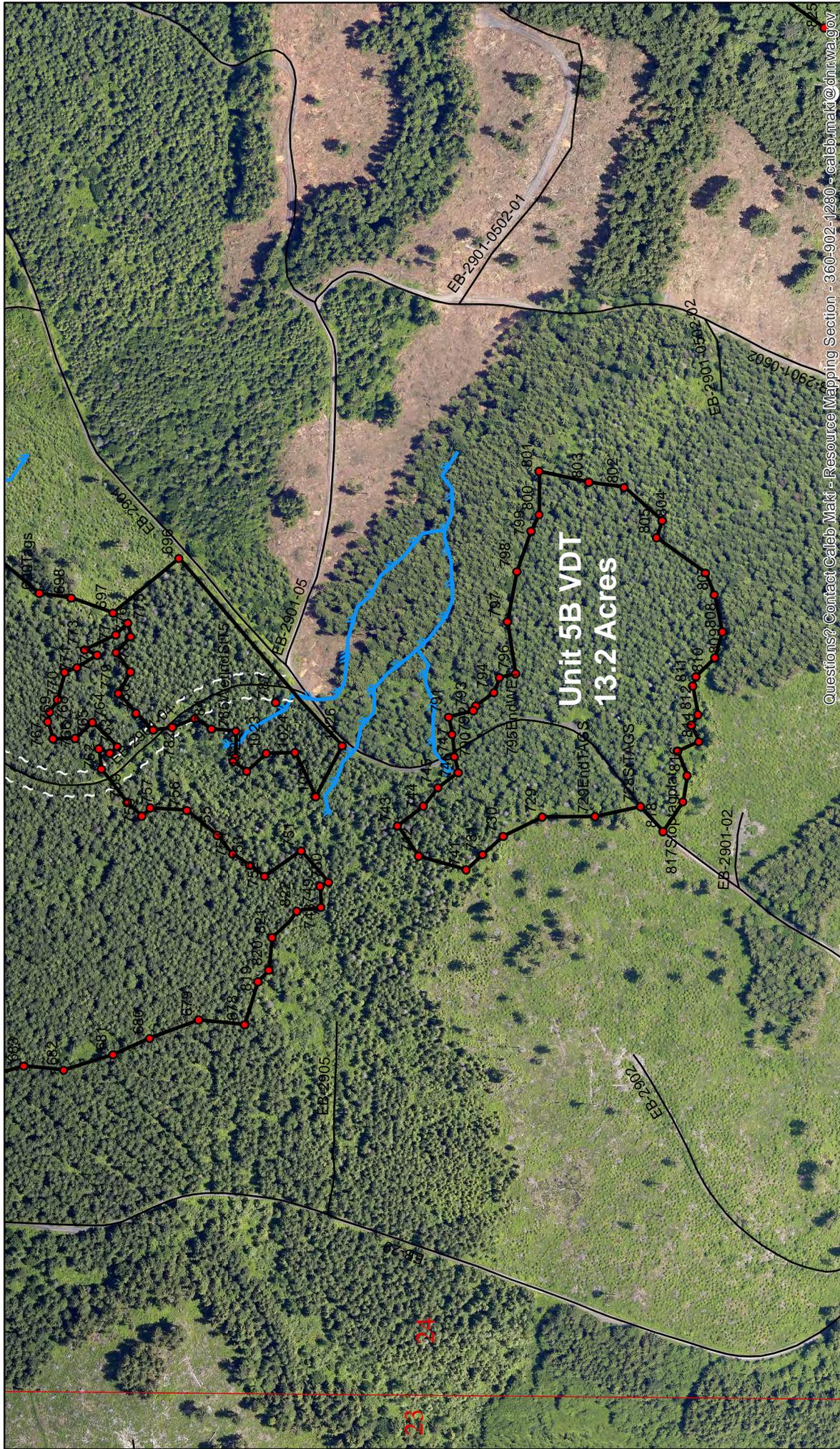


## Legend

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- Roads
- biscuit\_boundary



# Biscuit VRH & VDT



Unit 5B VDT  
13.2 Acres

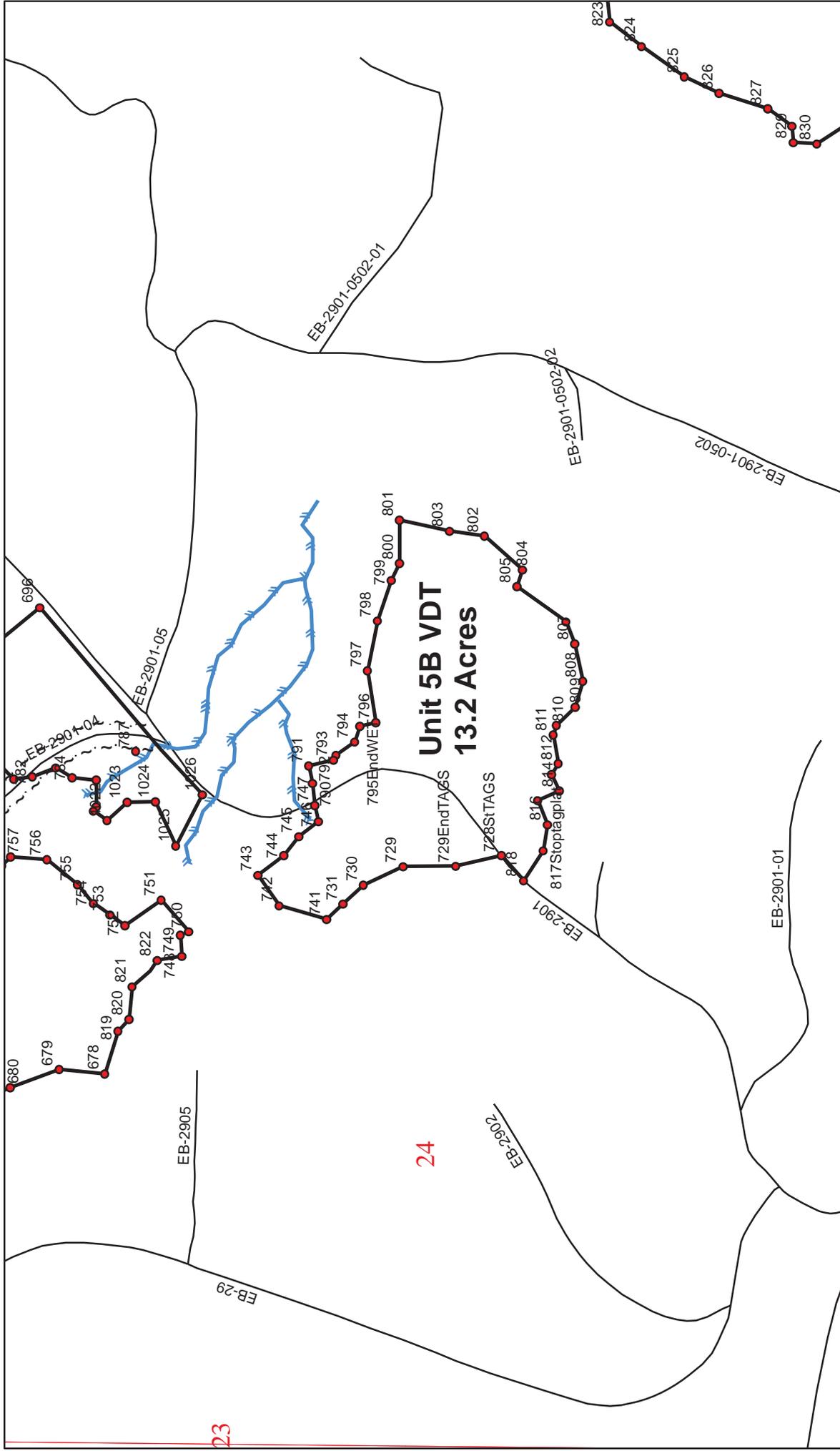
Questions? Contact Caleb Maki - Resource Mapping Section - 360-902-1280 - caleb.maki@dnr.wa.gov

## Legend

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- biscuit\_streams
- Roads
- biscuit\_boundary



# Biscuit VRH & VDT



## Legend

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- Biscuit\_ROW\_Tags
- biscuit\_streams
- Roads
- biscuit\_boundary

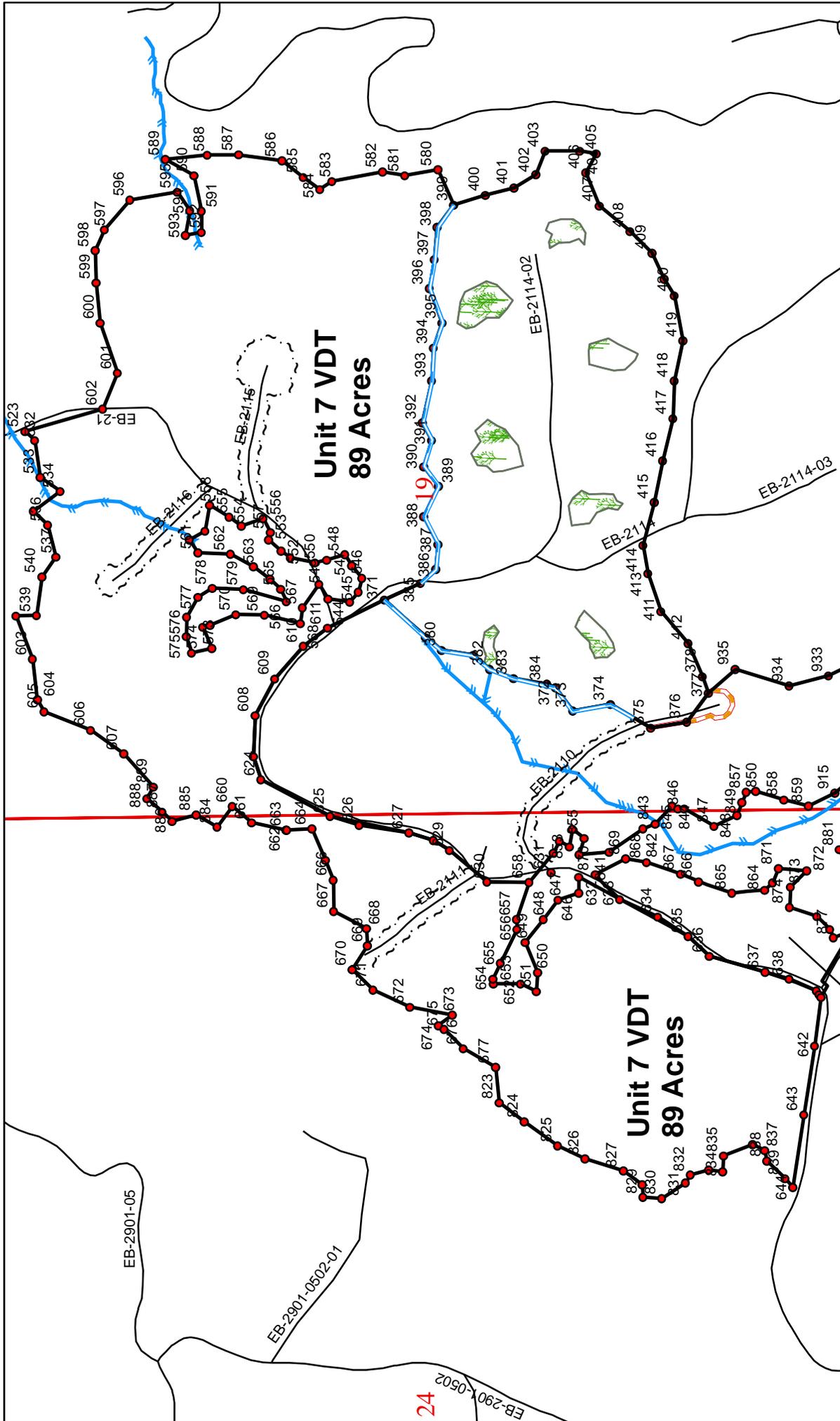








# Biscuit VRH & VDT



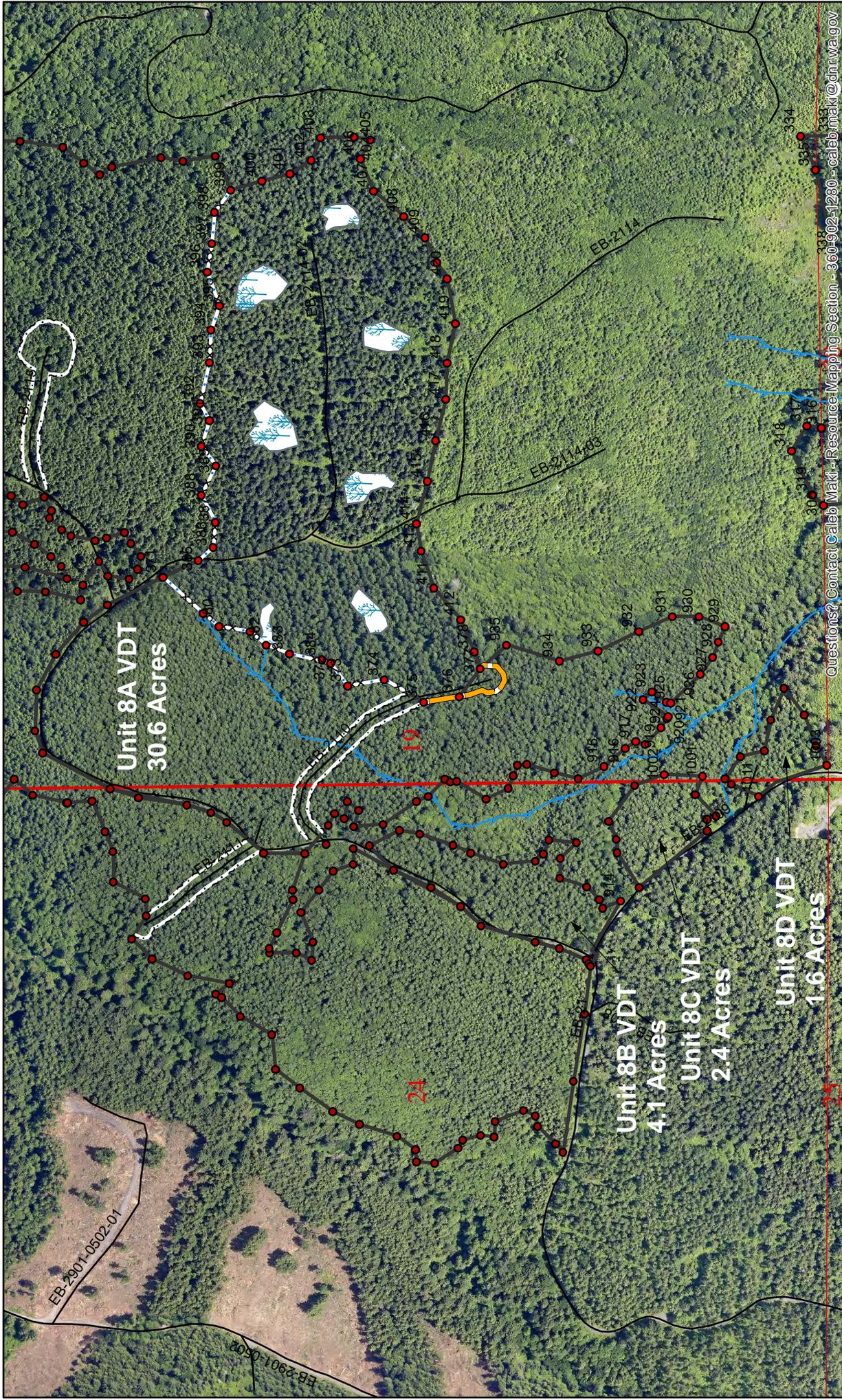
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- Roads

1 inch = 500 ft.



