



TIMBER NOTICE OF SALE

SALE NAME: COAL DAY VRH & RMZ THIN

AGREEMENT NO: 30-099047

AUCTION: November 17, 2020 starting at 10:00 a.m., **COUNTY:** King
South Puget Sound Region Office, Enumclaw, WA

SALE LOCATION: Sale located approximately 7 miles southwest of North Bend.

**PRODUCTS SOLD
AND SALE AREA:**

All timber, except trees marked with blue paint or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white timber sale boundary tags, blue special management area tags, and timber type change marked with pink flagging in Unit #1; white timber sale boundary tags, blue special management area tags, timber type change marked with pink flagging, and the 5500 Road in Unit #2; white timber sale boundary tags, and the 5540 and 5550 roads in Unit #3;

All timber as described in Schedule A bounded by the following: white timber sale boundary tags, blue special management area tags, and the 8100 Road in Units #4, #5, and #7; white timber sale boundary tags, and blue special management area tags in Unit #6;

All forest products above located on part(s) of Sections 18, 19 and 20 all in Township 23 North, Range 8 East, W.M., containing 163 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: PwC-SFIFM-513)

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Hemlock	13.2	7	1,276						129	819	321	7
Douglas fir	15.9	6	1,192						397	570	214	11
Silver fir	14.4	6	594						154	310	128	2
Noble fir	14.5	6	580						62	415	102	1
Red alder	9		23								23	
Sale Total			3,665									

MINIMUM BID: \$1,010,000.00 **BID METHOD:** Sealed Bids

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

EXPIRATION DATE: October 31, 2022 **ALLOCATION:** Export Restricted

BID DEPOSIT: \$101,000.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Harvest activities are estimated to be 100 percent ground based harvest. Tracked ground based equipment and rubber tired skidders with over-the-tire tracks, with self-leveling equipment limited to sustained slopes 65 percent or less, and all other ground based



TIMBER NOTICE OF SALE

equipment limited to sustained slopes 45 percent or less. Yarding may be restricted during wet weather if rutting becomes excessive, per clause H-017.

Falling, yarding and timber haul will not be permitted on weekends or State recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator.

ROADS:

403.27 stations of required prehaul maintenance. 201.60 stations of optional prehaul maintenance. Purchaser maintenance on all roads used.

Rock for this proposal may be obtained from the State owned Rattlesnake and/or 5540 Rock Pits at no cost to the Purchaser or any commercial rock source at the Purchaser's expense. Rock source development will be required per Section 6 and as specified in the Rock Source Development Plan in the Road Plan.

Operation of road construction equipment will not be permitted on weekends or State recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator.

ACREAGE DETERMINATION

CRUISE METHOD: Acreage for Units #1 - #4 and Units #6 - #7 was determined by traversing boundaries by GPS and by subtracting out the existing road area. Acreage for Unit #5 was determined by traversing boundaries by GPS. GPS data files are available at DNR's website for timber sale packets. See cruise narrative for cruise method.

FEES:

\$62,305.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: Purchaser must provide a written Extreme Hazard Abatement Plan, which meets the requirements of contract clause S-020. Hazard Abatement is required around the communication towers, slash needs to be pulled back to a minimum of 200 feet from the towers.

Due to slope protection, operations are restricted in areas shown as non-tradeable leave tree areas per contract clause H-141.

Snow plowing will require a "Snow Plowing Agreement", as stated in Road Plan clause 1-33.

Purchaser shall cut all vine maple within the VRH unit(s), leaving a stump no more than 12 inches in height.

Purchaser will be required to mark and create structure trees within the RMZ Thin units per Schedule A, which is part of the contract.

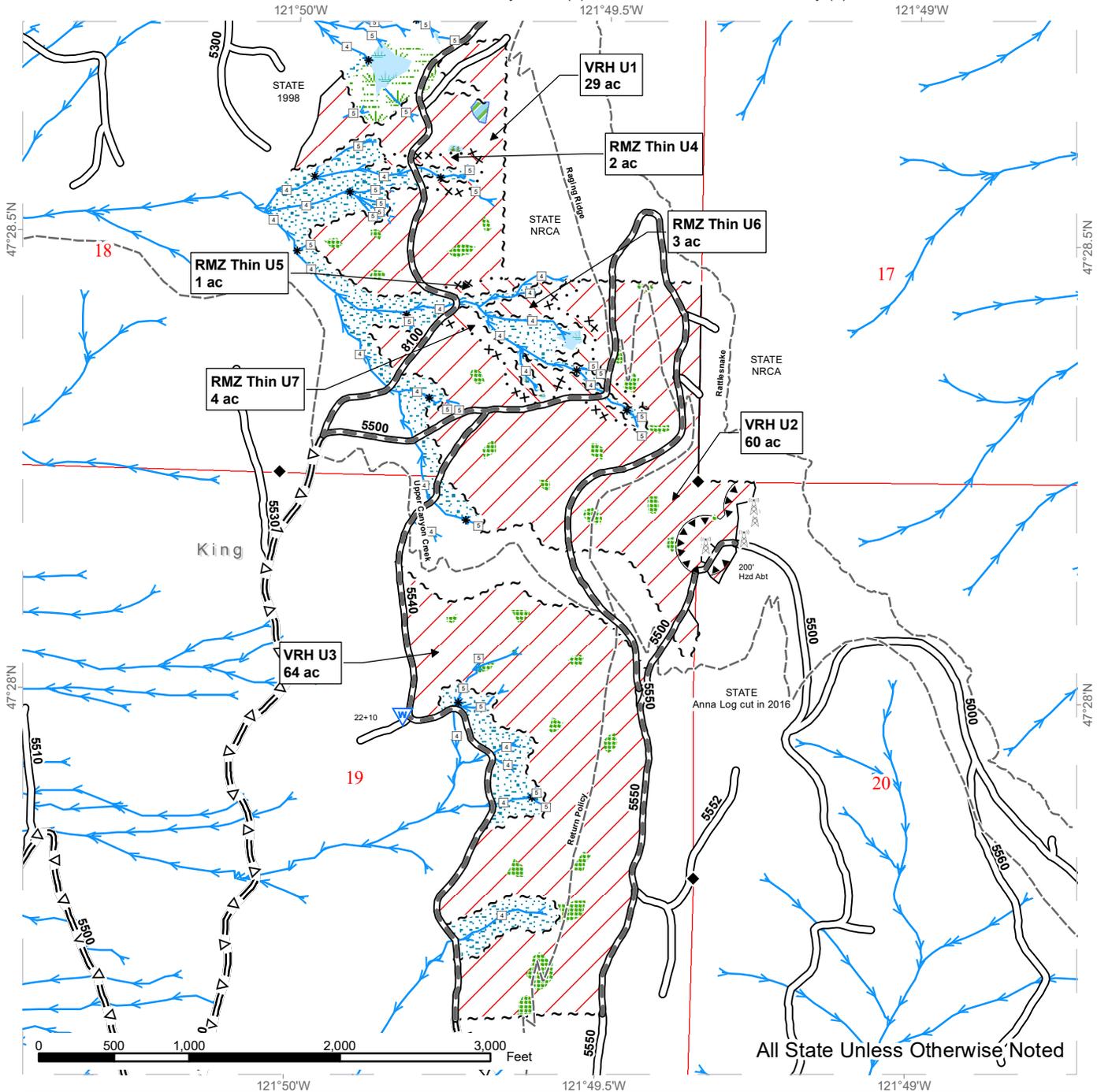
For the safety of the public, please remove from roads and trails all string from string boxes used during appraising or cruising this sale.

See map for gate locations. Gate keys may be obtained by contacting the South Puget Sound Region Office at 360-825-1631 or by contacting Zach Beebe at 253-736-4830.

TIMBER SALE MAP

SALE NAME: COAL DAY VRH AND RMZ THIN
AGREEMENT #: 30-099047
TOWNSHIP(S): T23R8E
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3)

REGION: South Puget Sound Region
COUNTY(S): King
ELEVATION RGE: 2360-3240



All State Unless Otherwise Noted

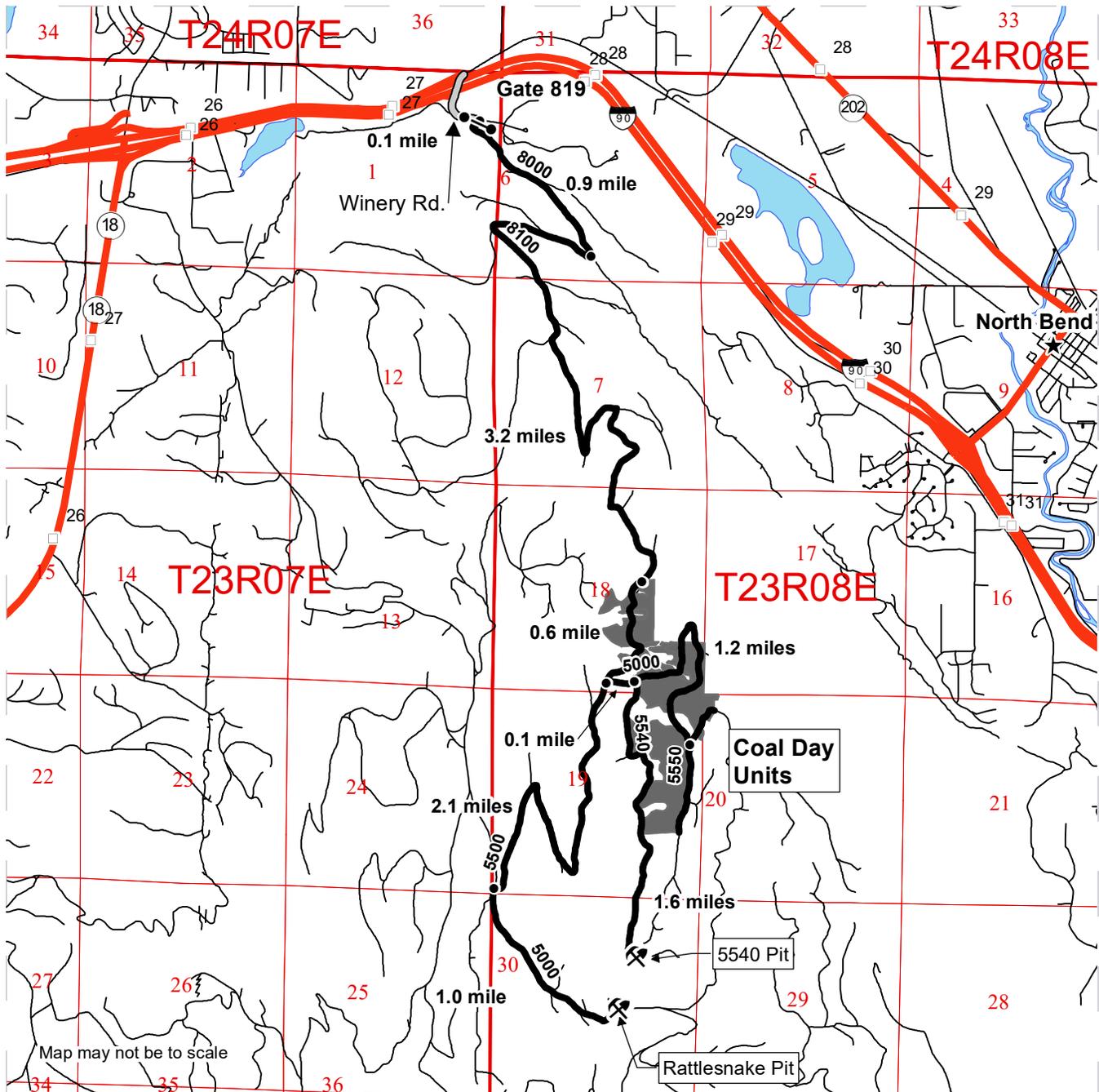
	Variable Retention Harvest		Existing Roads		Streams
	Variable Density Thinning		Required Pre-Haul Maintenance		Stream Type
	Non-Tradeable Leave Tree Area		Optional Pre-Haul Maintenance		Stream Type Break
	Leave Tree Area		Recreation Trails		Survey Monument
	Riparian Mgt Zone		Sale Boundary Tags		Hazard Abatement Area
	Forested Wetland		Special Mgmt Area		Communication Tower
	Wetland Mgt Zone		Timber Type Change		Waste Area
	Public Land Survey Sections				



DRIVING MAP

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- Timber Sale Unit
- Haul Route
- Milepost Markers
- Distance Indicator
- Gate (Master 786)
- Rock Pit
- Town
- Highway
- Public Land Survey Sections

DRIVING DIRECTIONS:

EAST ON I-90 - Take Exit 27 and take a right onto the Winery Rd. Continue for 0.1 mile and take a right onto the 8000 Rd, through Gate 819. After 0.9 mile take a right onto the 8100 Rd. Continue for 3.2 miles and you will enter Unit 1. Continue on the 8100 Rd for another 0.6 mile and take a left onto the 5000 Rd, Unit 2 and the 5540 Rd will be 0.1 mile further. Take a right onto the 5540 Rd to access the west side of Unit 3. From the 5000/5540 Rd Int continue for 1.2 miles and you will come to the 5550 Rd, which will access the east side of Unit 3.

RATTLESNAKE PIT - From the 8100/5500/5000 Rd INT, take the 5500 Rd for 2.1 miles and take a left onto the 5000 Rd. The pit will be 1 mile further on the left.

5540 PIT - Continue on the 5540 Rd for 1.6 miles and the pit will be on the left.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-099047

SALE NAME: COAL DAY VRH & RMZ THIN

**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 into 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 November 17, 2020 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 or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white timber sale boundary tags, blue special management area tags, and timber type change marked with pink flagging in Unit #1; white timber sale boundary tags, blue special management area tags, timber type change marked with pink flagging, and the 5500 Road in Unit #2; white timber sale boundary tags, and the 5540 and 5550 roads in Unit #3;

All timber as described in Schedule A bounded by the following: white timber sale boundary tags, blue special management area tags, and the 8100 Road in Units #4, #5, and #7; white timber sale boundary tags, and blue special management area tags in Unit #6;

All forest products above located on approximately 163 acres on part(s) of Sections 18, 19, and 20 all in Township 23 North, Range 8 East W.M. in King 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-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	Riparian Management Zone Thinning Prescription
B	Recreation Trail Repair and Cleanout

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2022.

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 \$681.00 per acre per annum for the acres on which an operating release has not been issued within the harvest 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. TE812521-1 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, ITP TE812521-1 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-106 Adding Naturally Damaged Forest Products

Any forest products not designated for removal that are seriously damaged by disease, insects or wind, or that may contribute seriously to the spread of insect or disease damage may be added to this sale by the State's Contract Administrator. Additions must be in unlogged areas of the sale and added volume shall not exceed an amount equal to 10 percent of the original advertised volume. Added forest products become a part of this contract and shall be paid for at the rate set forth in clause G-101, G-102 or G-103.

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: PwC-SFIFM-513.

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.

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.

Road is defined as the road bed, including but not limited to its component parts, such as cut and fill slopes, 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.

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 via endorsement 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 Enumclaw, 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 address of record:

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; the 5000, 5500, 5540, 5550, 8000, and 8100 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 5000, 5500, 8000 and 8100 roads, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easement #55-085172 entered into between the Town of Snoqualmie and Weyerhaeuser Company, dated May 24, 1961.

Easement #55-085992 entered into between the State of Washington, Department of Natural Resources and Plum Creek Timber Company L.P., dated June 25, 1996.

G-396 Public Hauling Permit

The hauling of forest products, rock or equipment may require a state, county, or city hauling permit. Purchaser is responsible for obtaining any necessary permit and any costs associated with extra maintenance or repair levied by the permitting agency. 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: Bonneville Power Administration
Disclosed by Application No.: 50-022351
Granted: 10/26/1964
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Power Line
In Favor of: Mutual Power & Light Association of Tanner
Disclosed by Application No.: 50-023218
Granted: 7/15/1954
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Power Line
In Favor of: Mutual Power & Light Association
Disclosed by Application No.: 50-024158
Granted: 3/13/1956
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Power Line
In Favor of: Cascade TV Signals
Disclosed by Application No.: 50-024294
Granted: 1/14/1957
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Communication Line
In Favor of: Pacific Telephone & Telegraph Company
Disclosed by Application No.: 50-024436
Granted: 11/13/1956
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Buried Cable
In Favor of: Pacific Northwest Bell Telephone Company
Disclosed by Application No.: 50-031802
Granted: 5/10/1967
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Weyerhaeuser Company
Disclosed by Application No.: 50-033750
Granted: 9/20/1968
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Buried Power Line
In Favor of: Tanner Electric
Disclosed by Application No.: 50-034128
Granted: 10/31/1969
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Communication Line
In Favor of: Telephone Utilities of Washington Inc.
Disclosed by Application No.: 50-049080
Granted: 4/20/1988
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: The Trust for Public Land
Disclosed by Application No.: 50-072383
Granted: 12/15/1993
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Beam Path
In Favor of: United States of America
Disclosed by Application No.: 50-084929

Granted: 2/1/1968
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Beam Path
In Favor of: United States of America
Disclosed by Application No.: 50-084930
Granted: 9/19/1968
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Beam Path
In Favor of: USA- Department of Energy- Bonneville Power Administration
Disclosed by Application No.: 50-084931
Granted: 9/23/1993
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Weyerhaeuser Company
Disclosed by Application No.: 50-084947
Granted: 10/20/1999
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: The Trust for Public Land
In Favor of: Bonneville Power Administration
Disclosed by Application No.: 50-090374
Granted: 12/15/1993
Expires: Indefinite

Lease, including the terms and provisions thereof,
For: Communication Site & Beam Path
In Favor of: Bonneville Power Administration
Disclosed by Application No.: 52-022401
Granted: 10/27/1954
Expires: Indefinite

Lease, including the terms and provisions thereof,
For: Communication Site & Beam Path
In Favor of: King County, Department of Public Safety
Disclosed by Application No.: 52-037617
Granted: 7/1/1974
Expires: Indefinite

Lease, including the terms and provisions thereof,
For: Communication Site, Road, & Beam Path
In Favor of: Subcarrier Communications, Inc.
Disclosed by Application No.: 52-078772
Granted: 8/1/2006
Expires: 7/31/2021

Lease, including the terms and provisions thereof,
For: Communication Site
In Favor of: US Federal Bureau of Investigation
Disclosed by Application No.: 52-079341
Granted: 10/1/2006
Expires: 9/30/2036

Lease, including the terms and provisions thereof,
For: Communication Site
In Favor of: Washington State Patrol
Disclosed by Application No.: 52-088470
Granted: 7/1/2012
Expires: 6/30/2032

Lease, including the terms and provisions thereof,
For: Communication Site
In Favor of: DNR – Radio Program
Disclosed by Application No.: 52-088591
Granted: 8/29/2012
Expires: Indefinite

Lease, including the terms and provisions thereof,
For: Communication Site
In Favor of: Puget Sound Energy, Inc.
Disclosed by Application No.: 52-A44989
Granted: 8/1/2010
Expires: 7/31/2025

Covenant, including the terms and provisions thereof,
For: Agreement
In Favor of: King County
Disclosed by Application No.: 54-084960
Granted: 5/19/2009
Expires: Indefinite

Covenant, including the terms and provisions thereof,
For: Agreement
In Favor of: King County
Disclosed by Application No.: 54-084961

Granted: 5/18/2009
Expires: Indefinite

Lease, including the terms and provisions thereof,
For: Land Use License
In Favor of: Washington Department of Fish & Wildlife
Disclosed by Application No.: 60-095576
Granted: 5/2/2017
Expires: 6/30/2020

Lease, including the terms and provisions thereof,
For: Special Use Lease
In Favor of: Washington State Department of Ecology
Disclosed by Application No.: 60-100721
Granted: 7/1/2020
Expires: 10/15/2021

Lease, including the terms and provisions thereof,
For: Communication Site
In Favor of: American Messaging Service, LLC
Disclosed by Application No.: 52-091891
Applied: 12/19/2014

Lease, including the terms and provisions thereof,
For: Communication Site
In Favor of: SPOK, Inc.
Disclosed by Application No.: 52-092639
Applied: 8/14/2015

Lease, including the terms and provisions thereof,
For: Communication Site
In Favor of: Verizon Wireless
Disclosed by Application No.: 52-098364
Applied: 1/23/2019

Lease, including the terms and provisions thereof,
For: Communication Site
In Favor of: Federal Bureau of Investigation
Disclosed by Application No.: 52-A79341
Applied: 9/6/2016

Lease, including the terms and provisions thereof,
For: Communication Site
In Favor of: SPOK, Inc.
Disclosed by Application No.: 52-A85353
Applied: 7/16/2020

Region Encumbrances

Lease, including the terms and provisions thereof,
For: Land Use License
In Favor of: Sammamish Community YMCA
Disclosed by Application No.: 60-WS0983
Granted: 10/1/2018
Expires: 12/31/2023

Lease, including the terms and provisions thereof,
For: LUL
In Favor of: King County Explorer Search and Rescue
Disclosed by Application No.: 60-WS1022
Granted: 3/1/2019
Expires: 2/28/2021

Lease, including the terms and provisions thereof,
For: Land Use License
In Favor of: The Mountaineers
Disclosed by Application No.: 60-WS1023
Granted: 2/15/2019
Expires: 12/31/2028

Special Notations

Located within the Point Elliott Treaty area. Intergovernmental agreements for vehicle access with Upper Skagit Indian Tribe (92-095271), Lummi Nation (92-095265), Tulalip Tribes (92-095266), Stillaguamish Indian Tribe (92-095270), Muckleshoot Tribe (92-095267), Swinomish Indian Tribal Community (92-095263), Nooksack Tribe (92-097221) Sauk – Suiattle Indian Tribe (92-097419), and Snoqualmie Tribe (92-099315).

