

TIMBER NOTICE OF SALE

SALE NAME: COLBY

AGREEMENT NO: 30-092690

AUCTION: March 31, 2016 starting at 10:00 a.m., **COUNTY:** Clark
Pacific Cascade Region Office, Castle Rock, WA

SALE LOCATION: Sale located approximately 12 miles north of Washougal

**PRODUCTS SOLD
AND SALE AREA:**

All timber, except trees marked with blue paint, trees bound out by yellow Leave Tree Area tags, western red cedar, snags, all down timber greater than 24 inches in diameter, and all pre-existing stumps, bound by the following: white Timber Sale Boundary tags and the property lines marked with carsonite posts and pink flagging in Unit 1; Timber Sale Boundary tags and the L-1680 road, and the L-1600 road in Unit 2; Timber Sale Boundary tags, the L-1600 road, the L-1500 road, and the 1560 in Unit 3; Timber Sale Boundary tags and pink flagging, the L-1600 road, and the L-1500 road in Unit 4. All timber bounded by orange Right of Way Boundary tags in Unit 5. on part(s) of Sections 1, 2, 10, 11, 12 and 14 all in Township 2 North, Range 4 East, W.M., containing 296 acres, more or less.

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	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	16.3	7	6,979						2,752	3,205	853	170
Red alder	9.5		50								36	14
Noble fir	14.2		43						11	20	12	
Hemlock	11.7	7	14						7		7	
Sale Total			7,086									

MINIMUM BID: \$1,351,000.00 **BID METHOD:** Sealed Bids

PERFORMANCE SECURITY: \$100,000.00 **SALE TYPE:** Lump Sum

EXPIRATION DATE: October 31, 2017 **ALLOCATION:** Export Restricted

BID DEPOSIT: \$135,100.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable and Ground based equipment. This sale is estimated to be 60% ground-based yarding and 40% cable-based yarding. A detailed felling and yarding plan shall be required prior to any harvest activities. Ground-based yarding is restricted to slopes of 40% or less. For additional harvest requirements, refer to the H-140 and H-141 clauses in the contract. This sale was designed with a minimum tower height of 74 feet on all cable settings in Units 3 and 4. Intermediate support may be required to prevent soil rutting in Units 3 and 4 off the L-1500 and the L-1600 roads. Ground Based Yarding will not be permitted from November 1 to May 1 unless authorized in writing by the Contract Administrator.

ROADS: 33.26 stations of required construction. 7.55 stations of required reconstruction. 85.27 stations of optional construction. 20.00 stations of optional reconstruction. 155.03

TIMBER NOTICE OF SALE

stations of required pre-haul maintenance. 104.73 stations of required abandonment. Rock used in accordance with the quantities in the ROCK LIST under this contract may be obtained at no cost to the Purchaser from the L-1600 Pit, located in Section 11, Township 02 North, Range 04 East, W.M. or two potential rock sources the L-1561A1 pit or the L-1561A2 pit, located in Section 02 Township 02 North Range 04 East W.M. Additional rock for this sale may be obtained from any commercial pit at the Purchaser's expense. Rock Sources will be subject to written approval by the Contract Administrator before their use. Road construction will not be permitted from October 1 to May 31 unless authorized in writing by the Contract Administrator.

ACREAGE DETERMINATION

CRUISE METHOD: The sale acres were determined by GPS. The sale area was cruised using a variable plot cruise method.

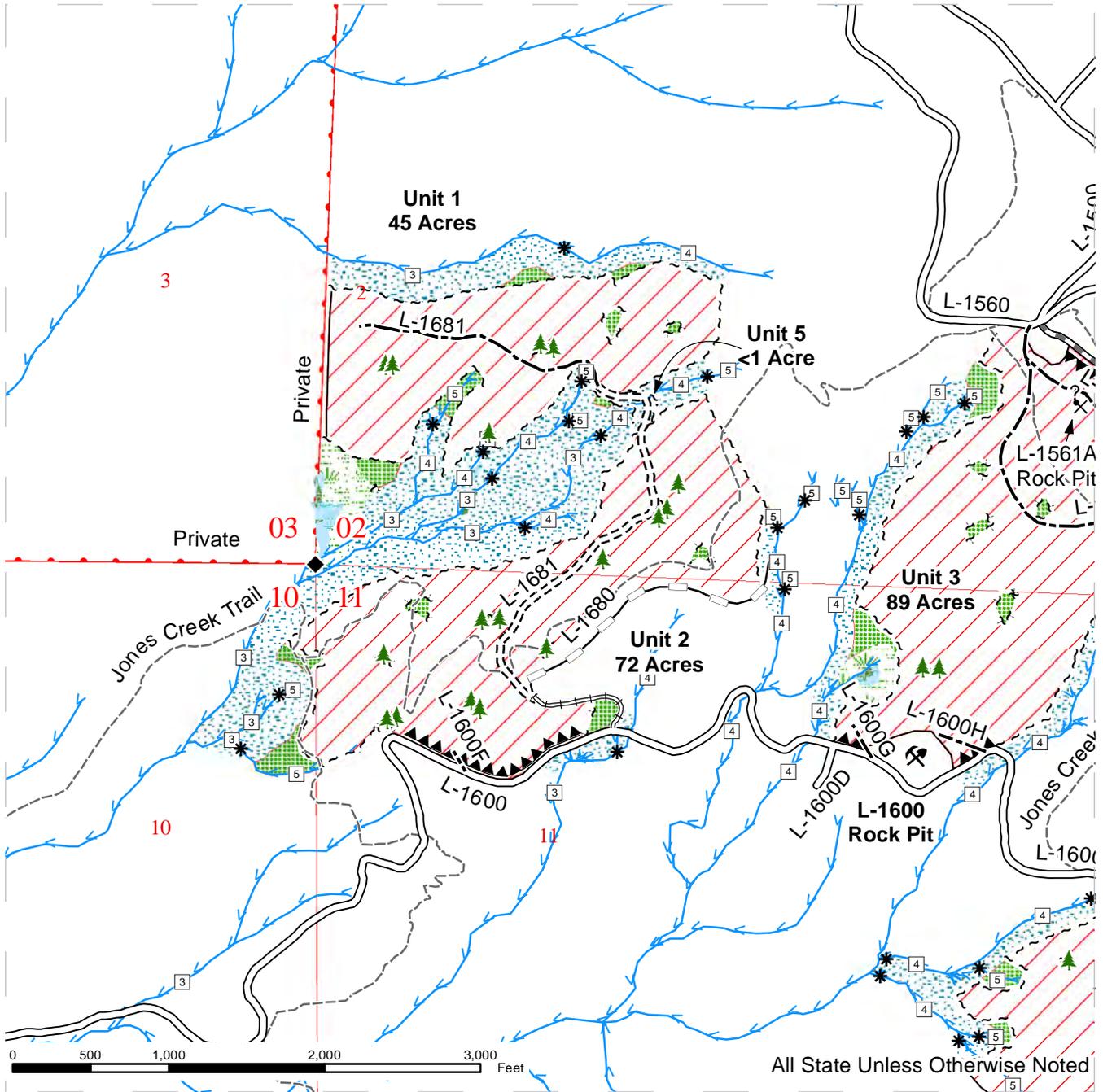
FEES: \$125,777.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This sale contains an estimated 498 MBF of high quality DF 2 saw and 1,023 MBF of high quality DF 3 saw, derived from the cruise.

TIMBER SALE MAP

SALE NAME: COLBY
 AGREEMENT#: 30-092690
 TOWNSHIP(S): T02R04E
 TRUST(S): State Forest Transfer(1), Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6)

REGION: Pacific Cascade Region
 COUNTY(S): CLARK
 ELEVATION RGE: 1073-2431

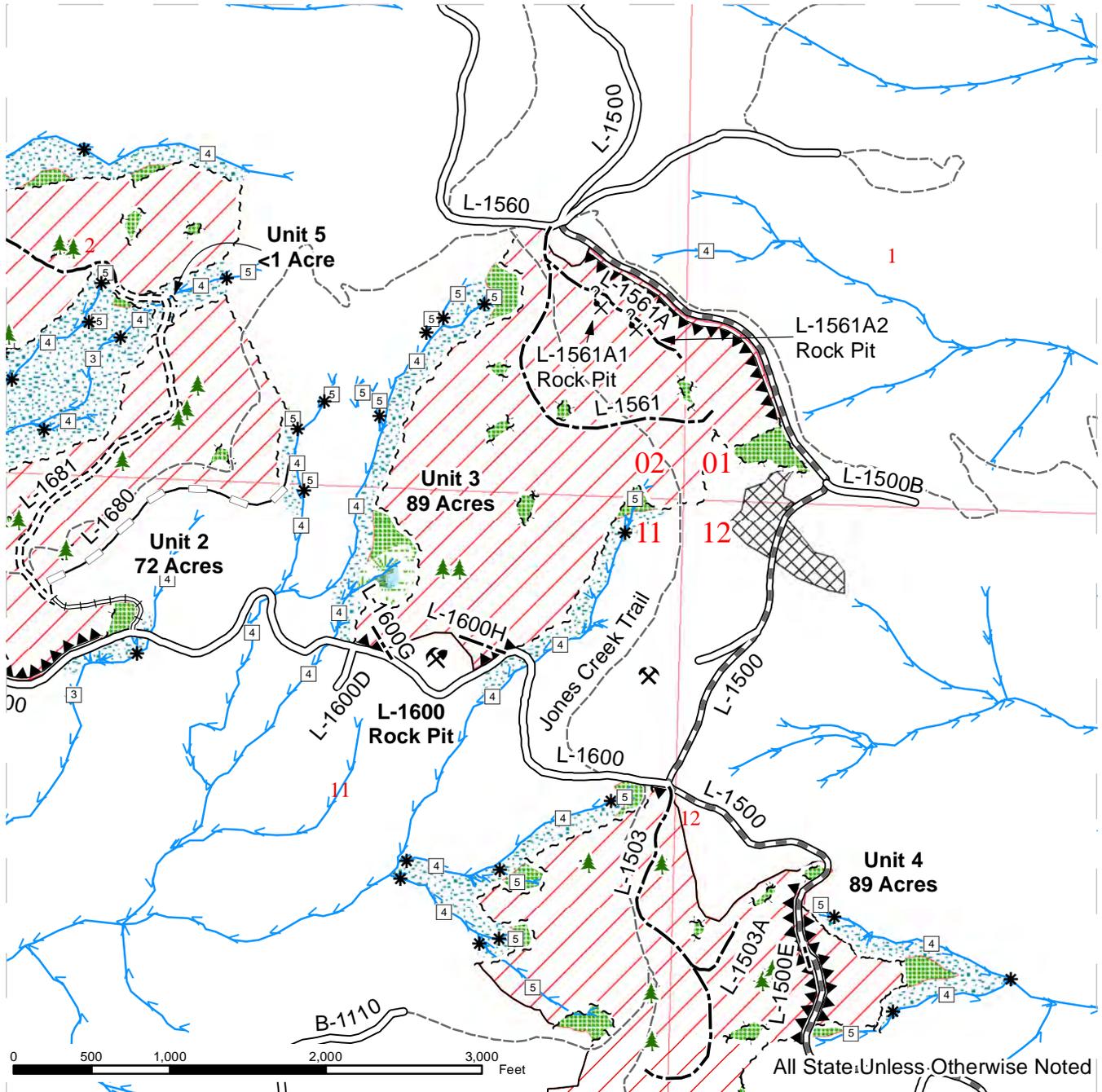


Sale Area	Extreme Hazard Abatement	Optional Construction
Leave Tree Area	Right-of-Way Tags	Streams
Riparian Mgt Zone	Reprod	Stream Type
Wetland Mgt Zone	Existing Roads	Stream Type Break
Forested Wetland	Required Pre-Haul Maintenance	Leave Trees
Talus	Optional Reconstruction	Potential Rock Source
Sale Boundary Tags	Required Construction	Existing Rock Pit
Leave Tree Tags	Required Reconstruction	

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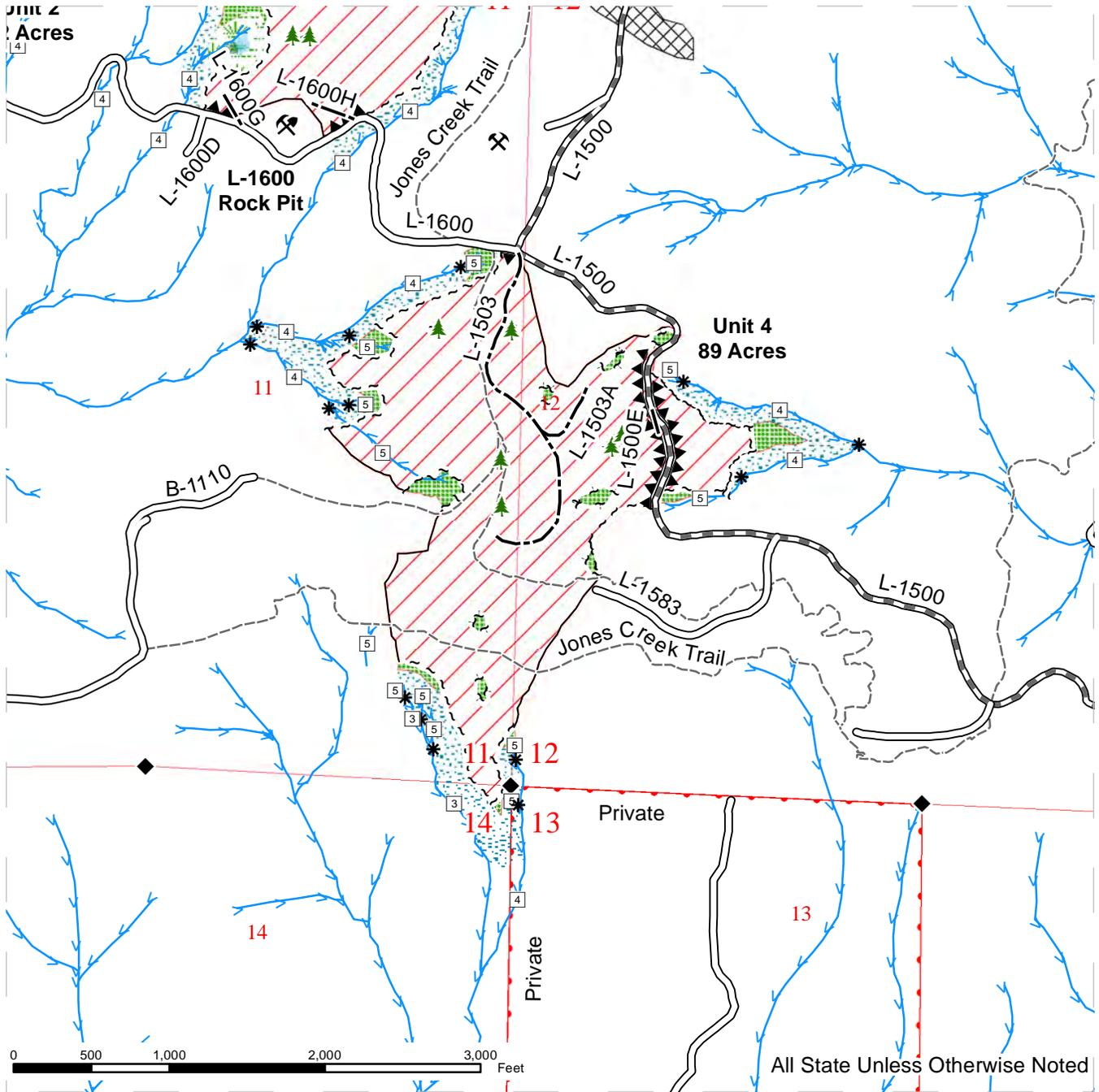
Sale Area	Extreme Hazard Abatement	Optional Construction
Leave Tree Area	Right-of-Way Tags	Streams
Riparian Mgt Zone	Reprod	Stream Type
Wetland Mgt Zone	Existing Roads	Stream Type Break
Forested Wetland	Required Pre-Haul Maintenance	Leave Trees
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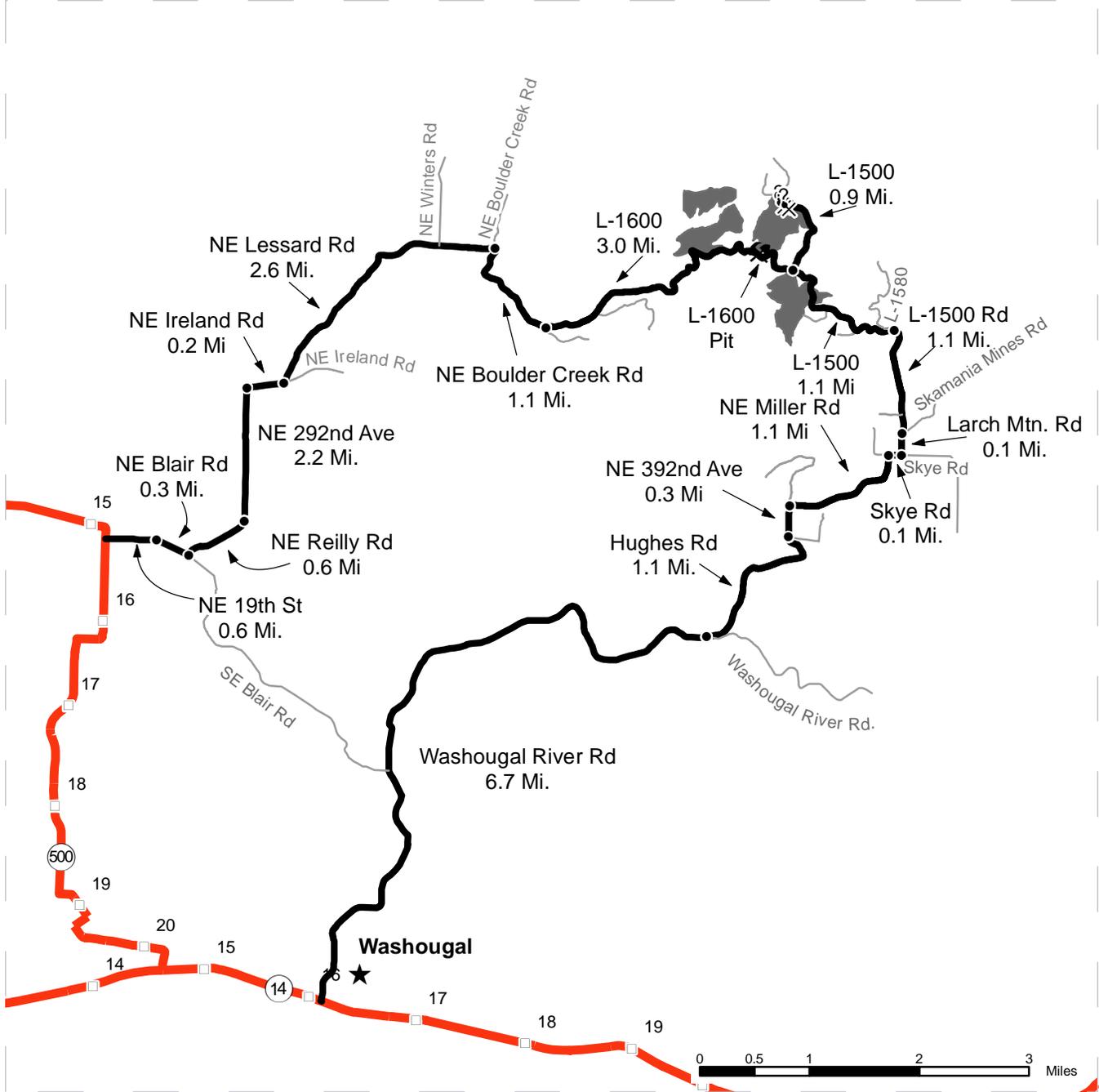
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Leave Tree Area	Right-of-Way Tags	Streams
Riparian Mgt Zone	Reprod	Stream Type
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DRIVING MAP

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	Timber Sale Unit
	Highways
	Haul Route
	Other Route
	Milepost Markers
	Distance Indicator
	Existing Rock Pit
	Potential Rock Source

DRIVING DIRECTIONS:

From State Route 500 (milepost 15.2), turn East onto NE 19th St and travel 0.5 miles.
 Veer right (Southeast) onto SE Blair Rd and follow for 0.3 miles.
 Turn left (Northeast) onto NE Reilly Rd and follow for 0.6 miles.
 Continue North onto NE 292nd Ave and travel 1.2 miles.
 Turn right (East) onto NE Ireland Rd and travel 0.3 miles.
 Veer left (Northeast) onto NE Lessard Rd and follow for 2.6 miles.
 Continue on NE Boulder Creek Rd for 1.1 miles.
 Turn left (Northeast) onto the L-1600 Rd (gravel) for 2.0 miles to Unit 2.
 Turn left (North) onto the L-1680 Rd (Reconstruction) for 0.1 miles to the L-1681 Rd
 (New Construction/Walk-in route) and walk 0.5 miles to Unit 1.
 Continue on the L-1600 for 0.4 miles, Unit 3 and the L-1600 Rock Pit will be on your left.
 Continue on the L-1600 for 0.4 miles, Unit 4 will be on your right.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-092690

SALE NAME: COLBY

**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-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on March 31, 2016 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except trees marked with blue paint, trees bound out by yellow Leave Tree Area tags, western red cedar, snags, all down timber greater than 24 inches in diameter, and all pre-existing stumps, bound by the following: white Timber Sale Boundary tags and the property lines marked with carsonite posts and pink flagging in Unit 1; Timber Sale Boundary tags and the L-1680 road, and the L-1600 road in Unit 2; Timber Sale Boundary tags, the L-1600 road, the L-1500 road, and the 1560 in Unit 3; Timber Sale Boundary tags and pink flagging, the L-1600 road, and the L-1500 road in Unit 4. All timber bounded by orange Right of Way Boundary tags in Unit 5., located on approximately 296 acres on part(s) of Sections 1, 2, 10, 11, 12, and 14 all in Township 2 North, Range 4 East W.M. in Clark County(s) as designated on the sale area and as shown on the attached timber sale map.

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-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2017.

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-051 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 total contract price.

For the second extension, not to exceed 1 year, payment of at least 90 percent of the total contract price.

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 total contract price.

All payments, except the initial deposit, will be deducted from the total contract price to determine the unpaid portion of the contract.

- e. Payment of \$856.00 per acre per annum for the acres on which an operating release has not been issued in all units.
- 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-091 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, the added forest products become a part of this contract. The State shall determine the volume added and shall calculate the increase to the total contract price using the rates set forth in clause G-101, G-102, or G-103. If the sale area is reduced, the State shall determine the volume to be reduced. The State shall calculate the reduction to the total contract price using the rates set forth in clause G-101, G-102, or G-103.

G-101 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 the Scribner log scale volume, as defined by the Northwest Log Rules Advisory Group, shall be determined by the Contract Administrator. Added forest products shall be paid for at the following contract payment rates per Mbf Scribner log scale.

The pricing schedule has not been set for the sale.

G-111 Title and Risk of Loss

Title to the forest products under this contract passes to the Purchaser after they are removed from the sale area, if adequate advance payment or payment security has been provided to the State under this contract. Purchaser bears all risk of loss of, or damage to, and has an insurable interest in, the forest products described in this contract from the time the sale is confirmed under RCW 79.15.120. Breach of this contract shall have no effect on this provision.

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 Castle Rock, 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; on the L-1500, L-1500E, L-1503, L-1503 A, L-1560, L-1561, L-1561 A, L-1600, L-1600D, L-1600F, L-1600G, L-1600H, L-1680, and L-1681 roads. 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 L-1500 or L-1600, unless authority is granted in writing by the Contract Administrator.

G-396 County Hauling Permit

The hauling of forest products, rock or equipment may require a county road hauling permit. Purchaser is responsible for obtaining a permit and any costs associated with extra maintenance or repair levied by a county. Purchaser must provide the Contract Administrator with a copy of the executed permit.

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:

Easement, including the terms and provisions thereof,

For: Road

In Favor of: Burlington Northern Inc.