# Biscuit VRH & VDT

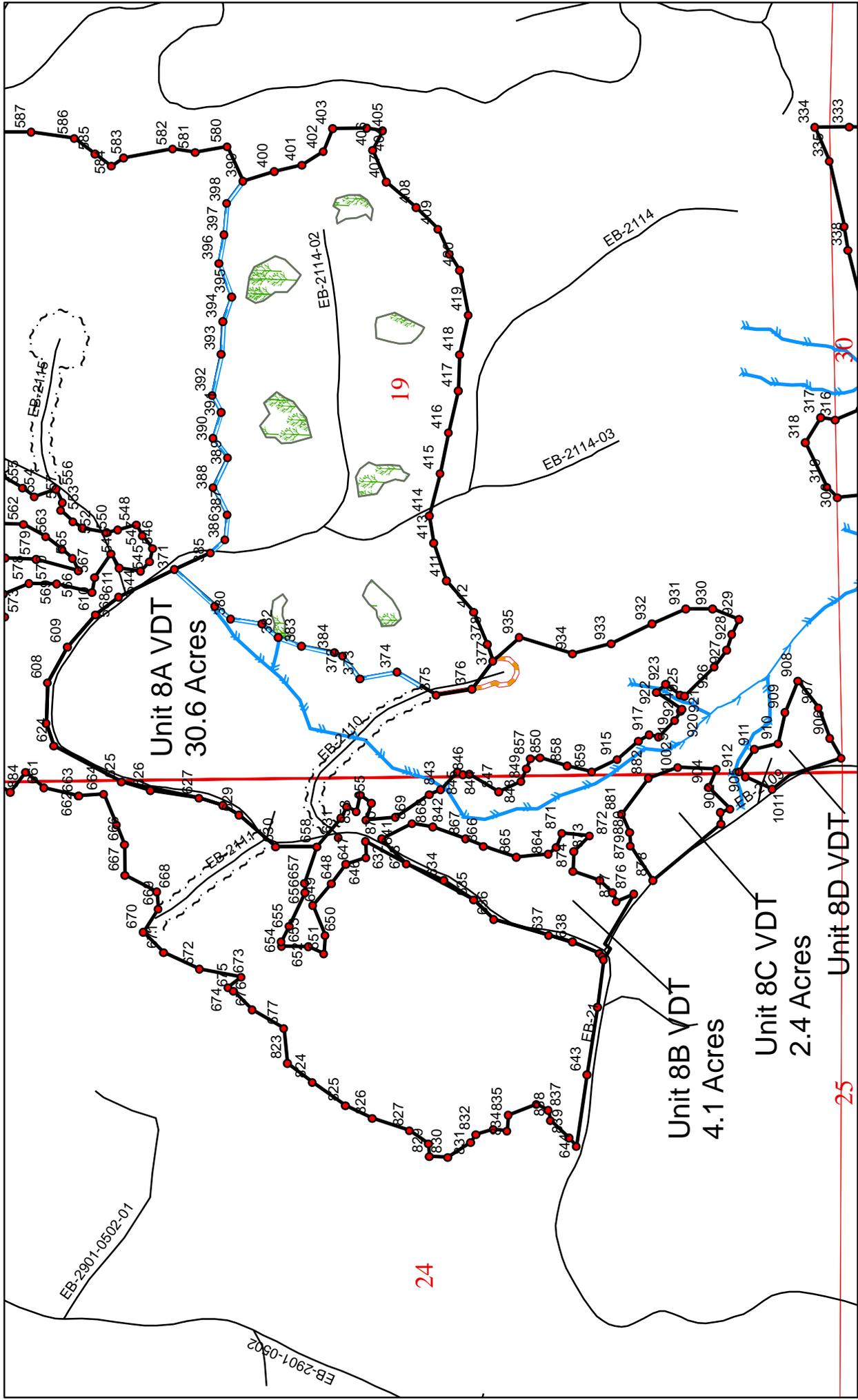


- Legend**
- biscuit\_boundary\_points
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  - biscuit\_smz\_tags
  - biscuit\_row\_smz\_tags
  - Biscuit\_ROW\_Tags
  - biscuit\_boundary
  - Biscuit\_LTA

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# Biscuit VRH & VDT

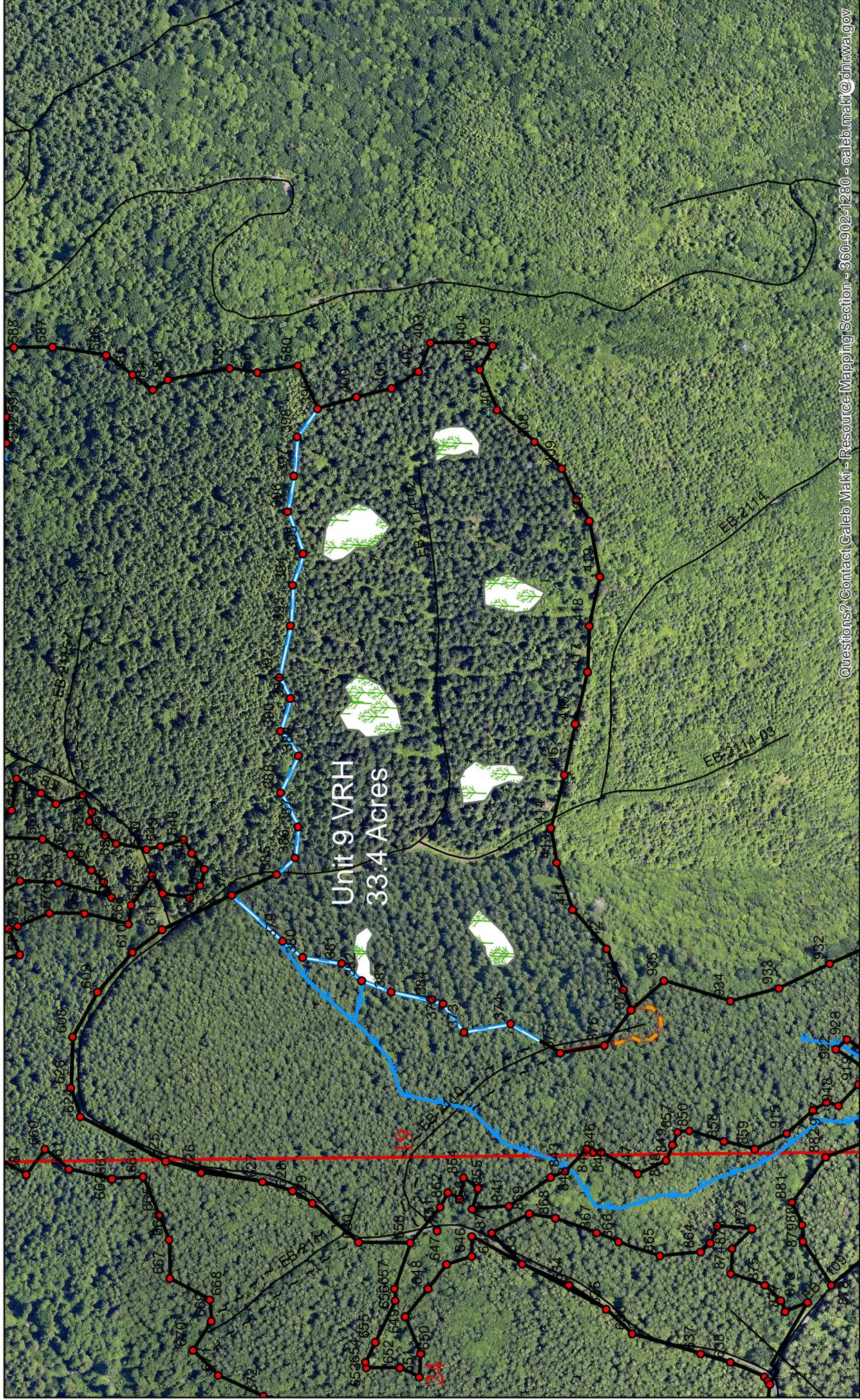


**Legend**

- biscuit\_boundary\_points
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- biscuit\_streams
- Roads
- biscuit\_boundary
- biscuit\_smz\_tags
- biscuit\_row\_smz\_tags



# Biscuit VRH & VDT



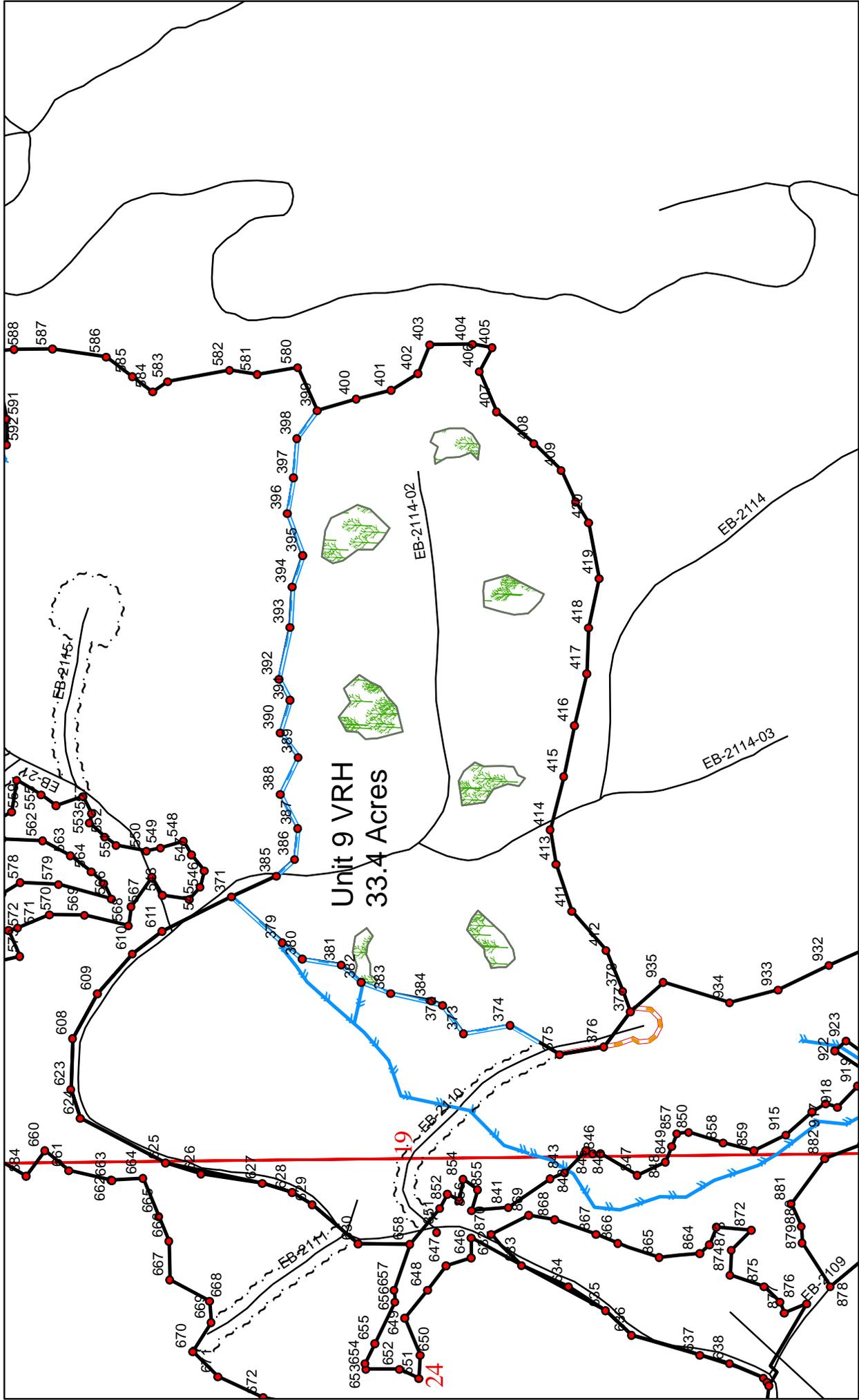
Questions? Contact Caleb Maki - Resource Mapping Section - 360-902-1280 - caleb.maki@dnr.wa.gov

### Legend

- biscuit\_boundary\_points
- Biscuit\_ROW\_Tags
- biscuit\_streams
- Roads
- biscuit\_boundary
- biscuit\_smz\_tags
- biscuit\_row\_smz\_tags



# Biscuit VRH & VDT

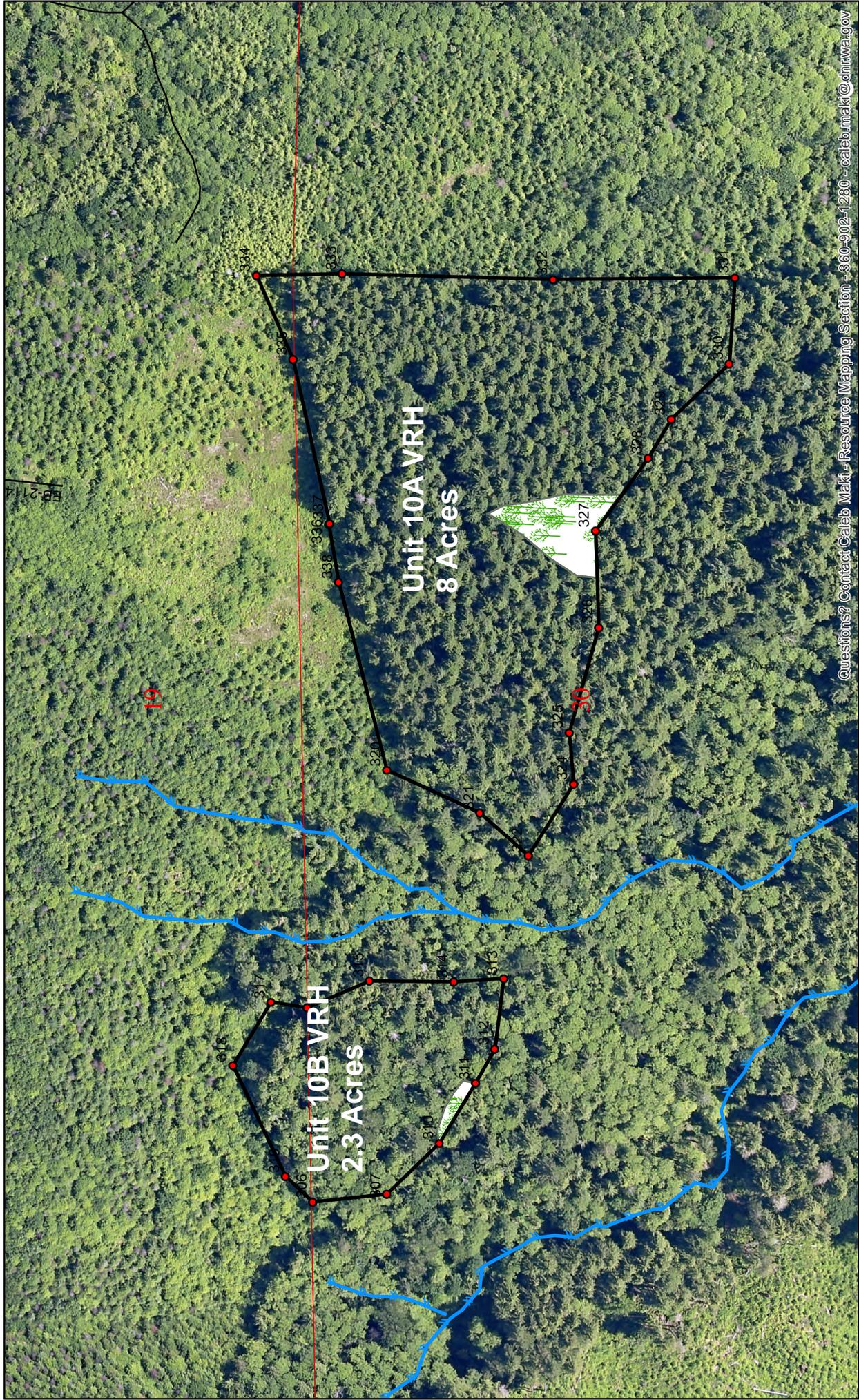


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- Biscuit\_ROW\_Tags
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- Roads
- biscuit\_boundary
- biscuit\_smz\_tags
- biscuit\_row\_smz\_tags



# Biscuit VRH & VDT



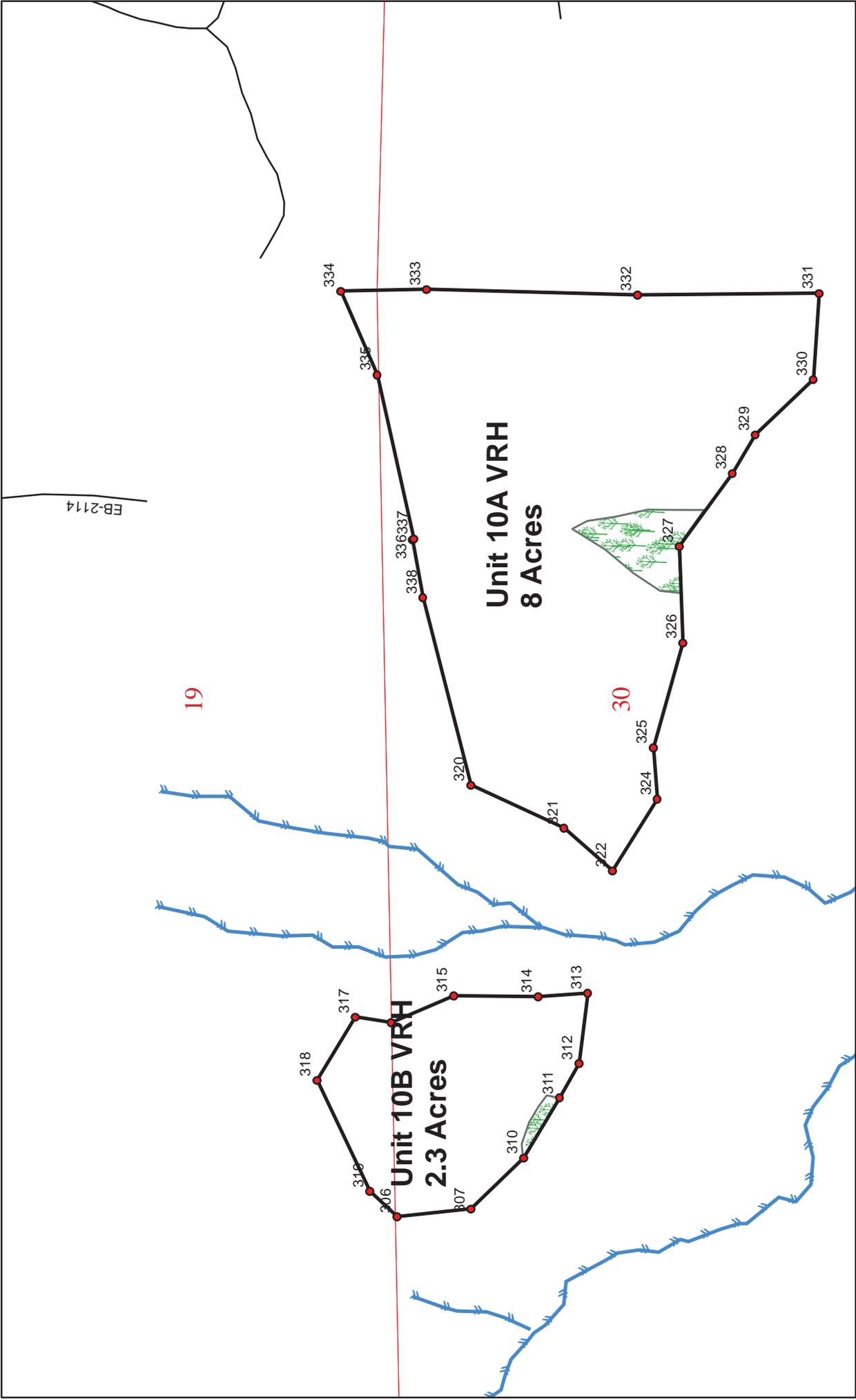
1 inch = 200 ft.