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 \$95,290.00. The total contract price consists of a \$0.00 contract bid price plus \$95,290.00 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-012 Leave Tree Damage Definition

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

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

- a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 144 square inches.
- b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

H-013 Reserve Tree Damage Definition

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

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

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 144 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 unit containing the damaged leave tree, 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-015 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. Skid trails will not exceed 15 feet in width, including rub trees.
- b. Skid trails shall not cover more than 10 percent of the total acreage on one unit.
- c. Skid trail location will be pre-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. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

The above requirements apply to the RMZ Thin Units #4, #5, #6, and #7.

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 12 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 RMZ Thinning Units and Extreme Hazard Abatement. The plan shall address the thinning operations and structure tree creation, as well as Extreme Hazard Abatement around the communication towers and appurtenances, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-050 Rub Trees

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

H-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 and removed using tracked ground based equipment and rubber tired skidders with over-the-tire tracks, with self-leveling equipment limited to sustained slopes 65 percent or less, and all other ground based equipment limited to sustained slopes 45 percent or less. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Existing downed trees or logs dead for more than 5 years yarded to the landing will be returned to their original locations.
- b. Equipment limitation zones are required within 30 feet of Type 5 streams.
- c. Crossing of Type 5 streams may be allowed at locations approved in writing by the Contract Administrator. Purchaser shall place a culvert or log puncheon at

crossing locations to protect the stream bank and prevent sedimentation. All materials placed in and/or over the stream at these crossings shall be removed immediately upon completion of yarding on that skid trail.

- d. Any and all operations associated with this sale may be temporarily suspended when, in the opinion of the Contract Administrator, there is the potential for delivery to typed water.
- e. No equipment shall operate, or trees felled or damaged, outside the timber sale boundary.
- f. Cut all vine maple within the VRH units, leaving a stump no more than 12 inches in height.
- g. Falling, yarding and timber haul will not be permitted on weekends or State recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator.
- h. Notify all employees and contractors working on this sale that any danger tree marked or unmarked may be felled. Any marked danger tree will be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.
- i. Within RMZ Thin Units #4, #5, #6, and #7, no equipment shall operate within 25 feet of the white "Timber Sale Boundary" tags with the exception of designated road or skid trail crossings, which must be pre-approved by the Contract Administrator.
- j. Within shovel logging areas, and when yarding and loading operations are occurring simultaneously, an additional shovel will be required for loading to avoid extra trips to the landing. No more than one round trip per shovel road is allowed.
- k. Take measures throughout operations to control soil erosion, water channelization, and prevent sediment delivery to streams or wetlands. Methods may include construction of water bars, "sweeping" with logs, silt traps, or other measures on skid trails, yarding corridors and haul roads.
- l. No more than two skid trails open to active skidding at any one time.
- m. Skid trail closure shall occur immediately upon completion of yarding all tributary timber. Closure shall consist of creating water bars or other methods as directed by the Contract Administrator to prevent water accumulation and sediment movement.

- n. To facilitate proper reforestation in areas of high slash concentrations, Purchaser shall, in concurrence with ground based yarding, clear plantable spots at approximately 11 foot by 11 foot spacing in VRH units below 3,000 feet elevation in Units #1, #2, and #3 and 10 foot by 10 foot spacing in VRH units above 3,000 feet elevation in Units #2, and #3.
- o. In the event operations become inactive for long periods of time, skid trails shall be water barred prior to completion of yarding tributary timber to prevent water accumulation and sediment movement, if required by the Contract Administrator.
- p. Once a skid trail is closed, the Purchaser shall not reopen a skid trail unless 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:

- a. Leave 2 down logs per acre in all VRH Units. A log is defined as having a minimum diameter of 12 inches on the small end of the log and a minimum length of 20 feet or at least 100 board feet.
- b. No equipment may operate within, nor logs yarded through or over, the non-tradeable leave tree clump marked with yellow leave tree area tags in Unit #1.

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.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 5/6/2020 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on all roads used. All work shall be completed to the specifications detailed in the Road Plan.

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-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

Slash or debris which enters any stream, other than trees designated for downed woody debris associated with RMZ Thin Units #4, #5, #6, and #7 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-110 Resource Protection

No equipment may operate within Riparian and Wetland Management Zones not associated with RMZ Thin Units #4, #5, #6, and #7 unless authority is granted in writing by the Contract Administrator.

S-120 Stream Protection

No timber shall be felled into, across, or yarded through any stream that is not a Type 5 stream, other than trees designated for downed woody debris associated with RMZ Thin Units #4, #5, #6, and #7.

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 or other releases of hazardous material/waste during operations conducted under this contract.

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 10 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 (DOE). 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 covered in part a., the Purchaser is responsible for immediately notifying all the following:

- Department of Emergency Management (contact information below).
- National Response Center (contact information below).
- Appropriate Department of Ecology (DOE) regional office (contact information below).
- DNR Contract Administrator

DOE - Northwest Region: 1-425-649-7000
(Island, King, Kitsap, San Juan, Skagit, Snohomish, and Whatcom counties)

DOE - Southwest Region: 1-360-407-6300
(Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, and Wahkiakum counties)

DOE - Central Region: 1-509-575-2490
(Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima counties)

DOE - Eastern Region: 1-509-329-3400
(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties)

Department of Emergency Management 24-hour Number: 1-800-258-5990

National Response Center: 1-800-424-8802

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-140 Fence Repair

Purchaser shall immediately repair all fence damage resulting from operations on this sale to an equal or better condition than existed at the time of sale.

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-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged trees in RMZ Thin Units #4, #5, #6, and #7.

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 Units #1, #2, and #3.

SIGNATURES

This agreement may be executed in any number of counterparts (including by electronic mail in portable document format (.pdf), or by facsimile) each of which shall be deemed an original but all of which, when taken together, shall constitute one and the same Agreement binding on all parties.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Scott Sargent

Print Name

South Puget Sound Region Manager

Date: _____

Date: _____

Address:

CORPORATE ACKNOWLEDGEMENT
(Required for both LLC and Inc. Entities)

STATE OF _____)

COUNTY OF _____)

On this _____ day of _____, 20____, before me personally appeared _____

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

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

Notary Public in and for the State of

My appointment expires _____

Schedule A
Riparian Management Zone Thinning Prescription

Harvest Prescription: Thinning from below by DBH range

The harvest is a variable density thinning of the existing stand to achieve the residual targets below for both trees per acre (TPA) and basal area (BA). Only species listed in table below are to be cut.

RMZ Thin Unit #4

Species to Cut	Min DBH	Max DBH	Target Basal Area	Target Trees per Acre	Resulting Relative Density
Douglas-fir	5"	18"			
Silver fir	5"	16"			
Western hemlock	5"	16"			
UNIT TARGETS			153	85	36

RMZ Thin Unit #5

Species to Cut	Min DBH	Max DBH	Target Basal Area	Target Trees per Acre	Resulting Relative Density
Douglas-fir	5"	14"			
Western hemlock	5"	12"			
UNIT TARGETS			140	143	38

RMZ Thin Unit #6

Species to Cut	Min DBH	Max DBH	Target Basal Area	Target Trees per Acre	Resulting Relative Density
Silver fir	5"	12"			
Western hemlock	5"	14"			
UNIT TARGETS			128	129	35

RMZ Thin Unit #7

Species to Cut	Min DBH	Max DBH	Target Basal Area	Target Trees per Acre	Resulting Relative Density
Silver fir	5"	12"			
Western hemlock	5"	14"			
UNIT TARGETS			156	122	40

- The residual targets for TPA and BA are required; the Purchaser shall remove trees to achieve both these targets.
- Only live trees six (6) inches and greater in DBH shall count towards the targets.
- The residual TPA and BA targets are an average at the unit level.
- In any given area, the residual TPA shall not vary by more than 20 and the BA shall not vary by more than 20 square feet, above or below the residual target listed above.
- Trees identified for structure creation shall not count towards residual TPA and BA targets.

Leave Tree Selection Criteria:

The Purchaser shall select leave trees from the dominant and co-dominant canopy by comparing each tree with other trees in the stand, first by using species preference, then by form preference listed below.

Form preference (in descending order of priority)

- 1) Largest diameter
- 2) Structurally unique trees (fork tops, butt swell, spike knots, etc.)
- 3) Free of disease & major damage
- 4) Fullest and most vigorous crown
- 5) Tallest height

Certification:

The Contract Administrator will approve and certify in writing all persons engaged in selection of leave trees or felling of timber prior to cutting operations, per clause H-011.

Equipment Restriction:

No equipment shall operate within 50 feet of the 100 year floodplain or ordinary high water mark of the stream.

Snag creation

Up to two (2) of the five trees per RMZ thinning acre are to serve as snag creation. Snags may be created by either girdling or topping. If the Purchaser elects to girdle the trees, girdling shall be completely around the bole of the tree in a manner approved by Contract Administrator. If the Purchaser elects to top the tree, the topping shall occur above 20 feet.

Downed Woody Debris

RMZ Thin Unit #	RMZ thinned acres	Total # of DWD	Total # of snags
4	2	6	4
5	1	3	2
6	3	9	6
7	4	12	8

Schedule B
Recreation Trail Repair and Cleanout

This schedule applies to Raging Ridge and Return Policy trails.

Purchaser is responsible for closing trails with orange construction barricade netting and posting trail closure signs provided by DNR, at designated locations provided by the Contract Administrator (CA). Purchaser is responsible for giving five (5) calendar days notice before closing the trail.

Purchaser is responsible for locating and marking the recreation trail within the sale boundary on the ground prior to harvest as approved by the CA.

- If needed upon completion of harvest activities, Purchaser shall locate the original recreation trail with pink fluorescent flagging. The CA will then approve the trail location in writing and repair/clean out can begin.

Recreation trail repair/clean out shall occur within 2 weeks of completion of harvest activity within 200 feet of the trail and shall consist of the following:

- Remove all logging debris from the recreation trail and the area on each side of the trail within 5 feet of the travel path.
- Trail will be repaired where holes or ruts resulted due to logging damage. The trail will be returned to its original width on mineral soils and free of organic debris.
- Existing drainage control measures shall be returned to pre-harvest condition. Any Geoweb structures damaged during the logging operation will be replaced or repaired to pre-harvest condition.

All work described above shall be done as determined by the CA. The logging release for the unit will not be issued until repair and clean out is completed and approved in writing by the CA.



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

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

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

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

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

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

EXCISE TAX EXEMPT ACTIVITIES

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

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

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

(Revised 9/18)

PRE-CRUISE NARRATIVE

Sale Name: Coal Day VRH and RMZ Thin	Region: South Puget Sound
Agreement #: 30-094682	District: Rainier
Contact Forester: Zach Beebe	Phone/ Location: (253)-736-4830 Ext: /
Alternate Contact: Paul Footen	Phone/ Location: (425)-736-1708 Ext: /

Type of Sale (lump sum, mbf scale, tonnage scale or contract harvest): Lump Sum
Required or Optional removal of utility as pulp: Optional
Evaluated for RFRS Implementation?: Yes, implementing RFRS
Percentage cable (specify downhill vs uphill): 0%
Percentage ground based: 100% Ground-based
Species Onsite: <input checked="" type="checkbox"/> RC, <input checked="" type="checkbox"/> DF, <input checked="" type="checkbox"/> WH, <input checked="" type="checkbox"/> RA, <input checked="" type="checkbox"/> BC, <input checked="" type="checkbox"/> BLM, <input checked="" type="checkbox"/> NF, <input checked="" type="checkbox"/> SF, <input type="checkbox"/> SS, <input type="checkbox"/> Other:(Please List)

UNIT ACREAGES* AND METHOD OF DETERMINATION:

Unit #	Harvest R/W or RMZ WMZ	Legal Description Sec/Twp/Rng	Grant	Gross Traversed Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method, dimensions and error of closure if applicable)
					RMZ/WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
VRH U1		Sec 18 / T 23N / R 08 E	03	30.1	0.0	0.9	0.5	0.0	28.7	Garmin 64s Road – Length X 12'Width / 43560
VRH U2		Sec 18/19 / T 23N / R 08 E	03 / 06	63.0	0.0	1.9	1.3	0.0	59.8	Garmin 64s Road – Length X 12'Width / 43560
VRH U3		Sec 19 / T 23N / R 08 E	03	66.7	0.0	2.6	0.1	0.0	64.0	Garmin 64s Road – Length X 12'Width / 43560
VDT U4		Sec 18 / T 23N / R 08 E	03	2.0	0.0	0.0	0.02	0.0	2.0	Garmin 64s Road – Length X 12'Width / 43560
VDT U5		Sec 18 / T 23N / R 08 E	03	0.9	0.0	0.0	0.0	0.0	0.9	Garmin 64s
VDT U6		Sec 18 / T 23N / R 08 E	03	3.4	0.0	0.0	0.03	0.0	3.4	Garmin 64s Road – Length X 12'Width / 43560
VDT U7		Sec 18 / T 23N / R 08 E	03	3.7	0.0	0.0	0.04	0.0	3.7	Garmin 64s Road – Length X 12'Width / 43560
TOTAL ACRES				169.8	0.0	5.4	2.0	0.0	162.5	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Mark leave, take, paint color, tags, flagging)	Special Management areas:	Other conditions (# leave trees, etc.)
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	etc.)		
VRH U1	-White "Timber Sale Boundary" Tags, Pink Flashers, Pink Flagging -Blue "Special Management Unit" Tags, Pink Flashers, Pink Flagging -Yellow "Leave Tree Area" Tags, Pink Flashers	None	LTA – 255 Dispersed – 0 TOTAL – 255
VRH U2	-White "Timber Sale Boundary" Tags, Pink Flashers, Pink Flagging -Blue "Special Management Unit" Tags, Pink Flashers, Pink Flagging -Yellow "Leave Tree Area" Tags, Pink Flashers	None	LTA – 513 Dispersed – 0 TOTAL – 513
VRH U3	-White "Timber Sale Boundary" Tags, Pink Flashers, Pink Flagging -Blue "Special Management Unit" Tags, Pink Flashers, Pink Flagging -Yellow "Leave Tree Area" Tags, Pink Flashers, Blue Paint	None	LTA – 523 Dispersed – 15 TOTAL – 538
VDT U4	-White "Timber Sale Boundary" Tags, Pink Flashers, Pink Flagging -Blue "Special Management Unit" Tags, Pink Flashers, Pink Flagging	See Prescription	None
VDT U5	-White "Timber Sale Boundary" Tags, Pink Flashers, Pink Flagging -Blue "Special Management Unit" Tags, Pink Flashers, Pink Flagging	See Prescription	None
VDT U6	-White "Timber Sale Boundary" Tags, Pink Flashers, Pink Flagging -Blue "Special Management Unit" Tags, Pink Flashers, Pink Flagging	See Prescription	None
VDT U7	-White "Timber Sale Boundary" Tags, Pink Flashers, Pink Flagging -Blue "Special Management Unit" Tags, Pink Flashers, Pink Flagging	See Prescription	None

OTHER PRE-CRUISE INFORMATION:

Unit #	Estimated Volume	Access information (Gates, locks, etc.)	Photos, traverse maps required
VRH U1	See Cruise	Gate #819 – Master 786	
VRH U2		Gate #819 – Master 786	
VRH U3		Gate #819 – Master 786	
VDT U4		Gate #819 – Master 786	
VDT U5		Gate #819 – Master 786	
VDT U6		Gate #819 – Master 786	
VDT U7		Gate #819 – Master 786	

REMARKS:

VDT Units 4 -7 are using the following prescription: ** Prescription to be determined after cruise is completed**

Prepared By: Zach Beebe
Date: 03/26/2020

Title: Forester

CC:

Revised 2/23/2007 (PSLD)

Timber Sale Cruise Report Coal Day VRH and RMZ Thin

Sale Name: COAL DAY VRH AND RMZ THIN

Sale Type: LUMP SUM

Region: SO PUGET

District: RAINIER

Lead Cruiser: Aaron Coleman

Other Cruisers:n/a

Cruise Narrative:

Location:

This 7 unit timber sale (3 VRHs, 4 VDTs) is located in the Raging River State Forest. Accessible by the 8000 road, a 786 key is needed for gate #819.

Merchantable specifications:

40% of Form-Factor at 16 feet D.O.B or 5 inch Top, or merchantable top.

Cruise Design:

A 40 BAF was used to cruise all trees in units 1 & 2, while a 33.61 BAF was used to cruise all trees in unit 3. A 20 BAF was used to cruise all trees in units 4-7 in order to capture more trees to thin. VDT units 4-7 are to be thinned by the prescription described in "Schedule A."

VRH Units 1-3 contain leave tree areas bound with yellow "Leave Tree Area" tags and pink flashers/flagging, as well as a single band of blue paint on individual leave trees in Unit 3.

Timber Quality:

Western Hemlock (34%) with an average diameter of 13 inches.

Douglas-fir: (32%) with an average diameter of 15 inches.

Silver Fir/Noble Fir: (32%) with an average diameter of 14 inches.

The Douglas-fir had the most defect by far: containing sweep, spike knots, offsets, and broken/forked tops. Frost crack and broken/forked tops were common in the WH and SF/NF.

Logging Conditions:

This is 100% ground-based harvesting with mostly gently sloping ground.