Disclosed by Application No.: 50-033876

Granted: 4/8/1970

Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Boise Cascade Corporation
Disclosed by Application No.: 50-035946
Granted: 2/22/1974
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Trail
In Favor of: WA State Department of Natural Resources
Disclosed by Application No.: 50-071038
Granted: 7/12/2000
Expires: 12/31/2025

Easement, including the terms and provisions thereof,
For: County Road
In Favor of: Clark County
Disclosed by Application No.: 50-CR1560
Granted: 12/21/1937
Expires: Indefinite

Lease, including the terms and provisions thereof,
For: Minor Forest Products
In Favor of: WA State Department of Natural Resources – Pacific Cascade Region
Disclosed by Application No.: 35-RP0006
Granted: 3/9/1993
Expires: Indefinite

Land Use License, including the terms and provisions thereof,
For: Study & Data collection
In Favor of: WA State Dept. of Fish & Wildlife
Disclosed by Application No.: 60-PC1202
Granted: 7/1/2011
Expires: 6/30/2016

Section P: Payments and Securities

P-011 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 Clause P-020, 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-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$189,551.00. The total contract price consists of a \$0.00 contract bid price plus \$189,551.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

THE PURCHASE PRICE SHALL NOT BE AFFECTED BY ANY FACTORS, INCLUDING: the amount of forest products actually present within the contract area, the actual acreage covered by the contract area, the amount or volume of forest products actually cut or removed by purchaser, whether it becomes physically impossible or uneconomic to remove the forest products, and whether the subject forest products have been lost or damaged by fire or any other cause. The only situations Purchaser may not be liable for the full purchase price are governed by clause G-066, concerning governmental regulatory actions taken during the term of the contract.

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-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 H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Ground Based Yarding will not be permitted from November 1 to May 1 unless authorized in writing by the Contract Administrator.

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 100 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 14 feet in width, including rub trees.

- b. Skid trails shall not cover more than 5 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 6 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-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 all units. The plan shall address the H-140 and the H-141 clauses, 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-051 Branding and Painting

Purchaser shall provide a State of Washington registered log brand, acceptable to the State, unless the State agrees to furnish the brand. 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-120 Harvesting Equipment

Forest products sold under this contract shall be harvested using cable systems and ground based systems: shovel, forwarder, and tracked skidder 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. Full suspension is required when yarding over Type 5 streams.

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-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

Shovel must be large enough to pick up one end of the largest log 35 feet from the machine.

Ground based yarding equipment will not be permitted on slopes over 40%.

Ground based yarding equipment shall only operate during dry soil conditions.

This sale was designed with a minimum tower height of 74 feet on all cable settings in Units 3 and 4.

Intermediate support may be required to prevent soil rutting in Units 3 and 4 off the L-1500 and the L-1600 roads.

No felling, bucking, yarding, loading or hauling shall occur on weekends or State recognized holidays.

Within Unit 3, trees shall be felled away from any talus areas. No equipment shall cross or disturb talus areas.

Trail closures will be posted by the Purchaser, prior to operations, at each end of the harvest unit and at the nearest junction with another trail or road. Posting will include the date posted, closure periods, and anticipated re-opening. Closure signs will be maintained by the Purchaser during the sale and will be removed after approval of the final trail cleaning following harvest.

Trail should be rerouted onto roads or other trail systems when possible. All trail reroutes need to be approved the Contract Administrator. In the event that there is no logical trail reroute, the Purchaser shall clean the trail of debris and open the trail to recreationists by 5 p.m. Friday to 5 a.m. Monday, May 1 to November 30.

Recreation trails shall be posted, closed, and a watchman provided during harvest operations. Trails shall be re-opened within fifteen days of completion of yarding operations on each harvest unit.

Within Cable logging areas designated trails shall be left open to recreationists by 5 p.m. Friday to 5 a.m. Monday from May 1st through November 30th. If cable logging occurs over designated trails when the trail is open for use, the effected portion(s) of the trail shall be completely closed.

Within ground-based harvest areas designated trails shall be left open to recreationists and will be open and passable by 5 p.m. to 5 a.m. on weekdays, by 5 p.m. Friday to 5 a.m. Monday during weekends, and on state recognized holidays.

No tops, limbs or other slash shall be left within 25 feet of either side of the Jones Creek ORV trail.

Recreation trail crossings shall be designated in the field by the Purchaser and approved in writing by the Contract Administrator.

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:

Within shovel logging areas, the shovel operator shall break up concentrations of logging debris greater than 10 feet by 10 feet to allow exposure of natural forest soils to ensure proper reforestation.

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

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.

H-230 Tops and Limbs Outside the Sale Boundary

Tops and limbs outside the sale boundary as a result of Purchaser's operation shall be removed concurrently with the yarding operation unless otherwise directed by the Contract Administrator.

H-250 Additional Falling Requirements

Within all units, all live stems of hardwood species greater than 2 inches DBH or over 10 feet tall, shall be felled concurrently with felling operations. Areas of young or immature timber may be excluded from this requirement by the Contract Administrator.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 5/1/2015 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 L-1500E, L-1503, L-1503A, L-1561, L-1561A, L-1600D, L-1600F, L-1600G, L-1600H, L-1680, and L-1681 roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on L-1500, L-1560, and L-1600 roads. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the State current Equipment Rate Schedule on file at the region and Olympia offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-100 Landing Location Restricted

Landing locations are restricted to those shown on the timber sale map unless otherwise authorized in writing by the Contract Administrator.

C-140 Water Bars

Purchaser shall, as directed by the Contract Administrator, construct water bars across haul roads, skid trails and fire trails as necessary to control soil erosion and water pollution.

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-020 Extreme Hazard Abatement

Purchaser shall provide a written Extreme Hazard Abatement plan that meets the requirements of WAC 332-24 prior to the beginning of logging operations. The plan must be acceptable to the Contract Administrator. The plan will identify how Purchaser will accomplish abatement. Purchaser shall also provide, and keep current, a written timetable for completion of all specified work in the plan. The Contract Administrator's acceptance and approval of Purchaser's hazard abatement plan shall not be construed as any statement or warranty that the hazard abatement plan is adequate for Purchaser's purposes or complies with applicable laws.

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 typed streams 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.

S-150 Recreation Trail Cleanout

At the completion of logging operations around the Jones Creek Trail (within and adjacent to Units 2, 3, and 4). The trail will be repaired to pre-harvest conditions within 15 days of completion of harvest activities, Purchaser shall repair any damage to and clean out all logging debris from recreational trail(s).

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

The following clauses provide for payments by Purchaser to the State for breaches of the terms of this contract other than failure to perform. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State, which will be 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.

Clause P-020 governs Purchaser's liability in the event Purchaser fails to perform any of the contract requirements other than the below liquidated damage clauses without written approval by the State. Purchaser's failure to pay for all or part of the forest products sold in this contract prior to expiration of the contract term results in substantial injury to the State. Therefore, Purchaser agrees to pay the State the full lump sum contract price in P-020 in the event of failure to perform.

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 all units.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Eric Wisch
Pacific Cascade Region Manager

Date: _____

Date: _____

Address:

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 _____



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 4/09)

PRE-CRUISE NARRATIVE

Sale Name: Colby	Region: Pacific Cascade
Agreement #: 30-092690	District: Yacolt
Contact Forester: Kyle Buckmiller Phone / Location: 360-846-8360	County(s): Clark
Alternate Contact: Aaron Nelson Phone / Location: 360-601-0296	Other information:

Type of Sale: Lump Sum	
Harvest System: Uphill Cable	40
Harvest System: Ground based	60

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 Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1 VRH	SEC 02 T02N R04E	03	120	71	4	0	0	45	GPS (Trimble)
2 VRH	SEC 11 T02N R04E	01 03	135	58	5	0	0	72	GPS (Trimble)
3 VRH	SEC 02 T02N R04E	03 06	112	16	7	0	0	89	GPS (Trimble)
4 VRH	SEC 11 T02N R04E	01 03 06	117	20	7	1	0	89	GPS (Trimble)
5 R/W	SEC 02 T02N R04E	03	1	0	0	0	0	1	GPS (Garmin)
TOTAL ACRES			485	165	23	1	0	296	

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	Unit 1 is bound by white "Timber Sale Boundary" tags, pink flagging and private property. Property line between State and private is marked with carsonite posts and pink flagging. Clumped leave trees are bound with yellow "Leave Tree Area" tags and pink flashers. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree total=398. 1 tree is painted with a blue ring.
2 VRH	Unit 2 is bound by white "Timber Sale Boundary" tags, pink flagging, and L-1600 and L-1680 roads. Clumped leave trees are bound with yellow "Leave Tree Area" tags and pink flashers. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree total=624. 35 trees are painted with a blue ring.
3 VRH	Unit 3 is bound by white "Timber Sale Boundary" tags, pink flagging, reprod, L-1500, L-1560 and L-1600 roads. Clumped leave trees are bound with yellow "Leave Tree Area" tags and pink flashers. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree total=795. 16 trees are painted with a blue ring.
4 VRH	Unit 4 is bound by white "Timber Sale Boundary" tags, pink flagging, reprod, L-1500 and L-1600 roads. Clumped leave trees are bound with yellow "Leave Tree Area" tags and pink flashers. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree total=794. 72 trees are painted with a blue ring.
5 R/W	Unit 5 ROW is bound by orange "Right-of-Way Boundary" tags.	Right-of-Way	ROW

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary, secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	936 mbf (DF, RA)	L-1560 to the Jones Creek Trail (B/C Loop) to the abandoned L-1566 road provide access. No keys necessary.	Logging Plan/Cruise Map and Driving Map
2	1,498 mbf (DF, RA)	L-1600 and L-1680 roads provide access. No keys necessary.	Logging Plan/Cruise Map and Driving Map
3	1,851 mbf (DF, RA)	L-1600, L-1500 and L-1560 roads provide access. No keys necessary.	Logging Plan/Cruise Map and Driving Map
4	1,851 mbf (DF, RA)	B-1110G, B-1110D, L-1600, L-1500, L-1583 roads, and Jones Creek Trail (B loop, C loop and C-7 trail) provide access. PCP 1 Key needed to access the B-1100 road system.	Logging Plan/Cruise Map and Driving Map
5	21 mbf (RA)	Unit 5 is a Right-of-Way harvest through an RMZ to facilitate the construction of the L-1681 road.	Logging Plan/Cruise Map and Driving Map
TOTAL MBF	6,157 mbf		

REMARKS:

Jones Creek Trail passes through Units 2, 3 and 4. Unit 1 can be accessed via L-1560 to Jones Creek B/C loop to abandoned L-1566 road grade, or via L-1680 to L-1681 (new construction/walk-in only) through Unit 2. Unit 4 can be accessed via B-1100 (Gate/PCP-1) to B-1110 to Jones Creek Trail (B or C), or walking in the L-1583 road off the L-1500.

Mostly homogenous DF, with some small pockets of RA and vine maple/brush. Some large diameter DF intermixed through units (mostly near RMZ).

Prepared By: Kyle Buckmiller Date: 4/22/2015	Title: Natural Resource Specialist 1	CC:
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Cruise Narrative

Sale Name: Colby	Region: Pacific Cascade
App. #: 30-092690	District: Yaoclt
Lead Cruiser: Bryce Frank	Completion date: 8-18-2015
Other Cruisers: Kalvin Bailey	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	45	Yes	
2	72	Yes	
3	89	Yes	
4	89	Yes	
5 ROW	1	Yes	
Total	296	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 (Cru./Tally)	Total number of plots
1	VP	46.94	4.5 ft	250' x 250'	1:1	31
2	VP	46.94	4.5 ft	250' x 250'	1:1	49
3	VP	46.94	4.5 ft	250' x 250'	1:1	63
4	VP	46.94	4.5 ft	250' x 250'	1:1	61
5 ROW	VP	46.94	4.5 ft	130' x 130'	Cruise All	2

Sale/Cruise Description:

Minor species cruise intensity:	Cruised on appropriate plots.						
Minimum cruise spec:	40% Of Form- Factor at 16 feet D.O.B or 5 inch Top, and merchantable top.						
Avg. ring count by sp:	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">DF =</td> <td style="width: 25%; text-align: center;">7</td> <td style="width: 25%;">WH =</td> <td style="width: 25%; text-align: center;">7</td> <td style="width: 25%;">SS =</td> <td style="width: 25%; text-align: center;">n/a</td> </tr> </table>	DF =	7	WH =	7	SS =	n/a
DF =	7	WH =	7	SS =	n/a		
Leave/take tree description:	Leave tree clumps are bounded with yellow "Leave Tree Area" tags and pink flagging, individual leave trees are marked with a single band of blue paint.						
Sort Description:	<p>HA – Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 ½" in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators ½" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (min dia 8".)</p> <p>HB – Logs meeting the following criteria: Surface characteristics for a B sort will have sound tight knots not to exceed 1 ½" in diameter. May include logs with not more than two larger knots up to 2 ½" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (min dia 8".)</p> <p>R – Logs meeting the following criteria: Gross diameter of 12 inches or greater, excessive knots greater than 2 ½ inches with recovery less than 65%</p>						

	of the net scale.
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Field observations:

Colby consists of 5 units in total. Units 1 through 4 are VRH units and unit 5 is an ROW that connects unit 1 and 2.

Units 1 through 4 are all very similar in stand structure, consisting of 45-55 year old Douglas-fir (DF) plantations. Due to the age of the timber, these stands exhibit a uniform structure: mainly small diameter (10-16 inch) and short bole (60-85 feet) DF with some intermittent larger diameter DF (22-32 inch) of the same bole height. These units are consistently forested save for some patchiness in the steep areas of unit 3, where timber becomes inconsistent and sparse. Defect is low, but notable at 4%, consisting mainly of crook, broken tops, spike knots and hooked butts. There is a significant amount of high quality B sort (~21% net volume) in these units, but is mostly comprised of domestic quality. Douglas-fir dominates the merchantable volume, although there is a patch of small diameter Red Alder (RA) in unit 2 on the northwestern corner and Noble Fir (NF) scattered sparsely throughout unit 3. These units compose 295 acres of the sale with an average per-acre net volume of 23,994 bdf and a total net volume of 7,078 mbf.

Unit 5 ROW is a small one acre Right-of-Way unit that connects unit 1 to unit 2 for the required haul route construction. Timber in this small one acre unit is very similar to the timber described above. This small unit has an average per-acre net volume of 13,936 bdf and a total net volume of 14 mbf.

Access to these units is very adequate along the L-1600 and L-1500. Additionally, several motor trails run through all the units, providing adequate access into the units' interiors.

Grants: 01, 03, 06

Prepared by: Bryce Frank

Title: Timber Cruiser

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																		
T02N R02E S02 Ty00U1 THRU T02N R04E S02 Ty00U5				Project:		COLBY											Page		1			
				Acres		296.00											Date		8/18/2015			
																	Time		1:37:35PM			
Spp	S T	So rt	Gr 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		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF	CU	CU			100.0	108											4	10		0.00	31.5	
DF	HB	2S		7	1.3	1,705	1,682	498				89	11			5	95	39	13	242	1.58	6.9
DF	HB	3S		14	.5	3,473	3,457	1,023			100				25	75	37	9	124	0.85	28.0	
DF	D	2S		33	5.0	8,017	7,614	2,254				51	49	0	1	6	93	38	15	318	2.08	24.0
DF	D	3S		31	5.1	7,715	7,320	2,167	26	74				1	1	20	78	37	8	91	0.76	80.8
DF	D	4S		12	1.4	2,922	2,882	853	97	3				13	45	20	23	27	5	29	0.32	97.8
DF	D	UT		2		573	573	170	66	17	11	5		37	24	7	32	22	6	31	0.39	18.6
DF	RO	3S		1		53	53	16			35	65				100	38	15	376	2.17	.1	
DF Totals				98	4.0	24,567	23,580	6,980	22	38	23	17		3	7	15	76	29	8	82	0.78	287.7
WH	CU	CU															3	20		0.00	.1	
WH	D	2S		49		23	23	7			100					100	40	13	240	1.55	.1	
WH	D	4S		51		24	24	7	100					12		88	35	5	38	0.32	.6	
WH Totals				0		47	47	14	51	49				6	94		32	8	58	0.50	.8	
RA	CU	CU															5			0.00	1.3	
RA	D	UT		27		46	46	14	100					100			24	5	24	0.22	1.9	
RA	D	4S		73		123	123	36	100					11	89		38	5	39	0.37	3.1	
RA Totals				1		169	169	50	100					35	65		26	5	27	0.33	6.3	
NF	CU	CU			100.0	2											2	5		0.00	1.1	
NF	D	2S		26	2.3	40	39	11			46	54			54	46	37	14	244	1.84	.2	
NF	D	3S		46	2.4	68	66	20	44	56						100	40	8	86	0.66	.8	
NF	D	4S		28		40	40	12	93	7			16	14	70		32	5	34	0.36	1.2	
NF Totals				1	3.1	149	145	43	46	27	12	15		4	4	15	77	24	6	44	0.58	3.3
Totals					4.0	24,931	23,940	7,086	22	38	23	17		3	7	15	76	29	8	80	0.77	298.0

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT COLBY							DATE	8/18/2015	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
02N	02E	02	COLBY	00U1	THR	296.00	206	933	S	W	
02N	04E	02	COLBY	00U5							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			206	933	4.5						
CRUISE			108	489	4.5	44,418	1.1				
DBH COUNT											
REFOREST											
COUNT			95	432	4.5						
BLANKS			3								
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	468	142.8	16.3	70	51.4	207.9	24,567	23,580	6,561	6,537	
R ALDER	11	5.1	9.5	53	0.8	2.5	169	169	54	54	
NOBLE F	8	1.6	14.2	67	0.5	1.8	149	145	45	45	
WHEMLOCK	2	.6	11.7	54	0.1	.5	47	47	13	13	
TOTAL	489	150.1	16.1	69	53.0	212.6	24,931	23,940	6,673	6,649	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		107.1	5.0	262	276	290					
R ALDER		26.3	8.3	33	35	38					
NOBLE F		83.5	31.5	91	133	174					
WHEMLOCK		104.9	98.3	3	155	307					
TOTAL		109.2	5.0	255	268	281	476	119	53		
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		87.7	4.1	70	73	76					
R ALDER		40.2	12.7	11	12	14					
NOBLE F		74.9	28.2	29	40	51					
WHEMLOCK		108.0	101.2		44	89					
TOTAL		89.6	4.1	68	71	74	321	80	36		
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		63.0	4.4	136	143	149					
R ALDER		494.4	34.4	3	5	7					
NOBLE F		850.5	59.2	1	2	3					
WHEMLOCK		1231.0	85.7	0	1	1					
TOTAL		61.1	4.3	144	150	156	149	37	17		
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		44.3	3.1	201	208	214					
R ALDER		502.1	35.0	2	2	3					
NOBLE F		756.4	52.7	1	2	3					
WHEMLOCK		1012.4	70.5	0	0	1					
TOTAL		41.5	2.9	206	213	219	69	17	8		
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		49.5	3.4	22,768	23,580	24,393					
R ALDER		500.9	34.9	110	169	227					
NOBLE F		726.9	50.6	71	145	218					
WHEMLOCK		1018.5	70.9	14	47	80					

TC PSTATS		PROJECT STATISTICS							PAGE	2	
		PROJECT		COLBY					DATE	8/18/2015	
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt
02N 02N	02E 04E	02 02	COLBY COLBY	00U1 00U5	THR	296.00		206	933	S	W
CL	68.1	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.00	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
TOTAL		47.4	3.3	23,151	23,940	24,730	90 22		10		
CL	68.1	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUG FIR		46.4	3.2	6,326	6,537	6,749					
R ALDER		521.1	36.3	34	54	73					
NOBLE F		741.1	51.6	22	45	68					
WHEMLOCK		1025.3	71.4	4	13	22					
TOTAL		44.0	3.1	6,445	6,649	6,852	77 19		9		
CL	68.1	COEFF		TONS/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUG FIR		46.3	3.2	181	187	193					
R ALDER		521.1	36.3	1	1	2					
NOBLE F											
WHEMLOCK		1025.3	71.4	0	0	1					
TOTAL		44.7	3.1	183	189	195	80 20		9		
CL	68.1	COEFF		V_BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUG FIR				110	113	117					
R ALDER		479.9	33.4	45	68	92					
NOBLE F		726.9	50.6	40	81	121					
WHEMLOCK		1018.5	70.9	30	101	173					
TOTAL		47.3	3.3	109	113	116	89 22		10		

T02N R02E S02 T00U1										T02N R02E S02 T00U1				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
02N	02E	02	COLBY	00U1	45.00	31	74	S	W					

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	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF		CU	CU		100.0	13												2	11		0.00	39.6
DF		HB	2S	11	2.5	3,308	3,224	145			89	11					100	40	13	246	1.52	13.1
DF		HB	3S	27		8,032	8,032	361		100				24	76			37	9	121	0.80	66.4
DF		DM	2S	25	6.9	7,570	7,045	317			40	60				5	95	39	15	349	2.18	20.2
DF		DM	3S	20	3.6	6,144	5,925	267	53	47			1	1	48	51		35	7	72	0.56	82.3
DF		DM	4S	15		4,094	4,094	184	96	4			12	29	32	27		29	5	30	0.29	135.6
DF		DM	UT	1		458	458	21	33	15	52		100					14	7	29	0.43	15.9
DF		RO	3S	1		122	122	5			100							36	13	220	1.66	.6
DF	Totals			99	2.8	29,741	28,899	1,300	25	38	21	16	3	4	22	70		29	8	77	0.68	373.8
WH		DM	4S	100		137	137	6	100							100		36	5	40	0.29	3.4
WH	Totals			0		137	137	6	100							100		36	5	40	0.29	3.4
RA		CU	CU																		0.00	3.4
RA		DM	4S	100		137	137	6	100							100		40	5	40	0.29	3.4
RA	Totals			0		137	137	6	100							100		20	5	20	0.29	6.9
Type Totals					2.8	30,015	29,173	1,313	26	38	21	16	3	4	22	70		29	8	76	0.67	384.1

T02N R04E S02 T00U2										T02N R04E S02 T00U2				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
02N	04E	02	COLBY	00U2	72.00	49	104	S	W					

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/		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf		
DF		CU	CU		100.0	37											3	11		0.00	37.5	
DF		HB	2S	6	1.4	1,388	1,369	99			82	18				100	39	12	217	1.49	6.3	
DF		HB	3S	16	1.7	3,561	3,501	252		100				33	67		37	9	121	0.85	29.0	
DF		DM	2S	23	3.9	5,169	4,968	358			81	19			7	93	39	13	245	1.69	20.3	
DF		DM	3S	40	3.3	8,906	8,617	620	17	83					5	95	39	8	105	0.81	81.9	
DF		DM	4S	14	1.3	3,141	3,101	223	100	0			7	49	16	28	29	5	31	0.32	100.6	
DF		DM	UT	1		142	142	10	100					65	35		17	5	18	0.24	7.8	
DF	Totals			97	2.9	22,345	21,698	1,562	22	49	24	6	1	7	11	80	30	8	77	0.73	283.4	
RA		CU	CU																6		0.00	2.7
RA		DM	UT	30		173	173	12	100					100			24	5	24	0.22	7.1	
RA		DM	4S	70		403	403	29	100					10	90		38	5	39	0.38	10.4	
RA	Totals			3		577	577	42	100					37	63		28	5	28	0.33	20.3	
Type	Totals				2.8	22,922	22,275	1,604	24	48	23	5	1	8	11	80	30	8	73	0.71	303.6	

T02N R04E S02 T00U5	T02N R04E S02 T00U5
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt	BdFt
02N 04E 02 COLBY 00U5 1.00 2 7 S	W