- Legend**
- biscuit\_boundary\_points
  - biscuit\_streams
  - Roads
  - biscuit\_boundary

@questions? Contact Caleb Maki - Resource Mapping Section - 360-902-1280 - caleb.maki@dnr.wa.gov

# Biscuit VRH & VDT



- Legend**
- biscuit\_boundary\_points
  - biscuit\_streams
  - Roads
  - biscuit\_boundary



# Biscuit VRH & VDT



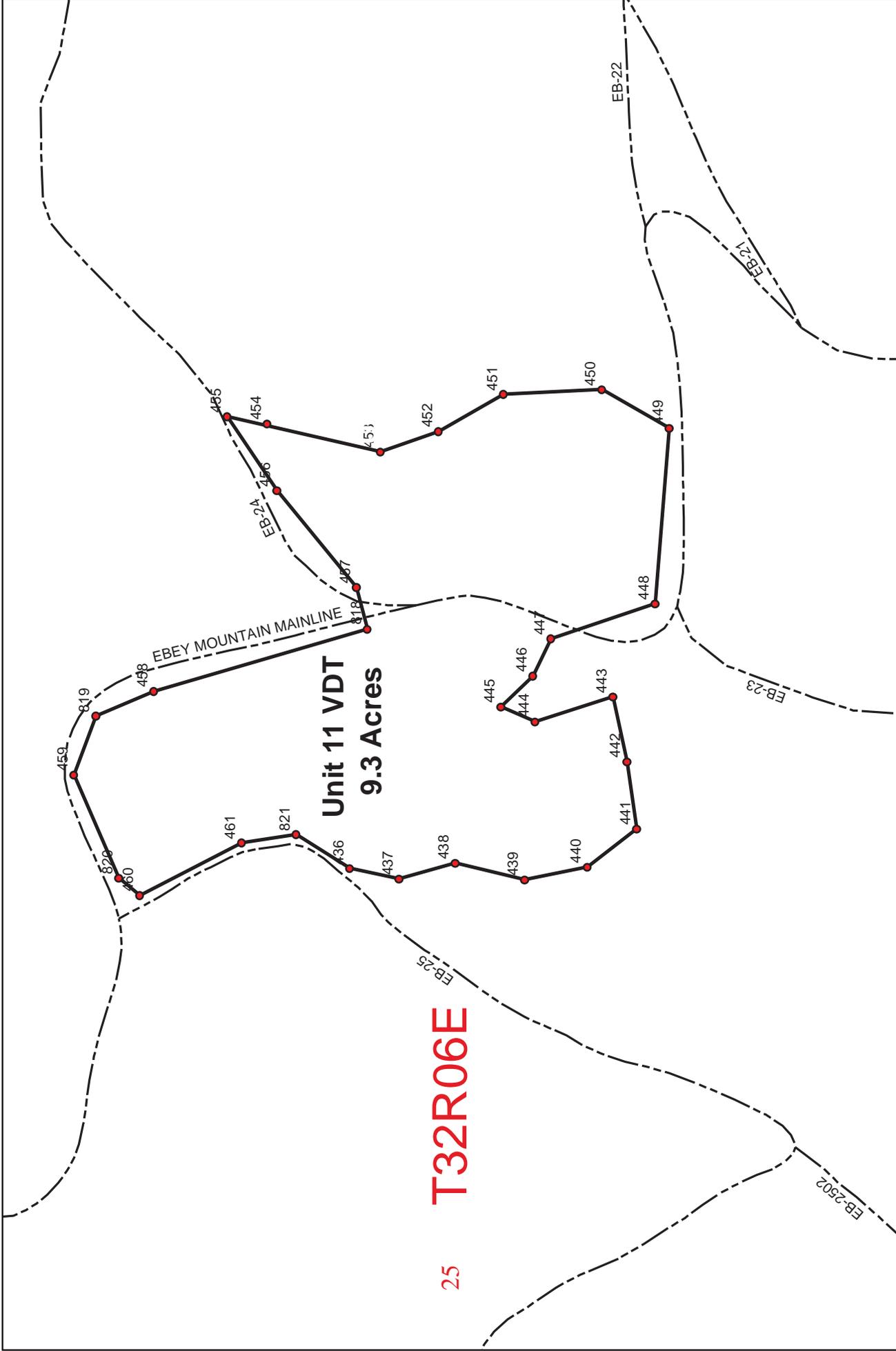
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- biscuit\_boundary\_points
- biscuit\_boundary
- Biscuit\_LTA

1 in = 200 ft.



# Biscuit VRH & VDT



### Legend

- biscuit\_streams
- biscuit\_boundary\_points
- biscuit\_boundary
- Biscuit\_LTA



1 in = 200 ft.





WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**  
 Peter Goldmark - Commissioner of Public Lands

FPA/N No: 2815036  
 Effective Date: 3/31/2016  
 Expiration Date: 3/31/2019

**Forest Practices Application/Notification  
 Notice of Decision**

Shut Down Zone: 658  
 EARR Tax Credit:  Eligible  Non-eligible  
 Reference: Biscuit

**DECISION:**

- NOTIFICATION Operations shall not begin before the effective date.
- APPROVED This Forest Practices Application is subject to the conditions listed below.
- DISAPPROVED This Forest Practices Application is disapproved for the reasons listed below.
- CLOSED Applicant has withdrawn FPA/N.

**FPA/N CLASSIFICATION**

**Number of Years Granted on Multi-Year Request**

Class II     Class III     Class IVG     Class IVS     4yrs     5 yrs

**Conditions on Approval / Reasons for Disapproval**

Contact the Dept. of Natural Resources at least two (2) working days prior to the construction of the EB-1108, as well as the installation of the inner-gorge crossing.

Issued By: Joel Dryden *JLD*

Region: Northwest

Title: Stillaguamish Forest Practice Forester

Date: 3/31/2016

Copies to:  Landowner, Timber Owner and Operator

Issued in Person:  Landowner,  Timber Owner  Operator By: *L. W. [Signature]*

**Appeal Information**

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:

**Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501**

**Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903**

Information regarding the Pollution Control Hearings Board can be found at: <http://www.eluho.wa.gov/>

At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

Office of the Attorney General  
Natural Resources Division  
1125 Washington Street SE  
PO Box 40100  
Olympia, WA 98504-0100

And

Department Of Natural Resources  
Northwest Region  
919 N Township Street  
Sedro-Woolley, WA 98284

**Other Applicable Laws**

Operating as described in this application/notification does not ensure compliance with the Endangered Species Act, or other federal, state, or local laws.

**Hydraulic Project Approval (HPA) (Chapter 77.55RCW and WAC 222-50-020(2))**

The Department of Fish and Wildlife (WDFW), as the jurisdictional agency issuing HPAs, has final authority for approving water crossing structures in Type S and F waters. WDFW continues to have authority on Type N waters and may exercise that authority on some Type N waters.

Notice: The HPA water crossing requirements supersede what is indicated on the FPA. Landowners are required by law to follow the provisions as directed on the HPA.

**Transfer of Forest Practices Application/Notification (WAC 222-20-010)**

Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices Division website: <http://www.dnr.wa.gov/businesspermits/forestpractices>. Notify DNR of new Operators within 48 hours.

**Continuing Forest Land Obligations (RCW 76.09.060, RCW 76.09.070, RCW 76.09.390, and WAC 222-20-055)**

Obligations include reforestation, road maintenance and abandonment plans, conversions of forest land to non-forestry use and/or harvest strategies on perennial non-fish habitat (Type Np) waters in Eastern Washington.

Before the sale or transfer of land or perpetual timber rights subject to continuing forest land obligations, the seller must notify the buyer of such an obligation on a form titled "Notice of Continuing Forest Land Obligation". The seller and buyer must both sign the "Notice of Continuing Forest Land Obligation" form and send it to the DNR Region Office for retention. This form is available at DNR region offices.

If the seller fails to notify the buyer about the continuing forest land obligation, the seller must pay the buyer's costs related to continuing forest land obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forest land obligation against the seller.

Failure by the seller to send the required notice to the DNR at the time of sale will be prima facie evidence in an action by the buyer against the seller for costs related to the continuing forest land obligation prior to sale.

**DNR affidavit of mailing:**

On this day \_\_\_\_\_, I placed in the United States mail at Sedro-Woolley, WA, postage paid, a true and accurate copy of the attached document. Notice of Decision FPA # \_\_\_\_\_

\_\_\_\_\_ L Utgard \_\_\_\_\_

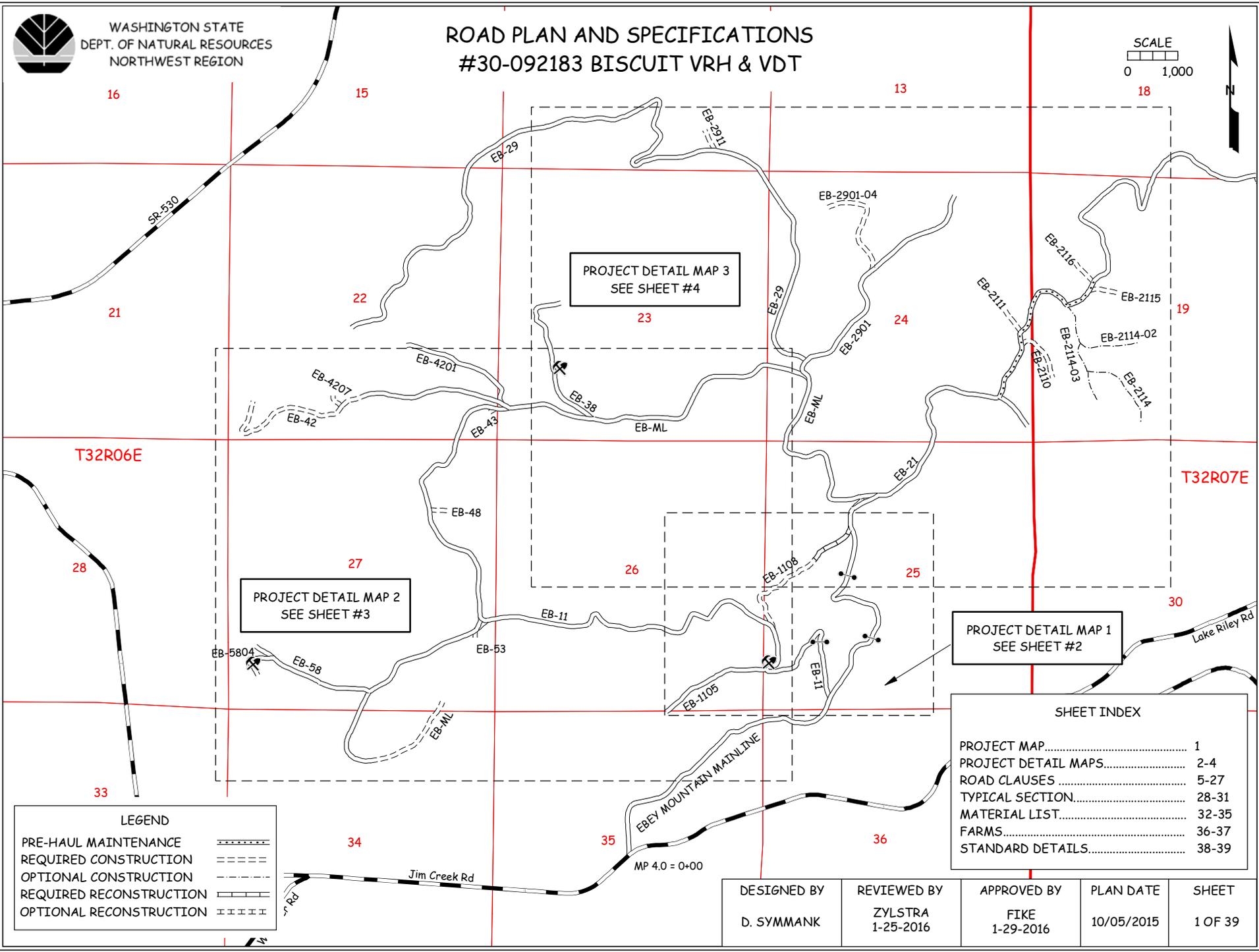
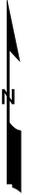
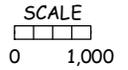
(Printed name)

\_\_\_\_\_

(Signature)



# ROAD PLAN AND SPECIFICATIONS #30-092183 BISCUIT VRH & VDT



**LEGEND**

PRE-HAUL MAINTENANCE	=====
REQUIRED CONSTRUCTION	-----
OPTIONAL CONSTRUCTION	- - - - -
REQUIRED RECONSTRUCTION	
OPTIONAL RECONSTRUCTION	- - - - -

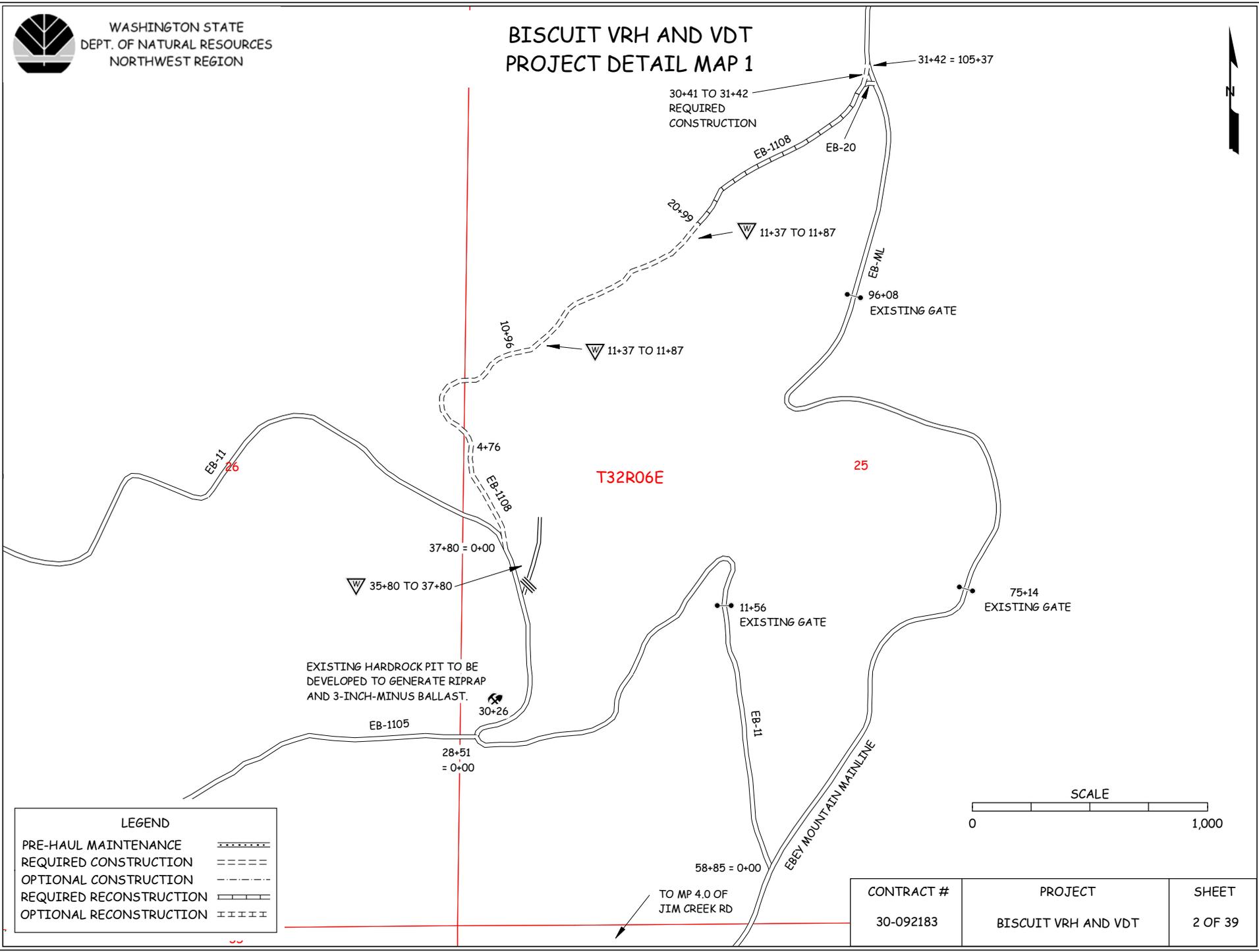
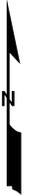
**SHEET INDEX**

PROJECT MAP.....	1
PROJECT DETAIL MAPS.....	2-4
ROAD CLAUSES.....	5-27
TYPICAL SECTION.....	28-31
MATERIAL LIST.....	32-35
FARMS.....	36-37
STANDARD DETAILS.....	38-39

DESIGNED BY D. SYMMANK	REVIEWED BY ZYLSTRA 1-25-2016	APPROVED BY FIKE 1-29-2016	PLAN DATE 10/05/2015	SHEET 1 OF 39
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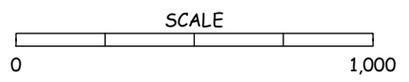


# BISCUIT VRH AND VDT PROJECT DETAIL MAP 1



EXISTING HARDROCK PIT TO BE DEVELOPED TO GENERATE RIPRAP AND 3-INCH-MINUS BALLAST.