Timber Sale Notice Volume (MBF)

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	13.2	7.0		1,275.9	128.8	819.7	320.9	6.6
DF	15.9	6.0		1,191.9	397.3	569.1	214.4	11.1
SF	14.4	6.0		594.2	154.5	309.8	128.2	1.9
NF	14.5	6.0		580.2	61.9	414.9	102.2	1.3
RA	9.0			23.0			23.0	

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
ALL	14.1	6.2		3,665.5	742.4	2,113.3	788.9	20.9

Timber Sale Notice Weight (tons)

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
WH	13,599.8	1,308.1	8,959.1	3,236.4	96.3
DF	10,463.6	3,284.4	4,914.4	2,160.6	104.2
SF	5,818.4	1,360.9	3,074.1	1,371.3	12.1
NF	5,120.8	494.3	3,592.3	1,023.5	10.8
RA	191.0			191.0	
ALL	35,193.6	6,447.6	20,539.8	7,982.8	223.3

Timber Sale Overall Cruise Statistics (Cut + Leave Trees)

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
254.2	2.8	92.0	1.3	23,459	3.0

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
COAL DAY U1	B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	28.7	30.1	20	10	0
COAL DAY U2	B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	59.8	63.0	41	19	0
COAL DAY U3	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	64.0	66.7	45	21	0
COAL DAY U4	B1: VR, 1 BAF (20) Measure All, Sighting Ht = 4.5 ft	2.0	2.0	3	3	0
COAL DAY U5	B1: VR, 1 BAF (20) Measure All, Sighting Ht = 4.5 ft	0.9	0.9	2	2	0
COAL DAY U6	B1: VR, 1 BAF (20) Measure All, Sighting Ht = 4.5 ft	3.4	3.4	5	5	0
COAL DAY U7	B1: VR, 1 BAF (20) Measure All, Sighting Ht = 4.5 ft	3.7	3.7	5	5	0
All		162.5	169.9	121	65	0

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.0	33.0	2,445	8.2	3,284.4	397.3
DF	LIVE	3 SAW	Domestic	9.6	34.0	3,502	6.0	4,914.4	569.1
DF	LIVE	4 SAW	Domestic	5.6	29.0	1,320	4.5	2,160.7	214.6
DF	LIVE	CULL	Cull	10.9	2.0	0	100.0	0.0	0.0
DF	LIVE	UTILITY	Pulp	7.1	23.0	68	0.0	104.2	11.1
NF	LIVE	2 SAW	Domestic	12.9	34.0	381	11.6	494.3	61.9
NF	LIVE	3 SAW	Domestic	8.9	37.0	2,553	3.7	3,592.3	414.9
NF	LIVE	4 SAW	Domestic	5.2	25.0	629	3.3	1,023.5	102.2
NF	LIVE	CULL	Cull	10.2	23.0	0	100.0	0.0	0.0
NF	LIVE	UTILITY	Pulp	5.2	19.0	8	0.0	10.8	1.3
RA	LIVE	4 SAW	Domestic	5.7	29.0	142	3.3	191.0	23.0
SF	LIVE	2 SAW	Domestic	14.5	35.0	950	21.5	1,360.9	154.4
SF	LIVE	3 SAW	Domestic	8.4	38.0	1,906	8.2	3,074.1	309.8
SF	LIVE	4 SAW	Domestic	5.2	30.0	789	5.0	1,371.3	128.2
SF	LIVE	CULL	Cull	10.9	6.0	0	100.0	0.0	0.0
SF	LIVE	UTILITY	Pulp	11.2	17.0	12	0.0	12.1	1.9
WH	LIVE	2 SAW	Domestic	13.0	34.0	793	9.2	1,308.1	128.9
WH	LIVE	3 SAW	Domestic	8.6	37.0	5,044	7.8	8,959.1	819.6
WH	LIVE	4 SAW	Domestic	5.3	26.0	1,974	4.1	3,236.3	320.8
WH	LIVE	CULL	Cull	11.4	8.0	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	5.8	21.0	41	26.3	96.3	6.7

Timber Sale Log Grade x Diameter Bin Summary

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	UTILITY	5.1	18.0	14	0.0	18.9	2.2
DF	5 - 8	LIVE	4 SAW	5.5	30.0	1,292	4.5	2,124.8	210.0
DF	5 - 8	LIVE	3 SAW	7.6	37.0	655	4.5	1,056.0	106.4
DF	5 - 8	LIVE	CULL	8.7	2.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	UTILITY	9.3	29.0	55	0.0	85.3	8.9
DF	9 - 11	LIVE	4 SAW	9.7	19.0	28	2.2	35.8	4.6
DF	9 - 11	LIVE	CULL	10.1	2.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	3 SAW	10.2	34.0	2,848	6.3	3,858.4	462.7
DF	12 - 14	LIVE	CULL	12.4	4.0	0	100.0	0.0	0.0
DF	12 - 14	LIVE	2 SAW	12.9	34.0	2,301	7.8	3,118.0	373.9
DF	15 - 19	LIVE	2 SAW	16.1	26.0	144	14.1	166.3	23.3
NF	5 - 8	LIVE	4 SAW	5.1	25.0	612	3.1	1,000.2	99.5

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
NF	5 - 8	LIVE	UTILITY	5.2	19.0	8	0.0	10.8	1.3
NF	5 - 8	LIVE	3 SAW	7.8	37.0	1,000	3.3	1,531.9	162.6
NF	9 - 11	LIVE	4 SAW	9.4	20.0	17	10.4	23.3	2.7
NF	9 - 11	LIVE	3 SAW	10.0	36.0	1,553	3.9	2,060.3	252.3
NF	9 - 11	LIVE	CULL	10.2	23.0	0	100.0	0.0	0.0
NF	12 - 14	LIVE	2 SAW	12.3	34.0	281	5.0	350.4	45.6
NF	15 - 19	LIVE	2 SAW	15.2	36.0	100	25.9	143.9	16.3
RA	5 - 8	LIVE	4 SAW	5.4	28.0	120	2.6	154.1	19.4
RA	9 - 11	LIVE	4 SAW	9.6	30.0	22	6.9	36.9	3.6
SF	5 - 8	LIVE	4 SAW	5.2	30.0	789	5.0	1,371.3	128.2
SF	5 - 8	LIVE	3 SAW	7.0	39.0	810	4.2	1,424.5	131.6
SF	9 - 11	LIVE	3 SAW	10.3	36.0	1,097	11.0	1,649.6	178.2
SF	9 - 11	LIVE	CULL	10.9	6.0	0	100.0	0.0	0.0
SF	9 - 11	LIVE	UTILITY	11.2	17.0	12	0.0	12.1	1.9
SF	12 - 14	LIVE	2 SAW	12.5	33.0	294	12.9	398.4	47.7
SF	15 - 19	LIVE	2 SAW	15.6	35.0	585	24.1	864.1	95.0
SF	20+	LIVE	2 SAW	20.7	36.0	72	30.0	98.4	11.6
WH	5 - 8	LIVE	4 SAW	5.2	27.0	1,974	4.1	3,236.3	320.8
WH	5 - 8	LIVE	UTILITY	5.8	21.0	41	26.3	96.3	6.7
WH	5 - 8	LIVE	3 SAW	7.5	37.0	2,154	6.4	4,342.2	350.0
WH	9 - 11	LIVE	3 SAW	10.0	36.0	2,890	8.7	4,616.9	469.6
WH	9 - 11	LIVE	CULL	10.7	8.0	0	100.0	0.0	0.0
WH	12 - 14	LIVE	2 SAW	12.9	35.0	724	10.0	1,228.0	117.7
WH	12 - 14	LIVE	CULL	13.4	8.0	0	100.0	0.0	0.0
WH	15 - 19	LIVE	2 SAW	15.2	20.0	69	0.0	80.1	11.1

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Pulp	5.1	18.0	14	0.0	18.9	2.2
DF	5 - 8	LIVE	Domestic	5.9	31.0	1,947	4.5	3,180.8	316.4
DF	5 - 8	LIVE	Cull	8.7	2.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	Pulp	9.3	29.0	55	0.0	85.3	8.9
DF	9 - 11	LIVE	Cull	10.1	2.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	Domestic	10.2	34.0	2,876	6.3	3,894.3	467.3
DF	12 - 14	LIVE	Cull	12.4	4.0	0	100.0	0.0	0.0
DF	12 - 14	LIVE	Domestic	12.9	34.0	2,301	7.8	3,118.0	373.9
DF	15 - 19	LIVE	Domestic	16.1	26.0	144	14.1	166.3	23.3

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
NF	5 - 8	LIVE	Pulp	5.2	19.0	8	0.0	10.8	1.3
NF	5 - 8	LIVE	Domestic	6.1	30.0	1,613	3.2	2,532.1	262.1
NF	9 - 11	LIVE	Domestic	10.0	35.0	1,569	4.0	2,083.6	255.0
NF	9 - 11	LIVE	Cull	10.2	23.0	0	100.0	0.0	0.0
NF	12 - 14	LIVE	Domestic	12.3	34.0	281	5.0	350.4	45.6
NF	15 - 19	LIVE	Domestic	15.2	36.0	100	25.9	143.9	16.3
RA	5 - 8	LIVE	Domestic	5.4	28.0	120	2.6	154.1	19.4
RA	9 - 11	LIVE	Domestic	9.6	30.0	22	6.9	36.9	3.6
SF	5 - 8	LIVE	Domestic	5.7	33.0	1,599	4.6	2,795.8	259.8
SF	9 - 11	LIVE	Domestic	10.3	36.0	1,097	11.0	1,649.6	178.2
SF	9 - 11	LIVE	Cull	10.9	6.0	0	100.0	0.0	0.0
SF	9 - 11	LIVE	Pulp	11.2	17.0	12	0.0	12.1	1.9
SF	12 - 14	LIVE	Domestic	12.5	33.0	294	12.9	398.4	47.7
SF	15 - 19	LIVE	Domestic	15.6	35.0	585	24.1	864.1	95.0
SF	20+	LIVE	Domestic	20.7	36.0	72	30.0	98.4	11.6
WH	5 - 8	LIVE	Pulp	5.8	21.0	41	26.3	96.3	6.7
WH	5 - 8	LIVE	Domestic	6.0	30.0	4,128	5.3	7,578.6	670.8
WH	9 - 11	LIVE	Domestic	10.0	36.0	2,890	8.7	4,616.9	469.6
WH	9 - 11	LIVE	Cull	10.7	8.0	0	100.0	0.0	0.0
WH	12 - 14	LIVE	Domestic	12.9	35.0	724	10.0	1,228.0	117.7
WH	12 - 14	LIVE	Cull	13.4	8.0	0	100.0	0.0	0.0
WH	15 - 19	LIVE	Domestic	15.2	20.0	69	0.0	80.1	11.1

Timber Sale Distribution of Volume by County and Timber Trust by Sale Unit

Unit	Harvest Type	N Trusts	Timber Trust	County	Unit MBF	Sale MBF	Unit % of Sale	Trust % of Unit	Trust % of Sale
COAL DAY U1	VRH	1	3	King	927.4	3,665.5	25.30	100.00	25.30
COAL DAY U2	VRH	1	3	King	1,334.0	3,665.5	36.39	94.00	34.22
COAL DAY U2	VRH	1	6	King	1,334.0	3,665.5	36.39	6.00	2.18
COAL DAY U3	VRH	1	3	King	1,329.7	3,665.5	36.28	100.00	36.28
COAL DAY U4	VARIABLE_THIN	1	3	King	21.0	3,665.5	0.57	100.00	0.57
COAL DAY U5	VARIABLE_THIN	1	3	King	9.4	3,665.5	0.26	100.00	0.26
COAL DAY U6	VARIABLE_THIN	1	3	King	22.5	3,665.5	0.61	100.00	0.61

Unit	Harvest Type	N Trusts	Timber Trust	County	Unit MBF	Sale MBF	Unit % of Sale	Trust % of Unit	Trust % of Sale
COAL DAY U7	VARIABLE_THIN	1	3	King	21.5	3,665.5	0.59	100.00	0.59

Timber Sale Distribution of Volume by County and Timber Trust for the Timber Sale

Timber Trust	County	Trust % of Sale
3	King	97.83
6	King	2.18

Cruise Unit Report COAL DAY U1

Unit Sale Notice Volume (MBF): COAL DAY U1

Sp	QMD	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	15.6	6.0		618.9	146.8	351.1	120.9
WH	13.0	7.0		204.4	17.1	132.2	55.1
SF	13.3	6.0		81.0	30.0	26.8	24.3
RA	9.0			23.0			23.0
ALL	13.5	6.5		927.4	193.9	510.1	223.4

Unit Sale Notice Weight (tons): COAL DAY U1

Sp	Tons by Grade			
	All	2 Saw	3 Saw	4 Saw
DF	5,207.3	1,227.1	2,844.3	1,135.9
WH	1,978.3	177.6	1,273.7	527.0
SF	716.5	233.3	245.8	237.4
RA	191.0			191.0
ALL	8,093.1	1,638.0	4,363.8	2,091.3

Unit Cruise Design: COAL DAY U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	28.7	30.1	20	10	0

Unit Cruise Summary: COAL DAY U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	33	89	4.5	1
WH	27	32	1.6	3
SF	11	14	0.7	2
RA	5	5	0.3	0
ALL	76	140	7.0	6

Unit Cruise Statistics (Cut + Leave Trees): COAL DAY U1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	178.0	59.0	13.2	121.2	13.3	2.3	21,565	60.5	13.4
WH	64.0	135.1	30.2	111.3	18.2	3.5	7,123	136.3	30.4
SF	28.0	147.3	32.9	100.9	27.1	8.2	2,824	149.8	33.9
RA	10.0	447.2	100.0	80.3	14.8	6.6	803	447.5	100.2
ALL	280.0	25.0	5.6	115.4	19.0	2.2	32,315	31.4	6.0

Unit Summary: COAL DAY U1

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	33	ALL	15.6	79	92	21,565	3.6	134.1	178.0	45.1	5,207.3	618.9
RA	LIVE	CUT	5	ALL	9.0	47	60	803	3.3	22.6	10.0	3.3	191.0	23.0
SF	LIVE	CUT	11	ALL	13.3	63	71	2,824	11.9	29.0	28.0	7.7	716.5	81.1
WH	LIVE	CUT	27	ALL	13.0	71	78	7,123	6.7	69.4	64.0	17.8	1,978.3	204.4
ALL	LIVE	CUT	76	ALL	14.2	72	83	32,315	5.1	255.1	280.0	73.9	8,093.1	927.4
ALL	ALL	ALL	76	ALL	14.2	72	83	32,315	5.1	255.1	280.0	73.9	8,093.1	927.4

Unit Stand Table: COAL DAY U1

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	10	LIVE	CUT	1	10.0	75	75	405	4.7	9.9	5.4	1.7	113.2	11.6
DF	12	LIVE	CUT	2	12.0	83	83	1,140	5.1	13.7	10.8	3.1	280.9	32.7
DF	14	LIVE	CUT	6	14.0	72	84	3,633	2.8	30.3	32.4	8.6	858.4	104.3
DF	15	LIVE	CUT	6	15.0	70	92	4,057	3.4	26.4	32.4	8.4	942.0	116.4
DF	16	LIVE	CUT	3	16.0	79	96	1,997	3.5	11.6	16.2	4.0	474.0	57.3
DF	17	LIVE	CUT	4	17.0	87	97	2,796	4.6	13.7	21.6	5.2	649.4	80.2
DF	18	LIVE	CUT	1	18.0	82	104	665	2.2	3.1	5.4	1.3	172.3	19.1
DF	19	LIVE	CUT	4	19.0	91	102	2,625	3.5	11.0	21.6	4.9	672.3	75.3
DF	20	LIVE	CUT	4	20.0	87	110	3,019	3.6	9.9	21.6	4.8	697.8	86.7
DF	21	LIVE	CUT	1	21.0	89	113	686	2.5	2.2	5.4	1.2	181.6	19.7
DF	22	LIVE	CUT	1	22.0	97	97	541	7.0	2.0	5.4	1.1	165.4	15.5
RA	7	LIVE	CUT	1	7.0	50	50	157	0.0	7.5	2.0	0.8	23.6	4.5
RA	8	LIVE	CUT	1	8.0	32	61	189	0.0	5.7	2.0	0.7	36.2	5.4
RA	10	LIVE	CUT	2	10.0	52	63	279	5.0	7.3	4.0	1.3	81.0	8.0
RA	14	LIVE	CUT	1	14.0	60	85	178	6.9	1.9	2.0	0.5	50.2	5.1
SF	8	LIVE	CUT	1	8.0	38	45	204	0.0	7.3	2.5	0.9	36.0	5.9
SF	10	LIVE	CUT	1	10.0	74	74	173	14.0	4.7	2.5	0.8	57.6	5.0

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
SF	11	LIVE	CUT	1	11.0	74	74	262	0.0	3.9	2.5	0.8	60.3	7.5
SF	12	LIVE	CUT	1	12.0	53	66	139	30.6	3.2	2.5	0.7	42.6	4.0
SF	15	LIVE	CUT	1	15.0	64	80	203	25.2	2.1	2.5	0.7	68.2	5.8
SF	16	LIVE	CUT	2	16.0	67	84	607	0.9	3.6	5.1	1.3	140.9	17.4
SF	18	LIVE	CUT	1	18.0	86	86	266	12.3	1.4	2.5	0.6	74.6	7.6
SF	20	LIVE	CUT	1	20.0	68	99	371	9.1	1.2	2.5	0.6	72.9	10.6
SF	22	LIVE	CUT	1	22.0	96	96	279	24.9	1.0	2.5	0.5	79.3	8.0
SF	23	LIVE	CUT	1	23.0	99	99	319	13.4	0.9	2.5	0.5	84.1	9.2
WH	8	LIVE	CUT	1	8.0	46	55	222	0.0	6.5	2.3	0.8	42.2	6.4
WH	10	LIVE	CUT	1	10.0	56	56	155	9.8	4.2	2.3	0.7	50.1	4.4
WH	11	LIVE	CUT	4	11.0	63	80	1,372	1.2	17.3	11.4	3.4	344.2	39.4
WH	12	LIVE	CUT	2	12.0	68	76	505	4.4	5.8	4.6	1.3	131.2	14.5
WH	13	LIVE	CUT	3	13.0	75	81	755	2.6	7.4	6.9	1.9	209.9	21.7
WH	14	LIVE	CUT	6	14.0	79	82	1,506	10.9	12.8	13.7	3.7	430.9	43.2
WH	15	LIVE	CUT	4	15.0	83	86	1,123	6.1	7.5	9.1	2.4	301.7	32.2
WH	16	LIVE	CUT	1	16.0	75	75	167	20.3	1.6	2.3	0.6	66.3	4.8
WH	17	LIVE	CUT	2	17.0	93	93	564	7.1	2.9	4.6	1.1	161.5	16.2
WH	18	LIVE	CUT	2	18.0	97	97	564	7.4	2.6	4.6	1.1	167.8	16.2
WH	22	LIVE	CUT	1	22.0	82	82	190	13.0	0.9	2.3	0.5	72.5	5.5

Unit Log Grade Summary: COAL DAY U1

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	13.2	38.0	5,116	4.4	1,227.1	146.8
DF	LIVE	3 SAW	9.5	37.0	12,235	4.0	2,844.3	351.1
DF	LIVE	4 SAW	5.4	31.0	4,214	1.8	1,135.9	120.9
RA	LIVE	4 SAW	5.7	29.0	803	3.3	191.0	23.0
SF	LIVE	2 SAW	14.0	31.0	1,044	15.7	233.3	30.0
SF	LIVE	3 SAW	9.0	33.0	935	6.7	245.8	26.8
SF	LIVE	4 SAW	5.4	30.0	845	6.4	237.4	24.3
SF	LIVE	CULL	10.9	6.0	0	100.0	0.0	0.0
WH	LIVE	2 SAW	12.9	37.0	597	10.6	177.6	17.1
WH	LIVE	3 SAW	8.8	35.0	4,605	7.8	1,273.7	132.2
WH	LIVE	4 SAW	5.1	27.0	1,921	1.6	527.0	55.1

Unit Log Sort Summary: COAL DAY U1

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	7.9	34.0	21,565	3.6	5,207.3	618.9
RA	LIVE	Domestic	5.7	29.0	803	3.3	191.0	23.0
SF	LIVE	Cull	10.9	6.0	0	100.0	0.0	0.0
SF	LIVE	Domestic	7.4	31.0	2,824	10.1	716.5	81.0
WH	LIVE	Domestic	7.0	31.0	7,123	6.5	1,978.3	204.4

Unit Log Grade x Sort Summary: COAL DAY U1

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.2	38.0	5,116	4.4	1,227.1	146.8
DF	LIVE	3 SAW	Domestic	9.5	37.0	12,235	4.0	2,844.3	351.1
DF	LIVE	4 SAW	Domestic	5.4	31.0	4,214	1.8	1,135.9	120.9
RA	LIVE	4 SAW	Domestic	5.7	29.0	803	3.3	191.0	23.0
SF	LIVE	2 SAW	Domestic	14.0	31.0	1,044	15.7	233.3	30.0
SF	LIVE	3 SAW	Domestic	9.0	33.0	935	6.7	245.8	26.8
SF	LIVE	4 SAW	Domestic	5.4	30.0	845	6.4	237.4	24.3
SF	LIVE	CULL	Cull	10.9	6.0	0	100.0	0.0	0.0
WH	LIVE	2 SAW	Domestic	12.9	37.0	597	10.6	177.6	17.1
WH	LIVE	3 SAW	Domestic	8.8	35.0	4,605	7.8	1,273.7	132.2
WH	LIVE	4 SAW	Domestic	5.1	27.0	1,921	1.6	527.0	55.1

Unit Log Grade x Diameter Bin Summary: COAL DAY U1

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	4 SAW	5.4	31.0	4,214	1.8	1,135.9	120.9
DF	5 - 8	LIVE	3 SAW	7.8	37.0	2,313	3.6	639.8	66.4
DF	9 - 11	LIVE	3 SAW	10.2	37.0	9,922	4.1	2,204.5	284.8
DF	12 - 14	LIVE	2 SAW	13.2	38.0	5,116	4.4	1,227.1	146.8
RA	5 - 8	LIVE	4 SAW	5.4	28.0	678	2.6	154.1	19.4
RA	9 - 11	LIVE	4 SAW	9.6	30.0	125	6.9	36.9	3.6
SF	5 - 8	LIVE	4 SAW	5.4	30.0	845	6.4	237.4	24.3
SF	5 - 8	LIVE	3 SAW	7.7	30.0	279	2.6	83.2	8.0
SF	9 - 11	LIVE	3 SAW	10.4	36.0	656	8.3	162.5	18.8
SF	9 - 11	LIVE	CULL	10.9	6.0	0	100.0	0.0	0.0
SF	12 - 14	LIVE	2 SAW	12.3	29.0	319	13.4	75.8	9.1
SF	15 - 19	LIVE	2 SAW	15.4	33.0	725	16.6	157.5	20.8
WH	5 - 8	LIVE	4 SAW	5.1	27.0	1,921	1.6	527.0	55.1