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/	
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF		CU	CU		100.0	381											11	13		0.00	18.1
DF		HB	2S	19		2,333	2,333	2									32	18	430	2.59	5.4
DF		DM	2S	47	2.1	5,547	5,430	5			19	81			19	81	37	15	325	2.06	16.7
DF		DM	3S	24	10.0	3,129	2,816	3	13	87							39	9	117	0.95	24.0
DF		DM	4S	2		217	217	0		100							24	8	40	0.64	5.4
DF		DM	UT	8		909	909	1	100								27	5	30	0.34	30.3
DF	Totals			84	6.5	12,515	11,705	12	11	23	9	58		10	29	62	29	10	117	1.03	100.0
RA		CU	CU															7		0.00	21.7
RA		DM	UT	51		1,146	1,146	1	100								21	5	20	0.24	57.3
RA		DM	4S	49		1,085	1,085	1	100								30	7	50	0.59	21.7
RA	Totals			16		2,231	2,231	2	100					100			18	6	22	0.37	100.7
Type Totals					5.5	14,746	13,936	14	25	19	7	48		24	24	52	24	8	69	0.77	200.7

TC TSTATS				STATISTICS						PAGE	1
				PROJECT	COLBY				DATE	8/18/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
02N	02E	02	COLBY	00U1	45.00	31	149	S	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
				PLOTS	TREES	TREES	TREES				
TOTAL		31	149	4.8							
CRUISE		17	74	4.4	7,855		.9				
DBH COUNT											
REFOREST											
COUNT		13	67	5.2							
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	72	167.7	15.6	72	56.4	222.6	29,741	28,899	7,366	7,360	
WHEMLOCK	1	3.4	9.0	50	0.5	1.5	137	137	36	36	
R ALDER	1	3.4	9.0	44	0.5	1.5	137	137	40	40	
TOTAL	74	174.6	15.4	71	57.5	225.6	30,015	29,173	7,442	7,436	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		86.0	10.1	251	279	307					
WHEMLOCK											
R ALDER											
TOTAL		88.0	10.2	245	273	300	309	77	34		
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		81.7	9.6	64	71	78					
WHEMLOCK											
R ALDER											
TOTAL		83.7	9.7	63	69	76	279	70	31		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		63.9	11.5	148	168	187					
WHEMLOCK		556.8	99.9	0	3	7					
R ALDER		556.8	99.9	0	3	7					
TOTAL		59.6	10.7	156	175	193	142	36	16		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		45.9	8.2	204	223	241					
WHEMLOCK		556.8	99.9	0	2	3					
R ALDER		556.8	99.9	0	2	3					
TOTAL		43.8	7.9	208	226	243	77	19	9		
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		45.0	8.1	26,563	28,899	31,235					
WHEMLOCK		556.8	99.9	0	137	274					
R ALDER		556.8	99.9	0	137	274					
TOTAL		43.5	7.8	26,898	29,173	31,449	75	19	8		
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		44.1	7.9	6,778	7,360	7,942					
WHEMLOCK		556.8	99.9	0	36	71					
R ALDER		556.8	99.9	0	40	79					

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	COLBY			DATE	8/18/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
02N	02E	02	COLBY	00U1	45.00		31	149	S	W
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
TOTAL		42.3	7.6	6,871	7,436	8,000	71	18	8	
CL:	68.1 %	COEFF		TONS/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		44.0	7.9	193	210	227				
WHEMLOCK		556.8	99.9	0	1	2				
R ALDER		556.8	99.9	0	1	2				
TOTAL		42.3	7.6	196	212	228	71	18	8	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				119	130	140				
WHEMLOCK		556.8	99.9	0	91	181				
R ALDER		556.8	99.9	0	91	181				
TOTAL		199.1	35.7	119	129	139	1,582	396	176	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	COLBY		DATE	8/18/2015			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
02N	04E	02	COLBY	00U2	72.00	49	212	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		49	212	4.3							
CRUISE		27	104	3.9	10,733	1.0					
DBH COUNT											
REFOREST											
COUNT		22	105	4.8							
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		96	131.5	16.5	73	47.9	194.5	22,345	21,698	6,174	6,166
R ALDER		8	17.5	9.5	56	2.8	8.6	577	577	186	186
TOTAL		104	149.1	15.8	71	51.1	203.1	22,922	22,275	6,360	6,352
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF		SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		64.0	6.6	197	211	225					
R ALDER		21.6	8.1	32	35	38					
TOTAL		70.0	6.9	184	197	211	195	49	22		
CL:	68.1 %	COEFF		SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		57.3	5.9	56	60	63					
R ALDER		38.0	14.3	11	12	14					
TOTAL		62.9	6.2	53	56	60	158	39	18		
CL:	68.1 %	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		51.7	7.4	122	132	141					
R ALDER		259.7	37.1	11	18	24					
TOTAL		42.9	6.1	140	149	158	73	18	8		
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		45.7	6.5	182	194	207					
R ALDER		264.7	37.8	5	9	12					
TOTAL		38.7	5.5	192	203	214	60	15	7		
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		46.4	6.6	20,261	21,698	23,135					
R ALDER		263.0	37.5	360	577	793					
TOTAL		42.1	6.0	20,935	22,274	23,614	71	18	8		
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		47.2	6.7	5,750	6,166	6,581					
R ALDER		275.0	39.3	113	186	259					
TOTAL		42.2	6.0	5,969	6,352	6,735	71	18	8		
CL:	68.1 %	COEFF		TONS/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		47.2	6.7	164	176	188					
R ALDER		275.0	39.3	3	5	7					
TOTAL		42.3	6.0	170	181	192	72	18	8		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT		COLBY		DATE	8/18/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
02N	04E	02	COLBY	00U2	72.00	49	212	S	W	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				104	112	119				
R ALDER		251.0	35.8	42	67	92				
TOTAL		202.5	28.9	103	110	116	1,638	409	182	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	COLBY		DATE	8/18/2015			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
02N	04E	02	COLBY	00U3	89.00	63	312	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		63	312	5.0							
CRUISE		32	176	5.5	16,975	1.0					
DBH COUNT											
REFOREST											
COUNT		30	136	4.5							
BLANKS		1									
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		168	185.3	15.0	65	58.5	226.5	22,732	21,434	6,550	6,497
NOBLE F		8	5.4	14.2	67	1.6	6.0	496	481	150	149
TOTAL		<i>176</i>	<i>190.7</i>	<i>14.9</i>	<i>65</i>	<i>60.1</i>	<i>232.5</i>	<i>23,228</i>	<i>21,915</i>	<i>6,700</i>	<i>6,646</i>
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF		SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		86.9	6.7	170	182	194					
NOBLE F		83.5	31.5	91	133	174					
TOTAL		<i>87.0</i>	<i>6.6</i>	<i>168</i>	<i>180</i>	<i>192</i>	<i>302</i>	<i>76</i>	<i>34</i>		
CL:	68.1 %	COEFF		SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		73.7	5.7	51	54	57					
NOBLE F		74.9	28.2	29	40	51					
TOTAL		<i>74.0</i>	<i>5.6</i>	<i>51</i>	<i>54</i>	<i>57</i>	<i>219</i>	<i>55</i>	<i>24</i>		
CL:	68.1 %	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		57.1	7.2	172	185	199					
NOBLE F		465.4	58.6	2	5	9					
TOTAL		<i>59.2</i>	<i>7.5</i>	<i>177</i>	<i>191</i>	<i>205</i>	<i>140</i>	<i>35</i>	<i>16</i>		
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		43.0	5.4	214	227	239					
NOBLE F		412.2	51.9	3	6	9					
TOTAL		<i>40.9</i>	<i>5.2</i>	<i>220</i>	<i>232</i>	<i>244</i>	<i>67</i>	<i>17</i>	<i>7</i>		
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		49.2	6.2	20,107	21,434	22,761					
NOBLE F		395.4	49.8	241	481	720					
TOTAL		<i>46.5</i>	<i>5.9</i>	<i>20,631</i>	<i>21,915</i>	<i>23,198</i>	<i>86</i>	<i>22</i>	<i>10</i>		
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		46.6	5.9	6,115	6,497	6,878					
NOBLE F		403.5	50.8	73	149	225					
TOTAL		<i>43.8</i>	<i>5.5</i>	<i>6,279</i>	<i>6,646</i>	<i>7,012</i>	<i>77</i>	<i>19</i>	<i>9</i>		
CL:	68.1 %	COEFF		TONS/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		46.5	5.9	176	187	198					
NOBLE F											
TOTAL		<i>46.5</i>	<i>5.9</i>	<i>176</i>	<i>187</i>	<i>198</i>	<i>86</i>	<i>22</i>	<i>10</i>		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT		COLBY		DATE	8/18/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
02N	04E	02	COLBY	00U3	89.00	63	312	S	W	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				89	95	100				
NOBLE F		395.4	49.8	41	81	121				
TOTAL		<i>169.7</i>	<i>21.4</i>	<i>89</i>	<i>94</i>	<i>100</i>	<i>1,150</i>	<i>288</i>	<i>128</i>	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	COLBY		DATE	8/18/2015			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
02N	04E	02	COLBY	00U4	89.00	61	253	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		61	253	4.1							
CRUISE		30	128	4.3	8,716	1.5					
DBH COUNT											
REFOREST											
COUNT		30	124	4.1							
BLANKS		1									
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		127	97.6	19.1	73	44.4	193.9	25,719	24,694	6,518	6,503
WHEMLOCK		1	.3	21.0	73	0.2	.8	86	86	25	25
TOTAL		128	97.9	19.1	73	44.6	194.7	25,805	24,781	6,543	6,528
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		100.3	8.9	404	444	484					
WHEMLOCK											
TOTAL		100.3	8.9	403	443	482	402	100	45		
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		83.6	7.4	101	109	118					
WHEMLOCK											
TOTAL		83.5	7.4	101	109	117	278	70	31		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		48.0	6.1	92	98	104					
WHEMLOCK		781.0	99.9	0	0	1					
TOTAL		47.5	6.1	92	98	104	90	23	10		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		39.2	5.0	184	194	204					
WHEMLOCK		781.0	99.9	0	1	2					
TOTAL		38.8	5.0	185	195	204	60	15	7		
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		47.9	6.1	23,182	24,694	26,206					
WHEMLOCK		781.0	99.9	0	86	173					
TOTAL		47.5	6.1	23,274	24,781	26,288	90	23	10		
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		43.6	5.6	6,140	6,503	6,866					
WHEMLOCK		781.0	99.9	0	25	50					
TOTAL		43.3	5.5	6,166	6,528	6,890	75	19	8		
CL:	68.1 %	COEFF	TONS/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		43.5	5.6	175	186	196					
WHEMLOCK		781.0	99.9	0	1	2					
TOTAL		43.2	5.5	176	187	197	74	19	8		
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT		COLBY		DATE	8/18/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
02N	04E	02	COLBY	00U4	89.00	61	253	S	W	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				120	127	135				
WHEMLOCK		781.0	99.9	0	112	224				
TOTAL		<i>196.0</i>	<i>25.1</i>	<i>120</i>	<i>127</i>	<i>135</i>	<i>1,534</i>	<i>384</i>	<i>170</i>	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	COLBY		DATE	8/18/2015			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
02N	04E	02	COLBY	00U5	1.00	2	7	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		2	7	3.5							
CRUISE		2	7	3.5	139	5.0					
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		5	59.7	17.5	52	23.9	100.0	12,515	11,705	3,092	2,986
R ALDER		2	79.0	9.6	32	12.9	40.0	2,231	2,231	679	679
TOTAL		7	138.7	13.6	41	38.0	140.0	14,746	13,936	3,771	3,665
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF		SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		72.0	35.8	227	354	481					
R ALDER		60.6	56.8	15	35	55					
TOTAL		98.9	40.2	157	263	369	453	113	50		
CL:	68.1 %	COEFF		SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		67.0	33.3	59	89	118					
R ALDER		78.6	73.6	3	11	20					
TOTAL		92.4	37.6	42	67	92	396	99	44		
CL:	68.1 %	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		27.8	26.1	44	60	75					
R ALDER		63.7	59.7	32	79	126					
TOTAL		24.3	22.8	107	139	170	41	10	5		
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		28.3	26.5	74	100	126					
R ALDER				40	40	40					
TOTAL		20.2	18.9	114	140	166	29	7	3		
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		32.9	30.8	8,095	11,705	15,315					
R ALDER		3.9	3.6	2,150	2,231	2,312					
TOTAL		28.3	26.5	10,245	13,936	17,626	56	14	6		
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		42.5	39.8	1,798	2,986	4,174					
R ALDER		19.8	18.5	553	679	805					
TOTAL		31.0	29.0	2,602	3,665	4,728	67	17	7		
CL:	68.1 %	COEFF		TONS/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		45.9	43.0	50	88	126					
R ALDER		19.8	18.5	15	19	22					
TOTAL		34.4	32.2	72	107	141	83	21	9		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT		COLBY		DATE	8/18/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
02N	04E	02	COLBY	00U5	1.00	2	7	S	W	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		32.9	30.8	81	117	153				
R ALDER		3.9	3.6	54	56	58				
TOTAL		28.3	26.5	73	100	126	56	14	6	

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

T02N R02E S02 Ty00U1	45.0
T02N R04E S02 Ty00U2	72.0
T02N R04E S02 Ty00U	1.0

Project COLBY
Acres 296.00

Page No 1
Date: 8/18/2015
Time 1:36:13PM

Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	42,257	76,223	55,351	45.79	25.39	0.80	19,422	19,351	7,272	6,980
R ALDER	1,497	1,732	436	10.60	9.16	0.33	159	159	50	50
NOBLE F	482	624		27.51	21.25	0.61	134	133	44	43
WHEMLOCK	183	211	122	20.90	18.08	0.51	38	38	14	14
Totals	44,418	78,789	55,910	44.31	24.98	0.79	19,752	19,680	7,380	7,086

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
C	42,922	77,058	55,473	45.48	25.33	0.80	19,594	19,522	7,330	7,036
H	1,497	1,732	436	10.60	9.16	0.33	159	159	50	50
Totals	44,418	78,789	55,910	44.31	24.98	0.79	19,752	19,680	7,380	7,086



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

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

FPA/N No: 2931038
 Effective Date: 11/19/2015
 Expiration Date: 11/19/2018
 Shut Down Zone: 602, 660
 EARR Tax Credit: Eligible Non-eligible
 Reference: Colby TBS
30-092690

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 approved FPA/N

FPA/N Classification

Class II Class III Class IVG Class IVS

Number of Years Granted on Multi-Year Request

3 yrs 4 yrs 5 yrs

Conditions on Approval / Reasons for Disapproval

No additional conditions.

Issued By: Scott Hancock

Region: Pacific Cascade

Title: Forest Practices Forester

Date: 11/19/2015

Copies to: Landowner, Timber Owner and Operator.

Issued in person: Landowner Timber Owner Operator By: Bonnie Andrew

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.eho.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
Pacific Cascade Region
601 Bond Road
PO Box 280
Castle Rock, WA 98611

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 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.

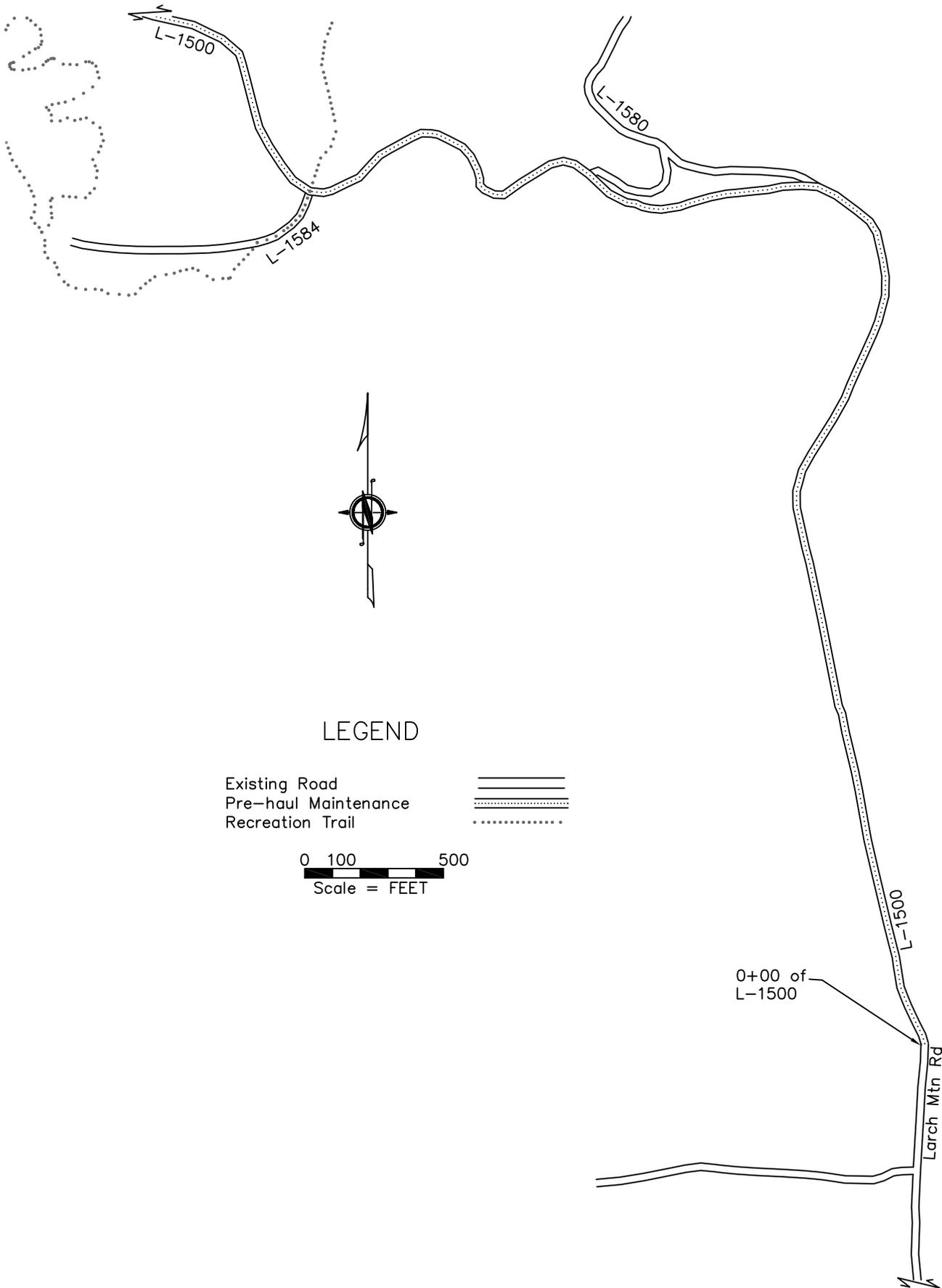
DNR affidavit of mailing:

On this day _____, I placed in the United States mail at _____ Castle Rock _____, WA,	
(date mm/dd/yyyy)	(post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # _____	
_____ (Printed name)	_____ (Signature)

COLBY

ROAD PLAN MAP

Map page 1 of 4



LEGEND

- Existing Road
- Pre-haul Maintenance
- Recreation Trail

0 100 500
Scale = FEET

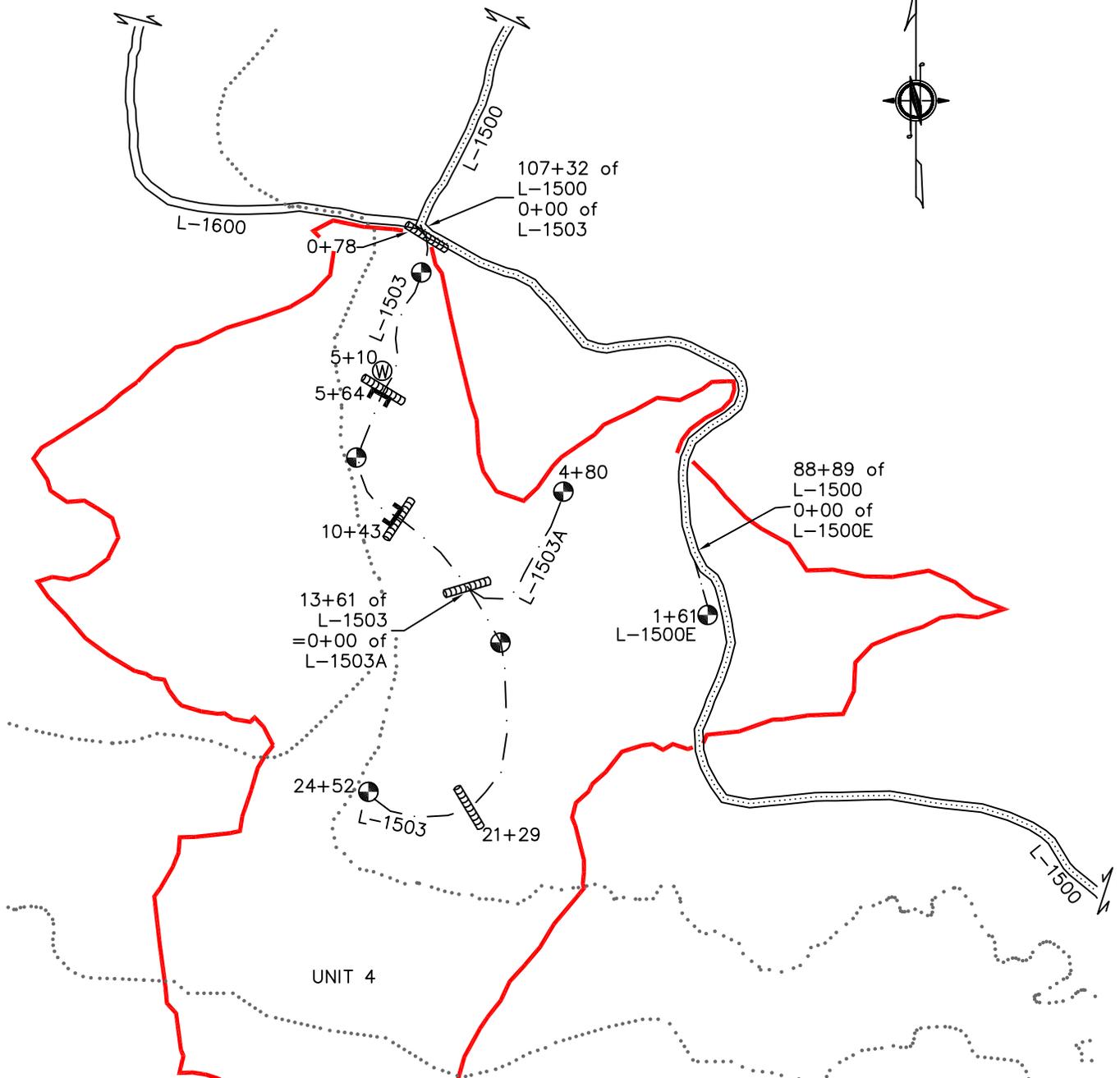
0+00 of
L-1500

Larch Mtn Rd

COLBY

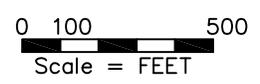
ROAD PLAN MAP

Map page 2 of 4



LEGEND

- Unit Boundary
- Existing Road
- Pre-haul Maintenance
- Optional Construction
- Recreation Trail
- Culvert
- Landing
- Full Bench Area
- Waste Area