LEGEND	
PRE-HAUL MAINTENANCE	
REQUIRED CONSTRUCTION	
OPTIONAL CONSTRUCTION	
REQUIRED RECONSTRUCTION	
OPTIONAL RECONSTRUCTION	

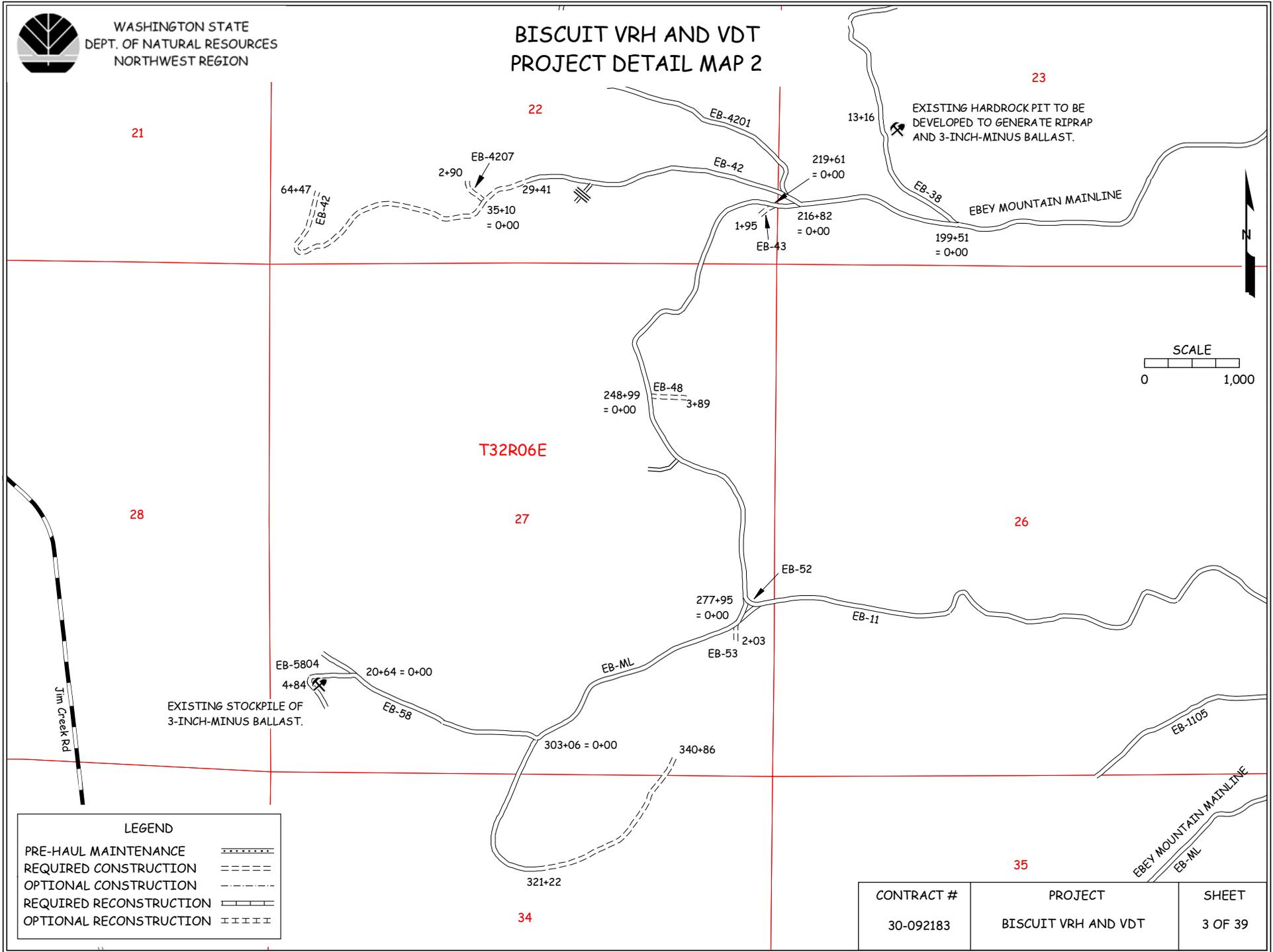


CONTRACT #	PROJECT	SHEET
30-092183	BISCUIT VRH AND VDT	2 OF 39

TO MP 4.0 OF  
JIM CREEK RD



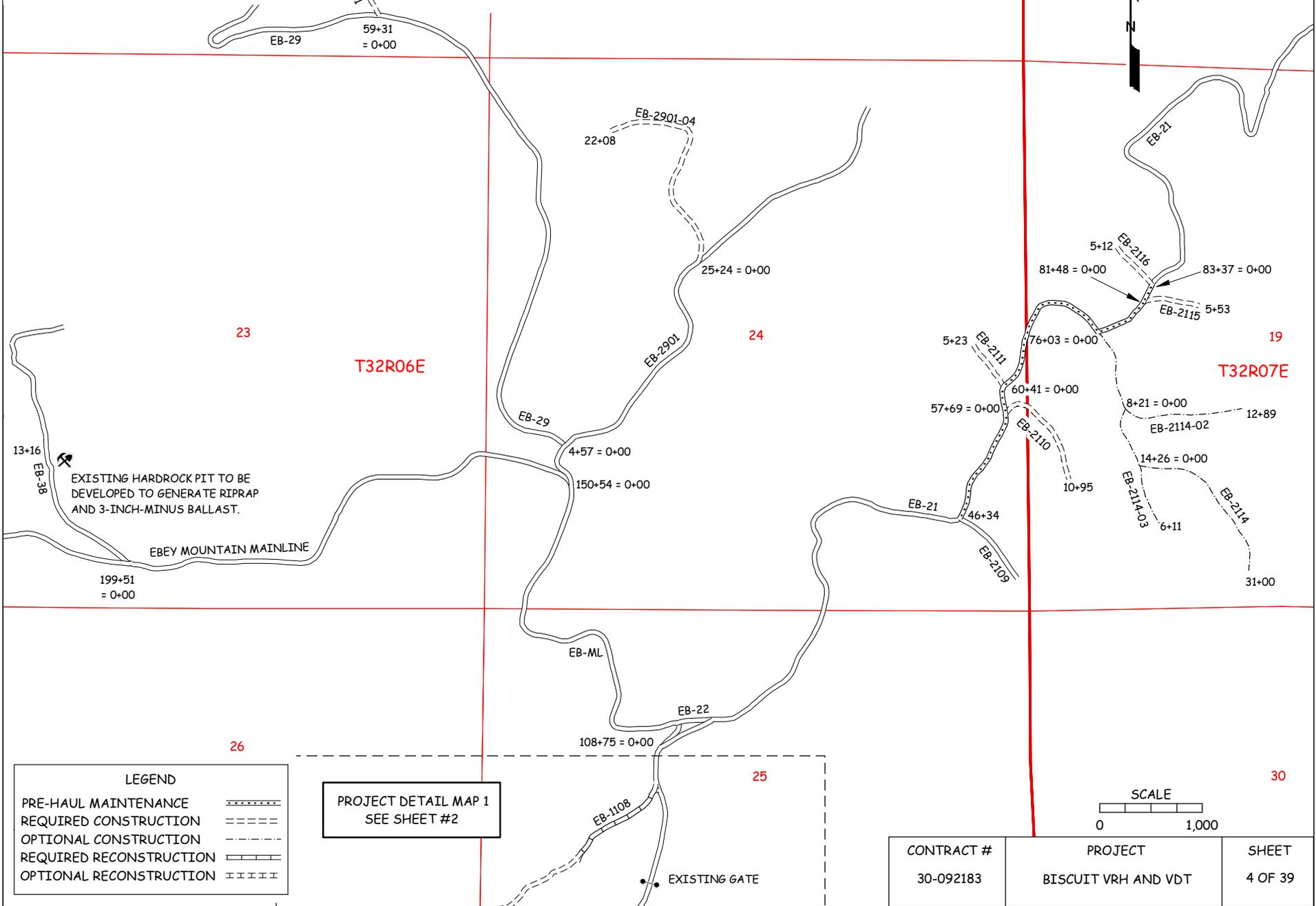
# BISCUIT VRH AND VDT PROJECT DETAIL MAP 2





# BISCUIT VRH AND VDT PROJECT DETAIL MAP 3

18



23

T32R06E

24

19

T32R07E

26

PROJECT DETAIL MAP 1  
SEE SHEET #2

25

30

CONTRACT #	PROJECT	SHEET
30-092183	BISCUIT VRH AND VDT	4 OF 39

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

BISCUIT VRH AND VDT TIMBER SALE ROAD PLAN  
SNOHOMISH COUNTY  
STARBIRD UNIT CASCADE DISTRICT

AGREEMENT NO.: 30-092183

STAFF ENGINEER: SYMMANK

DATE: OCTOBER 5, 2015

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>
EB-ML*	321+22 to 340+86	CONSTRUCTION
EB-1108	0+00 to 20+99 and 30+41 to 31+42	CONSTRUCTION
EB-1108	20+99 to 30+41	RECONSTRUCTION
EB-21	46+34 to 83+37	PRE-HAUL MAINTENANCE
EB-2110	0+00 to 10+95	CONSTRUCTION
EB-2111*	0+00 to 5+23	CONSTRUCTION
EB-2115*	0+00 to 5+53	CONSTRUCTION
EB-2116*	0+00 to 5+12	CONSTRUCTION
EB-2911*	0+00 to 4+53	CONSTRUCTION
EB-2901-04*	0+00 to 22+08	CONSTRUCTION
EB-42*	29+41 to 64+47	CONSTRUCTION
EB-4207*	0+00 to 2+90	CONSTRUCTION
EB-43*	0+00 to 1+95	CONSTRUCTION
EB-48*	0+00 to 3+89	CONSTRUCTION
EB-53*	0+00 to 2+03	CONSTRUCTION

\* Construction is on previously abandoned road grade.

**0-3 OPTIONAL ROADS**

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
EB-2114*	0+00 to 31+00	CONSTRUCTION
EB-2114-02*	0+00 to 12+89	CONSTRUCTION
EB-2114-03*	0+00 to 6+11	CONSTRUCTION

\* Construction is on previously abandoned road grade.

**0-4 CONSTRUCTION**

Construction includes, but is not limited to clearing, grubbing, excavation and embankment to sub-grade, full bench end-haul, landing and turnout construction, culvert installation, geotextile installation, drill and shoot, and application of 3-inch-minus ballast rock.

**0-5 RECONSTRUCTION**

Reconstruction includes, but is not limited to reconstruction of road grade and alignment to meet Clause 4-3 ROAD GRADE AND ALIGNMENT STANDARDS, blading, shaping, and ditching the road surface, existing culvert clean out, and spot application of 3-inch-minus ballast rock.

**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>
EB-21	46+34 to 83+37	<ul style="list-style-type: none"> <li>• Install culverts and clean inlets and outlets of all existing culverts.</li> <li>• Blade, shape, and ditch.</li> <li>• Spot application of 3-inch-minus ballast over culverts and as directed by contract administrator.</li> </ul>

**0-7 POST-HAUL MAINTENANCE**

This project includes post-haul road maintenance listed in Clause 9-5 POST-HAUL MAINTENANCE.

**0-10 ABANDONMENT**

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

**0-12 DEVELOP ROCK SOURCE**

The Purchaser shall develop existing rock sources. Development will involve clearing, stripping, drilling, shooting, and processing rock to generate riprap and 3-inch-minus ballast. 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 shall be submitted, in writing, to the Contract Administrator for consideration. The State must approve the submitted plans before road work begins.

**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 shall 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**

Unless controlled by construction stakes, road work shall be performed in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan.

**1-4 ROAD TOLERANCES**

Road work shall be performed within the tolerance 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

**1-5 DESIGN DATA**

Design data is available at the Department of Natural Resources Northwest Region Office in Sedro Woolley, WA upon request.

**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.

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

**1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS**

The Purchaser is responsible for the repair or replacement of all materials, roadway infrastructure, and road components damaged during road work or operation activities. Repairs and replacements shall be directed by the Contract Administrator. Repairs to structural materials will be made according to the manufacturer’s recommendation.

**1-9 DAMAGED METALLIC COATING**

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

**1-16 CONSTRUCTION STAKES SET BY STATE**

The Purchaser shall construct or reconstruct the following roads in accordance with the construction stakes or reference points set in the field for grade and alignment.

<u>Road</u>	<u>Stations</u>	<u>Type</u>	<u>Remarks</u>
EB-1108	4+76 to 10+96	Centerline, slope stakes, and reference stakes.	On-site meeting with Engineer is required prior to excavation. Design data, plan, profile, and cross-section drawings are available.

**1-18 REFERENCE POINT DAMAGE**

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

**1-21 HAUL APPROVAL**

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

**1-25 ACTIVITY TIMING RESTRICTION**

The specified activities are not permitted during the listed closure period unless authorized in writing by the Contract Administrator.

<u>Activity</u>	<u>Closure Period</u>
Rock hauling, construction, reconstruction, or abandonment	November 1 to March 31

**1-26 OPERATING DURING CLOSURE PERIOD**

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION the Purchaser shall provide a maintenance plan to include further protection of state resources. The Contract Administrator must approve the maintenance plan in writing, and preventative measures shall be put in place, before operation in the closure period. The Purchaser shall be required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan shall be developed. All parties shall follow this plan.

**1-27 TIMING RESTRICTION FOR MARBLED MURRELET**

On the following road, any road work, right-of-way timber falling and yarding, rock pit operation, or heavy equipment operation is not allowed from one hour before official sunrise to two hours after official sunrise, and from one hour before official sunset to one hour after official sunset from April 1 through August 31. This restriction does not apply to hauling timber, rock, or equipment.

<u>Road</u>	<u>Stations</u>
EB-21	43+84 to 49+34
EB-2109	0+00 to 36+50
EB-2110	7+95 to 10+95
EB-2114	26+40 to 31+00
EB-2114-03	0+00 to 6+11

**1-29 SEDIMENT RESTRICTION**

Silt-bearing runoff shall not be permitted to go into 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:

- 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.

**1-33 SNOW PLOWING RESTRICTION**

Snowplowing shall be permitted only after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact Administrator upon request.

**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.

**2-5 MAINTENANCE GRADING – EXISTING ROAD**

On the following road, Purchaser shall use a grader to shape the existing surface.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
EB-21	48+34 to 83+37	Before hauling, except that a spreader cat may be used for shaping the surface while reconstructing the road.

**2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS**

Purchaser shall clean the ditchlines, culvert headwalls, and catch basins. Work shall be completed before application of rock and shall be done in accordance with the TYPICAL SECTION.

**SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL**

**3-5 CLEARING**

Fell all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries and within waste and debris areas, or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing shall 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 30 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 70%.
- Against standing trees unless approved by the Contract Administrator.

**3-10 GRUBBING**

Remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Those stumps outside the grubbing limits but with undercut roots shall also be removed. Grubbing shall be completed before starting excavation and embankment.

**3-20 ORGANIC DEBRIS DEFINITION**

Organic debris is defined as all vegetative material not eligible for removal by Contract Clauses 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 clearing limits as shown on the TYPICAL SECTION SHEET.

**3-21 DISPOSAL COMPLETION**

All disposal of organic debris shall be completed before the application of rock.

**3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS**

Waste areas for organic debris shall be located as listed below:

<u>Road</u>	<u>Disposal Location</u>
EB-11	35+80 to 37+80
EB-1108	11+37 to 11+87
EB-1108	19+34 to 20+34

**3-23 PROHIBITED DISPOSAL AREAS**

Organic debris shall not be deposited in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On embankments.
- On slopes greater than 40%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush will fall into the ditch or onto the road surface.
- Against standing timber.

**3-24 BURYING ORGANIC DEBRIS RESTRICTED**

Organic debris shall not be buried unless otherwise stated in this plan.

**3-25 SCATTERING ORGANIC DEBRIS**

Organic debris shall be scattered outside of the clearing limits in natural openings unless otherwise detailed in this road plan.

**3-32 END HAULING ORGANIC DEBRIS**

On the following road organic debris shall be end hauled or pushed to the designated waste areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS.

<u>Road</u>	<u>Stations</u>
EB-1108	4+76 to 10+96

SECTION 4 – EXCAVATION

**4-2 PIONEERING**

Pioneering shall not extend past construction that will be completed during the current construction season. Pioneering shall not extend more than 500 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions shall be taken as pioneering progresses:

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

**4-3 ROAD GRADE AND ALIGNMENT STANDARDS**

The following road grade and alignment standards shall be followed:

- Grade and alignment shall have smooth continuity, without abrupt changes in direction.
- Maximum grade shall not exceed 18 percent favorable and 15 percent adverse.
- Minimum curve radius is 50 feet at centerline.
- Sag vertical curves shall not have a grade change greater than 5% in 100 feet.
- Crest vertical curves shall not have a grade change greater than 4% in 100 feet.

**4-5 CUT SLOPE RATIO**

Unless construction staked or designed excavation slopes shall be constructed no steeper than shown on the following table:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (on side slopes up to 55%)	1:1	100
Fractured or loose rock	½:1	200
Hardpan or solid rock	¼:1	400

**4-6 EMBANKMENT SLOPE RATIO**

Unless construction staked or designed embankment slopes shall be constructed 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**

Excavation and embankment slopes shall be constructed 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.

Embankment widening shall be applied equally to both sides of the road to achieve the required width.

**4-12 FULL BENCH CONSTRUCTION**

On the following roads and where side slopes exceed 50%, Purchaser shall use full bench construction for the entire subgrade width except as construction staked or designed. If designated, waste material shall be end hauled to the location specified in Clause 4-37 WASTE AREA LOCATION.

<u>Road</u>	<u>Full Bench Location</u>	<u>Comments</u>
EB-1108	4+76 to 6+74	Excavation depth controlled by construction stakes. No sidecast. End haul waste material to location specified in Clause 4-37 WASTE AREA LOCATION.
EB-1108	8+80 to 9+67	
EB-1108	10+40 to 10+96	

**4-21 TURNOUTS**

Turnouts shall be intervisible with maximum of 1,000 feet between turnouts unless shown otherwise on drawings. Locations shall be adjusted to fit the final subgrade alignment and sight distances. Turnout locations shall be subject to written approval by the Contract Administrator. Minimum dimensions are shown on the TYPICAL SECTION SHEET.

**4-25 DITCH CONSTRUCTION AND RECONSTRUCTION**

The Purchaser shall construct or reconstruct ditches into the subgrade as specified on the TYPICAL SECTION SHEET. Excavated slopes shall be consistent with Clause 4-5 CUT SLOPE RATIO. Ditches shall be constructed concurrently with construction of the subgrade.

**4-28 DITCH DRAINAGE**

Ditches shall drain to cross-drain culverts and ditchouts.

**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.

**4-36 DISPOSAL OF WASTE MATERIAL**

Waste material may be sidecast on side slopes up to 50% if the waste material is compacted and free of organic debris. On side slopes greater than 50%, all excavation shall be end hauled or pushed to designated embankment sites and waste areas.

**4-37 WASTE AREA LOCATION**

Waste material shall be deposited in the listed designated areas:

<u>Road</u>	<u>Disposal Location</u>
EB-11	35+80 to 37+80 (3,000 cubic yards)
EB-1108	11+37 to 11+87 (400 cubic yards)
EB-1108	19+34 to 20+34 (500 cubic yards)

**4-38 PROHIBITED WASTE DISPOSAL AREAS**

Waste material shall not be deposited in the following areas, except as otherwise specified in this plan:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.
- Outside the clearing limits.

**4-55 ROAD SHAPING**

The road subgrade and surface shall be shaped as shown on the TYPICAL SECTION SHEET. The subgrade and surface shape shall ensure runoff in an even, un-concentrated manner, and shall be uniform, firm, and rut-free.

**4-60 FILL COMPACTION**

All embankment and waste material shall be compacted by routing equipment over the entire width of each lift.