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	5 - 8	LIVE	3 SAW	8.0	35.0	1,981	3.0	539.1	56.9
WH	9 - 11	LIVE	3 SAW	9.9	36.0	2,624	11.2	734.6	75.3
WH	12 - 14	LIVE	2 SAW	12.9	37.0	597	10.6	177.6	17.1

Unit Log Sort x Diameter Bin Summary: COAL DAY U1

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	5.9	32.0	6,527	2.4	1,775.7	187.3
DF	9 - 11	LIVE	Domestic	10.2	37.0	9,922	4.1	2,204.5	284.8
DF	12 - 14	LIVE	Domestic	13.2	38.0	5,116	4.4	1,227.1	146.8
RA	5 - 8	LIVE	Domestic	5.4	28.0	678	2.6	154.1	19.4
RA	9 - 11	LIVE	Domestic	9.6	30.0	125	6.9	36.9	3.6
SF	5 - 8	LIVE	Domestic	5.8	30.0	1,124	5.5	320.7	32.3
SF	9 - 11	LIVE	Domestic	10.4	36.0	656	8.3	162.5	18.8
SF	9 - 11	LIVE	Cull	10.9	6.0	0	100.0	0.0	0.0
SF	12 - 14	LIVE	Domestic	12.3	29.0	319	13.4	75.8	9.1
SF	15 - 19	LIVE	Domestic	15.4	33.0	725	16.6	157.5	20.8
WH	5 - 8	LIVE	Domestic	6.0	30.0	3,902	2.3	1,066.1	112.0
WH	9 - 11	LIVE	Domestic	9.9	36.0	2,624	11.2	734.6	75.3
WH	12 - 14	LIVE	Domestic	12.9	37.0	597	10.6	177.6	17.1

Cruise Unit Report COAL DAY U2

Unit Sale Notice Volume (MBF): COAL DAY U2

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	13.0			787.0	54.8	517.0	213.0	2.1
SF	15.1			383.4	124.5	196.0	61.1	1.9
DF	15.4			163.6	53.6	65.5	43.8	0.7
ALL	13.8			1,334.0	232.8	778.5	317.9	4.7

Unit Sale Notice Weight (tons): COAL DAY U2

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
WH	8,485.5	579.5	5,815.2	2,073.7	17.1
SF	3,966.7	1,127.6	2,097.6	729.4	12.1
DF	1,615.9	471.0	663.1	475.8	6.0
ALL	14,068.1	2,178.0	8,575.9	3,278.9	35.2

Unit Cruise Design: COAL DAY U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	59.8	63.0	41	19	0

Unit Cruise Summary: COAL DAY U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	81	163	4.0	0
SF	39	81	2.0	0
DF	19	33	0.8	0
ALL	139	277	6.8	0

Unit Cruise Statistics (Cut + Leave Trees): COAL DAY U2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	159.0	72.6	11.3	82.8	29.2	3.2	13,160	78.2	11.8
SF	79.0	106.5	16.6	81.1	34.5	5.5	6,411	111.9	17.5

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	32.2	188.9	29.5	85.0	28.3	6.5	2,736	191.0	30.2
ALL	270.2	35.9	5.6	82.5	30.4	2.6	22,307	47.1	6.2

Unit Summary: COAL DAY U2

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	19	ALL	15.4	64	76	2,736	10.9	24.9	32.2	8.2	1,615.9	163.6
SF	LIVE	CUT	39	ALL	15.1	63	66	6,411	14.3	63.5	79.0	20.3	3,966.7	383.4
WH	LIVE	CUT	81	ALL	13.0	58	64	13,160	8.0	172.5	159.0	44.1	8,485.5	787.0
ALL	LIVE	CUT	139	ALL	13.8	60	66	22,307	10.3	260.9	270.2	72.6	14,068.1	1,334.0
ALL	ALL	ALL	139	ALL	13.8	60	66	22,307	10.3	260.9	270.2	72.6	14,068.1	1,334.0

Unit Stand Table: COAL DAY U2

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	10	LIVE	CUT	2	10.0	37	64	221	7.8	6.2	3.4	1.1	116.5	13.2
DF	13	LIVE	CUT	2	13.0	61	70	256	5.4	3.7	3.4	0.9	159.8	15.3
DF	15	LIVE	CUT	1	15.0	87	87	184	1.5	1.4	1.7	0.4	96.5	11.0
DF	16	LIVE	CUT	3	16.0	76	76	437	7.7	3.6	5.1	1.3	254.4	26.1
DF	17	LIVE	CUT	4	17.0	69	81	630	14.1	4.3	6.8	1.6	349.9	37.7
DF	18	LIVE	CUT	1	18.0	78	78	125	24.9	1.0	1.7	0.4	78.4	7.5
DF	19	LIVE	CUT	2	19.0	90	90	332	10.2	1.7	3.4	0.8	199.5	19.9
DF	20	LIVE	CUT	2	20.0	72	104	364	9.3	1.6	3.4	0.8	188.0	21.8
DF	21	LIVE	CUT	2	21.0	72	72	188	18.8	1.4	3.4	0.7	172.9	11.2
SF	9	LIVE	CUT	1	9.0	42	51	156	0.0	4.6	2.0	0.7	70.7	9.3
SF	10	LIVE	CUT	2	10.0	47	52	264	5.3	7.4	4.1	1.3	146.4	15.8
SF	11	LIVE	CUT	2	11.0	63	63	313	3.8	6.1	4.1	1.2	173.6	18.7
SF	12	LIVE	CUT	1	12.0	53	53	80	26.2	2.6	2.0	0.6	79.6	4.8
SF	13	LIVE	CUT	2	13.0	60	60	264	4.8	4.4	4.1	1.1	169.5	15.8
SF	14	LIVE	CUT	7	14.0	63	63	878	4.7	13.3	14.2	3.8	607.3	52.5
SF	16	LIVE	CUT	4	16.0	64	64	570	7.3	5.8	8.1	2.0	365.5	34.1
SF	17	LIVE	CUT	5	17.0	72	77	1,041	5.6	6.4	10.1	2.5	550.7	62.3
SF	18	LIVE	CUT	5	18.0	72	77	834	19.5	5.7	10.1	2.4	546.2	49.9
SF	19	LIVE	CUT	1	19.0	72	72	150	21.9	1.0	2.0	0.5	105.8	9.0
SF	20	LIVE	CUT	1	20.0	90	90	194	18.7	0.9	2.0	0.5	127.3	11.6
SF	22	LIVE	CUT	1	22.0	60	106	256	22.2	0.8	2.0	0.4	126.2	15.3
SF	23	LIVE	CUT	3	23.0	91	91	626	24.5	2.1	6.1	1.3	389.7	37.4

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
SF	26	LIVE	CUT	2	26.0	80	80	287	26.4	1.1	4.1	0.8	228.8	17.2
SF	27	LIVE	CUT	1	27.0	85	85	173	25.1	0.5	2.0	0.4	120.5	10.4
SF	29	LIVE	CUT	1	29.0	92	128	325	27.9	0.4	2.0	0.4	158.9	19.4
WH	7	LIVE	CUT	3	7.0	40	48	545	2.6	21.5	5.7	2.2	205.5	32.6
WH	8	LIVE	CUT	3	8.0	46	55	494	0.0	16.5	5.7	2.0	220.3	29.6
WH	9	LIVE	CUT	3	9.0	53	53	421	4.9	13.0	5.7	1.9	240.3	25.2
WH	10	LIVE	CUT	4	10.0	55	61	566	1.8	14.0	7.7	2.4	369.2	33.9
WH	11	LIVE	CUT	1	11.0	65	65	119	4.7	2.9	1.9	0.6	99.9	7.1
WH	12	LIVE	CUT	4	12.0	63	75	855	3.6	9.8	7.7	2.2	447.5	51.1
WH	13	LIVE	CUT	4	13.0	63	66	524	6.3	8.3	7.7	2.1	397.2	31.4
WH	14	LIVE	CUT	11	14.0	60	67	1,787	7.2	21.5	23.0	6.1	1,236.5	106.8
WH	15	LIVE	CUT	18	15.0	58	66	2,296	10.2	28.1	34.5	8.9	1,721.7	137.3
WH	16	LIVE	CUT	11	16.0	67	75	2,048	8.0	15.1	21.1	5.3	1,253.5	122.5
WH	17	LIVE	CUT	8	17.0	68	77	1,621	9.0	10.9	17.2	4.2	1,050.0	96.9
WH	18	LIVE	CUT	5	18.0	72	76	797	17.0	5.4	9.6	2.3	509.8	47.6
WH	19	LIVE	CUT	2	19.0	82	82	380	6.7	1.9	3.8	0.9	251.1	22.7
WH	20	LIVE	CUT	2	20.0	68	68	314	10.1	1.8	3.8	0.9	218.2	18.8
WH	21	LIVE	CUT	2	21.0	81	89	394	14.4	1.6	3.8	0.8	264.9	23.6

Unit Log Grade Summary: COAL DAY U2

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	12.8	31.0	896	12.0	471.0	53.6
DF	LIVE	3 SAW	9.9	34.0	1,095	10.5	663.1	65.5
DF	LIVE	4 SAW	5.5	30.0	733	7.6	475.8	43.8
DF	LIVE	CULL	11.5	2.0	0	100.0	0.0	0.0
DF	LIVE	UTILITY	5.0	16.0	12	0.0	6.0	0.7
SF	LIVE	2 SAW	14.6	36.0	2,081	22.8	1,127.6	124.5
SF	LIVE	3 SAW	8.2	38.0	3,277	10.2	2,097.6	196.0
SF	LIVE	4 SAW	5.1	29.0	1,021	7.6	729.4	61.1
SF	LIVE	UTILITY	11.2	17.0	31	0.0	12.1	1.9
WH	LIVE	2 SAW	12.7	36.0	917	11.1	579.5	54.8
WH	LIVE	3 SAW	8.6	38.0	8,646	7.8	5,815.2	517.0
WH	LIVE	4 SAW	5.3	26.0	3,561	3.0	2,073.7	213.0
WH	LIVE	CULL	11.8	17.0	0	100.0	0.0	0.0
WH	LIVE	UTILITY	6.0	16.0	36	0.0	17.1	2.1

Unit Log Sort Summary: COAL DAY U2

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Cull	11.5	2.0	0	100.0	0.0	0.0
DF	LIVE	Domestic	7.8	31.0	2,724	10.2	1,609.9	162.9
DF	LIVE	Pulp	5.0	16.0	12	0.0	6.0	0.7
SF	LIVE	Domestic	7.6	34.0	6,380	14.4	3,954.6	381.5
SF	LIVE	Pulp	11.2	17.0	31	0.0	12.1	1.9
WH	LIVE	Cull	11.8	17.0	0	100.0	0.0	0.0
WH	LIVE	Domestic	6.8	31.0	13,124	6.8	8,468.4	784.8
WH	LIVE	Pulp	6.0	16.0	36	0.0	17.1	2.1

Unit Log Grade x Sort Summary: COAL DAY U2

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	12.8	31.0	896	12.0	471.0	53.6
DF	LIVE	3 SAW	Domestic	9.9	34.0	1,095	10.5	663.1	65.5
DF	LIVE	4 SAW	Domestic	5.5	30.0	733	7.6	475.8	43.8
DF	LIVE	CULL	Cull	11.5	2.0	0	100.0	0.0	0.0
DF	LIVE	UTILITY	Pulp	5.0	16.0	12	0.0	6.0	0.7
SF	LIVE	2 SAW	Domestic	14.6	36.0	2,081	22.8	1,127.6	124.5
SF	LIVE	3 SAW	Domestic	8.2	38.0	3,277	10.2	2,097.6	196.0
SF	LIVE	4 SAW	Domestic	5.1	29.0	1,021	7.6	729.4	61.1
SF	LIVE	UTILITY	Pulp	11.2	17.0	31	0.0	12.1	1.9
WH	LIVE	2 SAW	Domestic	12.7	36.0	917	11.1	579.5	54.8
WH	LIVE	3 SAW	Domestic	8.6	38.0	8,646	7.8	5,815.2	517.0
WH	LIVE	4 SAW	Domestic	5.3	26.0	3,561	3.0	2,073.7	213.0
WH	LIVE	CULL	Cull	11.8	17.0	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	6.0	16.0	36	0.0	17.1	2.1

Unit Log Grade x Diameter Bin Summary: COAL DAY U2

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	UTILITY	5.0	16.0	12	0.0	6.0	0.7
DF	5 - 8	LIVE	4 SAW	5.5	30.0	733	7.6	475.8	43.8
DF	5 - 8	LIVE	3 SAW	8.4	36.0	134	7.6	72.1	8.0
DF	9 - 11	LIVE	CULL	9.4	2.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	3 SAW	10.1	33.0	961	10.9	591.1	57.5
DF	12 - 14	LIVE	2 SAW	12.8	31.0	896	12.0	471.0	53.6
DF	12 - 14	LIVE	CULL	12.8	2.0	0	100.0	0.0	0.0

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	5 - 8	LIVE	4 SAW	5.1	29.0	1,021	7.6	729.4	61.1
SF	5 - 8	LIVE	3 SAW	7.0	40.0	1,744	5.1	1,160.1	104.3
SF	9 - 11	LIVE	3 SAW	10.5	36.0	1,533	15.5	937.5	91.7
SF	9 - 11	LIVE	UTILITY	11.2	17.0	31	0.0	12.1	1.9
SF	12 - 14	LIVE	2 SAW	12.6	35.0	645	12.7	322.6	38.6
SF	15 - 19	LIVE	2 SAW	15.7	37.0	1,241	26.0	706.6	74.2
SF	20+	LIVE	2 SAW	20.7	36.0	195	30.0	98.4	11.6
WH	5 - 8	LIVE	4 SAW	5.3	26.0	3,561	3.0	2,073.7	213.0
WH	5 - 8	LIVE	UTILITY	6.0	16.0	36	0.0	17.1	2.1
WH	5 - 8	LIVE	3 SAW	7.2	39.0	3,427	6.2	2,644.9	204.9
WH	9 - 11	LIVE	3 SAW	10.1	36.0	5,219	8.8	3,170.3	312.1
WH	9 - 11	LIVE	CULL	11.4	20.0	0	100.0	0.0	0.0
WH	12 - 14	LIVE	CULL	12.4	12.0	0	100.0	0.0	0.0
WH	12 - 14	LIVE	2 SAW	12.7	36.0	917	11.1	579.5	54.8

Unit Log Sort x Diameter Bin Summary: COAL DAY U2

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Pulp	5.0	16.0	12	0.0	6.0	0.7
DF	5 - 8	LIVE	Domestic	5.7	30.0	867	7.6	547.9	51.9
DF	9 - 11	LIVE	Cull	9.4	2.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	Domestic	10.1	33.0	961	10.9	591.1	57.5
DF	12 - 14	LIVE	Cull	12.8	2.0	0	100.0	0.0	0.0
DF	12 - 14	LIVE	Domestic	12.8	31.0	896	12.0	471.0	53.6
SF	5 - 8	LIVE	Domestic	5.9	34.0	2,765	6.0	1,889.5	165.4
SF	9 - 11	LIVE	Domestic	10.5	36.0	1,533	15.5	937.5	91.7
SF	9 - 11	LIVE	Pulp	11.2	17.0	31	0.0	12.1	1.9
SF	12 - 14	LIVE	Domestic	12.6	35.0	645	12.7	322.6	38.6
SF	15 - 19	LIVE	Domestic	15.7	37.0	1,241	26.0	706.6	74.2
SF	20+	LIVE	Domestic	20.7	36.0	195	30.0	98.4	11.6
WH	5 - 8	LIVE	Domestic	5.8	30.0	6,988	4.6	4,718.6	417.9
WH	5 - 8	LIVE	Pulp	6.0	16.0	36	0.0	17.1	2.1
WH	9 - 11	LIVE	Domestic	10.1	36.0	5,219	8.8	3,170.3	312.1
WH	9 - 11	LIVE	Cull	11.4	20.0	0	100.0	0.0	0.0
WH	12 - 14	LIVE	Cull	12.4	12.0	0	100.0	0.0	0.0
WH	12 - 14	LIVE	Domestic	12.7	36.0	917	11.1	579.5	54.8

Cruise Unit Report COAL DAY U3

Unit Sale Notice Volume (MBF): COAL DAY U3

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
NF	14.5	6.0		580.2	61.9	414.9	102.2	1.3
DF	16.8			392.1	196.9	141.0	43.9	10.4
WH	14.2			237.1	56.9	136.5	39.2	4.5
SF	13.1			120.2		83.4	36.8	
ALL	15.0	6.0		1,329.7	315.7	775.7	222.1	16.2

Unit Sale Notice Weight (tons): COAL DAY U3

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
NF	5,120.8	494.3	3,592.3	1,023.5	10.8
DF	3,501.7	1,586.3	1,318.3	498.9	98.2
WH	2,702.5	551.0	1,554.0	518.4	79.2
SF	1,053.0		702.0	351.0	
ALL	12,378.0	2,631.6	7,166.5	2,391.8	188.1

Unit Cruise Design: COAL DAY U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	64.0	66.7	45	21	0

Unit Cruise Summary: COAL DAY U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
NF	63	130	2.9	1
DF	48	93	2.1	0
WH	20	63	1.4	0
SF	12	27	0.6	0
ALL	143	313	7.0	1

Unit Cruise Statistics (Cut + Leave Trees): COAL DAY U3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
NF	97.1	104.4	15.6	93.4	25.2	3.2	9,066	107.4	15.9
DF	69.5	138.6	20.7	88.2	25.7	3.7	6,127	140.9	21.0
WH	47.1	148.0	22.1	78.7	36.2	8.1	3,705	152.3	23.5
SF	20.2	182.6	27.2	93.2	19.9	5.7	1,878	183.7	27.8
ALL	233.8	22.9	3.4	88.9	26.9	2.3	20,777	35.4	4.1

Unit Summary: COAL DAY U3

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	48	ALL	16.8	54	86	6,127	10.1	45.1	69.5	16.9	3,501.7	392.2
NF	LIVE	CUT	63	ALL	14.5	62	75	9,066	5.7	84.7	97.1	25.5	5,120.8	580.2
SF	LIVE	CUT	12	ALL	13.1	56	67	1,878	2.8	21.5	20.2	5.6	1,053.0	120.2
WH	LIVE	CUT	20	ALL	14.2	59	66	3,705	10.2	42.8	47.1	12.5	2,702.5	237.1
ALL	LIVE	CUT	143	ALL	14.9	59	75	20,776	7.6	194.1	233.9	60.5	12,378.0	1,329.7
ALL	ALL	ALL	143	ALL	14.9	59	75	20,776	7.6	194.1	233.9	60.5	12,378.0	1,329.7

Unit Stand Table: COAL DAY U3

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	12	LIVE	CUT	2	12.0	60	68	223	4.0	3.7	2.9	0.8	141.1	14.3
DF	13	LIVE	CUT	3	13.0	47	76	309	9.2	4.7	4.3	1.2	189.0	19.8
DF	14	LIVE	CUT	1	14.0	40	87	114	2.3	1.4	1.4	0.4	71.6	7.3
DF	15	LIVE	CUT	7	15.0	53	74	711	16.4	8.3	10.1	2.6	443.1	45.5
DF	16	LIVE	CUT	4	16.0	61	81	595	7.7	4.1	5.8	1.4	310.0	38.1
DF	17	LIVE	CUT	5	17.0	52	86	555	10.8	4.6	7.2	1.8	373.4	35.5
DF	18	LIVE	CUT	10	18.0	56	89	1,327	9.7	8.2	14.5	3.4	752.8	85.0
DF	19	LIVE	CUT	4	19.0	41	109	559	8.1	2.9	5.8	1.3	290.9	35.7
DF	20	LIVE	CUT	8	20.0	59	102	1,194	9.1	5.3	11.6	2.6	639.0	76.4
DF	21	LIVE	CUT	1	21.0	86	86	144	5.9	0.6	1.4	0.3	88.9	9.2
DF	22	LIVE	CUT	2	22.0	43	120	265	16.4	1.1	2.9	0.6	144.0	17.0
DF	26	LIVE	CUT	1	26.0	29	133	130	10.8	0.4	1.4	0.3	58.0	8.3
NF	10	LIVE	CUT	2	10.0	65	65	232	4.7	5.7	3.1	1.0	139.9	14.8
NF	11	LIVE	CUT	1	11.0	35	79	142	0.0	2.3	1.5	0.5	68.5	9.1
NF	12	LIVE	CUT	5	12.0	48	76	561	6.5	9.8	7.7	2.2	352.6	35.9
NF	13	LIVE	CUT	7	13.0	59	68	804	4.0	11.7	10.8	3.0	502.8	51.5
NF	14	LIVE	CUT	12	14.0	61	71	1,635	1.8	17.3	18.5	4.9	951.7	104.6