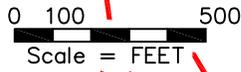
COLBY

ROAD PLAN MAP

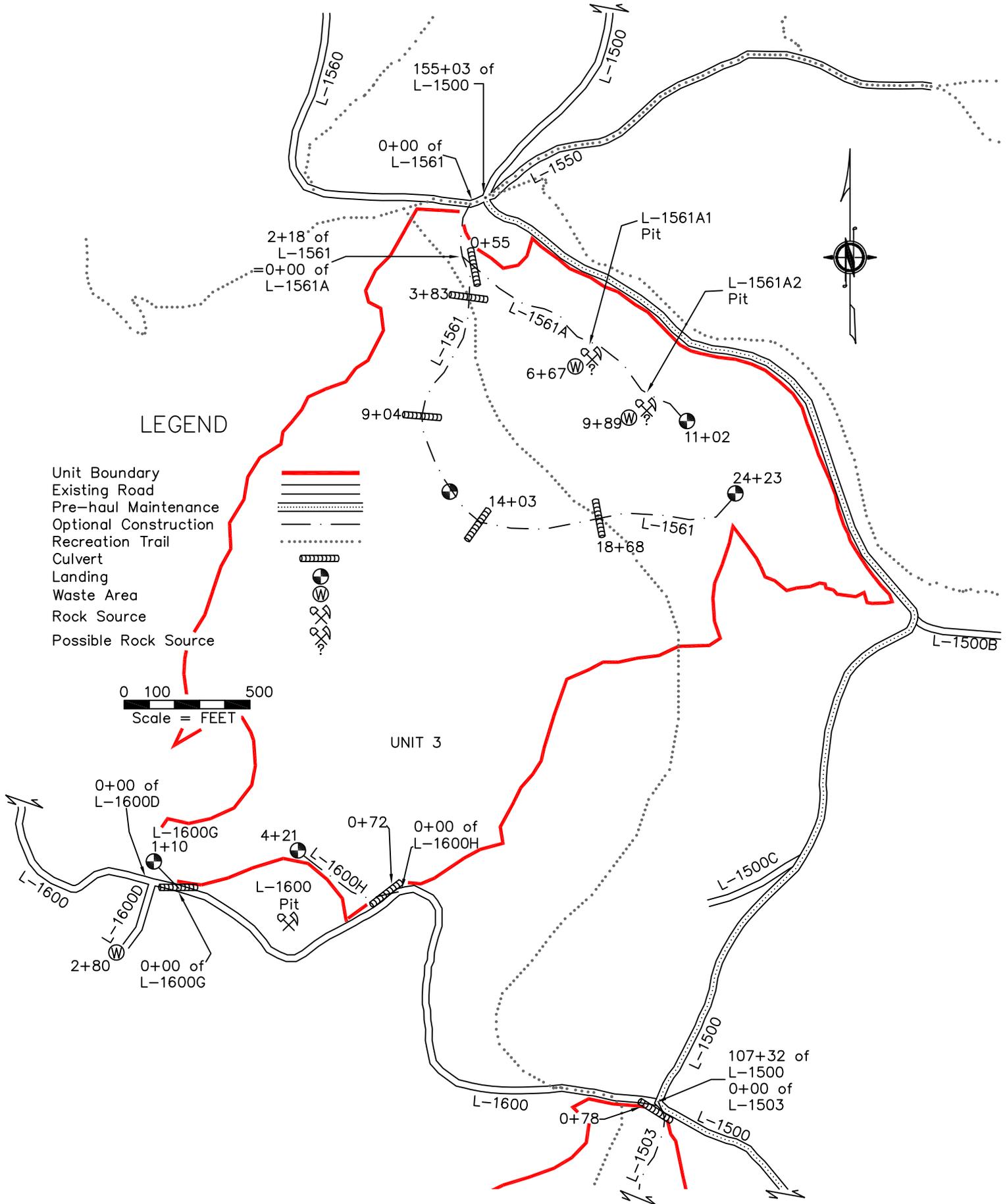
Map page 3 of 4

LEGEND

- Unit Boundary
- Existing Road
- Pre-haul Maintenance
- Optional Construction
- Recreation Trail
- Culvert
- Landing
- Waste Area
- Rock Source
- Possible Rock Source



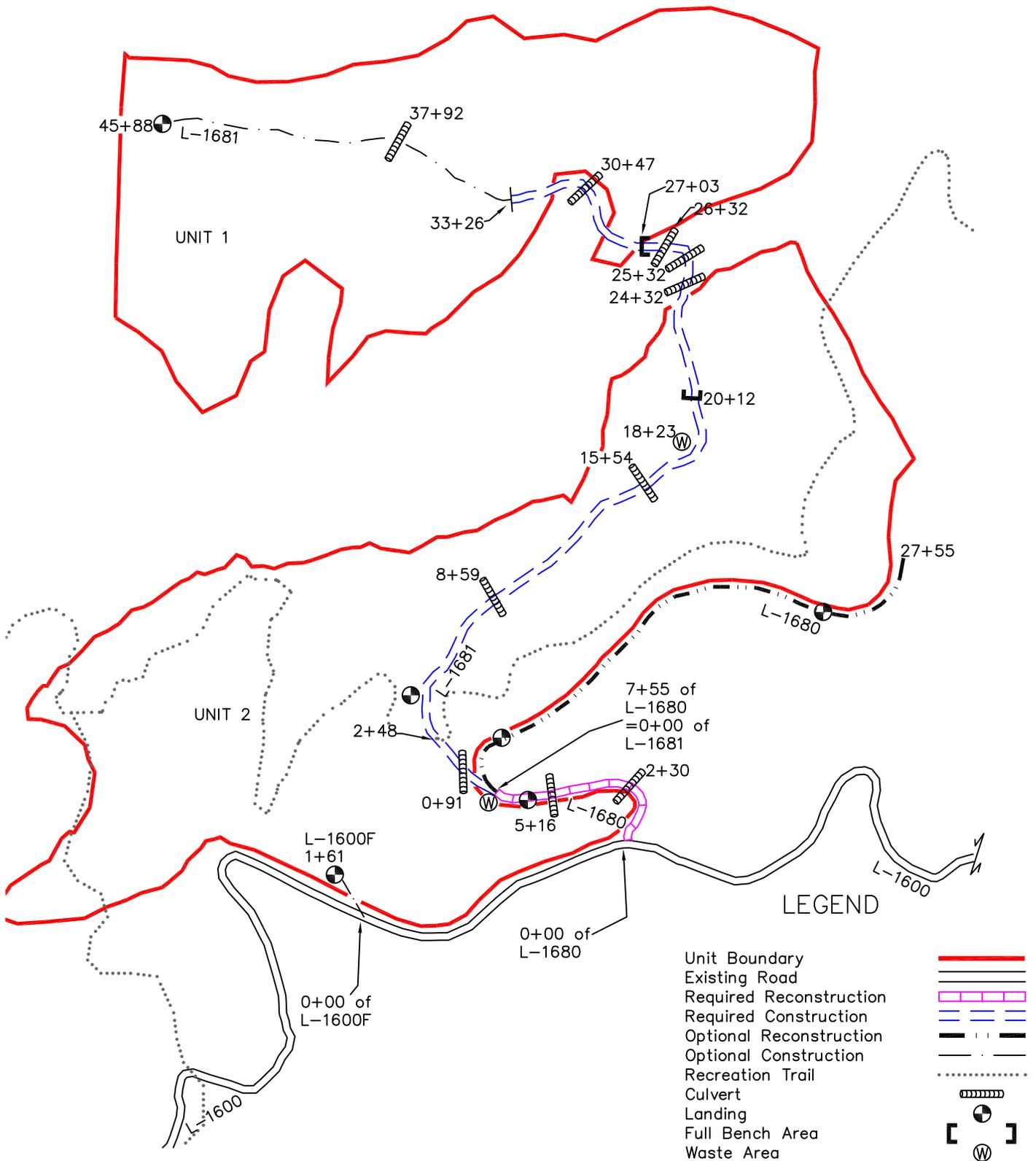
UNIT 3



COLBY

ROAD PLAN MAP

Map page 4 of 4



0 100 500
 Scale = FEET

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

COLBY TIMBER SALE ROAD PLAN
CLARK COUNTY
YACOLT DISTRICT

AGREEMENT NO.: 30-092690

STAFF ENGINEER: BRETT WALLACHY

CREATION DATE: 05/01/2015

DRAWN & COMPILED BY: ALICIA COMPTON

MODIFIED DATE: 1/12/2016

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>
L-1500	0+00 to 155+03	Pre-haul maintenance
L-1680	0+00 to 7+55	Reconstruction
L-1681	0+00 to 33+26	Construction

0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
L-1500E	0+00 to 1+61	Construction
L-1503	0+00 to 24+52	Construction
L-1503A	0+00 to 4+80	Construction
L-1561	0+00 to 24+23	Construction
L-1561A	0+00 to 11+02	Construction
L-1600F	0+00 to 1+61	Construction
L-1600G	0+00 to 1+10	Construction
L-1600H	0+00 to 4+21	Construction
L-1680	7+55 to 27+55	Reconstruction
L-1681	33+26 to 45+88	Construction

0-4 CONSTRUCTION

Construction includes, but is not limited to clearing, grubbing, excavation, embankment, cut, and fill to subgrade as shown on the TYPICAL SECTION SHEET; acquisition & installation of drainage structures as shown on the CULVERT LIST; turnout, landing, turnaround construction, acquisition, manufacture, and application of rock as shown on the ROCK LIST; any additional requirements specified in this road plan.

0-5 RECONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
L-1680	0+00 to 27+55	Reconstruct ditch as shown on the TYPICAL SECTION SHEET; acquisition & installation of drainage structures as shown on the CULVERT LIST; turnout, landing, turnaround construction, manufacture, and application of rock as shown on the ROCK LIST; any additional requirements specified in this road plan.

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>
L-1500	0+00 to 155+03	Grade and shape; acquisition and application of spot rock as shown on the ROCK LIST; any additional requirements specified in this road plan.

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

Purchaser may develop a new and/or an existing rock source. Rock source development will involve clearing, grubbing, stripping overburden, drill & shoot, and crushing. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

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

1-7 TEMPORARY ROAD CLOSURE

Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before the closure of any road. Construction may not close the following roads.

<u>Road</u>
L-1500
L-1560
L-1600

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer’s recommendation.

1-9 DAMAGED METALLIC COATING

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

1-15 ROAD MARKING

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

- Orange flagging and paint
- Stakes
- RP tags

1-16 CONSTRUCTION STAKES SET BY STATE

Purchaser shall perform work on the following roads in accordance with the construction stakes and reference points set in the field for grade and alignment. Reconstruction of existing road grades must conform to the original location except where construction staked or designed.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
L-1500E	0+00 to 1+61	Centerline stakes, reference points
L-1503	0+00 to 5+64	Centerline stakes, reference points
“	5+64 to 10+43	Centerline stakes, slope stakes, reference points
“	10+43 to 24+52	Centerline stakes, reference points
L-1503A	0+00 to 4+80	Centerline stakes, reference points
L-1561	0+00 to 24+23	Centerline stakes, reference points
L-1561A	0+00 to 11+02	Centerline stakes, reference points
L-1600F	0+00 to 1+51	Centerline stakes, reference points
L-1600G	0+00 to 2+45	Centerline stakes, reference points
L-1600H	0+00 to 3+20	Centerline stakes, reference points
L-1681	0+00 to 20+12	Centerline stakes, reference points
“	20+12 to 27+03	Centerline stakes, slope stakes, reference points
“	27+03 to 45+88	Centerline stakes, reference points

1-18 REFERENCE POINT DAMAGE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before work begins.

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction, drainage installation, and subgrade compaction
- Rock application and compaction

1-25 ACTIVITY TIMING RESTRICTION

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

<u>Activity</u>	<u>Closure Period</u>
Road work	October 1 to May 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, Purchaser shall provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan must be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

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

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

1-33 SNOW PLOWING RESTRICTION

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

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-4 PASSAGE OF LIGHT VEHICLES

Purchaser shall maintain all roads in a condition that will allow the passage of light administrative vehicles.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-5 CLEARING

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

3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 45%.
- Against standing trees unless approved by the Contract Administrator.

3-10 GRUBBING

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

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the clearing limits and in compliance with all other clauses in this road plan. Stumps must be positioned upright, on stable locations.

3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

Purchaser is not required to remove stumps within waste areas if they are cut flush with the ground.

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

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

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris are located as listed below.

<u>Road</u>	<u>Disposal Location</u>
L-1503	5+10 right of the road
L-1561A	6+67 right of the road
L-1561A	9+89 right of the road
L-1600D	2+80
L-1680	7+55 left of the road
L-1681	18+23 left of the road

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

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

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the clearing limits unless otherwise detailed in this road plan.

3-32 END HAULING ORGANIC DEBRIS

On the following roads, and on slopes greater than 45%, Purchaser shall end haul or push organic debris to the designated waste areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS.

<u>Road</u>	<u>Stations</u>
L-1503	5+64 to 10+43
L-1681	20+12 to 27+03

SECTION 4 – EXCAVATION

4-2 PIONEERING

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

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-4 SWITCHBACK STANDARDS

A switchback is defined as a curved segment of road between a beginning and end of the same curve, where the change of traffic travel direction is greater than 90 degrees.

Purchaser shall follow these standards for switchbacks:

- Maximum adverse grades for switchbacks is 10%.
- Maximum favorable grades for switchbacks is 12%.
- Maximum transition grades entering and leaving switchbacks is a 5% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

4-5 CUT SLOPE RATIO

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

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (on side slopes up to 55%)	1:1	100
Common Earth (56% to 70% side slopes)	¾:1	133
Common Earth (on slopes over 70%)	½:1	200
Fractured or loose rock	½:1	200
Hardpan or solid rock	¼:1	400

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-10 WIDEN THE EXISTING SUBGRADE

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

<u>Road</u>	<u>Stations</u>
L-1680	0+00 to 7+55

4-12 FULL BENCH CONSTRUCTION

On the following roads, and where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width. Purchaser shall end haul waste material to the location specified in Clause 4-37 WASTE AREA LOCATION.

<u>Road</u>	<u>Full Bench Location</u>	<u>Comments</u>
L-1503	5+64 to 10+43	Full bench, end haul, side slopes 45-70%
L-1681	20+12 to 27+03	Full bench, end haul, side slopes 45-70%

4-21 TURNOUTS

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

4-22 TURNAROUNDS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-27 DITCH WORK – MATERIAL USE PROHIBITED

On the following road, Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be disposed of as specified in Clause 4-36 DISPOSAL OF WASTE MATERIAL.

<u>Road</u>	<u>Stations</u>
L-1680	0+00 to 27+55

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

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

4-35 WASTE MATERIAL DEFINITION

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

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 45% if the waste material is compacted and free of organic debris. On side slopes greater than 45%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in the listed designated areas. The amount of material allowed in a waste area is as listed.

<u>Road</u>	<u>Waste Area Location</u>	<u>Volume</u>
L-1503	5+10 right of the road	7000
L-1561A	6+67 right of the road	3000
L-1561A	9+89 right of the road	1000
L-1600D	2+80	1000
L-1680	7+55 left of the road	1000
L-1681	18+23 left of the road	5000

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- Within a riparian management zone.
- On side slopes steeper than 45%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.

4-47 NATIVE MATERIAL

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 6 inches in any dimension.

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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

4-60 FILL COMPACTION

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

4-61 SUBGRADE COMPACTION

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

4-62 DRY WEATHER COMPACTION

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

4-63 EXISTING SURFACE COMPACTION

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

SECTION 5 – DRAINAGE

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-15 through 10-23.

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>	<u>Stations</u>
L-1503	0+00 to 24+52
L-1503A	0+00 to 4+80
L-1561	0+00 to 24+23
L-1561A	0+00 to 11+02
L-1600G	0+00 to 1+10
L-1600H	0+00 to 4+21
L-1681	33+26 to 45+88

5-11 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer’s recommendations.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Purchaser shall obtain written approval from the Contract Administrator for the installation of culverts 30 inches in diameter and over before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

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.

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT LIST. Rock used for energy dissipaters must be PIT RUN ROCK. Energy dissipaters must extend a minimum of 1 foot to each side of the culvert at the outlet and a minimum of 2 feet beyond the outlet. Placement must be by zero-drop-height method only. PIT RUN ROCK shall meet the specifications in Clause 6-41 PIT RUN ROCK.

5-25 CATCH BASINS

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 2 feet wide and 4 feet long.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock used for headwalls must be PIT RUN ROCK. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be by zero-drop-height method only. PIT RUN ROCK shall meet the specifications in Clause 6-41 PIT RUN ROCK.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culvert, Purchaser shall place HEAVY LOOSE RIP RAP in conjunction with or immediately following construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the CULVERT LIST. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be by zero-drop-height method only. HEAVY LOOSE RIP RAP shall meet the specifications in Clause 6-51 HEAVY LOOSE RIP RAP.

<u>Road</u>	<u>Stations</u>
L-1681	25+32

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following sources on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock sources, a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Type</u>
L-1561A1 Pit	T2N, R4E, S2	Potential rock source
L-1561A2 Pit	T2N, R4E, S2	Potential rock source
L-1600 Pit	T2N, R4E, S11	Existing rock source

6-5 ROCK FROM COMMERCIAL SOURCE

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

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

Purchaser shall conduct rock source development and use at the following sources, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state and included in this road plan. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator. Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the rock source.

6-20 ROCK GRADATION TYPES

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

6-23 ROCK CRUSHING OPERATIONS

Rock crushing operations must conform to the following specifications:

- Operations and placement of oversize material must be conducted in or near the rock source site, as approved in writing by the Contract Administrator.
- The crushing operation must be concluded within 30 working days from the time it begins.
- Purchaser may use a commercial testing lab to produce sieve analyses.

6-28 1 ¼-INCH MINUS CRUSHED ROCK

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

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

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

6-37 4-INCH JAW RUN ROCK

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

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

6-41 PIT RUN ROCK

No more than 50 percent of the rock may be larger than 8 inches in any dimension and no rock may be larger than 12 inches in any dimension. Pit Run rock may not contain more than 5 percent by weight of organic debris, dirt, and trash. Rock may require processing to meet this specification.

6-51 HEAVY LOOSE RIP RAP

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

<u>At Least/Not More Than</u>	<u>Size Range</u>
30% / 90%	36"- 54"
70% / 90%	24"- 42"
10% / 30%	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 ROCK LIST are loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

6-56 ROCK MEASUREMENT BY TRUCK VOLUME

Measurement of PIT RUN ROCK, HEAVY LOOSE RIP RAP, and 4-INCH JAW RUN ROCK used for turnouts, landings, turnarounds, and stockpile rock is on a cubic yard truck measure basis. Purchaser shall measure each truck box before rock hauling. An average of such volumes for each truck will be used to tally the volume hauled. The Contract Administrator may periodically require that a load be flattened off and its volume calculated. Purchaser shall maintain load tally sheets for each truck as shown in ROCK ACCOUNTABILITY DETAIL and shall give them to the Contract Administrator on a weekly basis during rocking operations.

6-57 ROCK MEASUREMENT BY TRUCK SCALE

Measurement of the commercial rock is on scaled truck weight. Purchaser shall provide the Contract Administrator with all scale sheets.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade construction, drainage installation, and subgrade compaction before rock application.

6-71 ROCK APPLICATION

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

6-73 ROCK FOR WIDENED PORTIONS

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

6-75 OPTIONAL ROCK EXCEPTION

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

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

<u>Road</u>	<u>Stations</u>	<u>Options</u>
L-1500E	0+00 to 1+61	Optional rock
L-1503	0+00 to 24+52	Optional rock
L-1503A	0+00 to 4+80	Optional rock
L-1561	0+00 to 24+23	Optional rock
L-1561A	0+00 to 11+02	Optional rock
L-1600F	0+00 to 1+61	Optional rock
L-1600G	0+00 to 1+10	Optional rock
L-1600H	0+00 to 4+21	Optional rock
L-1680	7+55 to 27+55	Optional rock
L-1681	33+26 to 45+88	Optional rock

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Contractor shall provide and evenly spread a 6-inch layer of straw to all exposed soils within 50 feet of a stream or wetland. Soils may not sit exposed during any rain event.

8-15 REVEGETATION

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

<u>Road</u>	<u>Stations</u>	<u>Qty (lbs)*</u>	<u>Comments</u>
Rock pits and rock pit waste areas	-	120	-
L-1500E	0+00 to 1+61	7	Construction
"	0+00 to 1+61	9	Abandonment
L-1503	0+00 to 24+52	99	Construction
"	0+00 to 24+52	135	Abandonment
"	5+10	40	Waste area
L-1503A	0+00 to 4+80	19	Construction
"	0+00 to 4+80	26	Abandonment
L-1561	0+00 to 24+23	98	Construction
"	0+00 to 24+23	133	Abandonment
L-1561A	0+00 to 11+02	45	Construction
"	0+00 to 11+02	61	Abandonment
L-1600F	0+00 to 1+51	6	Construction
"	0+00 to 1+51	8	Abandonment
L-1600G	0+00 to 2+45	10	Construction
"	0+00 to 2+45	13	Abandonment
L-1600H	0+00 to 3+20	13	Construction
"	0+00 to 3+20	18	Abandonment
L-1680	0+00 to 7+55	31	Reconstruction
"	7+55 to 26+32	76	Reconstruction
"	7+55 to 26+32	103	Abandonment
L-1681	0+00 to 33+26	134	Construction
"	33+26 to 45+88	51	Construction
"	33+26 to 45+88	70	Abandonment

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

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the grass seed.

8-17 REVEGETATION TIMING

Purchaser shall revegetate between March 1 and September 30. Soils may not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the grass seed in areas that have failed to germinate or have been damaged through any cause. Restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the grass seed 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 40 pounds per acre of exposed soil. Grass seed must meet the following specifications:

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

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

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

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

<u>Road</u>	<u>Stations</u>
L-1503	1+00
L-1561	1+00
L-1600H	1+00
L-1680	8+55
L-1681	34+26

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-5 POST-HAUL MAINTENANCE

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

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

9-21 ROAD ABANDONMENT

Purchaser shall abandon the following roads before the termination of this contract. Work must be in accordance with the ROAD ABANDONMENT CROSS SECTIONS DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
L-1500E	0+00 to 1+61	Light abandonment
L-1503	0+00 to 24+52	Light abandonment
L-1503A	0+00 to 4+80	Light abandonment
L-1561	0+00 to 24+23	Light abandonment
L-1561A	0+00 to 11+02	Light abandonment
L-1600F	0+00 to 1+61	Light abandonment
L-1600G	0+00 to 1+10	Light abandonment
L-1600H	0+00 to 4+21	Light abandonment
L-1680	7+55 to 27+55	Light abandonment
L-1681	33+26 to 45+88	Light abandonment

9-22 LIGHT ABANDONMENT

- Remove road shoulder berms except as directed.
- Rip the surface to a minimum depth of 18 inches.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Cover, concurrently with abandonment, all exposed soils within 50 feet of any live stream, with a 6-inch deep layer of straw.
- Scatter woody debris onto abandoned road surfaces.

SECTION 10 MATERIALS

10-17 CORRUGATED PLASTIC CULVERT

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

10-22 PLASTIC BAND

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

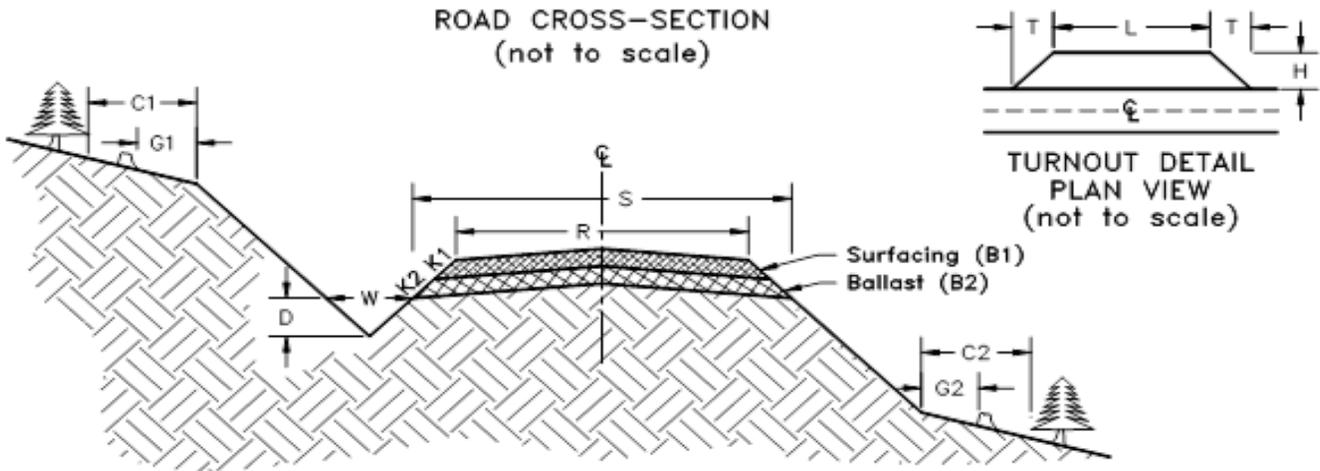
SECTION 11 SPECIAL NOTES

11-1 TRAIL AND ROAD INTERSECTIONS

On the following roads, Purchaser shall construct dirt ramps on the trails to allow for a smooth transition between the trail and road surface.