**4-61 SUBGRADE COMPACTION**

Constructed or reconstructed subgrades shall be compacted by routing equipment over the entire width.

**4-70 SUBGRADE REINFORCEMENT**

On the following road, the Purchaser shall provide and install geotextile fabric. Subgrade reinforcement shall be installed to a width that is 2 feet more than the subgrade width, including turnouts. Geotextile fabric shall be overlapped by a minimum of 2 feet at all joints. The geotextile fabric will then be covered with a minimum of 12 inches of compacted 3-inch-minus ballast rock as specified in Clause 6-34 3-INCH MINUS BALLAST ROCK. Geotextile fabric shall meet the specifications in Clause 10-3 GEOTEXTILE FOR STABILIZATION.

<u>Road</u>	<u>Stations</u>
EB-1108	7+55 to 8+80

**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 MATERIALS LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts may be new or used material and must meet the specifications in Clauses 10-15 through 10-23. Purchaser shall obtain approval from the Contract Administrator for the quality of used culverts before installation.

**5-6 USED CULVERT MATERIAL**

Purchaser may install used culverts on the following roads. All other roads must have new culverts installed.

<u>Road</u>
EB-2114
EB-2114-02
EB-2114-03

**5-11 UNUSED MATERIALS STATE PROPERTY**

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

**5-15 CULVERT INSTALLATION**

Installation shall be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the National Corrugated Metal Pipe Association’s "Installation Manual for Corrugated Steel Drainage Structures."

**5-16 APPROVAL FOR LARGER CULVERT INSTALLATION**

Installation of culverts 36 inches in diameter and over shall be subject to written approval by the Contract Administrator before making backfill.

**5-17 CROSS DRAIN SKEW AND SLOPE**

Cross drains, on road grades in excess of 3%, shall 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 shall not be skewed. Cross drain culverts shall 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**

Cross drain 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. Stream crossing culverts must be installed with a depth of cover recommended by the culvert manufacturer for the type and size of the pipe.

**5-25 CATCH BASINS**

Catch basins shall be constructed to resist erosion in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 2 feet wide and 4 feet long with backslopes consistent with Clause 4-5 CUT SLOPE RATIO.

**5-26 HEADWALLS FOR CROSS DRAIN CULVERTS**

Headwalls shall be constructed in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock used for headwalls shall weigh at least 50 pounds. Rock shall be placed on shoulders, slopes, and around culvert inlets and outlets. Rock shall not restrict the flow of water into culvert inlets or catch basins. No placement by end dumping or dropping of rock shall be allowed.

**5-27 ARMORING FOR STREAM CROSSING CULVERTS**

At the following culverts, Purchaser shall place heavy loose riprap and light loose riprap in conjunction with construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the MATERIALS LIST. Rock may not restrict the flow of water into culvert inlets or catch basins. Rock must be set in place by machine. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed.

<u>Road</u>	<u>Stations</u>
EB-ML	336+13
EB-1108	1+97
EB-1108	4+21
EB-1108	7+16
EB-1108	8+01
EB-1108	10+05
EB-1108	12+77
EB-1108	14+57
EB-1108	17+42
EB-2110	4+54
EB-2114	2+18
EB-2114	19+69
EB-2114	27+76
EB-2116	2+29
EB-2901-04	5+14
EB-42	34+29
EB-42	37+41
EB-42	54+69
EB-42	60+09

**SECTION 6 – ROCK AND SURFACING**

**6-2 ROCK SOURCE ON STATE LAND**

Rock used in accordance with the quantities on the TYPICAL SECTION and MATERIALS LIST may be obtained from the following sources on state land at no charge to the Purchaser. Use of material from any other source must have prior written approval from the Contract Administrator. If other operators are using, or desire to use the rock sources, a joint operating plan shall be developed. All parties shall follow this plan.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
EB-1106 Pit	30+26 of the EB-11 road	Rip rap, 3-inch-minus ballast, surface rock*
EB-3802 Pit	13+16 of the EB-38 road	Rip rap and 3-inch-minus ballast
EB-5804-01 Pit	4+85 of the EB-5804 road	Rip rap and 3-inch-minus ballast

\* To be used only as approved in writing by the Contract Administrator for maintenance.

**6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE**

Rock used in accordance with the quantities on the TYPICAL SECTION and MATERIALS LIST may be obtained from the following existing stockpiles on state land at no charge to the Purchaser. Purchaser shall not remove additional yardage without prior written approval from the Contract Administrator. Stockpiles not listed shall not be used without prior written approval from the Contract Administrator.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>	<u>Quantity</u>
EB-1106 Pit	30+26 of the EB-11 road	2-inch-minus surface rock	200 CY*
EB-5804-01 Pit	4+85 of the EB-5804 road	3-inch-minus ballast	1,000 CY

\* To be used only as approved in writing by the Contract Administrator for maintenance.

**6-5 ROCK FROM COMMERCIAL SOURCE**

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

**6-11 ROCK SOURCE DEVELOPMENT PLAN BY PURCHASER**

All rock source development and use at the following sources, shall be in accordance with a written ROCK SOURCE DEVELOPMENT PLAN to be prepared by the Purchaser. The plan is subject to written approval by the Contract Administrator before any rock source development or use. Upon completion of operations, the rock source shall be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator.

<u>Source</u>
EB-1106 Pit
EB-3802 Pit
EB-5804-01 Pit

Rock source development plans prepared by the Purchaser shall show the following information:

- Rock source location.
- Rock source overview showing access roads, development areas, stockpile locations, waste areas, and floor drainage.
- Rock source profiles showing development areas, bench locations including widths, and wall faces including heights.

**6-12 ROCK SOURCE SPECIFICATIONS**

Rock sources must be in accordance with the following specifications:

- Pit walls may not be undermined or over steepened. The maximum slope of the walls must be consistent with recognized engineering standards for the type of material being excavated in accordance with the following table:

Material	Maximum Slope Ratio (Horiz.:Vert.)	Maximum Slope Percent
Sand	2:1	50
Gravel	1.5:1	67
Common Earth	1:1	100
Fractured Rock	0.5:1	200
Solid Rock	0:1	vertical

- Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches must be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches must be uniform and free-draining at a minimum 2% outslope gradient.
- All operations must be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.

**6-20 ROCK GRADATION TYPES**

Purchaser shall manufacture rock in accordance with the types and amounts listed in the TYPICAL SECTION and MATERIALS LIST. Rock shall meet the following specifications for gradation and uniform quality when placed in hauling vehicles or during manufacture and placement into a stockpile. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

**6-34 3-INCH MINUS BALLAST ROCK**

Ballast rock shall be 100% equal to, or smaller than, 3 inches in at least one dimension.

Rock shall contain no more than 5 percent organic debris, dirt, and trash. All percentages are by weight.

**6-50 LIGHT LOOSE RIP RAP**

Rip rap shall consist of angular, hard, sound, and durable stone. It shall be free from segregation, seams, cracks, and other defects. Light loose rip rap shall be free of rock fines, soil, organic debris or other extraneous material, and shall meet the following requirements:

<u>At Least/Not More Than</u>	<u>Weight Range</u>
20% / 90%	300 lbs. to 1 ton
80% / --	50 lbs. to ½ ton
10% / 20%	50 lbs. max

**6-51 HEAVY LOOSE RIP RAP**

Rip rap shall consist of angular, hard, sound, and durable stone. It shall be free from segregation, seams, cracks, and other defects. Heavy loose riprap shall be free of rock fines, soil, organic debris or other extraneous material, and shall meet the following requirements:

<u>At Least/Not More Than</u>	<u>Weight Range</u>	<u>Size Range</u>
30% / 90%	1 ton to 3 ton	36" - 54"
70% / 90%	500 lbs. to 1 ½ ton	24" - 42"
10% / 30%	50 lbs. max	3" - 8"

**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 TYPICAL SECTION 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.

**6-70 APPROVAL BEFORE ROCK APPLICATION**

Subgrade drainage installation including culvert installation, ditch construction, ditch reconstruction, headwall construction, and headwall reconstruction, shall be completed and approved in writing by the Contract Administrator, before rock application.

**6-71 ROCK APPLICATION**

Rock shall be applied in accordance with the specifications and quantities shown on the TYPICAL SECTION. Rock shall be spread, shaped, and compacted full width concurrent with rock hauling operations. The Contract Administrator shall direct locations for rock that is to be applied as spot patching. Road surfaces shall be compacted in accordance with the TYPICAL SECTION by routing equipment over the entire width.

**6-73 ROCK FOR WIDENED PORTIONS**

Turnarounds, turnouts, and areas with curve widening shall have rock applied to the same depth and specifications as the traveled way.

SECTION 8 – EROSION CONTROL

**8-10 STABILIZE SLOPES – ROCK APPLICATION**

On the following road, Purchaser shall stabilize excavation slopes by applying rock as specified below. Rock shall be applied in quantities specified in the MATERIALS LIST to exposed soil on the excavated slopes to a minimum depth of 36 inches. Rock shall be set in place by machine. Placement shall be by zero-drop-height method only. No placement by end dumping or dropping of rock shall be allowed. Heavy loose riprap shall meet the specifications in Clause 6-51 HEAVY LOOSE RIP RAP.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>
EB-1108	7+55 to 8+37	Heavy Loose Riprap

**8-15 REVEGETATION**

Purchaser shall spread seed and fertilizer on all exposed soils within the grubbing limits resulting from road work activities. Covering of all exposed soils shall be accomplished by manual dispersal of grass seed and fertilizer. Other methods of covering must be approved in writing by the Contract Administrator.

**8-16 REVEGETATION SUPPLY**

The Purchaser shall provide the seed and fertilizer.

**8-17 REVEGETATION TIMING**

The Purchaser shall perform revegetation during the first available opportunity after road work is completed. Soils shall not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

**8-18 PROTECTION FOR SEED**

Purchaser shall provide a protective cover for seed if revegetation occurs between July 1 and March 31. The protective cover shall consist of, but not be limited to dispersed straw, jute matting, or clear plastic sheets as approved by the Contract Administrator. The protective cover requirement may be waived by the Contract Administrator, in writing, if the Purchaser is able to demonstrate a revegetation plan that will result in the establishment of a uniform dense crop (at least 50% coverage) of 3-inch tall grass by October 31.

**8-19 ASSURANCE FOR SEEDED AREA**

The Purchaser shall be responsible to ensure a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. The Purchaser shall reapply the seed and fertilizer in areas that have failed to germinate or have been damaged through any cause, before approval from the Contract Administrator. The Purchaser shall restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the seed and fertilizer at no addition cost to the state.

**8-25 GRASS SEED**

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

1. Weed seed shall not exceed 0.5% by weight.
2. All seed species shall have a minimum 90% germination rate, unless otherwise specified.
3. Seed shall be certified.
4. Seed shall be furnished in standard containers the show 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 shall conform to the following mixture.

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>
Creeping Red Fescue	50
Elf Perennial Rye Grass	25
Highland Colonial Bentgrass	15
White Clover	10
Inert and Other Crop	0.5

**8-27 FERTILIZER**

Purchaser shall evenly spread the fertilizer listed below on all exposed soil inside the grubbing limits at a rate of 200 pounds per acre of exposed soil. Fertilizer shall meet the following specifications:

<u>Chemical Component</u>	<u>% by Weight</u>
Nitrogen	16
Phosphorous	16
Potassium	16
Sulphur	3
Inerts	49

SECTION 9 – POST-HAUL ROAD WORK

**9-3 REMOVAL OF CULVERT MATERIAL FROM STATE LAND**

Culvert material removed from roads becomes 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 and as specified below.

<u>Road</u>	<u>Stations</u>	<u>Additional Requirements</u>
EB-42	29+41 to 64+47	<ul style="list-style-type: none"><li>▪ Construct drivable waterbars according to the attached DRIVABLE WATERBAR DETAIL immediately downslope of each culvert. Avoid installing intermediate waterbars between culverts. If it is necessary to install intermediate waterbars, they may not be keyed into the ditch. They should function only as road surface drains.</li><li>▪ Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.</li><li>▪ Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must drain onto stable locations.</li></ul>

**9-10 LANDING DRAINAGE**

Purchaser shall provide for drainage of the landing surface as approved, in writing, by the Contract Administrator.

**9-12 LANDING EMBANKMENT REMOVAL**

The Purchaser shall reduce or relocate landing embankment, in a manner approved, in writing, by the Contract Administrator. Excavated material shall be placed in a waste area designated by the Contract Administrator.

**9-21 ROAD ABANDONMENT**

The following roads shall be abandoned by the Purchaser before the termination of this contract.

<u>Road</u>	<u>Stations</u>
EB-2114	0+00 to 31+00
EB-2114-02	0+00 to 12+89
EB-2114-03	0+00 to 6+11

**9-22 ABANDONMENT**

- Remove all ditch relief culverts. The resulting slopes shall be 1:1 or flatter. The removed fill material shall be placed and compacted in a location that will not erode into any Type 1 through 5 waters or wetlands.
- Remove all culverts in natural drainages. The resulting slopes shall be 1:1 or flatter. Strive for matching the existing native stream bank gradient. The natural streambed width shall be re-established. The removed fill material shall be placed and compacted in a location that will not erode into any Type 1 through 5 waters or wetlands.
- Transport all removed culverts off site. All removed culverts shall become the property of the Purchaser.
- Construct non-drivable waterbars at natural drainage points and at a spacing that will produce a vertical drop of no more than 20 feet between waterbars and with a maximum horizontal spacing of 400 feet.
- 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 shall be outsloped to provide positive drainage. Outlets shall be on stable locations.
- Inslope or outslope the road as appropriate.
- Remove bridges and other structures.
- Pull back unstable fill that has potential of failing and entering any Type 1 through 5 waters or wetlands. Removed material shall be placed and compacted in a stable location.
- Remove berms except as designed.
- Block the road by constructing an aggressive barrier of dense interlocked large woody debris (logs, stumps, root wads, etc.) so that four wheel highway vehicles cannot pass the point of abandonment. Typical barrier dimensions are 10 feet high by 20 feet deep, spanning the entire road prism from top of cutslope to toe of fillslope. Long term effectiveness is the primary objective. If necessary construct a vehicular turn-around near the point of abandonment.
- Apply grass seed to all exposed soils resulting from the abandonment work and in accordance with Section 8 EROSION CONTROL.

## SECTION 10 MATERIALS

### 10-3 GEOTEXTILE FOR STABILIZATION

Geotextiles shall meet the following minimum requirements for strength and property qualities, and shall be designed by the manufacturer to be used for stabilization or reinforcement, and filtration. Material shall be free of defects, cuts, and tears.

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Woven
Apparent opening size	D 4751	No. 40 max
Water permittivity	D 4491	0.10 sec <sup>-1</sup>
Grab tensile strength	D 4632	315 lb
Grab tensile elongation	D 4632	50%
Puncture strength	D 6241	620 lb
Tear strength	D 4533	112 lb
Ultraviolet stability	D 4355	50% retained after 500 hours of exposure

### 10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts shall meet AASHTO M-36 (ASTM A-760) specifications. Culverts shall be galvanized (zinc coated meeting AASHTO M-218).

### 10-16 CORRUGATED ALUMINUM CULVERT

Aluminum culverts shall meet AASHTO M-196 (ASTM A-745) specifications.

### 10-17 CORRUGATED PLASTIC CULVERT

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

### 10-21 METAL BAND

Metal coupling and end bands shall meet the AASHTO specification designated for the culvert and shall have matching corrugations. On culverts 24 inches and smaller, bands shall have a minimum width of 12 inches. On culverts over 24 inches, bands shall have a minimum width of 24 inches.

### 10-22 PLASTIC BAND

Plastic coupling and end bands shall meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer shall be used.

**10-23 GAGE AND CORRUGATION**

Unless otherwise stated, metal culverts shall conform to the following specifications for gage and corrugation as a function of diameter.

<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>
18"	16 (0.064")	2 <sup>2</sup> / <sub>3</sub> " X 1/2"
24" to 48"	14 (0.079")	2 <sup>2</sup> / <sub>3</sub> " X 1/2"
54" to 96"	14 (0.079")	3" X 1"

## SECTION 11 SPECIAL NOTES

**11-1 CONSTRUCTION NOTES**

On the following road segments all excavated material in excess of that which is needed to construct the designed fill as governed by Clause 4-8 CURVE WIDENING and 4-9 EMBANKMENT WIDENING, shall be end hauled to the location specified in Clause 4-37 WASTE AREA LOCATION. Design data, plan, profile, and cross-section drawings are available.

<u>Road</u>	<u>Location</u>	<u>Remarks</u>
EB-1108	6+74 to 7+55	96"X64' culvert crossing
EB-1108	7+55 to 8+80	Excavation depth controlled by construction stakes
EB-1108	9+67 to 10+40	48"x50' culvert crossing

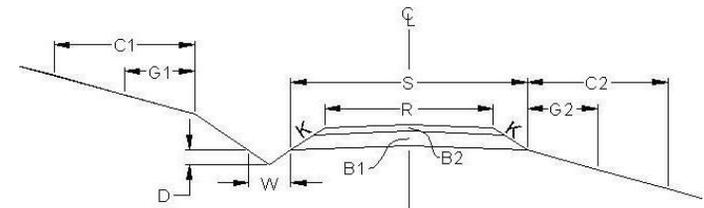
**11-2 STREAM BYPASS DIVERSION**

Erosion control measures shall be used to prevent silt-laden water from entering the stream at the following stream crossing. Culvert installation shall occur in the dry or in isolation from the stream flow by the installation of a bypass flume or culvert, or by pumping the stream flow around the work area. A temporary bypass to divert flow around the work area shall be in place prior to initiation of other work in the wetted perimeter. The bypass shall be of sufficient size to pass all flows for the duration of the project. Work is prohibited for periods when seasonal high flow conditions are occurring or may occur.