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
NF	15	LIVE	CUT	11	15.0	66	75	1,664	2.9	13.8	17.0	4.4	898.2	106.5
NF	16	LIVE	CUT	10	16.0	68	77	1,530	9.5	11.0	15.4	3.9	803.5	97.9
NF	17	LIVE	CUT	6	17.0	72	89	1,048	7.8	5.9	9.2	2.2	546.8	67.1
NF	18	LIVE	CUT	4	18.0	74	85	681	2.4	3.5	6.2	1.5	379.0	43.6
NF	19	LIVE	CUT	1	19.0	80	80	155	4.3	0.8	1.5	0.4	90.4	9.9
NF	20	LIVE	CUT	1	20.0	79	93	186	6.4	0.7	1.5	0.3	105.0	11.9
NF	21	LIVE	CUT	1	21.0	77	77	126	4.4	0.6	1.5	0.3	88.1	8.1
NF	22	LIVE	CUT	1	22.0	92	92	210	4.8	0.6	1.5	0.3	101.7	13.4
NF	24	LIVE	CUT	1	24.0	82	82	92	47.5	0.5	1.5	0.3	92.7	5.9
SF	10	LIVE	CUT	2	10.0	49	58	253	0.0	6.2	3.4	1.1	141.2	16.2
SF	11	LIVE	CUT	1	11.0	42	61	109	0.0	2.6	1.7	0.5	79.4	7.0
SF	12	LIVE	CUT	1	12.0	48	66	135	0.0	2.1	1.7	0.5	78.5	8.6
SF	13	LIVE	CUT	1	13.0	53	71	131	0.0	1.8	1.7	0.5	83.6	8.4
SF	14	LIVE	CUT	2	14.0	67	75	394	0.0	3.1	3.4	0.9	190.3	25.2
SF	15	LIVE	CUT	1	15.0	62	79	183	10.7	1.4	1.7	0.4	95.4	11.7
SF	16	LIVE	CUT	2	16.0	66	73	330	4.2	2.4	3.4	0.8	187.6	21.1
SF	18	LIVE	CUT	2	18.0	77	77	342	5.0	1.9	3.4	0.8	197.1	21.9
WH	9	LIVE	CUT	1	9.0	24	61	138	10.3	5.3	2.4	0.8	87.3	8.9
WH	12	LIVE	CUT	1	12.0	55	55	111	9.8	3.0	2.4	0.7	116.6	7.1
WH	13	LIVE	CUT	4	13.0	63	67	735	11.4	10.2	9.4	2.6	522.7	47.0
WH	14	LIVE	CUT	7	14.0	66	68	1,314	10.2	15.4	16.5	4.4	960.1	84.1
WH	16	LIVE	CUT	1	16.0	52	63	195	7.9	1.7	2.4	0.6	127.7	12.5
WH	17	LIVE	CUT	1	17.0	70	70	184	16.9	1.5	2.4	0.6	134.5	11.7
WH	18	LIVE	CUT	2	18.0	58	66	429	3.9	2.7	4.7	1.1	305.4	27.4
WH	20	LIVE	CUT	1	20.0	73	73	188	14.3	1.1	2.4	0.5	152.4	12.0
WH	21	LIVE	CUT	1	21.0	73	73	208	6.2	1.0	2.4	0.5	132.2	13.3
WH	23	LIVE	CUT	1	23.0	80	80	203	14.4	0.8	2.4	0.5	163.7	13.0

Unit Log Grade Summary: COAL DAY U3

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	13.1	32.0	3,076	9.8	1,586.3	196.9
DF	LIVE	3 SAW	9.6	32.0	2,202	8.8	1,318.3	141.0
DF	LIVE	4 SAW	5.9	26.0	687	8.7	498.9	43.9
DF	LIVE	CULL	10.6	3.0	0	100.0	0.0	0.0
DF	LIVE	UTILITY	7.6	25.0	162	0.0	98.2	10.4
NF	LIVE	2 SAW	12.9	34.0	967	11.6	494.3	61.9
NF	LIVE	3 SAW	8.9	37.0	6,482	3.7	3,592.3	414.9

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
NF	LIVE	4 SAW	5.2	25.0	1,597	3.3	1,023.5	102.2
NF	LIVE	CULL	10.2	23.0	0	100.0	0.0	0.0
NF	LIVE	UTILITY	5.2	19.0	20	0.0	10.8	1.3
SF	LIVE	3 SAW	9.0	37.0	1,304	4.0	702.0	83.4
SF	LIVE	4 SAW	5.1	31.0	574	0.0	351.0	36.8
WH	LIVE	2 SAW	13.4	29.0	889	6.8	551.0	56.9
WH	LIVE	3 SAW	8.6	34.0	2,132	8.9	1,554.0	136.5
WH	LIVE	4 SAW	5.4	25.0	613	13.2	518.4	39.2
WH	LIVE	CULL	11.2	1.0	0	100.0	0.0	0.0
WH	LIVE	UTILITY	5.6	25.0	71	34.4	79.2	4.5

Unit Log Sort Summary: COAL DAY U3

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Cull	10.6	3.0	0	100.0	0.0	0.0
DF	LIVE	Domestic	9.3	30.0	5,965	9.3	3,403.5	381.8
DF	LIVE	Pulp	7.6	25.0	162	0.0	98.2	10.4
NF	LIVE	Cull	10.2	23.0	0	100.0	0.0	0.0
NF	LIVE	Domestic	7.4	31.0	9,046	4.5	5,110.0	579.0
NF	LIVE	Pulp	5.2	19.0	20	0.0	10.8	1.3
SF	LIVE	Domestic	6.7	33.0	1,878	2.8	1,053.0	120.2
WH	LIVE	Cull	11.2	1.0	0	100.0	0.0	0.0
WH	LIVE	Domestic	7.7	30.0	3,634	9.2	2,623.3	232.6
WH	LIVE	Pulp	5.6	25.0	71	34.4	79.2	4.5

Unit Log Grade x Sort Summary: COAL DAY U3

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.1	32.0	3,076	9.8	1,586.3	196.9
DF	LIVE	3 SAW	Domestic	9.6	32.0	2,202	8.8	1,318.3	141.0
DF	LIVE	4 SAW	Domestic	5.9	26.0	687	8.7	498.9	43.9
DF	LIVE	CULL	Cull	10.6	3.0	0	100.0	0.0	0.0
DF	LIVE	UTILITY	Pulp	7.6	25.0	162	0.0	98.2	10.4
NF	LIVE	2 SAW	Domestic	12.9	34.0	967	11.6	494.3	61.9
NF	LIVE	3 SAW	Domestic	8.9	37.0	6,482	3.7	3,592.3	414.9
NF	LIVE	4 SAW	Domestic	5.2	25.0	1,597	3.3	1,023.5	102.2
NF	LIVE	CULL	Cull	10.2	23.0	0	100.0	0.0	0.0
NF	LIVE	UTILITY	Pulp	5.2	19.0	20	0.0	10.8	1.3
SF	LIVE	3 SAW	Domestic	9.0	37.0	1,304	4.0	702.0	83.4

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	LIVE	4 SAW	Domestic	5.1	31.0	574	0.0	351.0	36.8
WH	LIVE	2 SAW	Domestic	13.4	29.0	889	6.8	551.0	56.9
WH	LIVE	3 SAW	Domestic	8.6	34.0	2,132	8.9	1,554.0	136.5
WH	LIVE	4 SAW	Domestic	5.4	25.0	613	13.2	518.4	39.2
WH	LIVE	CULL	Cull	11.2	1.0	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	5.6	25.0	71	34.4	79.2	4.5

Unit Log Grade x Diameter Bin Summary: COAL DAY U3

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	UTILITY	5.1	19.0	24	0.0	12.9	1.5
DF	5 - 8	LIVE	4 SAW	5.7	26.0	615	9.4	463.1	39.4
DF	5 - 8	LIVE	3 SAW	7.6	37.0	455	5.9	321.1	29.1
DF	5 - 8	LIVE	CULL	8.7	2.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	UTILITY	9.3	29.0	138	0.0	85.3	8.9
DF	9 - 11	LIVE	4 SAW	9.7	19.0	71	2.2	35.8	4.6
DF	9 - 11	LIVE	3 SAW	10.3	31.0	1,748	9.5	997.2	111.9
DF	9 - 11	LIVE	CULL	10.4	1.0	0	100.0	0.0	0.0
DF	12 - 14	LIVE	CULL	12.1	6.0	0	100.0	0.0	0.0
DF	12 - 14	LIVE	2 SAW	12.8	33.0	2,711	9.2	1,420.0	173.5
DF	15 - 19	LIVE	2 SAW	16.1	26.0	365	14.1	166.3	23.3
NF	5 - 8	LIVE	4 SAW	5.1	25.0	1,555	3.1	1,000.2	99.5
NF	5 - 8	LIVE	UTILITY	5.2	19.0	20	0.0	10.8	1.3
NF	5 - 8	LIVE	3 SAW	7.8	37.0	2,540	3.3	1,531.9	162.6
NF	9 - 11	LIVE	4 SAW	9.4	20.0	42	10.4	23.3	2.7
NF	9 - 11	LIVE	3 SAW	10.0	36.0	3,942	3.9	2,060.3	252.3
NF	9 - 11	LIVE	CULL	10.2	23.0	0	100.0	0.0	0.0
NF	12 - 14	LIVE	2 SAW	12.3	34.0	712	5.0	350.4	45.6
NF	15 - 19	LIVE	2 SAW	15.2	36.0	255	25.9	143.9	16.3
SF	5 - 8	LIVE	4 SAW	5.1	31.0	574	0.0	351.0	36.8
SF	5 - 8	LIVE	3 SAW	6.7	40.0	266	0.0	162.0	17.0
SF	9 - 11	LIVE	3 SAW	10.0	35.0	1,038	5.0	539.9	66.4
WH	5 - 8	LIVE	4 SAW	5.4	25.0	613	13.2	518.4	39.2
WH	5 - 8	LIVE	UTILITY	5.6	25.0	71	34.4	79.2	4.5
WH	5 - 8	LIVE	3 SAW	7.7	37.0	1,062	11.0	960.5	68.0
WH	9 - 11	LIVE	3 SAW	9.9	30.0	1,070	6.7	593.5	68.5
WH	9 - 11	LIVE	CULL	10.2	1.0	0	100.0	0.0	0.0
WH	12 - 14	LIVE	2 SAW	13.0	31.0	715	8.4	470.9	45.8

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	12 - 14	LIVE	CULL	14.9	1.0	0	100.0	0.0	0.0
WH	15 - 19	LIVE	2 SAW	15.2	20.0	174	0.0	80.1	11.1

Unit Log Sort x Diameter Bin Summary: COAL DAY U3

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Pulp	5.1	19.0	24	0.0	12.9	1.5
DF	5 - 8	LIVE	Domestic	6.1	29.0	1,070	8.0	784.2	68.5
DF	5 - 8	LIVE	Cull	8.7	2.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	Pulp	9.3	29.0	138	0.0	85.3	8.9
DF	9 - 11	LIVE	Domestic	10.3	30.0	1,819	9.3	1,033.0	116.4
DF	9 - 11	LIVE	Cull	10.4	1.0	0	100.0	0.0	0.0
DF	12 - 14	LIVE	Cull	12.1	6.0	0	100.0	0.0	0.0
DF	12 - 14	LIVE	Domestic	12.8	33.0	2,711	9.2	1,420.0	173.5
DF	15 - 19	LIVE	Domestic	16.1	26.0	365	14.1	166.3	23.3
NF	5 - 8	LIVE	Pulp	5.2	19.0	20	0.0	10.8	1.3
NF	5 - 8	LIVE	Domestic	6.1	30.0	4,095	3.2	2,532.1	262.1
NF	9 - 11	LIVE	Domestic	10.0	35.0	3,984	4.0	2,083.6	255.0
NF	9 - 11	LIVE	Cull	10.2	23.0	0	100.0	0.0	0.0
NF	12 - 14	LIVE	Domestic	12.3	34.0	712	5.0	350.4	45.6
NF	15 - 19	LIVE	Domestic	15.2	36.0	255	25.9	143.9	16.3
SF	5 - 8	LIVE	Domestic	5.4	32.0	840	0.0	513.1	53.8
SF	9 - 11	LIVE	Domestic	10.0	35.0	1,038	5.0	539.9	66.4
WH	5 - 8	LIVE	Pulp	5.6	25.0	71	34.4	79.2	4.5
WH	5 - 8	LIVE	Domestic	6.3	30.0	1,675	11.8	1,478.9	107.2
WH	9 - 11	LIVE	Domestic	9.9	30.0	1,070	6.7	593.5	68.5
WH	9 - 11	LIVE	Cull	10.2	1.0	0	100.0	0.0	0.0
WH	12 - 14	LIVE	Domestic	13.0	31.0	715	8.4	470.9	45.8
WH	12 - 14	LIVE	Cull	14.9	1.0	0	100.0	0.0	0.0
WH	15 - 19	LIVE	Domestic	15.2	20.0	174	0.0	80.1	11.1

Cruise Unit Report COAL DAY U4

Unit Sale Notice Volume (MBF): COAL DAY U4

Sp	QMD	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	15.0			11.5	9.0	2.5
WH	13.8			7.0	5.4	1.6
SF	11.5			2.5	1.3	1.2
ALL	13.9			21.0	15.7	5.3

Unit Sale Notice Weight (tons): COAL DAY U4

Sp	Tons by Grade		
	All	3 Saw	4 Saw
DF	93.9	68.9	25.0
WH	61.2	45.2	16.0
SF	20.2	9.6	10.6
ALL	175.3	123.7	51.6

Unit Cruise Design: COAL DAY U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (20) Measure All, Sighting Ht = 4.5 ft	2.0	2.0	3	3	0

Unit Cruise Summary: COAL DAY U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	7	19	6.3	0
SF	2	10	3.3	0
WH	4	7	2.3	0
ALL	13	36	12.0	0

Unit Cruise Statistics (Cut + Leave Trees): COAL DAY U4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	126.7	50.8	29.3	123.4	10.6	4.0	15,633	51.9	29.6
SF	66.7	96.4	55.7	95.1	32.4	22.9	6,342	101.7	60.2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	46.7	24.7	14.3	131.1	4.6	2.3	6,119	25.2	14.5
ALL	240.0	50.7	29.3	117.1	15.4	4.3	28,094	53.0	29.6

Unit Summary: COAL DAY U4

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	7	ALL	15.0	72	90	5,759	1.7	38.0	46.7	12.0	93.9	11.5
DF	LIVE	LEA	12	ALL	18.3	84	106	9,873	1.7	43.8	80.0	18.7	160.9	19.7
SF	LIVE	CUT	2	ALL	11.5	51	62	1,268	0.0	18.5	13.3	3.9	20.2	2.5
SF	LIVE	LEA	8	ALL	18.3	74	93	5,074	0.0	29.2	53.3	12.5	80.8	10.1
WH	LIVE	CUT	4	ALL	13.8	69	86	3,497	3.6	25.7	26.7	7.2	61.2	7.0
WH	LIVE	LEA	3	ALL	14.3	70	86	2,622	3.6	17.9	20.0	5.3	45.9	5.2
ALL	LIVE	LEA	23	ALL	17.6	78	98	17,569	1.5	90.9	153.3	36.5	287.6	35.0
ALL	LIVE	CUT	13	ALL	13.9	66	82	10,524	2.1	82.2	86.7	23.1	175.3	21.0
ALL	ALL	ALL	36	ALL	15.9	72	91	28,093	1.7	173.1	240.0	59.6	462.9	56.0

Unit Stand Table: COAL DAY U4

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	11	LIVE	CUT	1	11.0	57	71	636	0.0	10.1	6.7	2.0	9.8	1.3
DF	15	LIVE	CUT	1	14.6	72	90	791	0.0	5.7	6.7	1.7	13.4	1.6
DF	16	LIVE	CUT	2	16.0	77	97	1,709	0.0	9.6	13.3	3.3	27.8	3.4
DF	17	LIVE	CUT	3	17.0	80	101	2,623	3.6	12.7	20.0	4.9	42.9	5.2
DF	16	LIVE	LEA	3	16.1	77	98	2,211	0.0	14.1	20.0	5.0	37.5	4.4
DF	18	LIVE	LEA	4	18.0	83	105	3,034	0.0	15.0	26.7	6.3	52.7	6.1
DF	19	LIVE	LEA	2	19.0	86	109	1,636	0.0	6.7	13.3	3.1	26.9	3.3
DF	20	LIVE	LEA	1	20.0	89	113	927	0.0	3.1	6.7	1.5	14.3	1.9
DF	22	LIVE	LEA	2	22.0	94	120	2,065	0.0	5.1	13.3	2.8	29.6	4.1
SF	10	LIVE	CUT	1	10.0	46	56	489	0.0	12.2	6.7	2.1	8.4	1.0
SF	14	LIVE	CUT	1	14.0	60	75	779	0.0	6.2	6.7	1.8	11.8	1.6
SF	16	LIVE	LEA	2	16.2	67	85	1,173	0.0	9.3	13.3	3.3	18.5	2.3
SF	18	LIVE	LEA	1	18.0	73	92	607	0.0	3.8	6.7	1.6	9.9	1.2
SF	19	LIVE	LEA	3	18.9	76	96	1,978	0.0	10.2	20.0	4.6	30.8	4.0
SF	20	LIVE	LEA	1	20.3	79	100	680	0.0	3.0	6.7	1.5	10.7	1.4
SF	21	LIVE	LEA	1	21.0	81	103	636	0.0	2.8	6.7	1.5	10.8	1.3
WH	13	LIVE	CUT	1	13.0	67	83	919	3.8	7.2	6.7	1.9	14.8	1.8
WH	14	LIVE	CUT	2	13.7	69	86	1,700	3.0	13.0	13.4	3.6	30.5	3.4
WH	15	LIVE	CUT	1	15.2	74	92	878	4.6	5.3	6.7	1.7	15.9	1.8

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WH	11	LIVE	LEA	1	11.0	60	73	595	0.0	10.1	6.7	2.0	11.3	1.2
WH	18	LIVE	LEA	2	17.8	82	102	2,027	0.0	7.7	13.3	3.2	34.6	4.1

Unit Log Grade Summary: COAL DAY U4

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	9.8	37.0	4,499	2.1	68.9	9.0
DF	LIVE	4 SAW	5.7	37.0	1,260	0.0	25.0	2.5
SF	LIVE	3 SAW	9.0	36.0	648	0.0	9.6	1.3
SF	LIVE	4 SAW	5.1	31.0	620	0.0	10.6	1.2
WH	LIVE	3 SAW	9.6	36.0	2,707	4.4	45.2	5.4
WH	LIVE	4 SAW	5.1	29.0	790	0.7	16.0	1.6

Unit Log Sort Summary: COAL DAY U4

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	8.0	37.0	5,759	1.7	93.9	11.5
SF	LIVE	Domestic	6.1	32.0	1,268	0.0	20.2	2.5
WH	LIVE	Domestic	7.3	33.0	3,497	3.6	61.2	7.0

Unit Log Grade x Sort Summary: COAL DAY U4

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	Domestic	9.8	37.0	4,499	2.1	68.9	9.0
DF	LIVE	4 SAW	Domestic	5.7	37.0	1,260	0.0	25.0	2.5
SF	LIVE	3 SAW	Domestic	9.0	36.0	648	0.0	9.6	1.3
SF	LIVE	4 SAW	Domestic	5.1	31.0	620	0.0	10.6	1.2
WH	LIVE	3 SAW	Domestic	9.6	36.0	2,707	4.4	45.2	5.4
WH	LIVE	4 SAW	Domestic	5.1	29.0	790	0.7	16.0	1.6

Unit Log Grade x Diameter Bin Summary: COAL DAY U4

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	4 SAW	5.7	37.0	1,260	0.0	25.0	2.5
DF	5 - 8	LIVE	3 SAW	6.2	40.0	636	0.0	9.8	1.3
DF	9 - 11	LIVE	3 SAW	11.0	36.0	3,863	2.5	59.1	7.7
SF	5 - 8	LIVE	4 SAW	5.1	31.0	620	0.0	10.6	1.2
SF	9 - 11	LIVE	3 SAW	9.0	36.0	648	0.0	9.6	1.3
WH	5 - 8	LIVE	4 SAW	5.1	29.0	790	0.7	16.0	1.6

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	9 - 11	LIVE	3 SAW	9.6	36.0	2,707	4.4	45.2	5.4