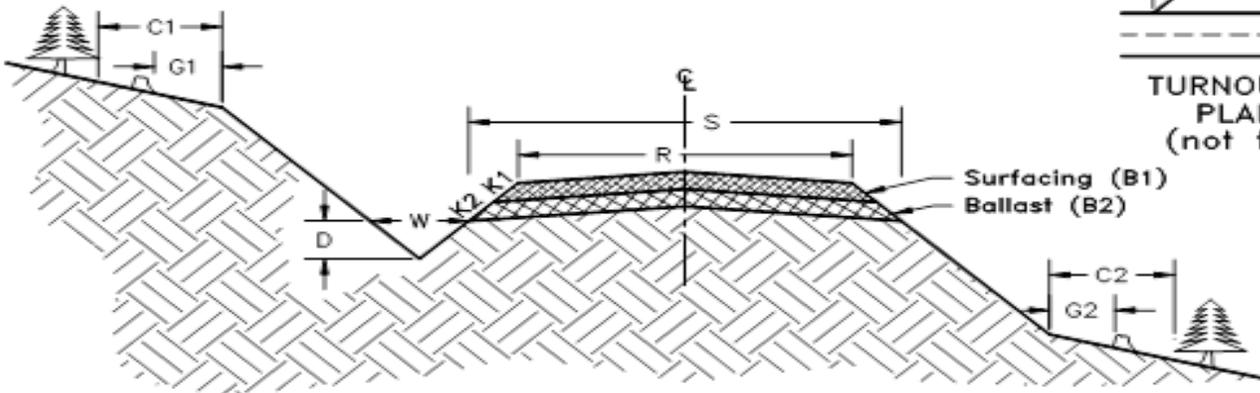
<u>Road</u>	<u>Stations</u>
L-1561	3+83, 18+68
L-1681	2+48

TYPICAL SECTION SHEET



Road Number	Station		Tolerance Class	Width (ft)		Ditch (ft)		Crown at CL (in)	Grubbing Limits (ft)		Clearing Limits (ft)	
	From	To		Subgrade S	Road R	Width W	Depth D		G1	G2	C1	C2
L-1500	0+00	155+03	A	-	-	-	-	-	-	-	-	-
L-1500E	0+00	1+61	C	16	12	3	1	4	5	5	10	10
L-1503	0+00	24+52	C	16	12	3	1	4	5	5	10	10
L-1503A	0+00	4+80	C	16	12	3	1	4	5	5	10	10
L-1560	0+00	2+57	A	-	-	-	-	-	-	-	-	-
L-1561	0+00	24+23	C	16	12	3	1	4	5	5	10	10
L-1561A	0+00	11+02	C	16	12	3	1	4	5	5	10	10
L-1600	0+00	148+81	A	-	-	-	-	-	-	-	-	-
L-1600F	0+00	1+61	C	16	12	3	1	4	5	5	10	10
L-1600G	0+00	1+10	C	16	12	3	1	4	5	5	10	10
L-1600H	0+00	4+21	C	16	12	3	1	4	5	5	10	10
L-1680	0+00	27+55	A	-	12	3	1	4	5	5	10	10
L-1681	0+00	45+88	C	16	12	3	1	4	5	5	10	10

ROAD CROSS-SECTION
(not to scale)



1 1/4-INCH MINUS CRUSHED ROCK

				<u>Compacted</u>								
				Rock	Rock				<u>Turnout (ft)</u>			
Road	Station		Slope (H:V)	Depth (in)	CY/	No. of	CY	Rock	Length	Width	Taper	
Number	From	To	K1	B1	Station	Stations	Subtotal	Source	L	H	T	
L-1500	Spot rock	-	-	-	-	-	300	Commercial				

1 1/4-INCH MINUS CRUSHED ROCK TOTAL 300 Cubic Yards

4-INCH JAW RUN ROCK

				<u>Compacted</u>								
				Rock	Rock				<u>Turnout (ft)</u>			
Road	Station		Slope (H:V)	Depth (in)	CY/	No. of	CY	Rock	Length	Width	Taper	
Number	From	To	K1	B1	Station	Stations	Subtotal	Source	L	H	T	
All	Stockpile rock	-	-	-	-	-	1000	Any				
L-1500E	Junction	-	1.5:1	12	-	-	10	"				
*	0+00	1+61	1.5:1	12	63	1.61	101	"				
*	Landing	-	1.5:1	-	50	1	50	"				
L-1503	Junction	-	1.5:1	12	-	-	10	"				
*	0+00	24+52	1.5:1	12	63	24.52	1,545	"				
*	Curve widening	-	1.5:1	12	-	-	46	"				
*	Turnout	-	1.5:1	12	35	1	35	"	50	10	25	
*	Landing	-	1.5:1	-	50	4	200	"				
*	Turnaround	-	1.5:1	12	42	1	42	"				
L-1503A	Junction	-	1.5:1	12	-	-	10	"				
*	0+00	4+80	1.5:1	12	63	4.80	302	"				
*	Curve widening	-	1.5:1	12	-	-	9	"				
*	Landing	-	1.5:1	-	50	1	50	"				
*	Turnaround	-	1.5:1	12	42	1	42	"				
L-1561	Junction	-	1.5:1	12	-	-	10	"				
*	0+00	24+23	1.5:1	12	63	24.23	1,526	"				
*	Curve widening	-	1.5:1	12	-	-	46	"				

ROCK LIST
(Page 2 of 3)

4-INCH JAW RUN ROCK

Road Number	Station From	Station To	Rock		CY/Station	No. of Stations	CY Subtotal	Rock Source	Turnout (ft)		
			Slope (H:V)	Depth (in)					Length	Width	Taper
	Turnout	-	1.5:1	12	35	1	35	"	50	10	25
	Landing	-	1.5:1	-	50	2	100	"			
	Turnaround	-	1.5:1	12	42	2	84	"			
L-1561A	Junction	-	1.5:1	12	-	-	10	"			
	0+00	11+02	1.5:1	12	63	11.02	694	"			
	Curve widening	-	1.5:1	12	-	-	21	"			
	Turnout	-	1.5:1	12	35	1	35	"	50	10	25
	Landing	-	1.5:1	-	50	2	100	"			
	Turnaround	-	1.5:1	12	42	1	42	"			
L-1600F	Junction	-	1.5:1	12	-	-	10	"			
	0+00	1+61	1.5:1	12	63	1.61	101	"			
	Landing	-	1.5:1	-	50	1	50	"			
L-1600G	Junction	-	1.5:1	12	-	-	10	"			
	0+00	1+10	1.5:1	12	63	1.10	69	"			
	Landing	-	1.5:1	-	50	1	50	"			
L-1600H	Junction	-	1.5:1	12	-	-	10	"			
	0+00	4+21	1.5:1	12	63	4.21	265	"			
	Landing	-	1.5:1	-	50	1	50	"			
	Turnaround	-	1.5:1	12	42	1	42	"			
L-1680	Junction	-	1.5:1	6	-	-	10	"			
	0+00	7+55	1.5:1	6	30	7.55	227	"			
	Curve widening	-	1.5:1	6	-	-	7	"			
	Landing	-	1.5:1	-	50	1	50	"			
	Turnaround	-	1.5:1	12	42	1	42	"			
	7+55	27+55	1.5:1	6	30	20.00	600	"			
	Curve widening	-	1.5:1	6	-	-	18	"			
	Turnout	-	1.5:1	12	35	1	35	"	50	10	25
	Landing	-	1.5:1	-	50	2	100	"			
	Turnaround	-	1.5:1	12	42	1	42	"			
L-1681	Junction	-	1.5:1	12	-	-	10	"			
	0+00	33+26	1.5:1	12	63	33.26	2,095	"			
	Curve widening	-	1.5:1	12	-	-	63	"			
	Turnout	-	1.5:1	12	35	1	35	"	50	10	25
	Landing	-	1.5:1	-	50	2	100	"			
	Turnaround	-	1.5:1	12	42	1	42	"			
	33+26	45+88	1.5:1	12	63	12.62	795	"			
	Curve widening	-	1.5:1	12	-	-	24	"			
	Turnout	-	1.5:1	12	35	1	35	"	50	10	25
	Landing	-	1.5:1	-	50	4	200	"			
	Turnaround	-	1.5:1	12	42	1	42	"			

4-INCH JAW RUN ROCK TOTAL 11386 Cubic Yards

* Optional rock, see Road Plan Clause 6-75

ROCK LIST
(Page 3 of 3)

PIT RUN ROCK

				<u>Compacted</u>							
				<u>Rock</u>	<u>Rock</u>			<u>Turnout (ft)</u>			
<u>Road</u>	<u>Station</u>		<u>Slope (H:V)</u>	<u>Depth (in)</u>	<u>CY/</u>	<u>No. of</u>	<u>CY</u>	<u>Rock</u>	<u>Length</u>	<u>Width</u>	<u>Taper</u>
<u>Number</u>	<u>From</u>	<u>To</u>	<u>K1</u>	<u>B1</u>	<u>Station</u>	<u>Stations</u>	<u>Subtotal</u>	<u>Source</u>	<u>L</u>	<u>H</u>	<u>T</u>
L-1503	Energy Dissipater	-	-	-	-	-	10	Any			
L-1561	Energy Dissipater	-	-	-	-	-	8	"			
L-1561A	Energy Dissipater	-	-	-	-	-	2	"			
L-1600G	Energy Dissipater	-	-	-	-	-	2	"			
L-1600H	Energy Dissipater	-	-	-	-	-	2	"			
L-1680	Energy Dissipater	-	-	-	-	-	4	"			
L-1681	Energy Dissipater	-	-	-	-	-	14	"			

PIT RUN ROCK TOTAL 42 Cubic Yards

HEAVY LOOSE RIP RAP

				<u>Compacted</u>							
				<u>Rock</u>	<u>Rock</u>			<u>Turnout (ft)</u>			
<u>Road</u>	<u>Station</u>		<u>Slope (H:V)</u>	<u>Depth (in)</u>	<u>CY/</u>	<u>No. of</u>	<u>CY</u>	<u>Rock</u>	<u>Length</u>	<u>Width</u>	<u>Taper</u>
<u>Number</u>	<u>From</u>	<u>To</u>	<u>K1</u>	<u>B1</u>	<u>Station</u>	<u>Stations</u>	<u>Subtotal</u>	<u>Source</u>	<u>L</u>	<u>H</u>	<u>T</u>
L-1681	Stream Armoring	-	-	-	-	-	40	Any			

HEAVY LOOSE RIP RAP TOTAL 40 Cubic Yards

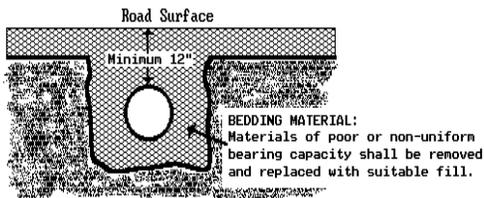
CULVERT LIST

Road		Culvert		Length (ft)			Rip Rap			Backfill/ Bedding		Construction	
Number	Station	Diameter (in)	Gauge	Culvert	Downspout	Flume	Inlet (CY)	Outlet (CY)	Type	(CY)	Type	Staked (Y/N)	Remarks
L-1503	0+78	18	-	40	-	-	1	1	PR	-	NT	N	-
"	5+64	18	-	30	-	-	1	1	PR	-	NT	N	-
"	10+43	18	-	30	-	-	1	1	PR	-	NT	N	-
"	13+61	18	-	40	-	-	1	1	PR	-	NT	N	-
"	21+29	18	-	30	-	-	1	1	PR	-	NT	N	-
L-1561	3+83	18	-	40	-	-	1	1	PR	-	NT	N	-
"	9+04	18	-	30	-	-	1	1	PR	-	NT	N	-
"	14+03	18	-	30	-	-	1	1	PR	-	NT	N	-
"	18+68	18	-	40	-	-	1	1	PR	-	NT	N	-
L-1561A	0+55	18	-	30	-	-	1	1	PR	-	NT	N	-
L-1600G	0+00	18	-	40	-	-	1	1	PR	-	NT	N	-
L-1600H	0+72	18	-	30	-	-	1	1	PR	-	NT	N	-
L-1680	2+30	18	-	30	-	-	1	1	PR	-	NT	N	-
"	5+16	18	-	30	-	-	1	1	PR	-	NT	N	-
L-1681	0+91	18	-	30	-	-	1	1	PR	-	NT	N	-
"	8+59	18	-	30	-	-	1	1	PR	-	NT	N	-
"	15+54	18	-	30	-	-	1	1	PR	-	NT	N	-
"	24+32	18	-	30	-	-	1	1	PR	-	NT	N	-
"	25+32	36	-	60	-	-	20	20	HL	-	NT	Y	Type 4
"	26+32	18	-	30	-	-	1	1	PR	-	NT	N	-
"	30+47	18	-	40	-	-	1	1	PR	-	NT	N	-
"	37+92	18	-	30	-	-	1	1	PR	-	NT	N	-

CULVERT BACKFILL AND BASE PREPARATION
(For culverts less than 36")

Key

- Downspout- Full round pipe
- Flume- Half round pipe
- PR- PIT RUN ROCK
- HL- HEAVY LOOSE RIP RAP
- NT- Native

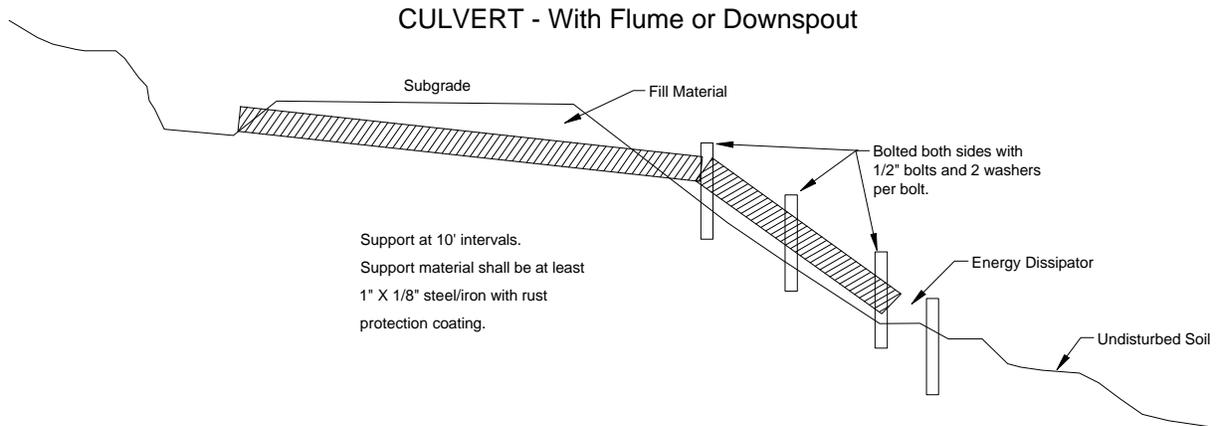
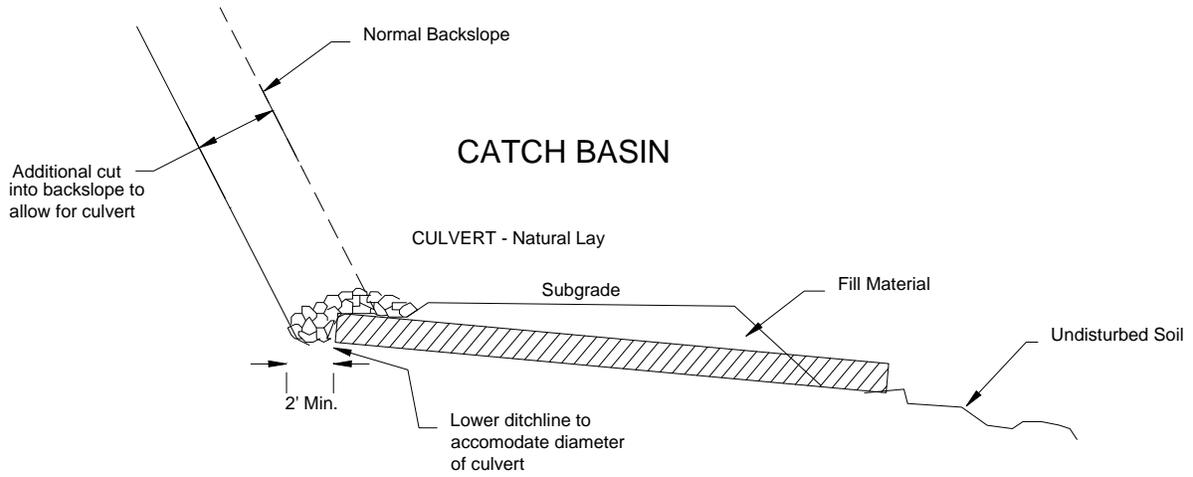


COMPACTION LIST

								<u>Maximum</u>
				<u>Maximum</u>		<u>Equipment</u>	<u>Minimum</u>	<u>Operating</u>
<u>Road</u>	<u>Station</u>			<u>Depth per</u>	<u>Equipment</u>	<u>Weight</u>	<u>Number</u>	<u>Speed</u>
<u>Number</u>	<u>From</u>	<u>To</u>	<u>Type</u>	<u>Lift (in)</u>	<u>Type</u>	<u>(pounds)</u>	<u>of Passes</u>	<u>(MPH)</u>
All			Waste Area	24	Excavation	30000	2	-
All			Fill	12	Excavation	30000	2	-
All			Embankment	12	Excavation	30000	2	-
All			Subgrade	12	Vibratory Smooth Drum	14000	4	3
All			Rock	12	Vibratory Smooth Drum	14000	5	3

CULVERT AND DRAINAGE SPECIFICATION DETAIL

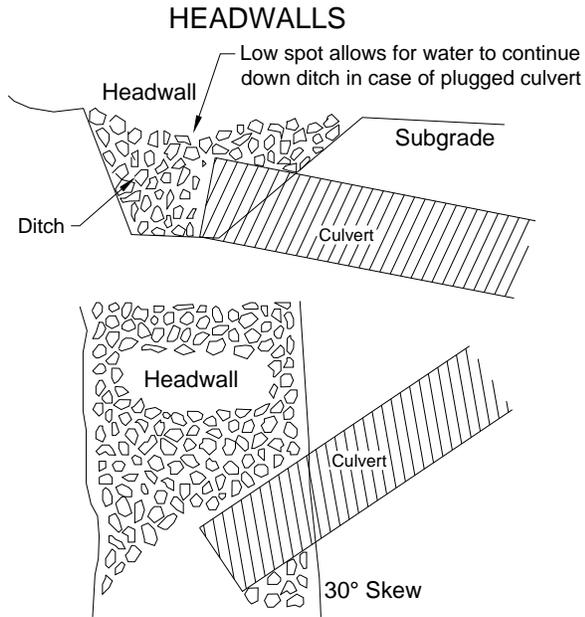
(Page 1 of 3)



CULVERT AND DRAINAGE SPECIFICATION DETAIL

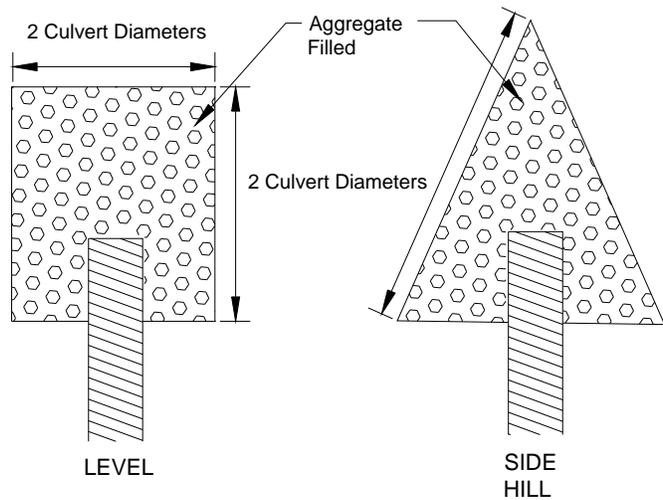
(Page 2 of 3)

Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense unyielding base. The backfill material shall be placed so that the pipe is uniformly supported along the barrel.



Headwalls to be constructed of material that will resist erosion.

ENERGY DISSIPATORS



Dissipator Specifications:
Depth: 1 culvert diameter
Aggregate: as specified in the CULVERT LIST.

CULVERT AND DRAINAGE SPECIFICATION DETAIL

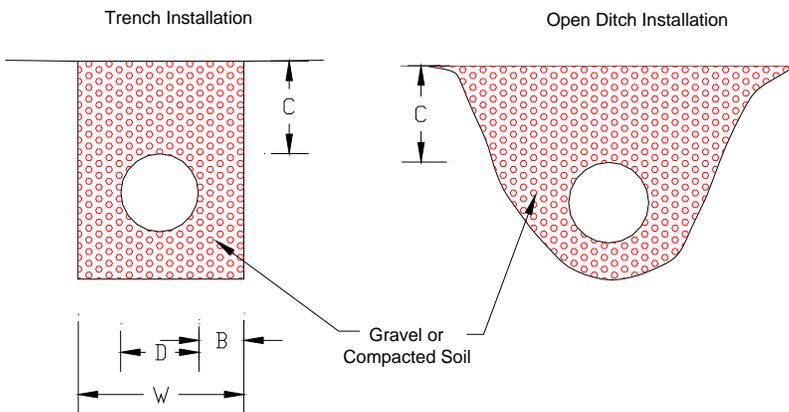
(Page 3 of 3)

POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.
2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.
3. Either crushed aggregate or flexible (asphalt) pavement may be laid as part of the minimum cover requirements.
4. Site conditions and availability of bedding materials often dictate the type of installation method used.
5. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.