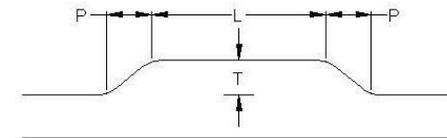
<u>Road</u>	<u>Location</u>	<u>Remarks</u>
EB-1108	7+16	96"X64' culvert crossing of Type 4 stream

ROAD #		EB-ML <sup>1</sup>	EB-1108	EB-1108	EB-1108
REQUIRED / OPTIONAL		Required	Required	Required	Required
CONSTRUCT / RECONSTRUCT		Construction	Construction	Reconstruction	Construction
TOLERANCE CLASS (A/B/C)		C	C	C	C
STATION / MP TO		321+22	0+00	20+99	30+41
STATION / MP		340+86	20+99	30+41	31+42
ROAD WIDTH	R	12	12	12	12
CROWN (INCHES @ C/L)		3	3	3	3
DITCH WIDTH	W	3	3	3	3
DITCH DEPTH	D	1	1	1	1
TURNOUT LENGTH	L	50	50	50	50
TURNOUT WIDTH	T	10	10	10	10
TURNOUT TAPER	P	25	25	25	25
GRUBBING	G1	5	5	--	5
	G2	5	5	--	5
CLEARING	C1	10	10	--	10
	C2	10	10	--	10
ROCK FILLSLOPE	K:1	1½	1½	1½	1½
❖ BALLAST DEPTH	B1	--	18	--	18
CUBIC YARDS / STATION		--	114	--	114
➤ TOTAL CY BALLAST		100 <sup>2</sup>	2,393	200 <sup>3</sup>	116
❖ SURFACING DEPTH	B2	--	--	--	--
CUBIC YARDS / STATION		--	--	--	--
➤ TOTAL CY SURFACING		--	--	--	--
➤ TOTAL CUBIC YARDS		100 <sup>2</sup>	2,393	200 <sup>3</sup>	116
SUBGRADE WIDTH	S	--	16.5		16.5
BRUSHCUT (Y/N)		N/A	N/A	N	N/A
BLADE, SHAPE, & DITCH (Y/N)		N/A	N/A	Y	N/A

TYPICAL SECTION



TURNOUT DETAIL (PLAN VIEW)



**SYMBOL NOTES**

- ❖ Specified Rock Depth is FINISHED COMPACTED DEPTH in inches.
  - Specified Rock Quantity is LOOSE MEASURE (Truck Cubic Yards) needed to accomplish specified FINISHED COMPACTED DEPTH. Rock quantities include volume for turnouts, curve widening and landings.
- 1 This is a previously abandoned road grade.
  - 2 3-inch-minus ballast is for spot patching over culvert locations and as directed by the contract administrator.
  - 3 Spot application of 3-minus-ballast to achieve the standards in Clause 4-3 ROAD GRADE AND ALIGNMENT STANDARDS.

**Rock Totals**

3-inch-minus ballast -- 7,628 Cubic Yards

Riprap – 1,043 Cubic Yard

<b>ROAD #</b>		EB-21	EB-2110	EB-2111 <sup>1</sup>	EB-2114 <sup>1</sup>	EB-2114-02 <sup>1</sup>	EB-2114-03 <sup>1</sup>	EB-2115 <sup>1</sup>
<b>REQUIRED / OPTIONAL</b>		Required	Required	Required	Optional	Optional	Optional	Required
<b>CONSTRUCT / RECONSTRUCT / PRE-HAUL MAINTENANCE</b>		Pre-Haul	Construction	Construction	Construction	Construction	Construction	Construction
<b>TOLERANCE CLASS (A/B/C)</b>		C	C	C	C	C	C	C
<b>STATION / MP TO</b>		46+34	0+00	0+00	0+00	0+00	0+00	0+00
<b>STATION / MP</b>		83+37	10+95	5+23	31+00	12+89	6+11	5+53
<b>ROAD WIDTH</b>	<b>R</b>	12	12	12	12	12	12	12
<b>CROWN (INCHES @ C/L)</b>		3	3	3	3	3	3	3
<b>DITCH WIDTH</b>	<b>W</b>	3	3	3	2	2	2	3
<b>DITCH DEPTH</b>	<b>D</b>	1	1	1	1	1	1	1
<b>TURNOUT LENGTH</b>	<b>L</b>	50	50	50	25	25	25	50
<b>TURNOUT WIDTH</b>	<b>T</b>	10	10	10	10	10	10	10
<b>TURNOUT TAPER</b>	<b>P</b>	25	25	25	25	25	25	25
<b>GRUBBING</b>	<b>G1</b>	--	5	5	5	5	5	5
	<b>G2</b>	--	5	5	5	5	5	5
<b>CLEARING</b>	<b>C1</b>	--	10	10	10	10	10	10
	<b>C2</b>	--	10	10	10	10	10	10
<b>ROCK FILL SLOPE</b>	<b>K:1</b>	1½	1½	1½	1½	1½	1½	1½
❖ <b>BALLAST DEPTH</b>	<b>B1</b>	--	18	6	--	--	--	6
<b>CUBIC YARDS / STATION</b>		--	114	34	--	--	--	34
➤ <b>TOTAL CY BALLAST</b>		200 <sup>2</sup>	1,249	178	300 <sup>2</sup>	30 <sup>2</sup>	30 <sup>2</sup>	189
❖ <b>SURFACING DEPTH</b>	<b>B2</b>	--	--	--	--	--	--	--
<b>CUBIC YARDS / STATION</b>		--	--	--	--	--	--	--
➤ <b>TOTAL CY SURFACING</b>		--	--	--	--	--	--	--
➤ <b>TOTAL CUBIC YARDS</b>		200 <sup>2</sup>	1,249	178	300 <sup>2</sup>	30 <sup>2</sup>	30 <sup>2</sup>	189
<b>SUBGRADE WIDTH</b>	<b>S</b>	--	16.5	13.5	--	--	--	13.5
<b>BRUSHCUT (Y/N)</b>		N	N/A	N/A	N/A	N/A	N/A	N/A
<b>BLADE, SHAPE, &amp; DITCH (Y/N)</b>		Y	N/A	N/A	N/A	N/A	N/A	N/A

<b>ROAD #</b>		EB-2116 <sup>1</sup>	EB-2911 <sup>1</sup>	EB-2901-04 <sup>1</sup>	EB-42 <sup>1</sup>	EB-4207 <sup>1</sup>	EB-43 <sup>1</sup>	EB-48 <sup>1</sup>
<b>REQUIRED / OPTIONAL</b>		Required	Required	Required	Required	Required	Required	Required
<b>CONSTRUCT / RECONSTRUCT / PRE-HAUL MAINTENANCE</b>		Construction	Construction	Construction	Construction	Construction	Construction	Construction
<b>TOLERANCE CLASS (A/B/C)</b>		C	C	C	C	C	C	C
<b>STATION / MP TO</b>		0+00	0+00	0+00	29+41	0+00	0+00	0+00
<b>STATION / MP</b>		5+12	4+53	22+08	64+47	2+90	1+95	3+89
<b>ROAD WIDTH</b>	<b>R</b>	12	12	12	12	12	12	12
<b>CROWN (INCHES @ C/L)</b>		3	3	3	3	3	3	3
<b>DITCH WIDTH</b>	<b>W</b>	3	3	3	3	3	3	3
<b>DITCH DEPTH</b>	<b>D</b>	1	1	1	1	1	1	1
<b>TURNOUT LENGTH</b>	<b>L</b>	50	50	50	50	50	50	50
<b>TURNOUT WIDTH</b>	<b>T</b>	10	10	10	10	10	10	10
<b>TURNOUT TAPER</b>	<b>P</b>	25	25	25	25	25	25	25
<b>GRUBBING</b>	<b>G1</b>	5	5	5	5	5	5	5
	<b>G2</b>	5	5	5	5	5	5	5
<b>CLEARING</b>	<b>C1</b>	10	10	10	10	10	10	10
	<b>C2</b>	10	10	10	10	10	10	10
<b>ROCK FILLSLOPE</b>	<b>K:1</b>	1½	1½	1½	1½	1½	1½	1½
❖ <b>BALLAST DEPTH</b>	<b>B1</b>	6	6	6	6	6	6	6
<b>CUBIC YARDS / STATION</b>		34	34	34	34	34	34	34
➤ <b>TOTAL CY BALLAST</b>		175	155	751	1,193	99	67	133
❖ <b>SURFACING DEPTH</b>	<b>B2</b>	--	--	--	--	--	--	--
<b>CUBIC YARDS / STATION</b>		--	--	--	--	--	--	--
➤ <b>TOTAL CY SURFACING</b>		--	--	--	--	--	--	--
➤ <b>TOTAL CUBIC YARDS</b>		175	155	751	1,193	99	67	133
<b>SUBGRADE WIDTH</b>	<b>S</b>	13.5	13.5	13.5	13.5	13.5	13.5	13.5
<b>BRUSHCUT (Y/N)</b>		N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>BLADE, SHAPE, &amp; DITCH (Y/N)</b>		N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>ROAD #</b>		EB-53 <sup>1</sup>					
<b>REQUIRED / OPTIONAL</b>		Required					
<b>CONSTRUCT / RECONSTRUCT</b>		Construction					
<b>TOLERANCE CLASS (A/B/C)</b>		C					
<b>STATION / MP TO</b>		0+00					
<b>STATION / MP</b>		2+03					
<b>ROAD WIDTH</b>	<b>R</b>	12					
<b>CROWN (INCHES @ C/L)</b>		3					
<b>DITCH WIDTH</b>	<b>W</b>	3					
<b>DITCH DEPTH</b>	<b>D</b>	1					
<b>TURNOUT LENGTH</b>	<b>L</b>	50					
<b>TURNOUT WIDTH</b>	<b>T</b>	10					
<b>TURNOUT TAPER</b>	<b>P</b>	25					
<b>GRUBBING</b>	<b>G1</b>	5					
	<b>G2</b>	5					
<b>CLEARING</b>	<b>C1</b>	10					
	<b>C2</b>	10					
<b>ROCK FILLSLOPE</b>	<b>K:1</b>	1½					
❖ <b>BALLAST DEPTH</b>	<b>B1</b>	6					
<b>CUBIC YARDS / STATION</b>		34					
➤ <b>TOTAL CY BALLAST</b>		70					
❖ <b>SURFACING DEPTH</b>	<b>B2</b>	--					
<b>CUBIC YARDS / STATION</b>		--					
➤ <b>TOTAL CY SURFACING</b>		--					
➤ <b>TOTAL CUBIC YARDS</b>		70					
<b>SUBGRADE WIDTH</b>	<b>S</b>	13.5					
<b>BRUSHCUT (Y/N)</b>		N/A					
<b>BLADE, SHAPE, &amp; DITCH (Y/N)</b>		N/A					

## MATERIALS LIST

LOCATION		CULVERT			DWNSTP		RIPRAP			FILL TYPE	TOLERANCE	REMARKS		
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			<u>Note:</u> Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:		
												Diameter	Gage	Corrugation
		18"	16	2 2/3" x 1/2"	24" - 48"	14	2 2/3" x 1/2"	54" - 96"	14	3" x 1"				
EB-ML	328+52	18	30	GM	--	--	2	3	L	NT	C			
	334+52	18	30	GM	--	--	2	3	L	NT	C			
	336+13	24	36	GM	--	--	4	6	H/L	NT	C	Type 5 stream		
EB-1108	1+42	18	36	GM	--	--	2	3	L	NT	C			
	1+97	24	36	GM	--	--	4	6	H/L	NT	C	Type 5 stream		
	2+58	18	36	GM	--	--	2	3	L	NT	C			
	4+21	24	32	GM	--	--	4	6	H/L	NT	C	Type 5 stream		
	5+86	18	40	GM	--	--	6	8	L	NT	C			
	7+16	96	64	GM	--	--	80	180	H/L	NT	C	Keyed armored fill. Type 4 stream		
	7+55 to 8+80	--	--	--	--	--	--	--	--	--	C	Geotextile		
	7+55 to 8+37	--	--	--	--	--	100		H/L	--	--	Riprap require for excavation slope stabilization.		
		--	--	--	--	--	--	--	--	--	--			
	8+01	36	40	GM	--	--	8	10	H/L	NT	C	Type 4 stream		
	8+37	18	36	GM	--	--	6	8	L	NT	C			
	10+05	48	52	GM	--	--	40	130	H/L	NT	C	Type 4 stream		
	10+96	18	30	GM	--	--	2	3	L	NT	C			
	11+87	18	36	GM	--	--	2	3	L	NT	C			
	12+77	30	34	GM	--	--	6	8	H/L	NT	C	Type 5 stream		
	14+57	30	34	GM	--	--	6	8	H/L	NT	C	Type 4 stream		
	15+17	18	36	GM	--	--	2	3	L	NT	C			
	16+45	18	36	GM	--	--	2	3	L	NT	C			
	17+42	36	36	GM	--	--	8	10	H/L	NT	C	Type 4 stream		

GM – Galvanized Metal    PS – Polyethylene Pipe Single Wall    PD – Polyethylene Pipe Dual Wall    AM – Aluminized Metal    C – Concrete    XX – PD or GM  
 H – Heavy Loose Riprap    L – Light Loose Riprap    SR – Shot Rock    NT – Native (Bank Run)    QS – Quarry Spalls

## MATERIALS LIST

LOCATION		CULVERT			DWNSTPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS		
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			<u>Note:</u> Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:		
												Diameter	Gage	Corrugation
	19+26	18	36	GM	--	--	2	3	L	NT	C			
EB-21	47+28	18	36	GM	--	--	2	3	L	NT	C			
	55+09	18	36	GM	--	--	2	3	L	NT	C			
	75+55	18	36	GM	--	--	2	3	L	NT	C			
EB-2110	0+10	18	36	GM	--	--	2	3	L	NT	C			
	4+54	36	30	GM	--	--	6	8	H/L	NT	C		Type 4 stream	
	6+55	18	30	GM	--	--	2	3	L	NT	C			
	9+03	18	30	GM	--	--	2	3	L	NT	C			
EB-2111	4+19	18	30	GM	--	--	2	3	L	NT	C			
EB-2114	2+18	24	30	XX	--	--	4	6	H/L	NT	C		Type 5 stream	
	3+39	18	36	XX	--	--	2	3	L	NT	C			
	6+90	18	30	XX	--	--	2	3	L	NT	C			
	13+25	18	30	XX	--	--	2	3	L	NT	C			
	18+93	18	36	XX	--	--	2	3	L	NT	C			
	19+69	24	30	XX	--	--	4	6	H/L	NT	C		Type 5 stream	
	21+22	18	36	XX	--	--	2	3	L	NT	C			
	22+58	18	32	XX	--	--	2	3	L	NT	C			
	24+98	18	32	XX	--	--	2	3	L	NT	C			
	27+08	18	30	XX	--	--	2	3	L	NT	C			
	27+76	24	30	XX	--	--	4	6	H/L	NT	C		Type 5 stream	
EB-2114-02	1+85	18	30	XX	--	--	2	3	L	NT	C			
EB-2114-03	0+30	18	30	XX	--	--	2	3	L	NT	C			

GM – Galvanized Metal    PS – Polyethylene Pipe Single Wall    PD – Polyethylene Pipe Dual Wall    AM – Aluminized Metal    C – Concrete    XX – PD or GM  
 H – Heavy Loose Riprap    L – Light Loose Riprap    SR – Shot Rock    NT – Native (Bank Run)    QS – Quarry Spalls

## MATERIALS LIST

LOCATION		CULVERT			DWNSTPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS		
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			<u>Note:</u> Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:		
												Diameter	Gage	Corrugation
		18"	30"	GM	--	--	2	3	L	NT	C			
EB-2115	3+32	18	30	GM	--	--	2	3	L	NT	C			
EB-2116	2+29	24	30	GM	--	--	4	6	H/L	NT	C		Type 5 stream	
EB-2901-04	5+14	24	30	GM	--	--	4	6	H/L	NT	C		Type 5 stream	
	9+06	18	30	GM	--	--	2	3	L	NT	C			
	12+49	18	30	GM	--	--	2	3	L	NT	C			
	15+11	18	30	GM	--	--	2	3	L	NT	C			
EB-42	32+21	18	30	GM	--	--	2	3	L	NT	C			
	33+50	18	30	GM	--	--	2	3	L	NT	C			
	34+29	48	48	GM	--	--	20	40	H/L	NT	C		Type 4 stream	
	34+38	18	30	GM	--	--	2	3	L	NT	C			
	37+41	24	36	GM	--	--	4	6	H/L	NT	C		Type 5 stream	
	39+35	18	30	GM	--	--	2	3	L	NT	C			
	41+24	18	30	GM	--	--	2	3	L	NT	C			
	44+27	18	30	GM	--	--	2	3	L	NT	C			
	45+17	18	30	GM	--	--	2	3	L	NT	C			
	47+04	18	30	GM	--	--	2	3	L	NT	C			
	48+59	18	30	GM	--	--	2	3	L	NT	C			
	51+65	18	30	GM	--	--	2	3	L	NT	C			
	53+45	18	30	GM	--	--	2	3	L	NT	C			
	54+69	24	36	GM	--	--	6	8	H/L	NT	C		Type 5 stream	
	60+09	36	36	GM	--	--	8	10	H/L	NT	C		Type 4 stream	
	61+71	18	30	GM	--	--	2	3	L	NT	C			

GM – Galvanized Metal    PS – Polyethylene Pipe Single Wall    PD – Polyethylene Pipe Dual Wall    AM – Aluminized Metal    C – Concrete    XX – PD or GM  
 H – Heavy Loose Riprap    L – Light Loose Riprap    SR – Shot Rock    NT – Native (Bank Run)    QS – Quarry Spalls



## FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

### 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, in accordance with Clause 4-6 EMBANKMENT SLOPE RATIO, 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. Inslope or outslope as directed 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.