Unit Log Sort x Diameter Bin Summary: COAL DAY U4

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	5.8	38.0	1,896	0.0	34.8	3.8
DF	9 - 11	LIVE	Domestic	11.0	36.0	3,863	2.5	59.1	7.7
SF	5 - 8	LIVE	Domestic	5.1	31.0	620	0.0	10.6	1.2
SF	9 - 11	LIVE	Domestic	9.0	36.0	648	0.0	9.6	1.3
WH	5 - 8	LIVE	Domestic	5.1	29.0	790	0.7	16.0	1.6
WH	9 - 11	LIVE	Domestic	9.6	36.0	2,707	4.4	45.2	5.4

Cruise Unit Report COAL DAY U5

Unit Sale Notice Volume (MBF): COAL DAY U5

Sp	QMD	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	9.9			5.8	2.5	3.3
WH	9.9			3.6	1.8	1.9
ALL	9.9			9.4	4.3	5.2

Unit Sale Notice Weight (tons): COAL DAY U5

Sp	Tons by Grade		
	All	3 Saw	4 Saw
DF	44.8	19.8	25.0
WH	30.3	14.8	15.5
ALL	75.1	34.6	40.5

Unit Cruise Design: COAL DAY U5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (20) Measure All, Sighting Ht = 4.5 ft	0.9	0.9	2	2	0

Unit Cruise Summary: COAL DAY U5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	7	16	8.0	0
WH	4	9	4.5	0
ALL	11	25	12.5	0

Unit Cruise Statistics (Cut + Leave Trees): COAL DAY U5

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	160.0	0.0	0.0	92.7	23.0	8.7	14,826	23.0	8.7
WH	90.0	15.7	11.1	100.1	12.1	6.1	9,013	19.8	12.7
ALL	250.0	5.7	4.0	95.4	19.1	5.8	23,839	19.9	7.0

Unit Summary: COAL DAY U5

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	7	ALL	9.9	50	61	6,486	1.0	131.0	70.0	22.2	44.8	5.8
DF	LIVE	LEA	9	ALL	13.7	68	85	8,340	1.0	87.9	90.0	24.3	57.7	7.5
WH	LIVE	CUT	4	ALL	9.9	54	66	4,006	0.0	74.8	40.0	12.7	30.3	3.6
WH	LIVE	LEA	5	ALL	10.7	56	68	5,007	0.0	80.1	50.0	15.3	37.9	4.5
ALL	LIVE	LEA	14	ALL	12.4	62	77	13,347	0.6	168.0	140.0	39.6	95.6	12.0
ALL	LIVE	CUT	11	ALL	9.9	51	63	10,492	0.6	205.8	110.0	34.9	75.1	9.4
ALL	ALL	ALL	25	ALL	11.1	56	69	23,839	0.6	373.8	250.0	74.5	170.7	21.4

Unit Stand Table: COAL DAY U5

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	8	LIVE	CUT	2	7.9	42	50	1,624	1.9	58.4	20.0	7.1	8.8	1.5
DF	9	LIVE	CUT	1	9.2	49	59	801	0.0	21.7	10.0	3.3	5.6	0.7
DF	11	LIVE	CUT	2	10.7	56	69	1,657	1.0	31.8	20.0	6.1	13.4	1.5
DF	13	LIVE	CUT	1	13.2	67	83	1,105	0.0	10.5	10.0	2.8	8.4	1.0
DF	14	LIVE	CUT	1	13.6	68	85	1,299	1.5	9.9	10.0	2.7	8.6	1.2
DF	11	LIVE	LEA	1	11.1	57	71	715	0.0	14.9	10.0	3.0	4.9	0.6
DF	13	LIVE	LEA	1	12.8	65	81	879	0.0	11.2	10.0	2.8	6.1	0.8
DF	14	LIVE	LEA	6	14.1	70	88	5,692	0.0	55.3	60.0	16.0	39.4	5.1
DF	16	LIVE	LEA	1	16.5	78	99	1,054	0.0	6.7	10.0	2.5	7.3	0.9
WH	9	LIVE	CUT	2	9.1	51	62	1,821	0.0	44.0	20.0	6.6	13.8	1.6
WH	11	LIVE	CUT	2	11.0	59	72	2,185	0.0	30.4	20.0	6.0	16.5	2.0
WH	7	LIVE	LEA	1	7.5	43	51	767	0.0	32.6	10.0	3.7	4.8	0.7
WH	12	LIVE	LEA	1	11.8	63	77	1,033	0.0	13.2	10.0	2.9	8.1	0.9
WH	13	LIVE	LEA	3	12.8	66	82	3,207	0.0	33.6	30.0	8.4	25.0	2.9

Unit Log Grade Summary: COAL DAY U5

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	7.6	38.0	2,814	0.7	19.8	2.5
DF	LIVE	4 SAW	5.2	30.0	3,672	1.3	25.0	3.3
WH	LIVE	3 SAW	6.9	38.0	1,945	0.0	14.8	1.8
WH	LIVE	4 SAW	5.1	33.0	2,061	0.0	15.5	1.9

Unit Log Sort Summary: COAL DAY U5

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	5.7	32.0	6,486	1.0	44.8	5.8
WH	LIVE	Domestic	5.7	35.0	4,006	0.0	30.3	3.6

Unit Log Grade x Sort Summary: COAL DAY U5

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	Domestic	7.6	38.0	2,814	0.7	19.8	2.5
DF	LIVE	4 SAW	Domestic	5.2	30.0	3,672	1.3	25.0	3.3
WH	LIVE	3 SAW	Domestic	6.9	38.0	1,945	0.0	14.8	1.8
WH	LIVE	4 SAW	Domestic	5.1	33.0	2,061	0.0	15.5	1.9

Unit Log Grade x Diameter Bin Summary: COAL DAY U5

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	4 SAW	5.2	30.0	3,672	1.3	25.0	3.3
DF	5 - 8	LIVE	3 SAW	7.1	38.0	1,803	0.0	13.2	1.6
DF	9 - 11	LIVE	3 SAW	9.0	36.0	1,011	1.9	6.6	0.9
WH	5 - 8	LIVE	4 SAW	5.1	33.0	2,061	0.0	15.5	1.9
WH	5 - 8	LIVE	3 SAW	6.9	38.0	1,945	0.0	14.8	1.8

Unit Log Sort x Diameter Bin Summary: COAL DAY U5

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	5.5	31.0	5,475	0.9	38.2	4.9
DF	9 - 11	LIVE	Domestic	9.0	36.0	1,011	1.9	6.6	0.9
WH	5 - 8	LIVE	Domestic	5.7	35.0	4,006	0.0	30.3	3.6

Cruise Unit Report COAL DAY U6

Unit Sale Notice Volume (MBF): COAL DAY U6

Sp	QMD	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	11.1			16.4	11.4	5.1
SF	9.9			6.1	2.3	3.8
ALL	10.7			22.5	13.6	8.9

Unit Sale Notice Weight (tons): COAL DAY U6

Sp	Tons by Grade		
	All	3 Saw	4 Saw
WH	147.6	103.8	43.8
SF	51.6	19.1	32.5
ALL	199.2	122.9	76.3

Unit Cruise Design: COAL DAY U6

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (20) Measure All, Sighting Ht = 4.5 ft	3.4	3.4	5	5	0

Unit Cruise Summary: COAL DAY U6

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	11	25	5.0	0
SF	6	24	4.8	0
ALL	17	49	9.8	0

Unit Cruise Statistics (Cut + Leave Trees): COAL DAY U6

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	100.0	37.4	16.7	109.8	17.8	5.4	10,978	41.4	17.6
SF	96.0	87.6	39.2	74.5	13.5	5.5	7,157	88.7	39.6
ALL	196.0	30.1	13.5	92.5	25.8	6.3	18,135	39.7	14.8

Unit Summary: COAL DAY U6

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
SF	LIVE	CUT	6	ALL	9.9	45	55	1,789	2.9	44.9	24.0	7.6	51.6	6.1
SF	LIVE	LEA	18	ALL	12.1	53	66	5,368	2.9	90.2	72.0	20.7	154.8	18.2
WH	LIVE	CUT	11	ALL	11.1	58	71	4,830	1.0	65.5	44.0	13.2	147.6	16.4
WH	LIVE	LEA	14	ALL	13.3	65	80	6,148	1.0	58.0	56.0	15.4	187.8	20.9
ALL	LIVE	CUT	17	ALL	10.6	53	64	6,619	1.5	110.4	68.0	20.8	199.2	22.5
ALL	LIVE	LEA	32	ALL	12.6	58	71	11,516	1.9	148.2	128.0	36.1	342.6	39.1
ALL	ALL	ALL	49	ALL	11.8	56	68	18,135	1.7	258.6	196.0	56.9	541.8	61.6

Unit Stand Table: COAL DAY U6

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
SF	8	LIVE	CUT	1	8.0	38	45	321	0.0	11.5	4.0	1.4	6.7	1.1
SF	9	LIVE	CUT	1	8.6	40	48	307	0.0	9.9	4.0	1.4	6.8	1.0
SF	11	LIVE	CUT	2	10.9	49	61	496	5.9	12.3	8.0	2.4	19.0	1.7
SF	12	LIVE	CUT	2	11.6	52	64	665	3.2	10.9	8.0	2.3	19.1	2.3
SF	10	LIVE	LEA	2	9.8	45	55	471	0.0	15.3	8.0	2.6	13.7	1.6
SF	11	LIVE	LEA	4	11.0	50	61	840	0.0	24.4	16.0	4.8	29.9	2.9
SF	12	LIVE	LEA	3	11.8	52	65	797	0.0	15.8	12.0	3.5	23.8	2.7
SF	13	LIVE	LEA	3	13.0	57	71	1,001	0.0	13.0	12.0	3.3	27.4	3.4
SF	14	LIVE	LEA	4	13.9	60	75	1,430	0.0	15.1	16.0	4.3	38.4	4.9
SF	15	LIVE	LEA	1	15.0	64	80	431	0.0	3.3	4.0	1.0	10.4	1.5
SF	17	LIVE	LEA	1	17.0	70	88	398	0.0	2.5	4.0	1.0	11.1	1.4
WH	7	LIVE	CUT	1	7.0	40	48	284	0.0	15.0	4.0	1.5	6.5	1.0
WH	10	LIVE	CUT	1	9.8	54	66	321	2.3	7.6	4.0	1.3	11.6	1.1
WH	11	LIVE	CUT	2	11.0	59	72	860	1.3	12.1	8.0	2.4	25.2	2.9
WH	12	LIVE	CUT	1	11.6	62	76	458	0.0	5.5	4.0	1.2	13.6	1.6
WH	13	LIVE	CUT	4	13.0	67	83	1,900	0.9	17.3	16.0	4.4	59.6	6.5
WH	14	LIVE	CUT	2	14.0	70	87	1,006	1.1	7.5	8.0	2.1	30.9	3.4
WH	8	LIVE	LEA	1	8.1	46	55	317	0.0	11.2	4.0	1.4	8.5	1.1
WH	10	LIVE	LEA	1	9.8	54	66	291	0.0	7.6	4.0	1.3	10.1	1.0
WH	12	LIVE	LEA	2	11.9	62	77	761	0.0	10.4	8.0	2.3	23.6	2.6
WH	15	LIVE	LEA	3	14.9	73	91	1,418	0.0	10.0	12.0	3.1	41.8	4.8
WH	16	LIVE	LEA	5	16.0	77	96	2,411	0.0	14.3	20.0	5.0	73.7	8.2
WH	17	LIVE	LEA	2	17.4	81	101	952	0.0	4.8	8.0	1.9	30.1	3.2

Unit Log Grade Summary: COAL DAY U6

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	LIVE	3 SAW	6.2	40.0	665	3.2	19.1	2.3
SF	LIVE	4 SAW	5.2	32.0	1,124	2.7	32.5	3.8
WH	LIVE	3 SAW	8.4	37.0	3,341	1.1	103.8	11.4
WH	LIVE	4 SAW	5.2	24.0	1,489	0.8	43.8	5.1

Unit Log Sort Summary: COAL DAY U6

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	LIVE	Domestic	5.5	34.0	1,789	2.9	51.6	6.1
WH	LIVE	Domestic	6.5	29.0	4,830	1.0	147.6	16.4

Unit Log Grade x Sort Summary: COAL DAY U6

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	LIVE	3 SAW	Domestic	6.2	40.0	665	3.2	19.1	2.3
SF	LIVE	4 SAW	Domestic	5.2	32.0	1,124	2.7	32.5	3.8
WH	LIVE	3 SAW	Domestic	8.4	37.0	3,341	1.1	103.8	11.4
WH	LIVE	4 SAW	Domestic	5.2	24.0	1,489	0.8	43.8	5.1

Unit Log Grade x Diameter Bin Summary: COAL DAY U6

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	5 - 8	LIVE	4 SAW	5.2	32.0	1,124	2.7	32.5	3.8
SF	5 - 8	LIVE	3 SAW	6.2	40.0	665	3.2	19.1	2.3
WH	5 - 8	LIVE	4 SAW	5.2	24.0	1,489	0.8	43.8	5.1
WH	5 - 8	LIVE	3 SAW	7.9	37.0	2,141	0.9	69.2	7.3
WH	9 - 11	LIVE	3 SAW	9.5	36.0	1,200	1.3	34.7	4.1

Unit Log Sort x Diameter Bin Summary: COAL DAY U6

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	5 - 8	LIVE	Domestic	5.5	34.0	1,789	2.9	51.6	6.1
WH	5 - 8	LIVE	Domestic	6.1	28.0	3,630	0.9	112.9	12.3
WH	9 - 11	LIVE	Domestic	9.5	36.0	1,200	1.3	34.7	4.1

Cruise Unit Report COAL DAY U7

Unit Sale Notice Volume (MBF): COAL DAY U7

Sp	QMD	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	12.1			20.4	15.4	5.0
SF	10.6			1.0		1.0
ALL	12.0			21.5	15.4	6.1

Unit Sale Notice Weight (tons): COAL DAY U7

Sp	Tons by Grade		
	All	3 Saw	4 Saw
WH	194.4	152.4	42.0
SF	10.4		10.4
ALL	204.8	152.4	52.4

Unit Cruise Design: COAL DAY U7

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (20) Measure All, Sighting Ht = 4.5 ft	3.7	3.7	5	5	0

Unit Cruise Summary: COAL DAY U7

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RA		2	2.0	0
WH	12	48	9.6	0
SF	1	3	0.6	0
ALL	13	53	10.6	0

Unit Cruise Statistics (Cut + Leave Trees): COAL DAY U7

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
RA	40.0	0.0	0.0						
WH	192.0	18.9	8.5	106.2	12.7	3.7	20,383	22.8	9.2
SF	12.0	149.1	66.7	70.2	0.0	0.0	842	149.1	66.7
ALL	212.0	8.4	3.8	104.0	15.7	4.3	22,058	17.8	5.8

Unit Summary: COAL DAY U7

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
RA	LIVE	LEA	2	ALL	14.2	68	84			7.3	8.0	2.1		
SF	LIVE	CUT	1	ALL	10.6	48	59	281	0.0	6.5	4.0	1.2	10.4	1.0
SF	LIVE	LEA	2	ALL	12.0	53	66	561	0.0	10.2	8.0	2.3	20.8	2.1
WH	LIVE	CUT	12	ALL	12.1	63	77	5,520	3.3	65.1	52.0	14.9	194.4	20.4
WH	LIVE	LEA	32	ALL	14.6	70	87	14,863	3.3	120.4	140.0	36.6	523.4	55.0
ALL	LIVE	CUT	13	ALL	12.0	62	75	5,801	3.1	71.6	56.0	16.1	204.8	21.4
ALL	LIVE	LEA	36	ALL	14.4	69	85	15,424	3.1	137.9	156.0	41.0	544.2	57.1
ALL	ALL	ALL	49	ALL	13.6	66	82	21,225	3.1	209.5	212.0	57.1	749.0	78.5

Unit Stand Table: COAL DAY U7

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
RA	12	LIVE	LEA	1	12.2	65	80			4.9	4.0	1.1		
RA	17	LIVE	LEA	1	17.5	75	93			2.4	4.0	1.0		
SF	11	LIVE	CUT	1	10.6	48	59	281	0.0	6.5	4.0	1.2	10.4	1.0
SF	12	LIVE	LEA	2	12.0	53	66	561	0.0	10.2	8.0	2.3	20.8	2.1
WH	9	LIVE	CUT	1	9.2	51	62	340	2.4	8.7	4.0	1.3	12.1	1.3
WH	11	LIVE	CUT	3	10.8	59	72	1,128	2.6	18.8	12.0	3.6	39.2	4.2
WH	12	LIVE	CUT	3	12.1	63	78	1,209	3.5	15.0	12.0	3.5	44.3	4.5
WH	13	LIVE	CUT	3	12.9	67	83	1,304	3.2	13.2	12.0	3.3	46.4	4.8
WH	14	LIVE	CUT	1	13.7	70	86	494	3.7	3.9	4.0	1.1	16.4	1.8
WH	17	LIVE	CUT	1	17.0	79	99	1,045	4.1	5.1	8.0	1.9	36.0	3.9
WH	9	LIVE	LEA	1	9.2	51	62	575	0.0	17.3	8.0	2.6	19.4	2.1
WH	11	LIVE	LEA	2	11.2	60	74	695	0.0	11.6	8.0	2.4	23.6	2.6
WH	12	LIVE	LEA	1	11.6	62	76	370	0.0	5.5	4.0	1.2	12.2	1.4
WH	14	LIVE	LEA	4	14.3	71	88	1,627	0.0	14.4	16.0	4.2	58.2	6.0
WH	15	LIVE	LEA	8	15.1	74	92	3,917	0.0	29.1	36.0	9.3	136.0	14.5
WH	16	LIVE	LEA	8	16.1	77	96	3,942	0.0	25.5	36.0	9.0	141.6	14.6
WH	17	LIVE	LEA	2	16.9	79	99	874	0.0	5.1	8.0	1.9	32.4	3.2
WH	18	LIVE	LEA	4	18.1	83	104	1,856	0.0	8.9	16.0	3.8	66.3	6.9
WH	19	LIVE	LEA	1	18.9	85	106	494	0.0	2.1	4.0	0.9	16.7	1.8
WH	20	LIVE	LEA	1	20.2	88	110	514	0.0	1.8	4.0	0.9	17.0	1.9

Unit Log Grade Summary: COAL DAY U7

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	LIVE	4 SAW	5.0	40.0	281	0.0	10.4	1.0
WH	LIVE	3 SAW	7.8	37.0	4,165	4.1	152.4	15.4

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	4 SAW	5.2	26.0	1,355	1.0	42.0	5.0

Unit Log Sort Summary: COAL DAY U7

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	LIVE	Domestic	5.0	40.0	281	0.0	10.4	1.0
WH	LIVE	Domestic	6.6	32.0	5,520	3.3	194.4	20.4

Unit Log Grade x Sort Summary: COAL DAY U7

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	LIVE	4 SAW	Domestic	5.0	40.0	281	0.0	10.4	1.0
WH	LIVE	3 SAW	Domestic	7.8	37.0	4,165	4.1	152.4	15.4
WH	LIVE	4 SAW	Domestic	5.2	26.0	1,355	1.0	42.0	5.0