MINIMUM DIMENSIONS Trench or Open Ditch Installation



Nominal Diameter	Minimum Thickness	Minimum Cover	Min. Trench Width
D	B	C	W
18"	6"	12"	36"
24"	6"	12"	42"
30"	6"	12"	48"
36"	6"	12"	54"

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

Cuts and Fills

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

Drainage

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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

Preventative Maintenance

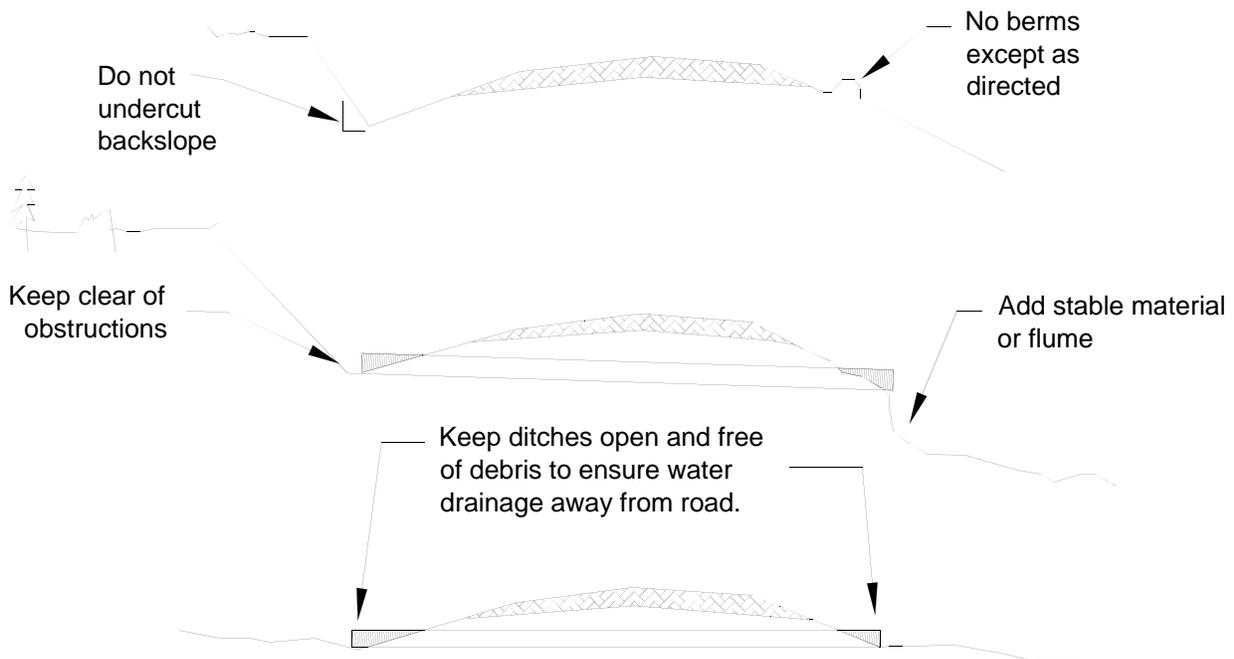
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

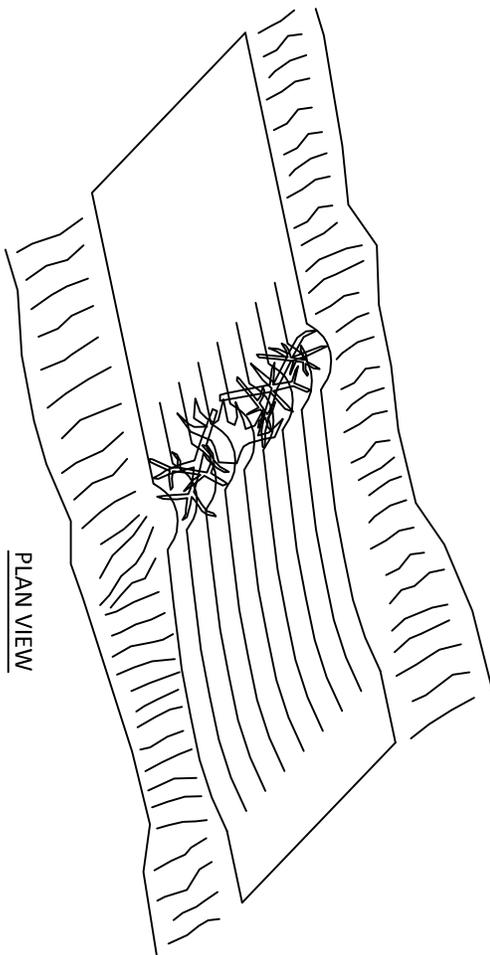
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

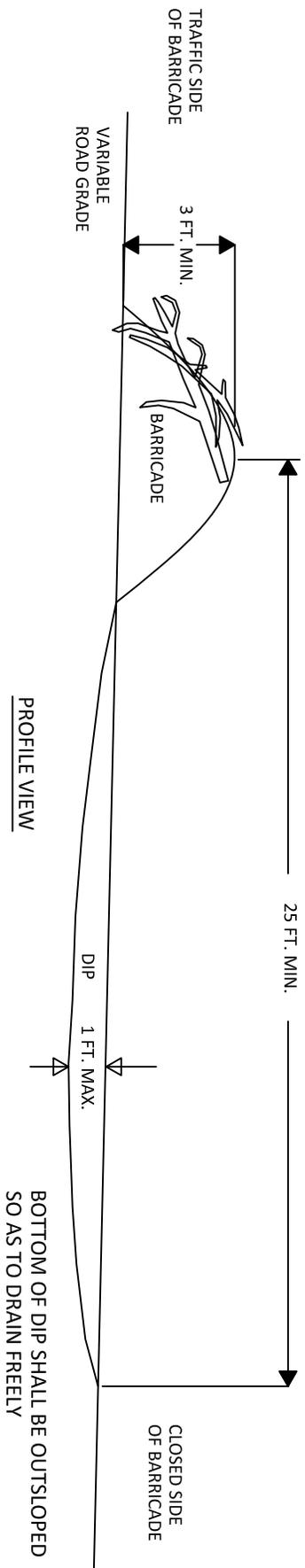
- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



EARTHEN BARRICADE DETAIL

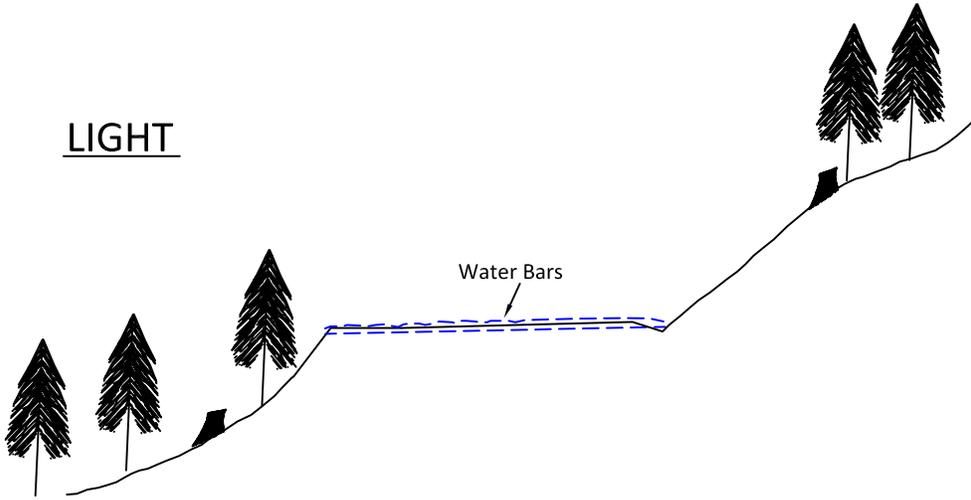


SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.

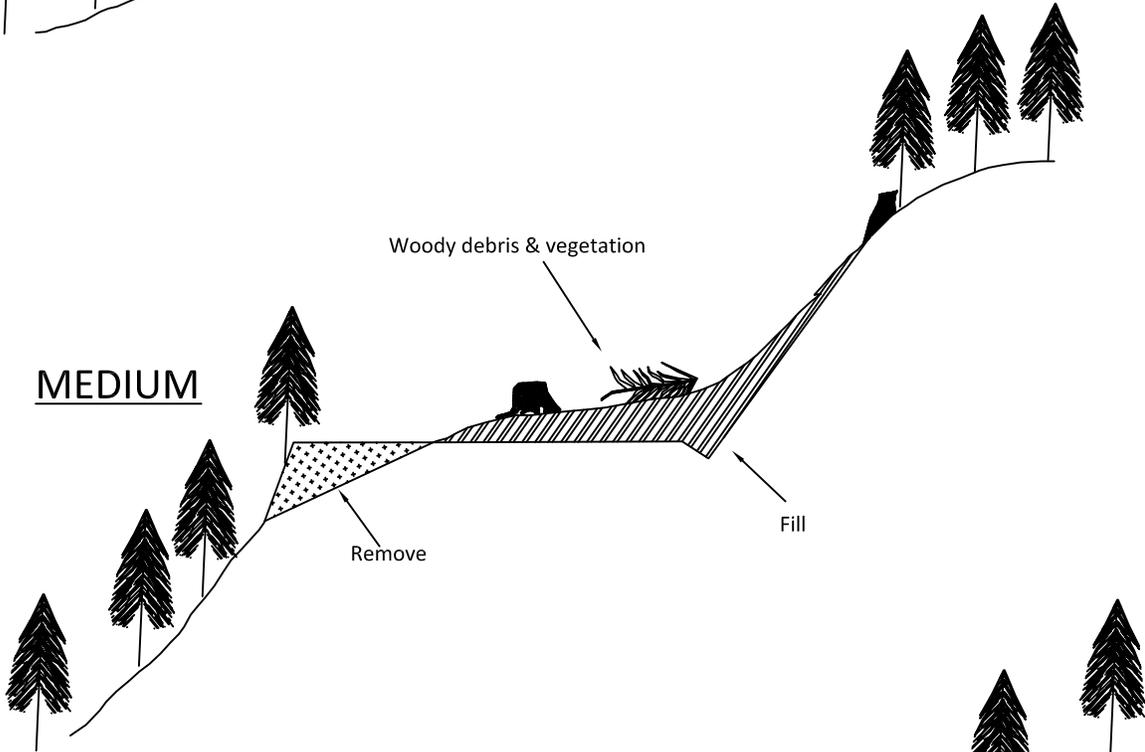


ROAD ABANDONMENT CROSS SECTIONS

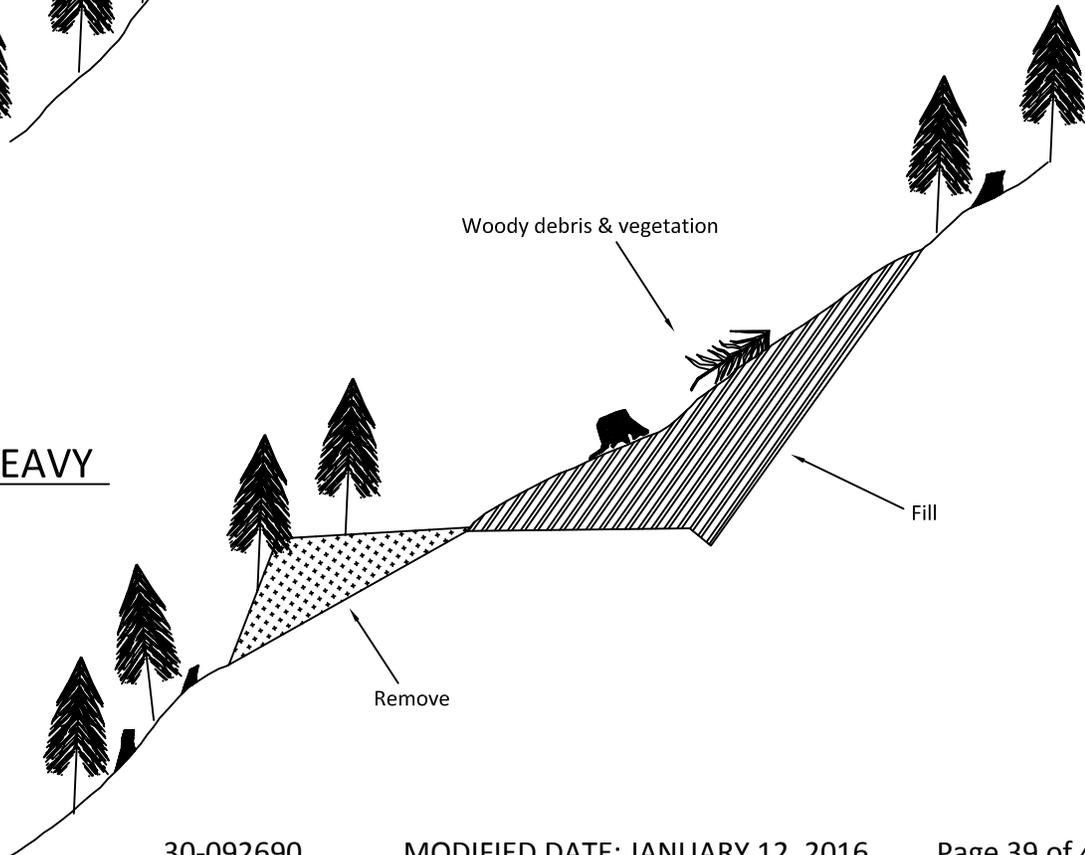
LIGHT



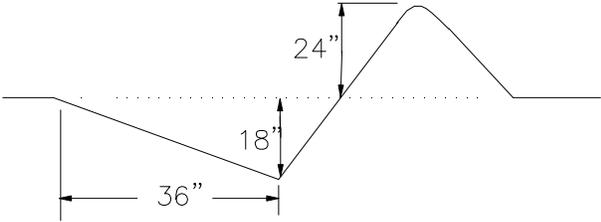
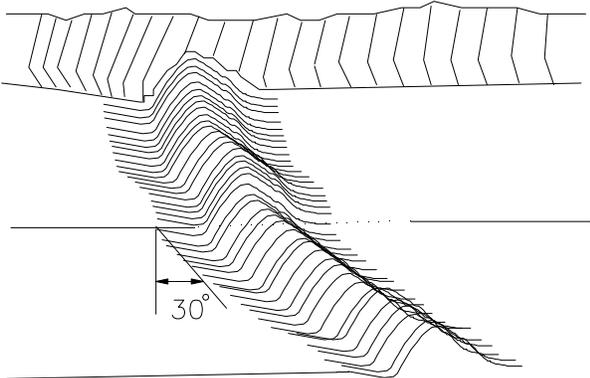
MEDIUM



HEAVY



NON-DRIVABLE WATER BAR DETAIL



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

COLBY ROCK SOURCE DEVELOPMENT PLAN

L-1561A1 Pit T2N, R4E S2

L-1561A2 Pit T2N, R4E, S2

L-1600 Pit T2N, R4E, S11

Page 1 of 3

1. For each rock source used, the Purchaser shall submit a ROCK SOURCE DEVELOPMENT PLAN MAP to include:
 - Mining Area (plan, profile, and cross-section)
 - Proposed Access Roads
 - Waste Area

The Purchaser shall submit the ROCK SOURCE DEVELOPMENT PLAN MAP for a source prior to operations in that source. The Purchaser shall obtain approval of the ROCK SOURCE DEVELOPMENT PLAN MAP from the Contract Administrator before beginning any operations in that source.
2. Overburden shall be stripped to rock a minimum of 15 feet beyond the top of all working faces. Overburden shall be end hauled to the Waste Area as shown on the ROCK SOURCE DEVELOPMENT PLAN Map. All waste shall be compacted in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift.
3. The Operator shall submit an informational drilling and shooting plan to the Contract Administrator prior to any drilling. (Form #M-126PAC)
4. Drilling and rock extraction may begin when the Contract Administrator has approved the overburden removal, and informational drilling and shooting plan.
5. Pit faces shall not exceed 30 feet in height. Faces with heights over 20 feet shall be sloped at ¼:1. Working bench width shall be a minimum of 20 feet.
6. The pit floor shall have continuity of slope and be left in a smooth and neat condition, providing drainage at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques. No sediment shall enter live water.
7. The Operator shall submit an informational drilling and shooting report to the Contract Administrator after blasting has occurred. (Form #M-126PAC)

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

COLBY ROCK SOURCE DEVELOPMENT PLAN

L-1561A1 Pit T2N, R4E S2

L-1561A2 Pit T2N, R4E, S2

L-1600 Pit T2N, R4E, S11

Page 2 of 3

8. The Contractor shall prepare the Stockpile Area located on the L-1680 at 1+95 right of the road. Preparation shall involve clearing and grubbing, grading, and drainage work. All vegetative material shall be stripped and scattered to the east. The area shall be graded to provide drainage and a linear floor to provide for accurate measurement of the stockpile once complete.
9. Stockpiling of rock shall be in accordance with Road Plan clause 6-67 ROCK STOCKPILE SPECIFICATIONS. All stockpiled material shall be maintained in a neat and useable condition.
10. Oversize material shall not exceed 5 percent of the total volume mined during that operation. Oversize material is defined as rock fragments larger than two feet in any direction. At the conclusion of operations, all remaining oversize material shall be placed in the Oversized Area as shown on the ROCK SOURCE DEVELOPMENT PLAN MAP.
11. All operations shall be carried out in compliance with all regulations of:
 - a. Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
 - b. "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.
12. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material; benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life.
13. All exposed soil in the waste area shall be grass seeded and fertilized in accordance with Road Plan clause 8-15 through 8-25.
14. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

COLBY ROCK SOURCE DEVELOPMENT PLAN

L-1561A1 Pit T2N, R4E S2

L-1561A2 Pit T2N, R4E, S2

L-1600 Pit T2N, R4E, S11

Page 3 of 3

15. Upon completion of operations, the site shall be cleared of all temporary structures and left in a neat and presentable condition. Access shall be blocked with rip rap as directed by the Contract Administrator.

16. At the completion of rock source operations, the Contractor shall obtain written approval of final rock source condition and compliance with the terms of this plan.

SUMMARY - Road Development Costs
 REGION Pacific Cascade
 DISTRICT Yacolt

SALE/PROJECT NAME Colby

CONTRACT # 30-092690

ROAD NUMBERS	L-1500E, L-1503, L-1503A, L-1561, L-1561A, L-1600F, L-1600G, L-1600H, L-1681	L-1680	L-1500
ROAD STANDARD	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS	118.98	27.55	155.03
CLEARING & GRUBBING	\$ 15,467	\$ -	\$ -
EXCAVATION AND FILL	\$ 110,837	\$ 5,971	\$ -
MISC. MAINTENANCE	\$ 4,634	\$ 1,242	\$ 3,869
ROAD ROCK	\$ 120,736	\$ 15,245	\$ 11,095
ROCK STOCKPILE PROD	\$ -	\$ -	\$ -
CULVERTS AND FLUMES	\$ 14,534	\$ 1,153	\$ -
STRUCTURES	\$ -	\$ -	\$ -
MOBILIZATION	\$ 4,033	\$ 4,033	\$ 4,033
TOTAL COSTS	\$ 270,242	\$ 27,643	\$ 18,997
COST PER STATION	\$ 2,271	\$ 1,003	\$ -
ROAD DEACTIVATION & ABANDONMENT COSTS		\$ 11,367	

TOTAL (All Roads) \$328,249
SALE VOLUME MBF 7086
TOTAL \$/MBF \$ 46.32

Completed by Brett Wallachy

Date 5/1/2015

ROCK SOURCE SUMMARY

SALE/PROJECT NAME Colby
CONTRACT # 30-092690

PIT NAME L-1600 Pit
LOCATION T2N, R4E, S2/11

Distance to waste area (feet) 1000

SHRINK/SWELL FACTOR 1.25

ROCK PIT PREPARATION

Stripping and loading overburden	\$ 200.00	per hour x	10	\$ 2,000.00
Endhaul overburden to Waste Area	\$ 90.00	per hour x	10	\$ 900.00
Spreading overburden at Waste Area	\$ 165.00	per hour x	10	\$ 1,650.00
Grass seeding	\$ 3.20	per pound x	120	\$ 384.00
ROCK PIT PREPARATION TOTAL				\$ 4,934.00

MOBILIZATION

SALE/PROJECT NAME Colby
CONTRACT # 30-092690

ROAD BUILDING EQUIPMENT

MOBILIZATION

Grader	\$ 1,000.00	each x 1	\$ 1,000.00
End dump	\$ 100.00	each x 2	\$ 200.00
Dozer	\$ 1,000.00	each x 1	\$ 1,000.00
Excavator (small)	\$ 500.00	each x 1	\$ 500.00
Excavator (large)	\$ 1,000.00	each x 1	\$ 1,000.00
Roller	\$ 500.00	each x 1	\$ 500.00

ROAD BUILDING EQUIPMENT SUBTOTAL \$ 4,200.00

ROCK SOURCE EQUIPMENT

MOBILIZATION

Loader	\$ 1,000.00	each x 1	\$ 1,000.00
End dump	\$ 100.00	each x 4	\$ 400.00
Excavator (large)	\$ 1,000.00	each x 1	\$ 1,000.00
Rock drill	\$ 500.00	each x 1	\$ 500.00
Jaw (stationary, includes set up)	\$ 4,000.00	each x 1	\$ 4,000.00

ROCK SOURCE EQUIPMENT SUBTOTAL \$ 6,900.00

ROAD ABANDONMENT EQUIPMENT

MOBILIZATION

Excavator (large)	\$ 1,000.00	each x 1	\$ 1,000.00
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ROAD BUILDING EQUIPMENT SUBTOTAL \$ 1,000.00

MOBILIZATION TOTAL \$ 12,100.00

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
CONTRACT # 30-092690
ROAD NUMBER L-1500

Required pre-haul maintenance (feet) 155+03

PRE-HAUL MAINTENANCE (REQUIRED)

MISC. MAINTENANCE

Maintenance grading \$ 24.96 per station x 155.03 \$ 3,869.24

ROAD ROCK

1-1/4-INCH MINUS CRUSHED ROCK \$ 30.00 per CY x 300 spot rock \$ 9,000.00

Spread & roll rock \$ 1.50 per CY x 300 \$ 450.00

TOTAL ROAD COST \$ 13,332.04

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
CONTRACT # 30-092690
ROAD NUMBER L-1500E

Optional construction (feet) 1+61
Distance to L-1600 Pit (feet) 4089

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING

Clearing & grubbing \$ 130.00 per station x 1.61 \$ 209.30

EXCAVATION AND FILL

Construction (balanced, heavy) \$ 1,095.00 per station x 1.61 \$ 1,762.95

Landing (small) \$ 130.00 each x 1 \$ 130.00

Grade, shape, roll subgrade \$ 42.00 per station x 1.61 \$ 67.62

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 7 construction \$ 20.82

Grass seeding \$ 3.20 per pound x 9 abandonment \$ 28.39

ROAD ROCK

4-INCH JAW RUN ROCK \$ 7.85 per CY x 161 \$ 1,267.23

Rock haul \$ 90.00 per hour x 5 round trip haul (feet) 8339 \$ 471.60

Spread & roll rock \$ 1.50 per CY x 161 \$ 242.15

ROAD DEACTIVATION & ABANDONMENT

Light abandonment \$ 100.00 per station x 1.61 \$ 161.00

OPTIONAL CONSTRUCTION SUBTOTAL \$ 4,361.05

TOTAL ROAD COST \$ 4,361.05

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
 CONTRACT # 30-092690
 ROAD NUMBER L-1503

Optional construction (feet) 24+52
 Distance to L-1600 Pit (feet) 2272

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING

Clearing & grubbing \$ 130.00 per station x 24.52 \$ 3,187.60

EXCAVATION AND FILL

Construction (balanced, medium) \$ 330.00 per station x 19.73 \$ 6,510.90
 Construction (full bench/end haul, heavy) \$ 5,450.00 per station x 4.79 5+64 to 10+43 \$ 26,105.50
 Turnout \$ 130.00 each x 1 \$ 130.00
 Landing (small) \$ 130.00 each x 4 \$ 520.00
 Turnaround \$ 130.00 each x 1 \$ 130.00
 Grade, shape, roll subgrade \$ 42.00 per station x 24.52 \$ 1,029.84

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 99 construction \$ 317.03
 Grass seeding \$ 3.20 per pound x 135 abandonment \$ 432.31
 Grass seeding \$ 3.20 per pound x 40 waste area \$ 128.00

ROAD ROCK

4-INCH JAW RUN ROCK \$ 7.85 per CY x 1878 \$ 14,743.11
 PIT RUN ROCK \$ 3.40 per CY x 10 \$ 34.00
 Rock haul \$ 90.00 per hour x 56 round trip haul (feet) 6996 \$ 5,083.72
 Spread & roll rock \$ 1.50 per CY x 1878 \$ 2,817.15
 Place energy dissipater \$ 5.25 per CY x 10 \$ 52.50

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 19.21 per foot x 170 \$ 3,265.45

ROAD DEACTIVATION & ABANDONMENT

Light abandonment \$ 100.00 per station x 24.52 \$ 2,452.00

TOTAL ROAD COST \$ 66,939.10

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
 CONTRACT # 30-092690
 ROAD NUMBER L-1503A

Optional construction (feet) 4+80
 Distance to L-1600 Pit (feet) 3633

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING

Clearing & grubbing \$ 130.00 per station x 4.80 \$ 624.00

EXCAVATION AND FILL

Construction (balanced, light) \$ 165.00 per station x 4.80 \$ 792.00

Landing (small) \$ 130.00 each x 1 \$ 130.00

Turnaround \$ 130.00 each x 1 \$ 130.00

Grade, shape, roll subgrade \$ 42.00 per station x 4.80 \$ 201.60

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 19 construction \$ 62.06

Grass seeding \$ 3.20 per pound x 26 abandonment \$ 84.63

ROAD ROCK

4-INCH JAW RUN ROCK \$ 7.85 per CY x 413 \$ 3,245.76

Rock haul \$ 90.00 per hour x 13 round trip haul (feet) 7746 \$ 1,166.13

Spread & roll rock \$ 1.50 per CY x 413 \$ 620.21

ROAD DEACTIVATION & ABANDONMENT

Light abandonment \$ 100.00 per station x 4.80 \$ 480.00

TOTAL ROAD COST \$ 7,536.38

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
 CONTRACT # 30-092690
 ROAD NUMBER L-1561