### Preventative Maintenance

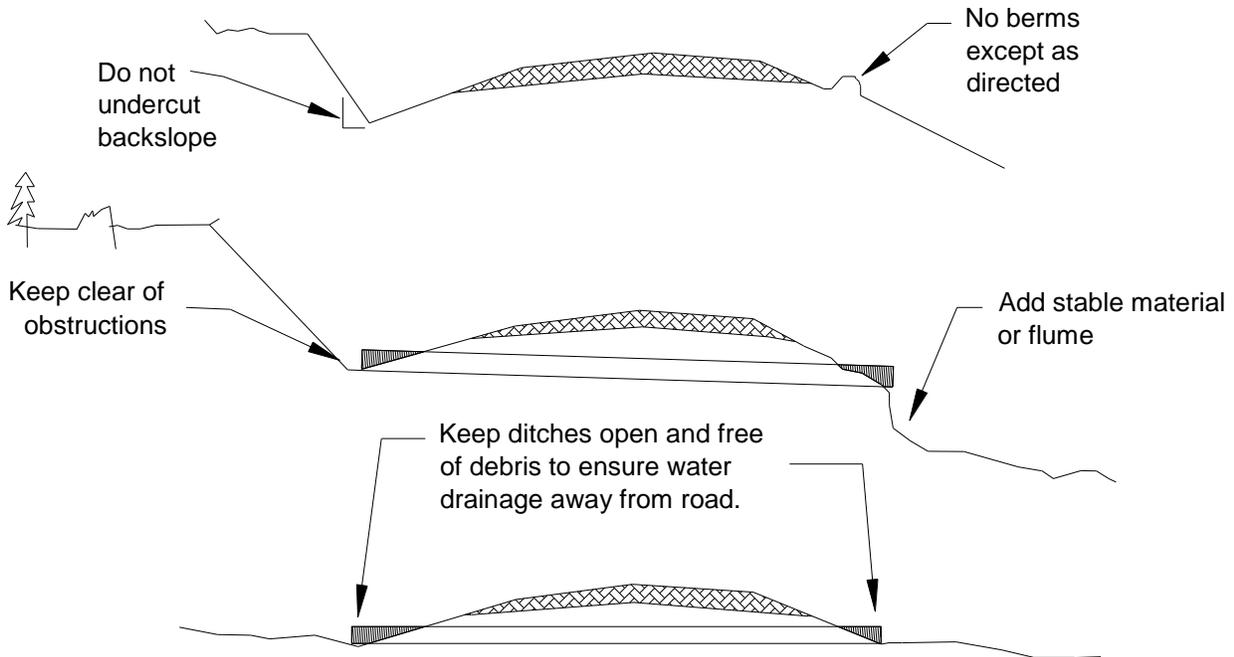
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

**Termination of Use or End of Season**

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

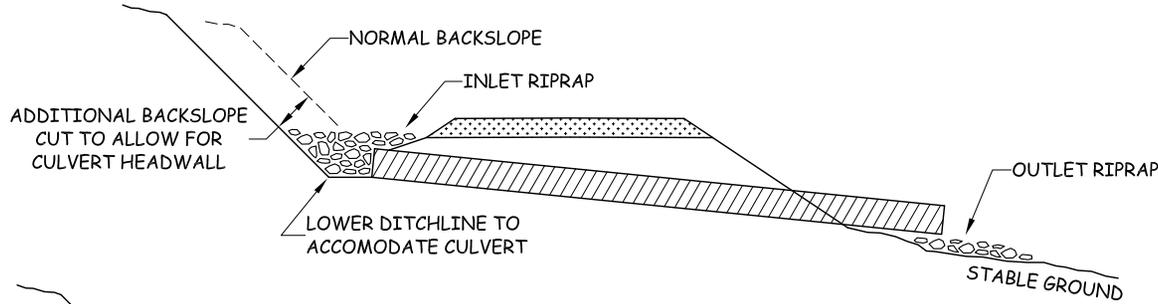
**Debris**

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

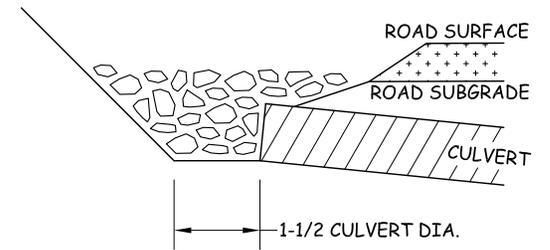


# CULVERT AND DRAINAGE SPECIFICATIONS

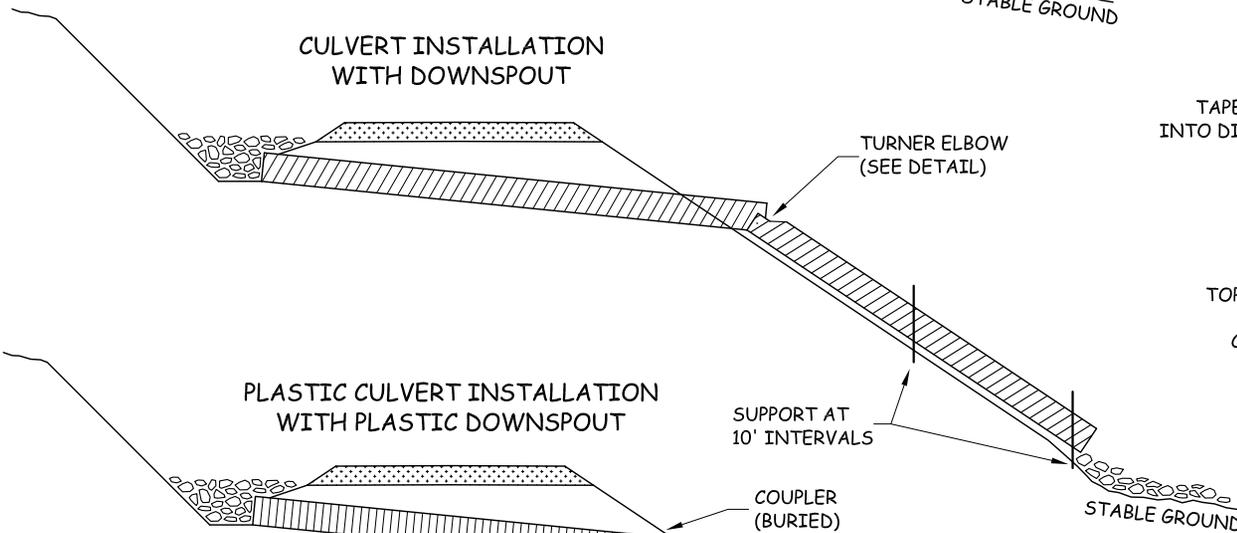
**CULVERT INSTALLATION (TYPICAL)**



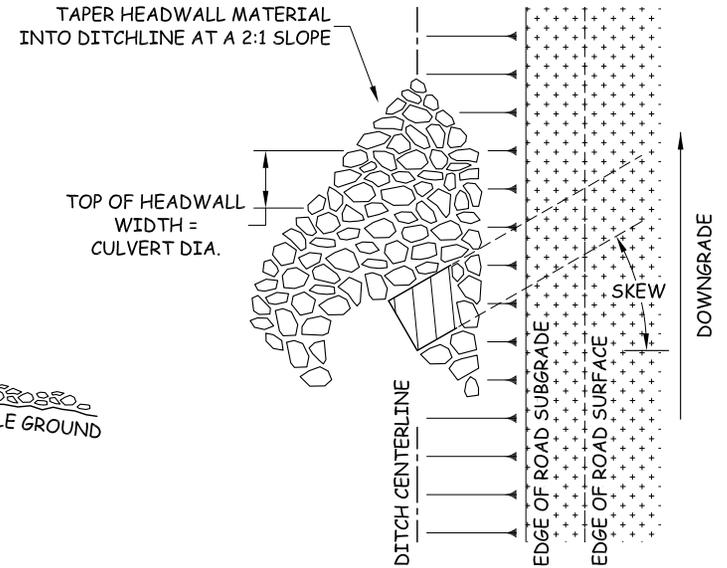
**CULVERT HEADWALL - SECTION VIEW**



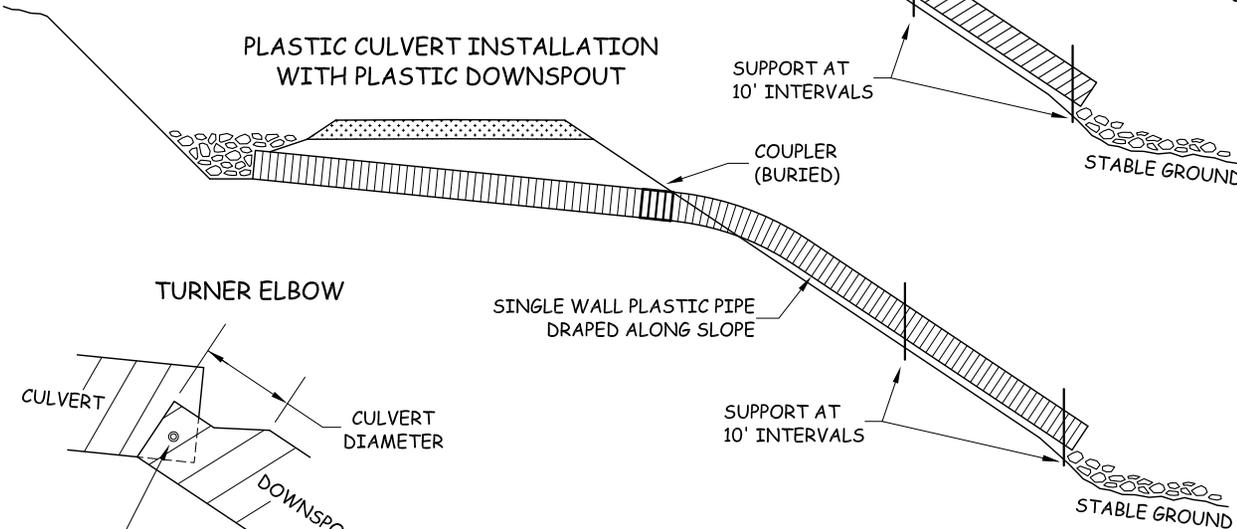
**CULVERT INSTALLATION WITH DOWNSPOUT**



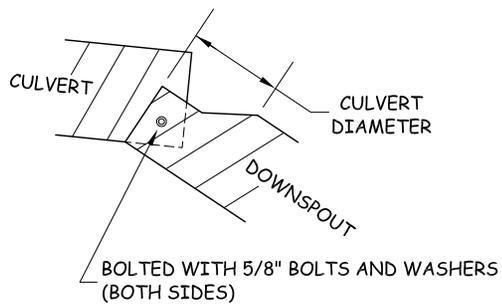
**CULVERT HEADWALL - PLAN VIEW**



**PLASTIC CULVERT INSTALLATION WITH PLASTIC DOWNSPOUT**



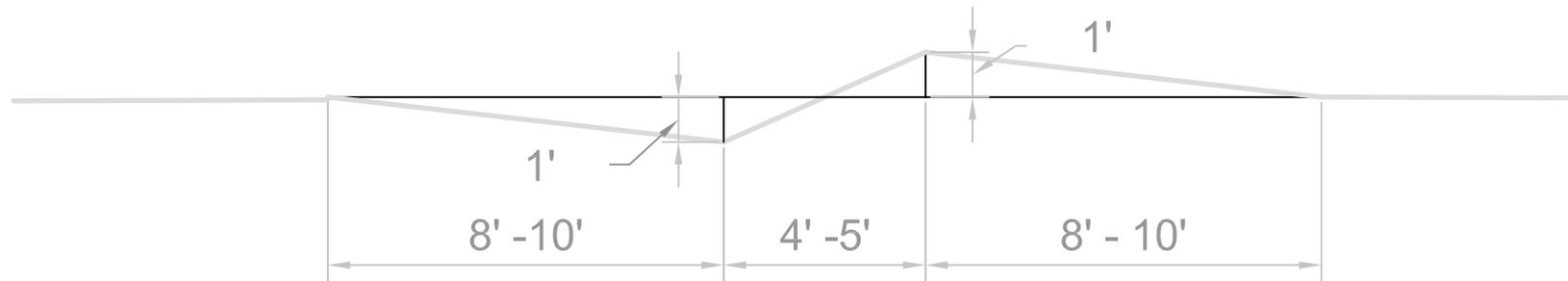
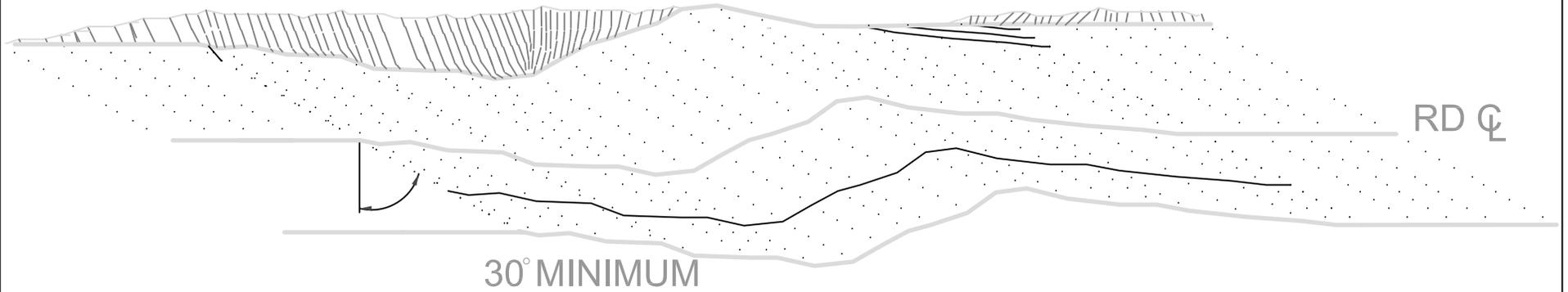
**TURNER ELBOW**



**HEADWALL NOTE:**  
 HEADWALL TO BE CONSTRUCTED OF IMPERVIOUS MATERIAL THAT WILL RESIST EROSION AND ARMORED WITH RIPRAP QUANTITY SPECIFIED IN ROAD PLAN.

CONTRACT #	PROJECT	SHEET
30-092183	BISCUIT VRH AND VDT	38 OF 39

# DRIVEABLE WATERBAR DETAIL



CONTRACT # 30-092183	PROJECT BISCUIT VRH & VDT	SHEET 39 OF 39
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## SUMMARY - Road Development Costs

REGION: NW  
DISTRICT: Cascade

SALE/PROJECT NAME: Biscuit VRH & VDT

CONTRACT #: 30-092183

ROAD NUMBERS:	EB-1108, EB-2110, EB-2111, B-2114, EB-2114-02, EB-2114-03, EB-2115, EB-2116, EB-2901-04, EB-2911, EB-ML, EB-42, EB-4207, EB-43, EB-48, EB-53		
ROAD STANDARD:	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:	190+91	9+42	37+03
CLEARING & GRUBBING:	\$13,066	\$0	\$0
EXCAVATION AND FILL:	\$31,170	\$0	\$0
MISC. MAINTENANCE:	\$0	\$0	\$0
ROAD ROCK:	\$77,319	\$2,201	\$2,468
ROCK STOCKPILE PROD:	\$0	\$0	\$0
CULVERTS AND FLUMES:	\$75,705	\$0	\$2,505
STRUCTURES:	\$1,006	\$0	\$0
MOBILIZATION:	\$6,601	\$188	\$211
 TOTAL COSTS:	 \$204,869	 \$2,389	 \$5,183
COST PER STATION:	\$1,073	\$254	\$140
ROAD DEACTIVATION & ABANDONMENT COSTS:		\$1,500	

Est.	<b>TOTAL (All Roads) =</b>	<b>\$213,940</b>
	<b>SALE VOLUME MBF =</b>	<b>5,000</b>
	<b>TOTAL \$/MBF =</b>	<b>\$43</b>

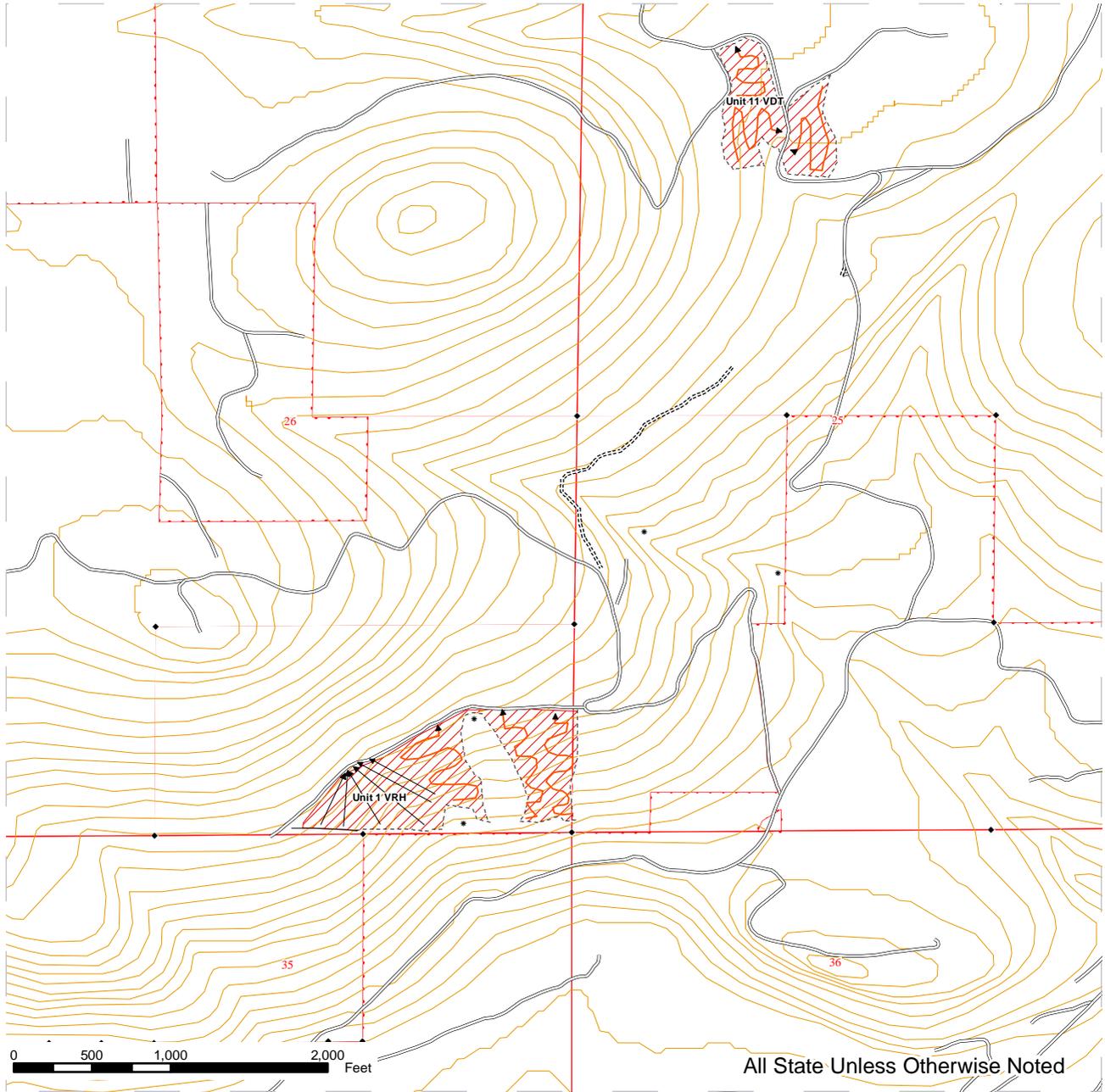
Compiled by: Symmank

Date: 01/21/16

# LOGGING PLAN MAP

**SALE NAME:** Biscuit VRH & VDT  
**AGREEMENT#:** 92183  
**TOWNSHIP(S):** T32R06E, T32R07E  
**TRUST(S):** State Forest Transfer (1), Common School and Indemnity (3)