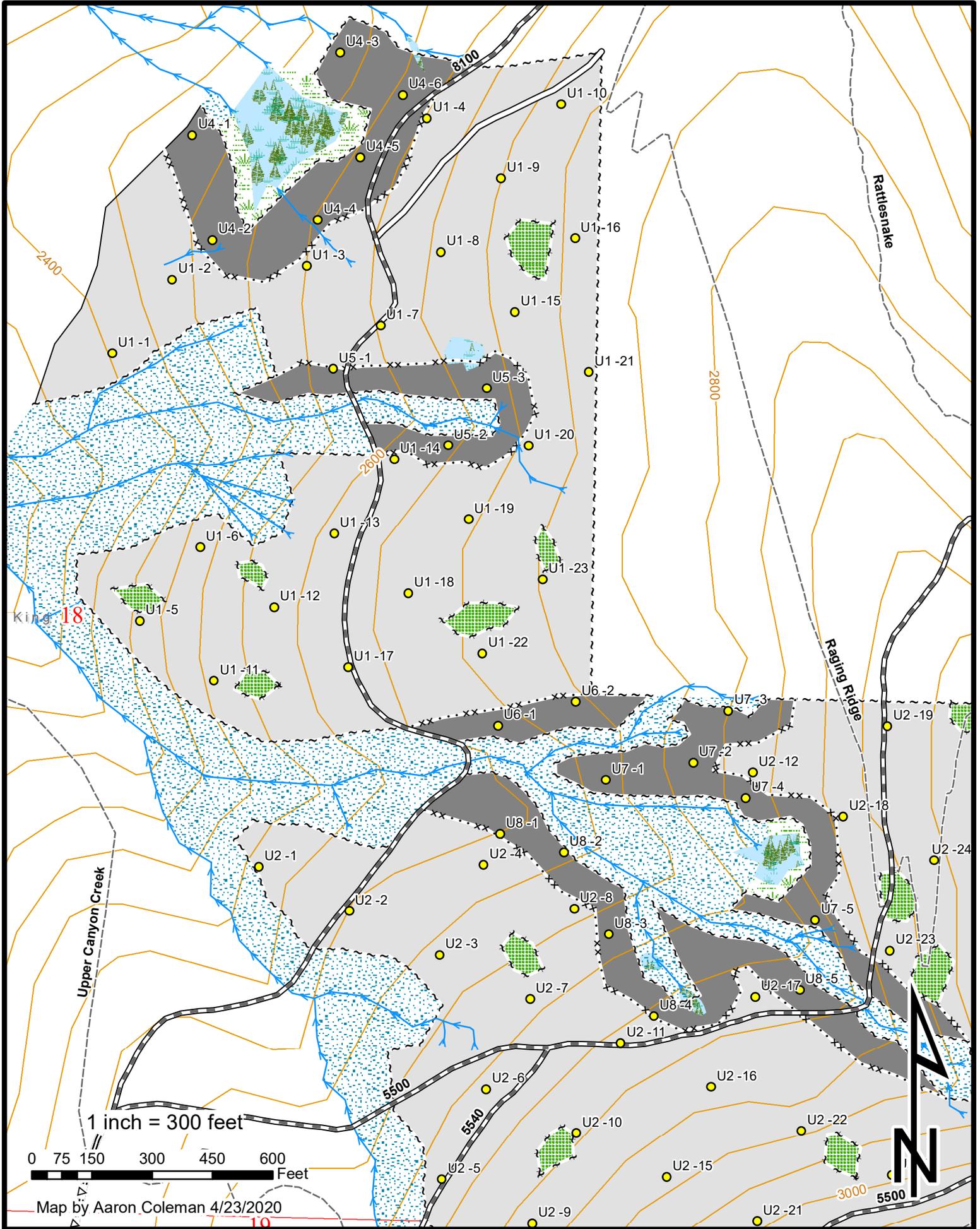
Unit Log Grade x Diameter Bin Summary: COAL DAY U7

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	5 - 8	LIVE	4 SAW	5.0	40.0	281	0.0	10.4	1.0
WH	5 - 8	LIVE	4 SAW	5.2	26.0	1,355	1.0	42.0	5.0
WH	5 - 8	LIVE	3 SAW	7.2	38.0	3,024	3.6	113.7	11.2
WH	9 - 11	LIVE	3 SAW	10.5	36.0	1,141	5.3	38.7	4.2

Unit Log Sort x Diameter Bin Summary: COAL DAY U7

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
SF	5 - 8	LIVE	Domestic	5.0	40.0	281	0.0	10.4	1.0
WH	5 - 8	LIVE	Domestic	6.2	32.0	4,379	2.8	155.7	16.2
WH	9 - 11	LIVE	Domestic	10.5	36.0	1,141	5.3	38.7	4.2

Coal Day Cruise Map

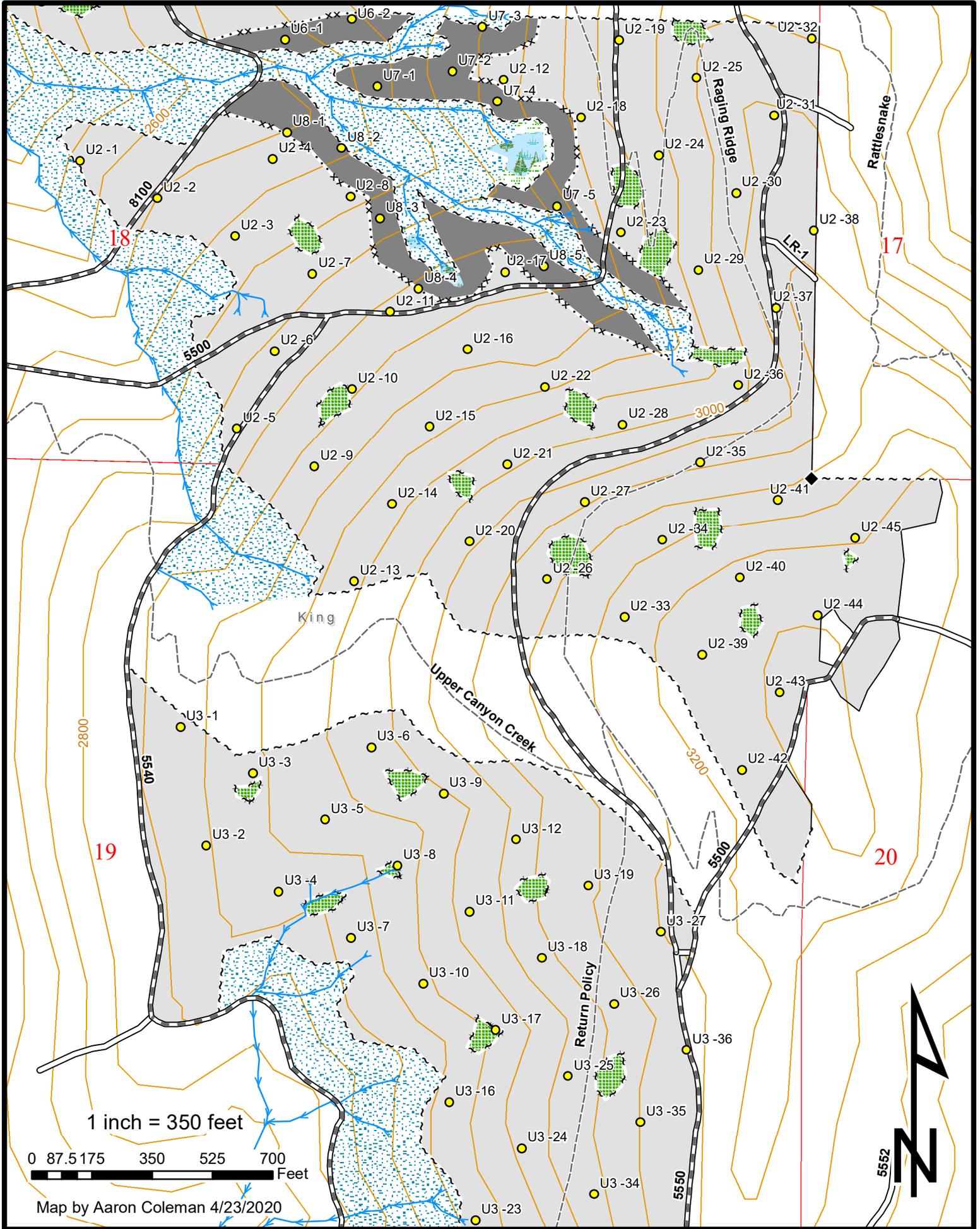


0 75 150 300 450 600 Feet

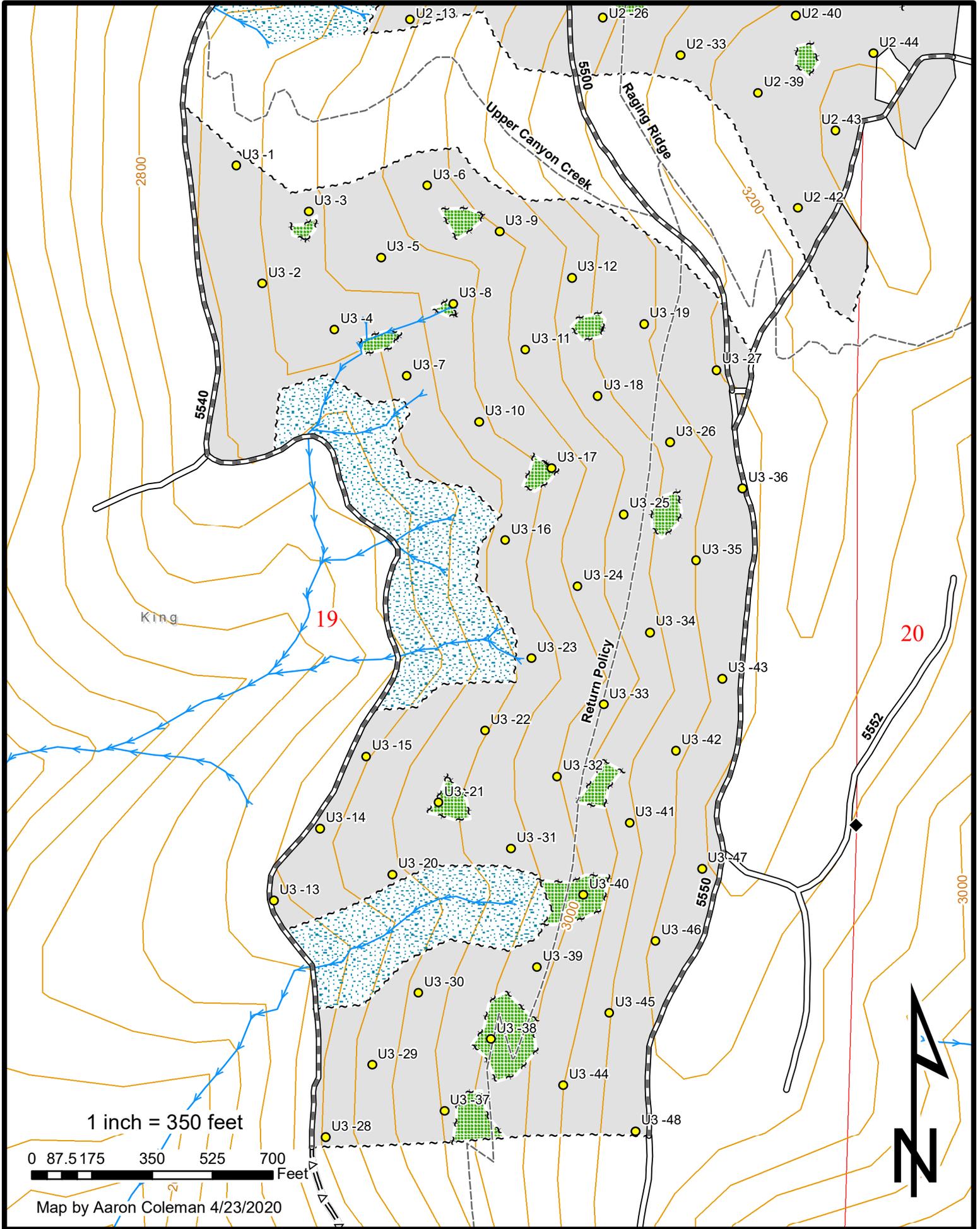
1 inch = 300 feet

Map by Aaron Coleman 4/23/2020

Coal Day Cruise Map



Coal Day Cruise Map





Forest Practices Application/Notification Notice of Decision

FPA/N No: 2421791

Effective Date: 8/31/2020

Expiration Date: 8/31/2023

Shut Down Zone 659 N

EARR Tax Credit: Eligible Non-eligible
Coal Day VRH & RMZ Thin

Reference: #30-099047

Decision

- Notification Accepted 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 the FPA/N.

FPA/N Classification

- Class II
- Class III
- Class IVG
- Class IVS

Number of Years Granted on Multi-Year Request

- 4 yrs
- 5 yrs

Conditions on Approval/Reasons for Disapproval

Issued By: Eric Dasso

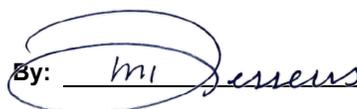
Region: South Puget Sound

Title: Resource Protection Forester

Date: 8/31/2020

Copies to: Landowner, Timber Owner and Operator

Issued in person: Landowner Timber Owner Operator

By: 

Appeal Information

You have thirty (30) days to **file** (i.e., **actually deliver**) an appeal in writing of this Decision and any related State Environmental Policy Act (SEPA) determinations to the Pollution Control Hearings Board, the Attorney General’s Office, and the Department of Natural Resources’ region office. See RCW 76.09.205. The appeal period starts when the applicant receives this decision, which usually happens electronically on the date indicated below.

You must file your appeal at all three addresses below:

Pollution Control Hearings Board	Office of the Attorney General Natural Resources Division	Department Of Natural Resources South Puget Sound Region
Physical Address 1111 Israel Road, SW Suite 301 Tumwater, WA 98501	Physical Address 1125 Washington Street, SE Olympia, WA 98504	Physical & Mailing Address 950 Farman Ave N Enumclaw, WA 98022
Mailing address Post Office Box 40903 Olympia, WA 98504-0903	Mailing Address Post Office Box 40100 Olympia, WA 98504-0100	

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

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.

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 Forestland 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 forestland 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 and 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 forestland obligation, the seller must pay the buyer’s costs related to continuing forestland obligations, including all legal costs and reasonable attorneys’ fees incurred by the buyer in enforcing the continuing forestland obligation against the seller.

Failure by the seller to send the required notice to 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 forestland obligation prior to sale.

DNR affidavit of mailing:

On this day **8/31/2020**, I placed in the United States mail at **Olympia**, WA, postage paid, a true and accurate copy of this document. Notice of Decision FPA #**2421791**.

Meredith Dessens

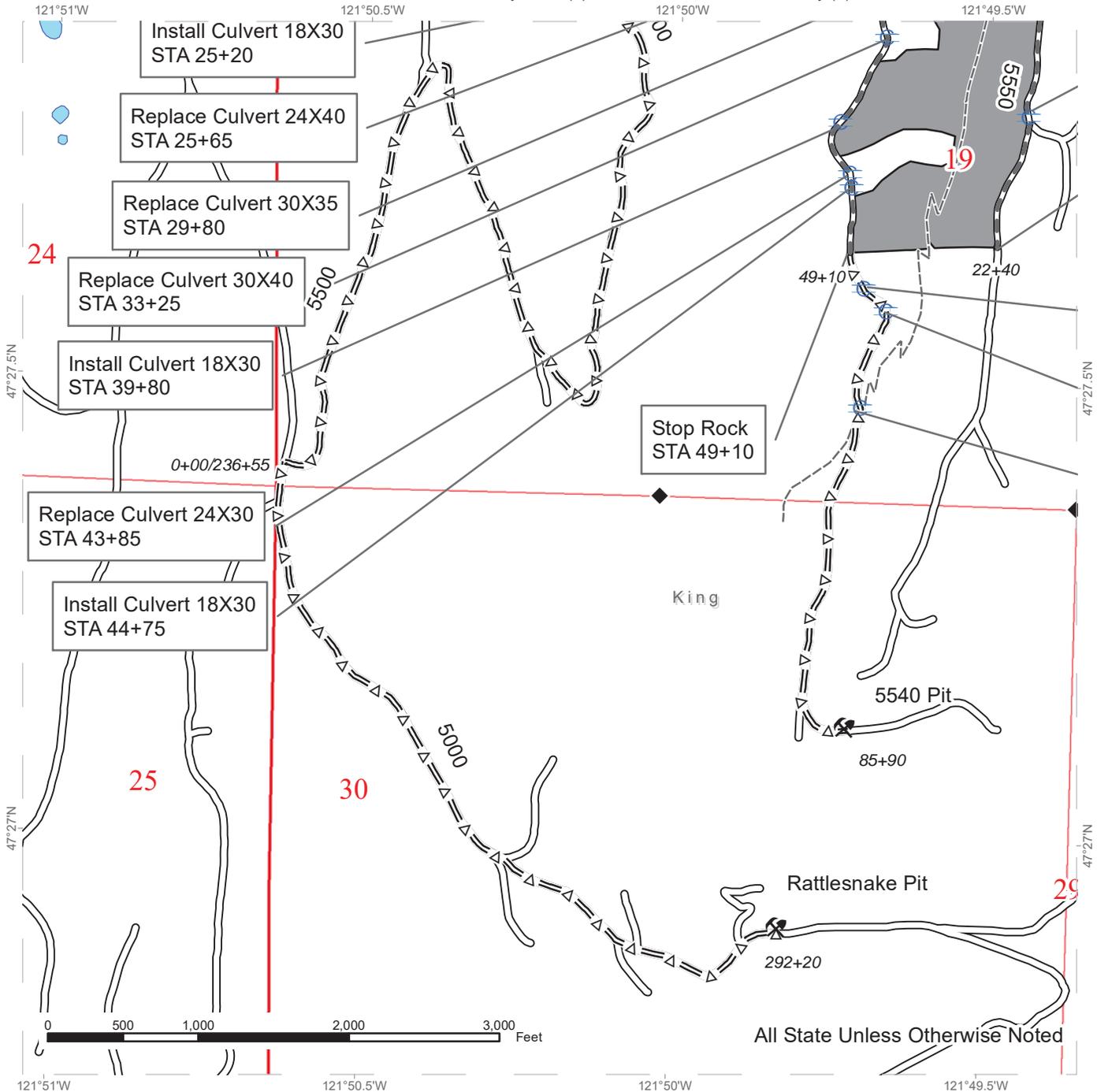
(Printed Name)

(Signature)

ROAD WORK MAP 1

SALE NAME: COAL DAY VRH AND RMZ THIN
AGREEMENT #: 30-099047
TOWNSHIP(S): T23R8E
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3)

REGION: South Puget Sound Region
COUNTY(S): King
ELEVATION RGE: 2360-3240



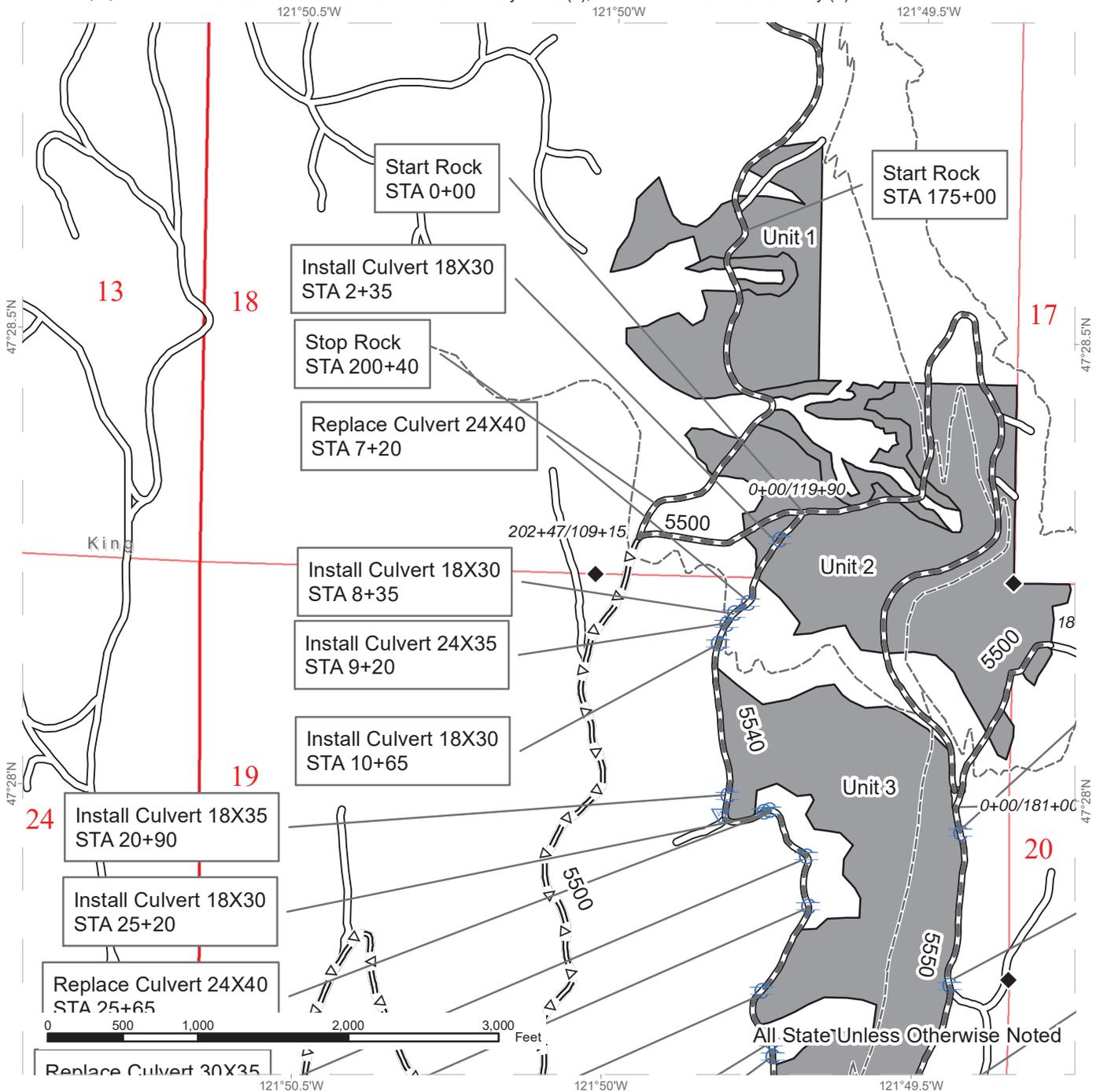
All State Unless Otherwise Noted

Rock Pit	Existing Roads
Culverts TS	Required Pre-Haul Maintenance
Survey Monument	Optional Pre-Haul Maintenance
	Old Grades/Trails
	Units