Optional construction (feet) 24+23
 Distance to L-1600 Pit (feet) 7073

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING			
Clearing & grubbing	\$ 130.00	per station x 24.23	\$ 3,149.90
EXCAVATION AND FILL			
Construction (balanced, medium)	\$ 330.00	per station x 24.23	\$ 7,995.90
Turnout	\$ 130.00	each x 1	\$ 130.00
Landing (small)	\$ 130.00	each x 2	\$ 260.00
Turnaround	\$ 130.00	each x 2	\$ 260.00
Grade, shape, roll subgrade	\$ 42.00	per station x 24.23	\$ 1,017.66
MISC. MAINTENANCE			
Grass seeding	\$ 3.20	per pound x 98 construction	\$ 313.28
Grass seeding	\$ 3.20	per pound x 133 abandonment	\$ 427.20
ROAD ROCK			
4-INCH JAW RUN ROCK	\$ 7.85	per CY x 1801	\$ 14,140.08
PIT RUN ROCK	\$ 3.40	per CY x 8	\$ 27.20
Rock haul	\$ 90.00	per hour x 87 round trip haul (feet)	16569 \$ 7,823.82
Spread & roll rock	\$ 1.50	per CY x 1801	\$ 2,701.93
Place energy dissipater	\$ 5.25	per CY x 8	\$ 42.00
CULVERTS AND FLUMES			
18" Polyethylene, double wall	\$ 19.21	per foot x 140	\$ 2,689.19
ROAD DEACTIVATION & ABANDONMENT			
Light abandonment	\$ 100.00	per station x 24.23	\$ 2,423.00
			TOTAL ROAD COST \$ 43,401.15

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
 CONTRACT # 30-092690
 ROAD NUMBER L-1561A

Optional construction (feet) 11+02
 Distance to L-1600 Pit (feet) 7292

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING

Clearing & grubbing \$ 130.00 per station x 11.02 \$ 1,432.60

EXCAVATION AND FILL

Construction (balanced, medium) \$ 330.00 per station x 11.02 \$ 3,636.60

Turnout \$ 130.00 each x 1 \$ 130.00

Landing (small) \$ 130.00 each x 2 \$ 260.00

Turnaround \$ 130.00 each x 1 \$ 130.00

Grade, shape, roll subgrade \$ 42.00 per station x 11.02 \$ 462.84

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 45 construction \$ 142.48

Grass seeding \$ 3.20 per pound x 61 abandonment \$ 194.29

ROAD ROCK

4-INCH JAW RUN ROCK \$ 7.85 per CY x 902 \$ 7,081.39

PIT RUN ROCK \$ 3.40 per CY x 2 \$ 6.80

Rock haul \$ 90.00 per hour x 42 round trip haul (feet) 15686 \$ 3,773.44

Spread & roll rock \$ 1.50 per CY x 902 \$ 1,353.13

Place energy dissipater \$ 5.25 per CY x 2 \$ 10.50

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 19.21 per foot x 30 \$ 576.26

ROAD DEACTIVATION & ABANDONMENT

Light abandonment \$ 100.00 per station x 11.02 \$ 1,102.00

TOTAL ROAD COST \$ 20,292.33

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
 CONTRACT # 30-092690
 ROAD NUMBER L-1600F

Optional construction (feet) 1+61
 Distance to L-1600 Pit (feet) 4266

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING

Clearing & grubbing \$ 130.00 per station x 1.61 \$ 209.30

EXCAVATION AND FILL

Construction (balanced, heavy) \$ 1,095.00 per station x 1.61 \$ 1,762.95

Landing (small) \$ 130.00 each x 1 \$ 130.00

Grade, shape, roll subgrade \$ 42.00 per station x 1.61 \$ 67.62

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 7 construction \$ 20.82

Grass seeding \$ 3.20 per pound x 9 abandonment \$ 28.39

ROAD ROCK

4-INCH JAW RUN ROCK \$ 7.85 per CY x 161 \$ 1,267.23

Rock haul \$ 90.00 per hour x 5.3 round trip haul (feet) 8693 \$ 481.35

Spread & roll rock \$ 1.50 per CY x 161 \$ 242.15

ROAD DEACTIVATION & ABANDONMENT

Light abandonment \$ 100.00 per station x 1.61 \$ 161.00

TOTAL ROAD COST \$ 4,370.79

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
 CONTRACT # 30-092690
 ROAD NUMBER L-1600G

Optional construction (feet) 1+10
 Distance to L-1600 Pit (feet) 370

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING

Clearing & grubbing \$ 130.00 per station x 1.10 \$ 143.00

EXCAVATION AND FILL

Construction (balanced, heavy) \$ 1,095.00 per station x 1.10 \$ 1,204.50

Landing (small) \$ 130.00 each x 1 \$ 130.00

Grade, shape, roll subgrade \$ 42.00 per station x 1.10 \$ 46.20

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 4 construction \$ 14.22

Grass seeding \$ 3.20 per pound x 6 abandonment \$ 19.39

ROAD ROCK

4-INCH JAW RUN ROCK \$ 7.85 per CY x 129 \$ 1,015.01

PIT RUN ROCK \$ 3.40 per CY x 2 \$ 6.80

Rock haul \$ 90.00 per hour x 2.4 round trip haul (feet) 850 \$ 215.97

Spread & roll rock \$ 1.50 per CY x 129 \$ 193.95

Place energy dissipater \$ 5.25 per CY x 2 \$ 10.50

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 19.21 per foot x 40 \$ 768.34

ROAD DEACTIVATION & ABANDONMENT

Light abandonment \$ 100.00 per station x 1.10 \$ 110.00

TOTAL ROAD COST \$ 3,877.88

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
 CONTRACT # 30-092690
 ROAD NUMBER L-1600H

Optional construction (feet) 4+21
 Distance to L-1600 Pit (feet) 522

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING

Clearing & grubbing \$ 130.00 per station x 4.21 \$ 547.30

EXCAVATION AND FILL

Construction (balanced, medium) \$ 330.00 per station x 4.21 \$ 1,389.30

Landing (small) \$ 130.00 each x 1 \$ 130.00

Turnaround \$ 130.00 each x 1 \$ 130.00

Grade, shape, roll subgrade \$ 42.00 per station x 4.21 \$ 176.82

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 17 construction \$ 54.43

Grass seeding \$ 3.20 per pound x 23 abandonment \$ 74.23

Straw mulching \$ 4,428.60 per acre x 0.1 \$ 442.86

ROAD ROCK

4-INCH JAW RUN ROCK \$ 7.85 per CY x 367 \$ 2,882.76

PIT RUN ROCK \$ 3.40 per CY x 2 \$ 6.80

Rock haul \$ 90.00 per hour x 7.2 round trip haul (feet) 1465 \$ 646.05

Spread & roll rock \$ 1.50 per CY x 367 \$ 550.85

Place energy dissipater \$ 5.25 per CY x 2 \$ 10.50

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 19.21 per foot x 30 \$ 576.26

ROAD DEACTIVATION & ABANDONMENT

Light abandonment \$ 100.00 per station x 4.21 \$ 421.00

TOTAL ROAD COST \$ 8,039.14

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
 CONTRACT # 30-092690
 ROAD NUMBER L-1680

Total road length (feet) 27+55
 Required reconstruction (feet) 7+55
 Optional reconstruction (feet) 20+00
 Required abandonment (feet) 20+00
 Distance to L-1600 Pit (feet) 2537

RECONSTRUCTION (REQUIRED)

EXCAVATION AND FILL					
Reconstruct ditch (sidecast)	\$	100.00	per station x	5.25	\$ 525.00
Reconstruct ditch (endhaul)	\$	290.00	per station x	2.30 0+00 to 2+30	\$ 667.00
Landing (small)	\$	130.00	each x	1	\$ 130.00
Turnaround	\$	130.00	each x	1	\$ 130.00

MISC. MAINTENANCE					
Grass seeding	\$	3.20	per pound x	31	\$ 97.62
Straw mulching	\$	4,428.60	per acre x	0.1	\$ 442.86

ROAD ROCK					
4-INCH JAW RUN ROCK	\$	7.85	per CY x	335	\$ 2,632.07
PIT RUN ROCK	\$	3.40	per CY x	4	\$ 13.60
Rock haul	\$	90.00	per hour x	9.4 round trip haul (feet)	5829 \$ 846.06
Spread & roll rock	\$	1.50	per CY x	335	\$ 502.94
Place energy dissipater	\$	5.25	per CY x	4	\$ 21.00

CULVERTS AND FLUMES					
18" Polyethylene, double wall	\$	19.21	per foot x	60	\$ 1,152.51

REQUIRED RECONSTRUCTION SUBTOTAL \$ 7,160.65

RECONSTRUCTION (OPTIONAL)

EXCAVATION AND FILL					
Reconstruct ditch (sidecast)	\$	165.00	per station x	14.41	\$ 2,377.65
Reconstruct ditch (endhaul)	\$	290.00	per station x	5.59 18+86 to 23+51, 26+61 to 27+55	\$ 1,621.10
Turnout	\$	130.00	each x	1	\$ 130.00
Landing (small)	\$	130.00	each x	2	\$ 260.00
Turnaround	\$	130.00	each x	1	\$ 130.00

MISC. MAINTENANCE					
Grass seeding	\$	3.20	per pound x	81	\$ 258.59
Straw mulching	\$	4,428.60	per acre x	0.1	\$ 442.86

ROAD ROCK					
4-INCH JAW RUN ROCK	\$	7.85	per CY x	795	\$ 6,240.75
Rock haul	\$	90.00	per hour x	24 round trip haul (feet)	7074 \$ 2,151.11
Spread & roll rock	\$	1.50	per CY x	795	\$ 1,192.50

OPTIONAL RECONSTRUCTION SUBTOTAL \$ 14,804.55

ABANDONMENT (REQUIRED)

MISC. MAINTENANCE					
Grass seeding	\$	3.20	per pound x	110	\$ 352.62
Straw mulching	\$	4,428.60	per acre x	0.1	\$ 442.86

ROAD DEACTIVATION & ABANDONMENT					
Light abandonment	\$	100.00	per station x	20.00	\$ 2,000.00

REQUIRED ABANDONMENT SUBTOTAL \$ 2,795.48

TOTAL ROAD COST \$ 24,760.68

SUMMARY OF ROAD

SALE/PROJECT NAME Colby
 CONTRACT # 30-092690
 ROAD NUMBER L-1681

Total road length (feet) 45+88
 Required construction (feet) 33+26
 Optional construction (feet) 12+62
 Distance to L-1600 Pit (feet) 3292

CONSTRUCTION (REQUIRED)

CLEARING & GRUBBING							
Clearing & grubbing	\$	130.00	per station x	33.26	\$	4,323.80	
EXCAVATION AND FILL							
Construction (balanced, medium)	\$	330.00	per station x	26.35	\$	8,695.50	
Construction (full bench/end haul, heavy)	\$	5,450.00	per station x	6.91	20+12 to 27+03	\$	37,659.50
Turnout	\$	130.00	each x	1		\$	130.00
Landing (small)	\$	130.00	each x	2		\$	260.00
Turnaround	\$	130.00	each x	1		\$	130.00
Grade, shape, roll subgrade	\$	42.00	per station x	33.26		\$	1,396.92
MISC. MAINTENANCE							
Grass seeding	\$	3.20	per pound x	134		\$	430.03
Grass seeding	\$	3.20	per pound x	40	waste area	\$	128.00
Straw mulching	\$	4,428.60	per acre x	0.2		\$	885.72
ROAD ROCK							
4-INCH JAW RUN ROCK	\$	7.85	per CY x	2345		\$	18,410.14
PIT RUN ROCK	\$	3.40	per CY x	12		\$	40.80
HEAVY LOOSE RIP RAP	\$	3.40	per CY x	40		\$	136.00
Rock haul	\$	90.00	per hour x	85	round trip haul (feet) 9910	\$	7,645.29
Spread & roll rock	\$	1.50	per CY x	2345		\$	3,517.86
Place energy dissipater	\$	5.25	per CY x	12		\$	63.00
Place stream armoring	\$	10.50	per CY x	40		\$	420.00
CULVERTS AND FLUMES							
18" Polyethylene, double wall	\$	19.21	per foot x	190		\$	3,649.62
36" Polyethylene, double wall	\$	40.54	per foot x	60		\$	2,432.19

REQUIRED CONSTRUCTION SUBTOTAL \$ 90,354.37

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING							
Clearing & grubbing	\$	130.00	per station x	12.62	\$	1,640.60	
EXCAVATION AND FILL							
Construction (balanced, medium)	\$	330.00	per station x	12.62	\$	4,164.60	
Turnout	\$	130.00	each x	1		\$	130.00
Landing (small)	\$	130.00	each x	4		\$	520.00
Turnaround	\$	130.00	each x	1		\$	130.00
Grade, shape, roll subgrade	\$	42.00	per station x	12.62		\$	530.04
MISC. MAINTENANCE							
Grass seeding	\$	3.20	per pound x	51	construction	\$	163.17
Grass seeding	\$	3.20	per pound x	70	abandonment	\$	222.50
ROAD ROCK							
4-INCH JAW RUN ROCK	\$	7.85	per CY x	1096		\$	8,602.91
PIT RUN ROCK	\$	3.40	per CY x	2		\$	6.80
Rock haul	\$	90.00	per hour x	48	round trip haul (feet) 14498	\$	4,360.08
Spread & roll rock	\$	1.50	per CY x	1096		\$	1,643.87
Place energy dissipater	\$	5.25	per CY x	2		\$	10.50
CULVERTS AND FLUMES							
18" Polyethylene, double wall	\$	19.21	per foot x	30		\$	576.26
ROAD DEACTIVATION & ABANDONMENT							
Light abandonment	\$	100.00	per station x	12.62		\$	1,262.00

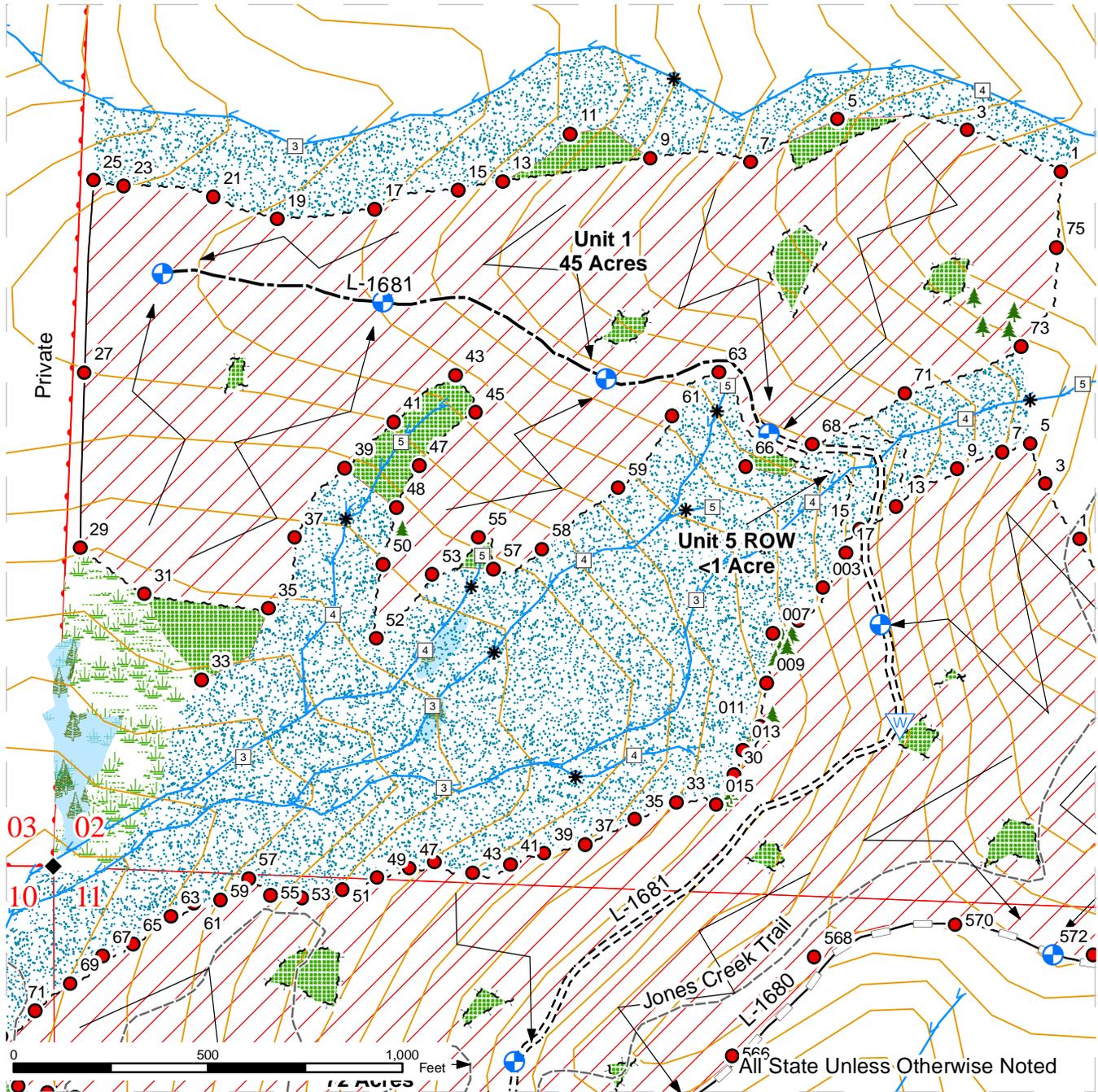
OPTIONAL CONSTRUCTION SUBTOTAL \$ 23,963.32

TOTAL ROAD COST \$ 114,317.70

LOGGING PLAN MAP

SALE NAME: COLBY
 AGREEMENT#: 30-092690
 TOWNSHIP(S): T02R04E
 TRUST(S): State Forest Transfer(1), Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6)

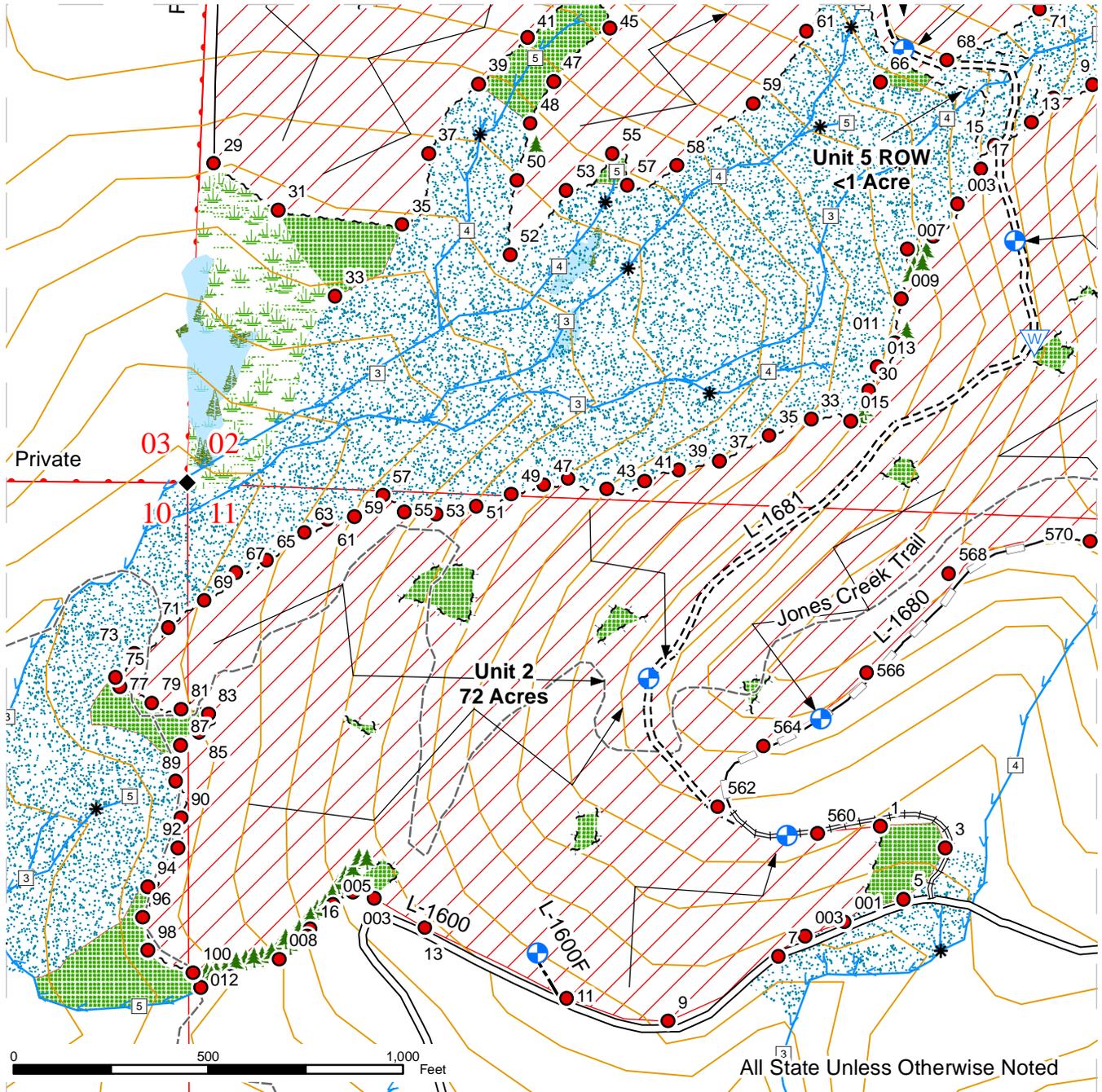
REGION: Pacific Cascade Region
 COUNTY(S): CLARK
 ELEVATION RGE: 1073-2431



LOGGING PLAN MAP

SALE NAME: COLBY
 AGREEMENT#: 30-092690
 TOWNSHIP(S): T02R04E
 TRUST(S): State Forest Transfer(1), Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6)