**REGION:** Northwest Region  
**COUNTY(S):** SNOHOMISH  
**ELEVATION RGE:** 780-1263



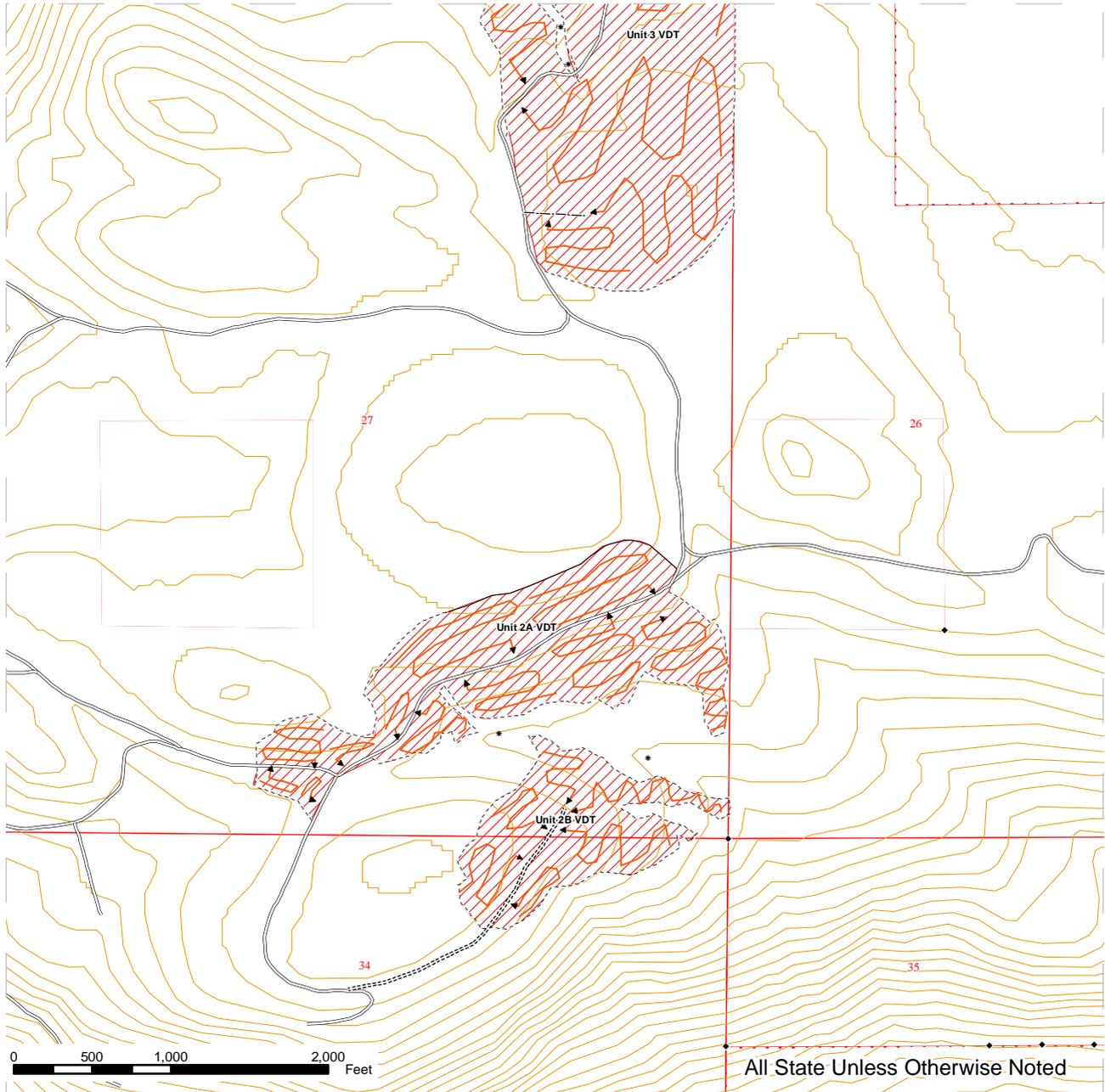
Ground	Sale Boundary Tags
Reprod	Undefined Construction
Required Construction	Optional Construction
Required Pre-Haul Maintenance	ground_based
cable	



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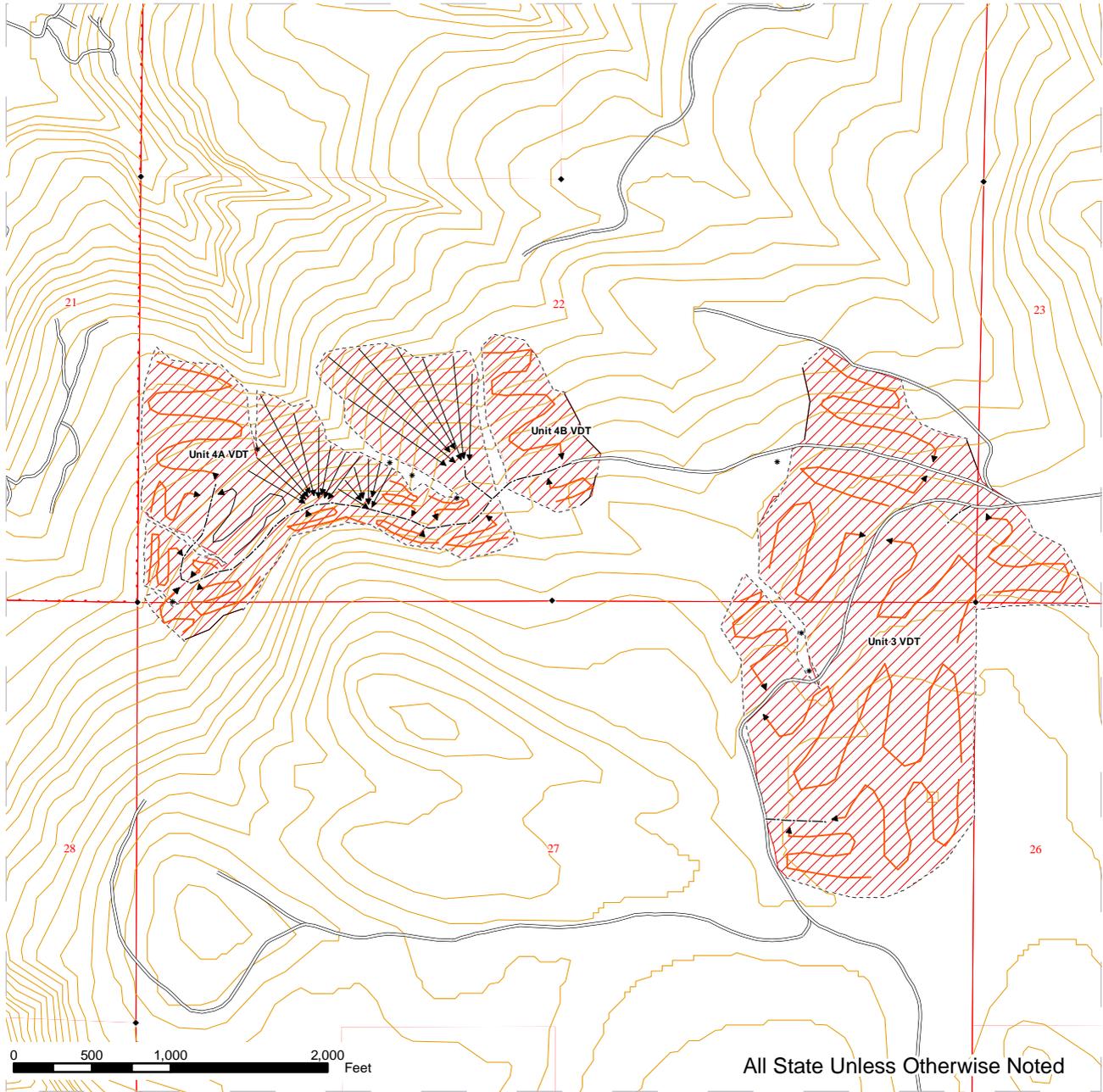
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 Reprod	 Undefined Construction
 Required Construction	 Optional Construction
 Required Pre-Haul Maintenance	 ground_based
 cable	



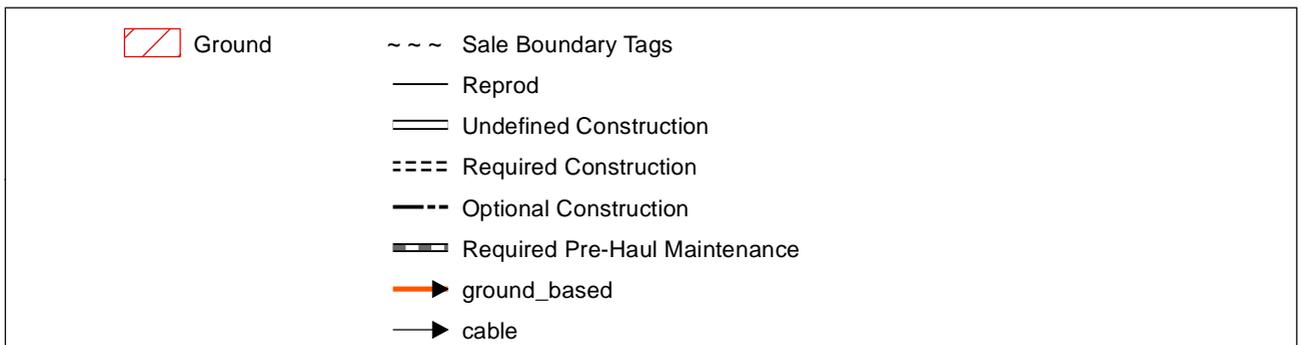
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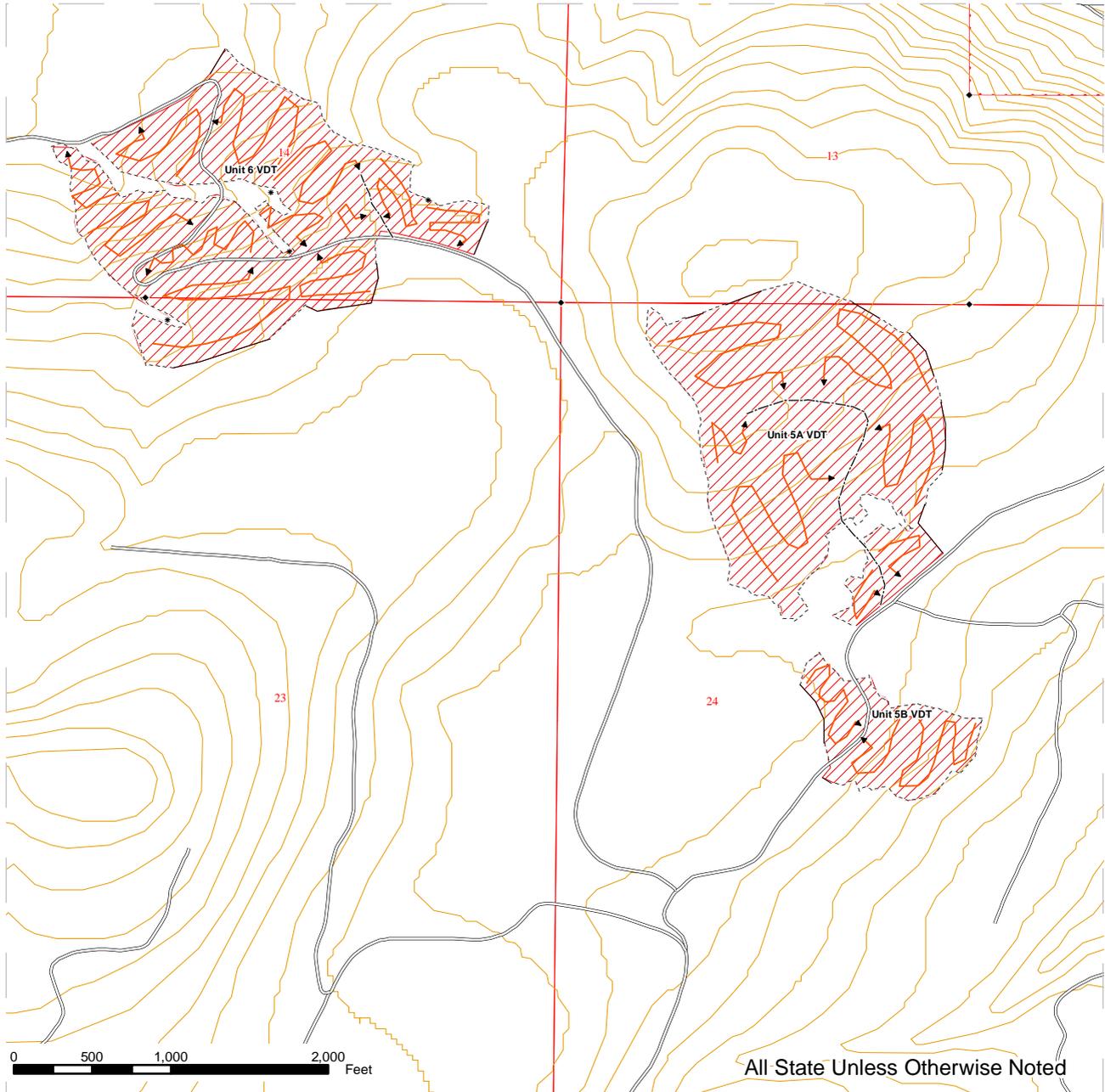
All State Unless Otherwise Noted



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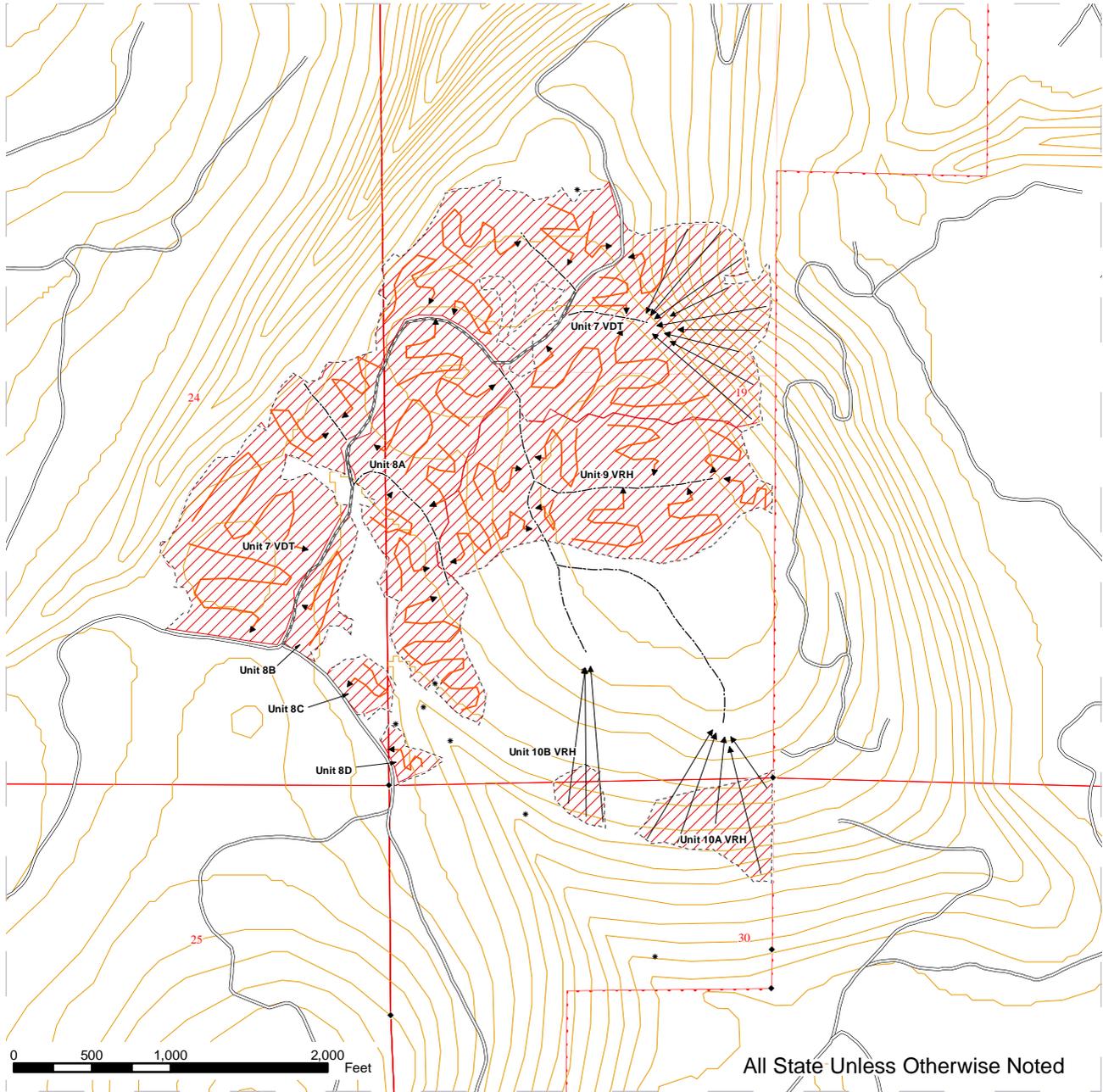
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