REGION: Pacific Cascade Region
 COUNTY(S): CLARK
 ELEVATION RGE: 1073-2431

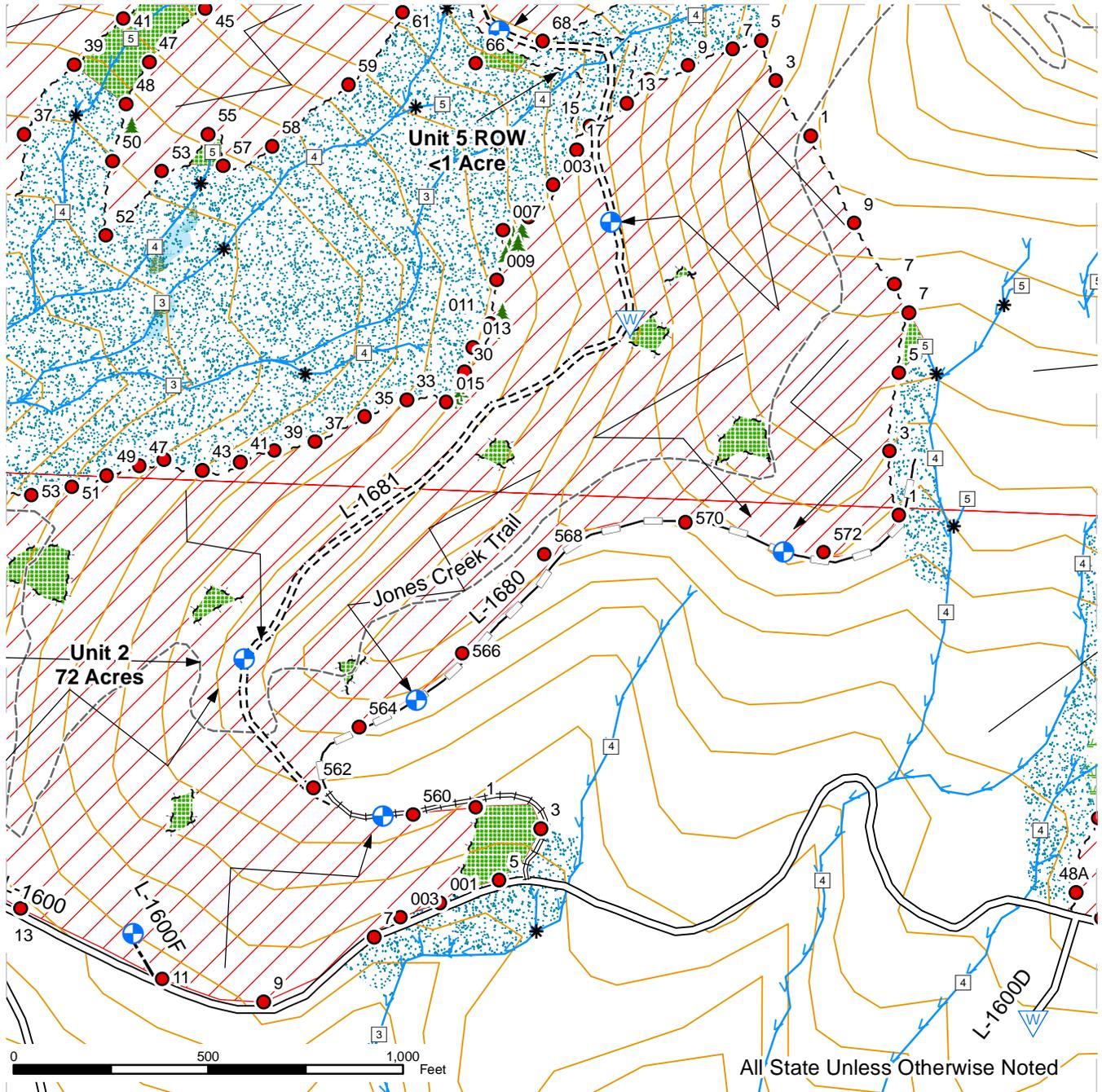


Sale Area	Right-of-Way	Monumented Corners
Ground	Leave Tree Tags	Streams
Leave Tree Area	Reprod	Landing - Proposed
Riparian Mgt Zone	Existing Roads	Leave Trees
Forested Wetland	Optional Reconstruction	Waste Area
Wetland Mgt Zone	Required Construction	
Sale Boundary Tags	Required Reconstruction	
	Optional Construction	

LOGGING PLAN MAP

SALE NAME: COLBY
 AGREEMENT#: 30-092690
 TOWNSHIP(S): T02R04E
 TRUST(S): State Forest Transfer(1), Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6)

REGION: Pacific Cascade Region
 COUNTY(S): CLARK
 ELEVATION RGE: 1073-2431



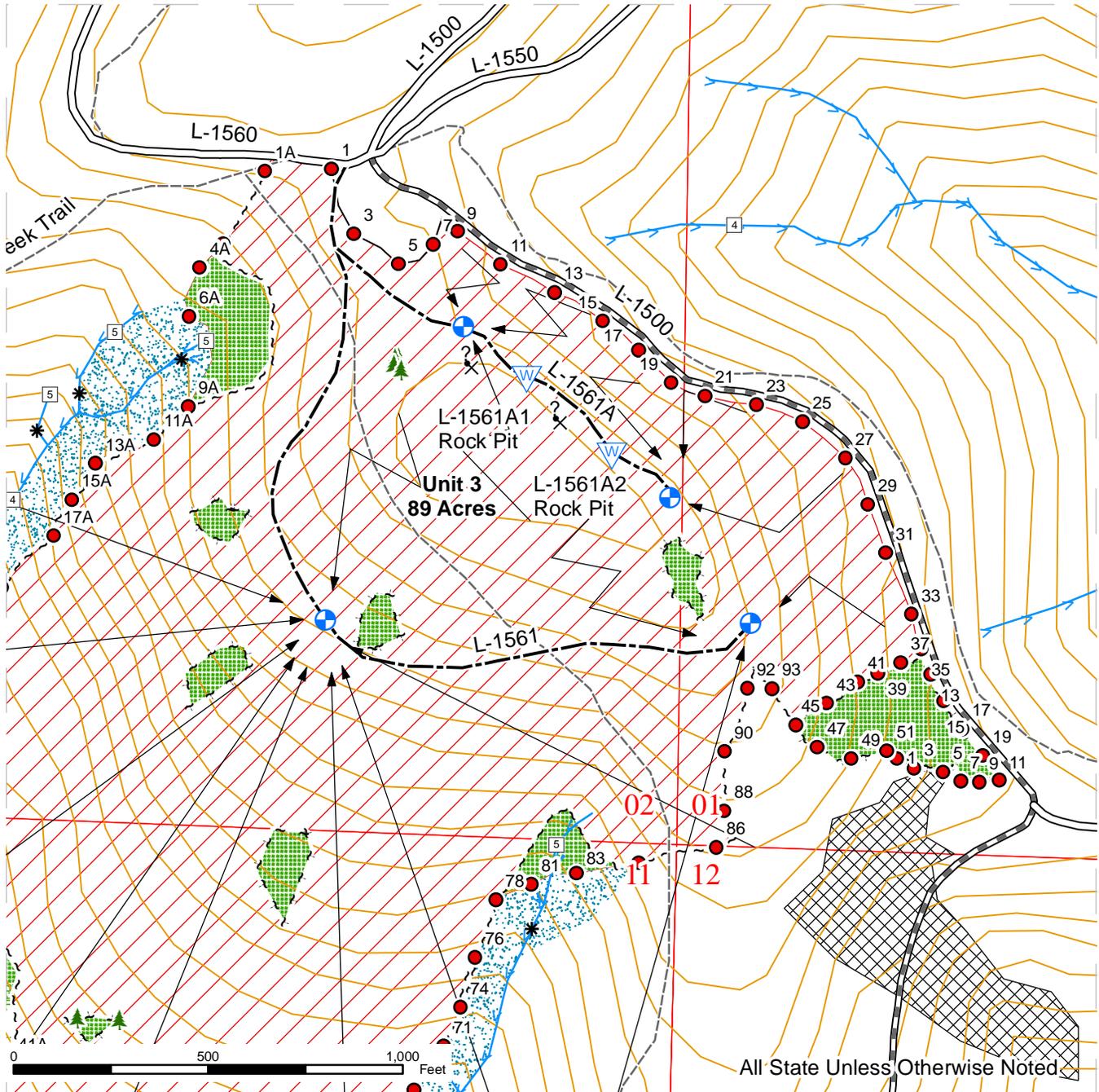
Sale Area	Right-of-Way	Streams
Ground	Leave Tree Tags	Landing - Proposed
Cable	Existing Roads	Leave Trees
Leave Tree Area	Optional Reconstruction	Waste Area
Riparian Mgt Zone	Required Construction	
Forested Wetland	Required Reconstruction	
Wetland Mgt Zone	Optional Construction	
Sale Boundary Tags		



LOGGING PLAN MAP

SALE NAME: COLBY
 AGREEMENT#: 30-092690
 TOWNSHIP(S): T02R04E
 TRUST(S): State Forest Transfer(1), Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6)

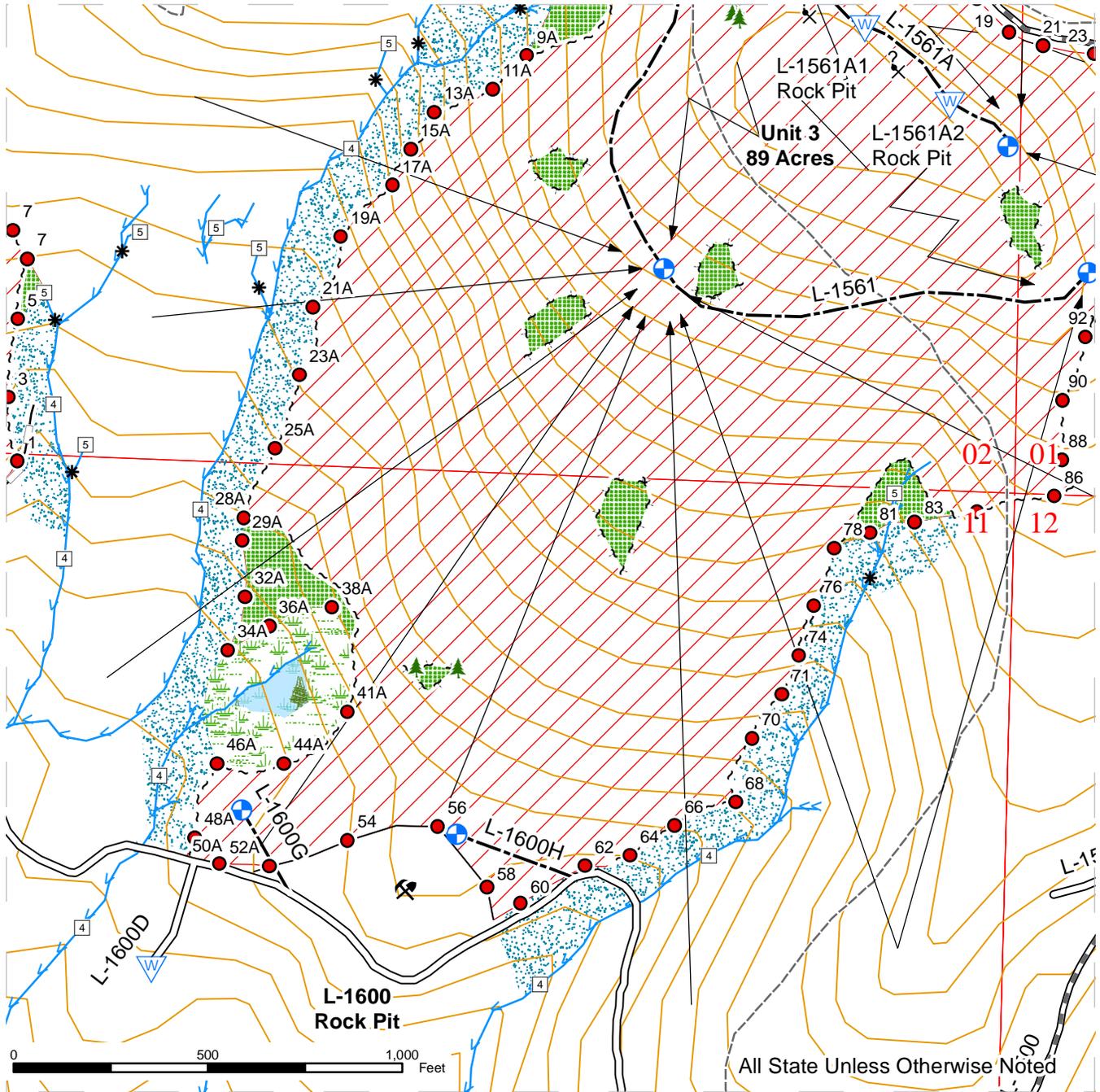
REGION: Pacific Cascade Region
 COUNTY(S): CLARK
 ELEVATION RGE: 1073-2431



LOGGING PLAN MAP

SALE NAME: COLBY
 AGREEMENT#: 30-092690
 TOWNSHIP(S): T02R04E
 TRUST(S): State Forest Transfer(1), Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6)

REGION: Pacific Cascade Region
 COUNTY(S): CLARK
 ELEVATION RGE: 1073-2431

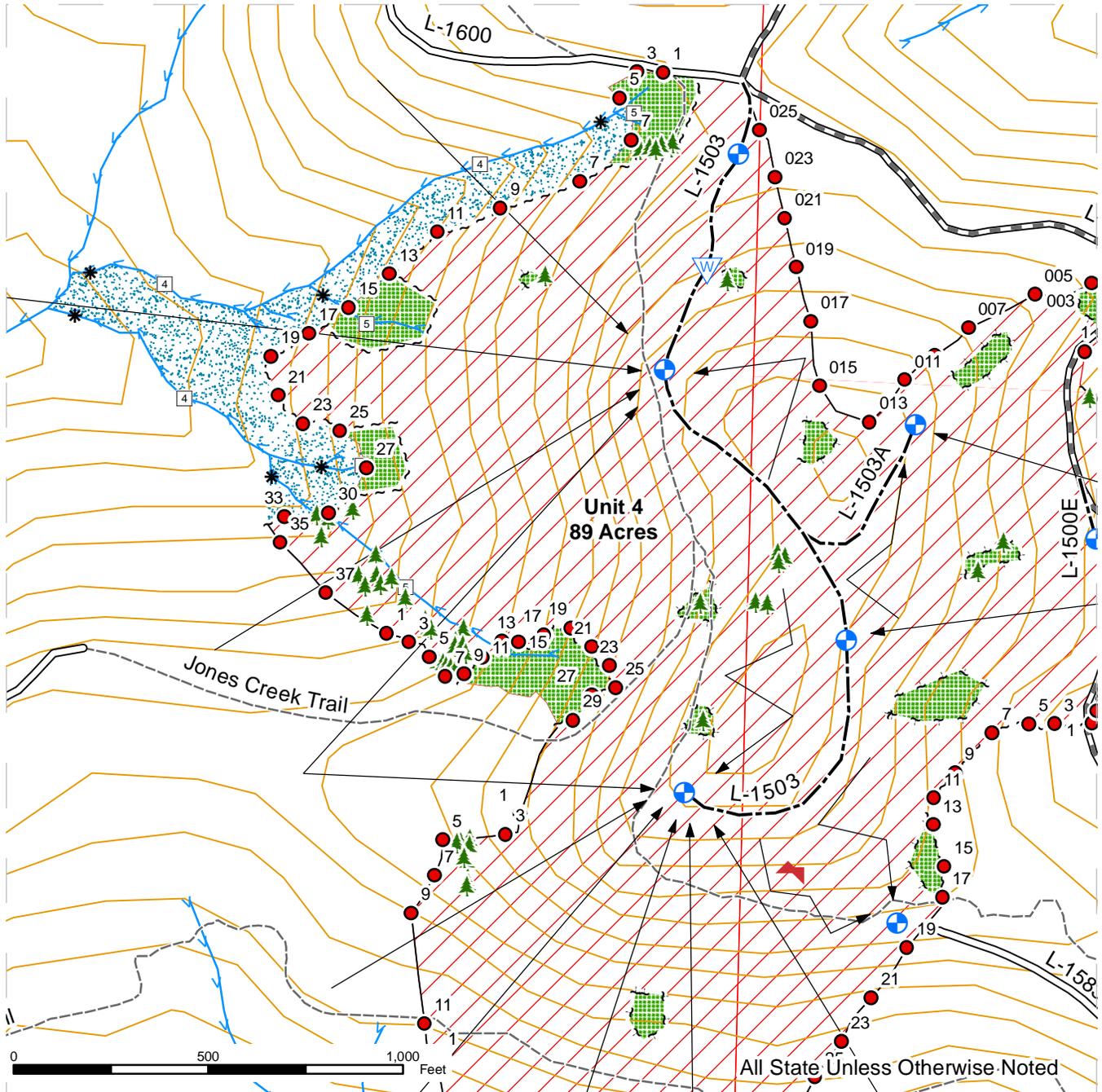


Sale Area	Sale Boundary Tags	Streams
Ground	Leave Tree Tags	Existing Rock Pit
Cable	Reprod	Landing - Proposed
Leave Tree Area	Existing Roads	Leave Trees
Riparian Mgt Zone	Optional Reconstruction	Potential Rock Source
Forested Wetland	Required Pre-Haul Maintenance	Waste Area
Wetland Mgt Zone	Optional Construction	

LOGGING PLAN MAP

SALE NAME: COLBY
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REGION: Pacific Cascade Region
 COUNTY(S): CLARK
 ELEVATION RGE: 1073-2431



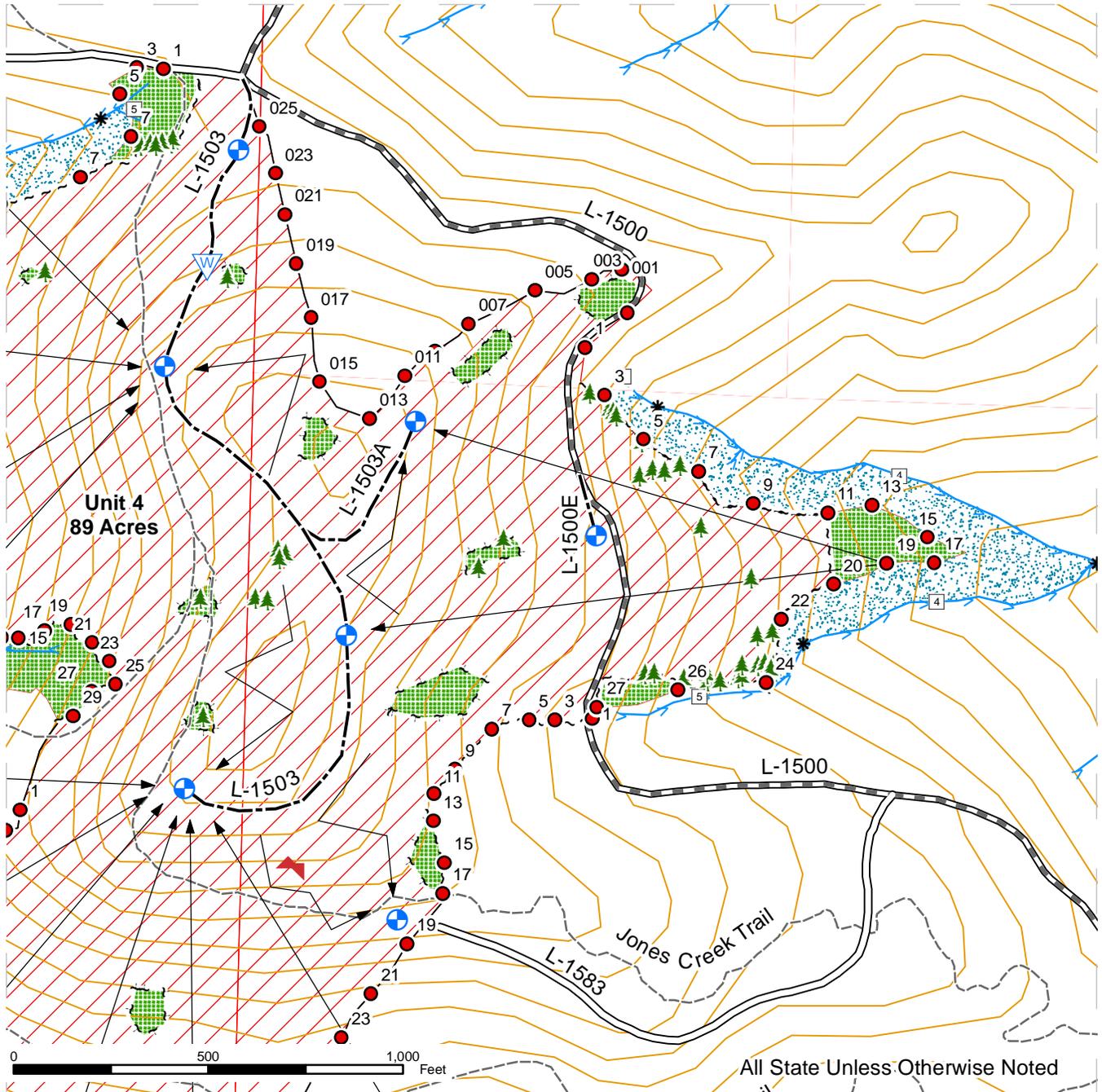
Sale Area	Sale Boundary Tags	Streams
Ground	Leave Tree Tags	Bald
Cable	Reprod	Landing - Proposed
Leave Tree Area	Existing Roads	Leave Trees
Riparian Mgt Zone	Required Pre-Haul Maintenance	Waste Area
	Optional Construction	



LOGGING PLAN MAP

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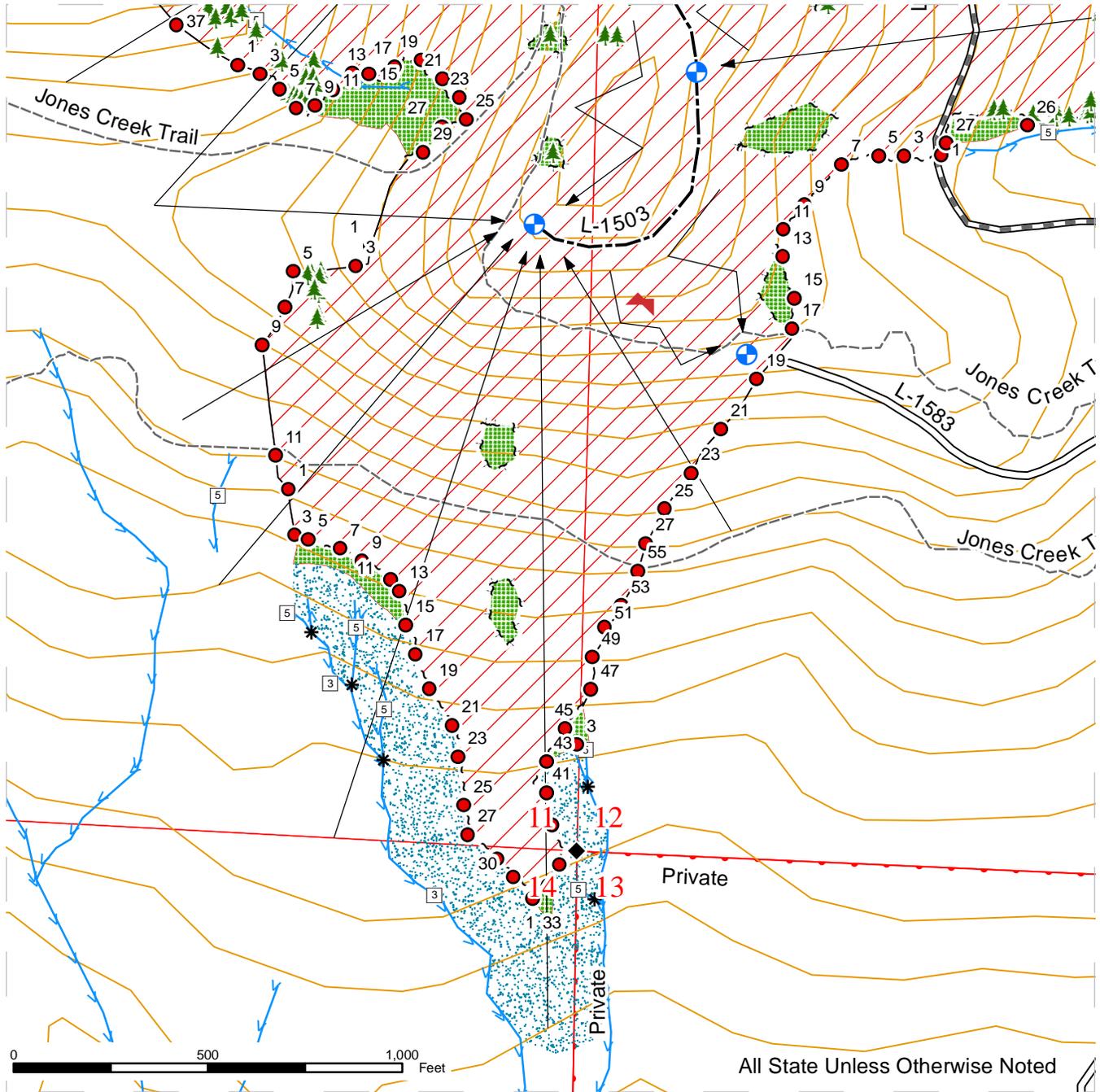
Sale Area	Sale Boundary Tags	Streams
Ground	Leave Tree Tags	Bald
Cable	Reprod	Landing - Proposed
Leave Tree Area	Existing Roads	Leave Trees
Riparian Mgt Zone	Required Pre-Haul Maintenance	Waste Area
	Optional Construction	



LOGGING PLAN MAP

SALE NAME: COLBY
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Sale Area	Sale Boundary Tags	Monumented Corners
Ground	Leave Tree Tags	Streams
Cable	Reprod	Bald
Leave Tree Area	Existing Roads	Landing - Proposed
Riparian Mgt Zone	Required Pre-Haul Maintenance	Leave Trees
	Optional Construction	