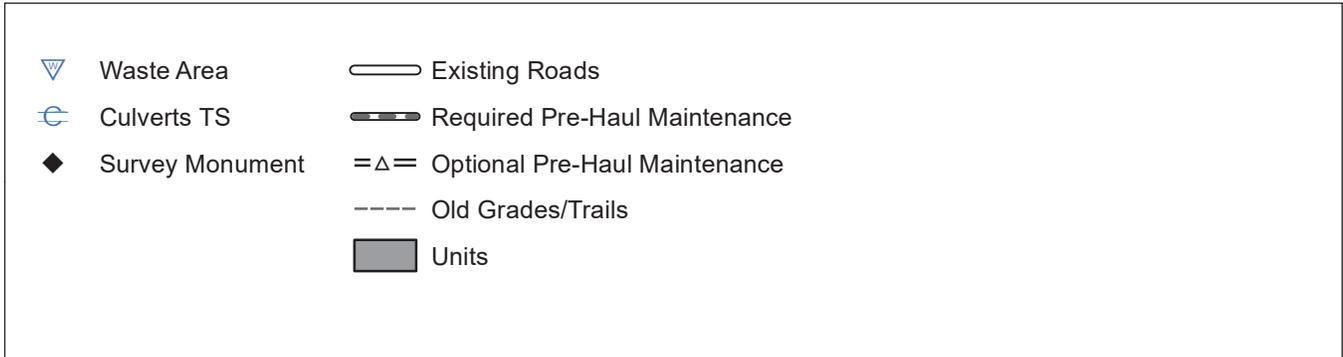
ROAD WORK MAP 2

SALE NAME: COAL DAY VRH AND RMZ THIN
AGREEMENT #: 30-099047
TOWNSHIP(S): T23R8E
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3)

REGION: South Puget Sound Region
COUNTY(S): King
ELEVATION RGE: 2360-3240



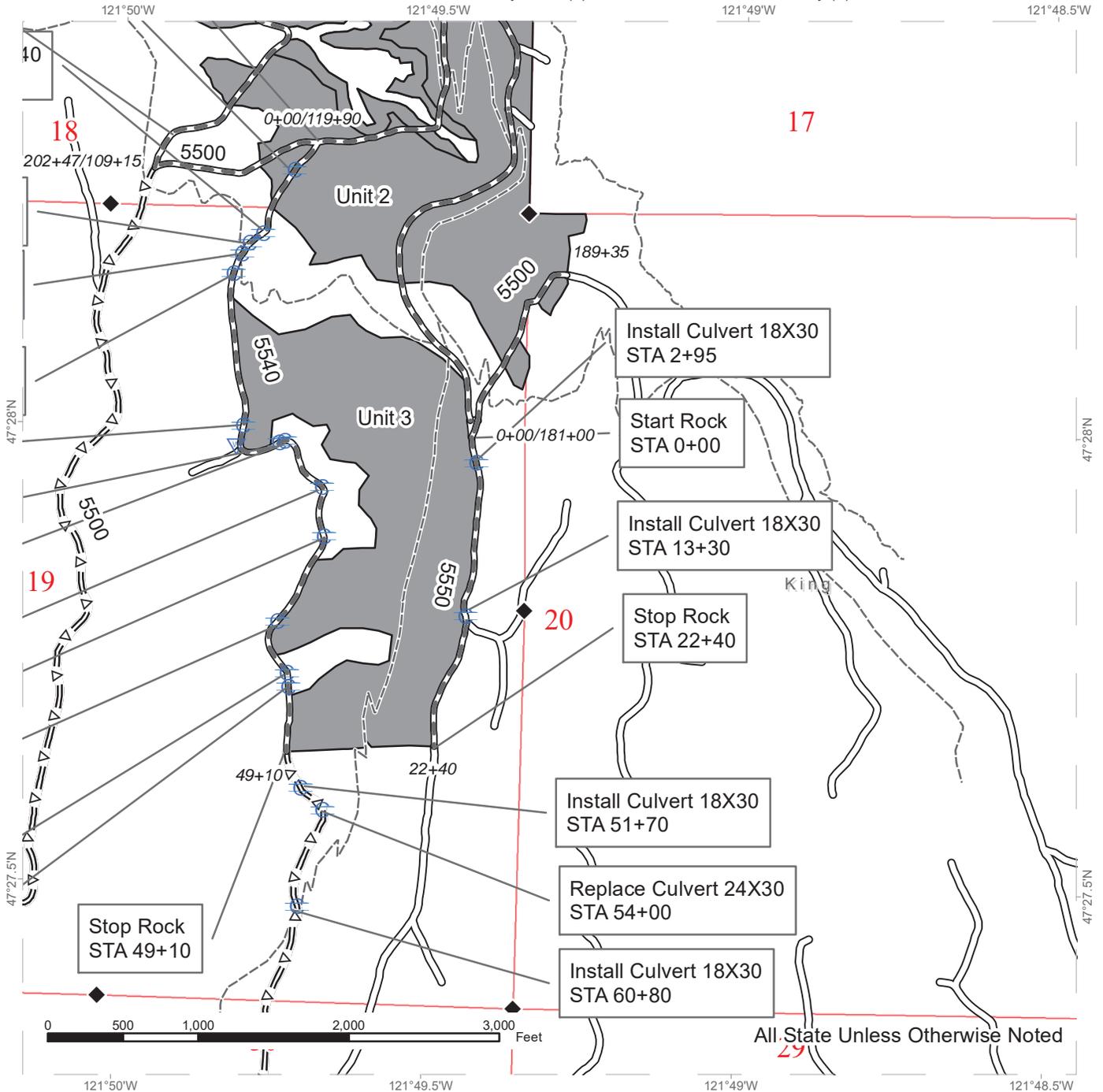
All State Unless Otherwise Noted



ROAD WORK MAP 3

SALE NAME: COAL DAY VRH AND RMZ THIN
AGREEMENT #: 30-099047
TOWNSHIP(S): T23R8E
TRUST(S): Charitable/Educational/ Penal & Reformatory Instit. (6), Common School and Indemnity (3)

REGION: South Puget Sound Region
COUNTY(S): King
ELEVATION RGE: 2360-3240



All State Unless Otherwise Noted

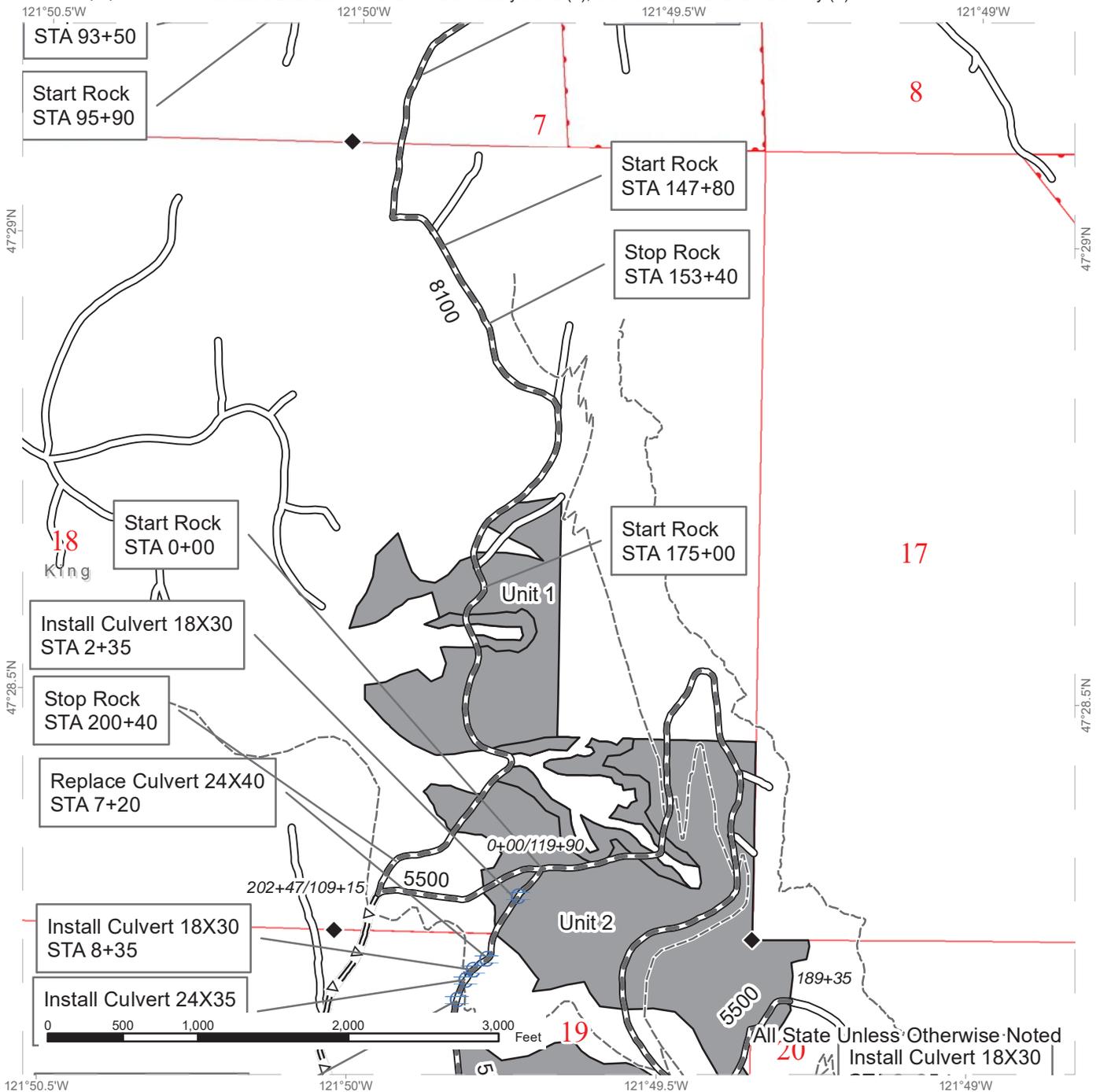
	Waste Area		Existing Roads
	Culverts TS		Required Pre-Haul Maintenance
	Survey Monument		Optional Pre-Haul Maintenance
			Old Grades/Trails
			Units



ROAD WORK MAP 4

SALE NAME: COAL DAY VRH AND RMZ THIN
AGREEMENT #: 30-099047
TOWNSHIP(S): T23R8E
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3)

REGION: South Puget Sound Region
COUNTY(S): King
ELEVATION RGE: 2360-3240

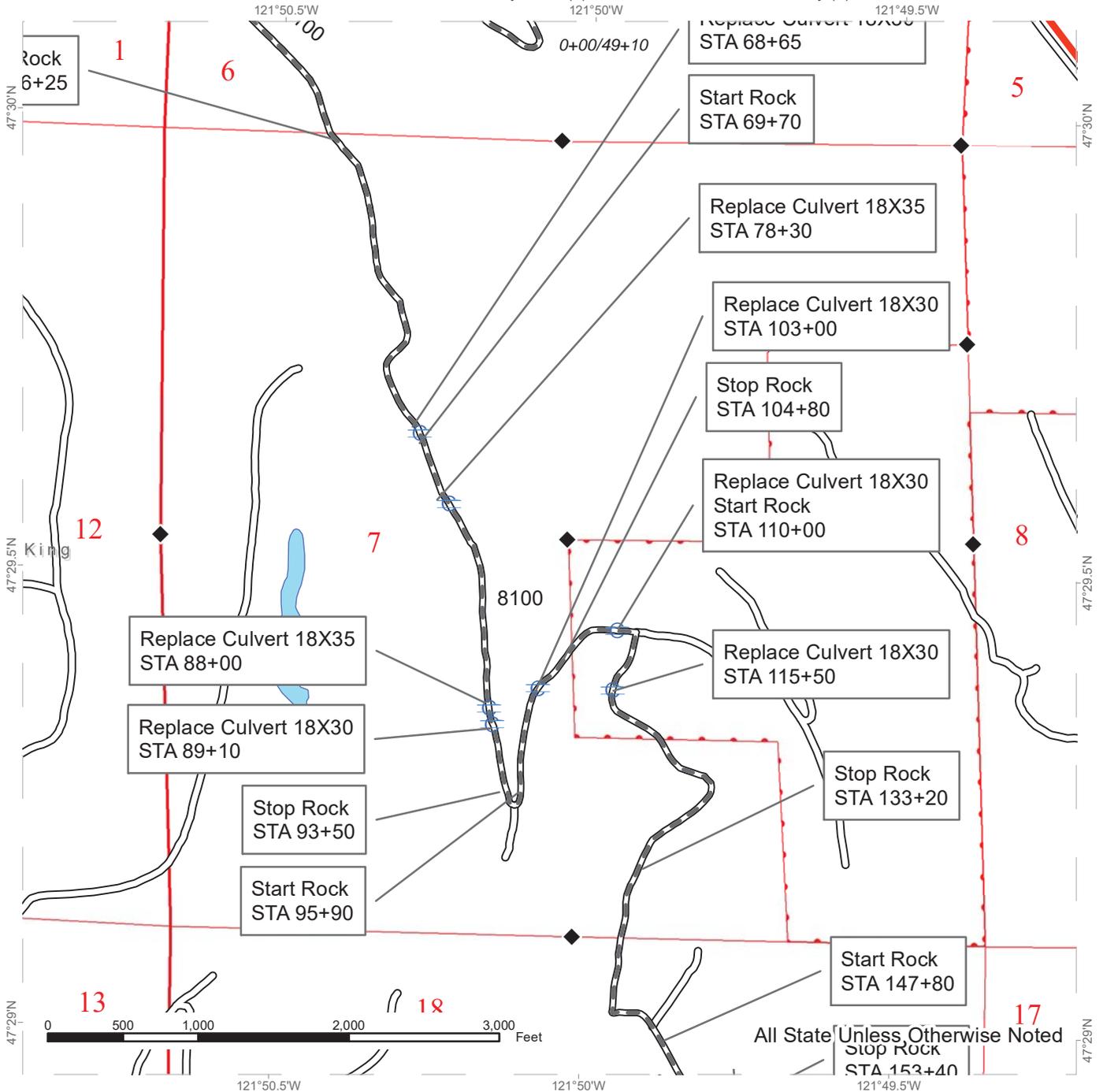


Culverts TS	Existing Roads
Survey Monument	Required Pre-Haul Maintenance
	Optional Pre-Haul Maintenance
	Old Grades/Trails
	Units

ROAD WORK MAP 5

SALE NAME: COAL DAY VRH AND RMZ THIN
AGREEMENT #: 30-099047
TOWNSHIP(S): T23R8E
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3)

REGION: South Puget Sound Region
COUNTY(S): King
ELEVATION RGE: 2360-3240

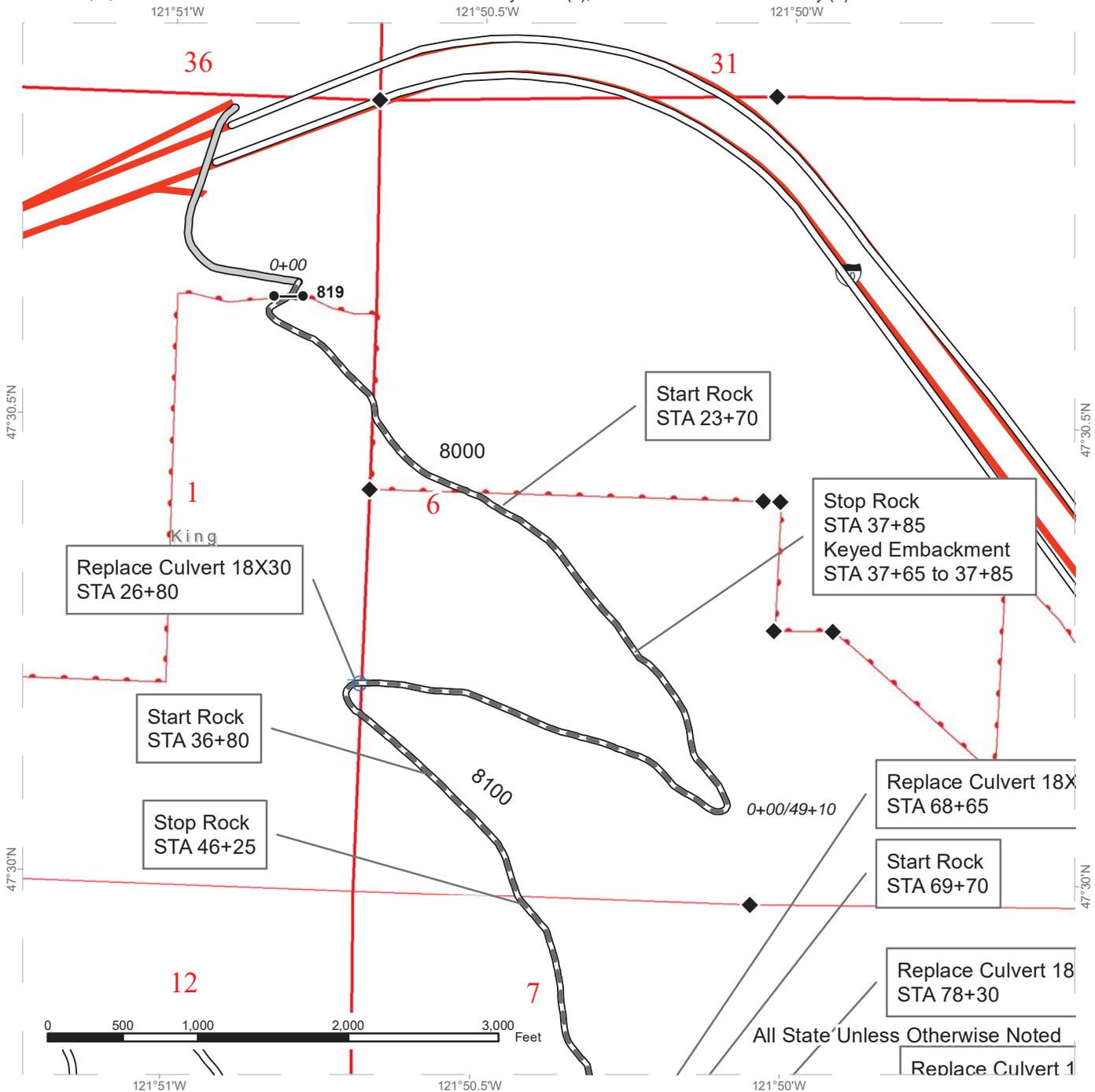


Culverts TS	Existing Roads
Survey Monument	Required Pre-Haul Maintenance
	Old Grades/Trails

ROAD WORK MAP 6

SALE NAME: COAL DAY VRH AND RMZ THIN
AGREEMENT #: 30-099047
TOWNSHIP(S): T23R8E
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3)

REGION: South Puget Sound Region
COUNTY(S): King
ELEVATION RGE: 2360-3240



●—● Gate	▬ County Road
⊕ Culverts TS	▬ Existing Roads
◆ Survey Monument	▬ Required Pre-Haul Maintenance

All State Unless Otherwise Noted

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

COAL DAY TIMBER SALE ROAD PLAN
KING COUNTY
SNOQUALMIE UNIT
RAINIER DISTRICT

AGREEMENT NO.: 30-099047

STAFF ENGINEER: ERIC BAUER

DATE: 5/6/2020

DRAWN & COMPILED BY: ERIC BAUER

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>
5500	109+15 to 189+35	Pre-Haul Maintenance
5540	0+00 to 49+10	Pre-Haul Maintenance
5550	0+00 to 22+40	Pre-Haul Maintenance
8000	0+00 to 49+10	Pre-Haul Maintenance
8100	0+00 to 202+47	Pre-Haul Maintenance

0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
5000	236+55 to 292+20	Pre-Haul Maintenance
5540	49+10 to 85+90	Pre-Haul Maintenance
5500	0+00 to 109+15	Pre-Haul Maintenance

0-6 PRE-HAUL MAINTENANCE

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

- Cleaning ditches
- Cleaning culverts, and catchbasins
- Ditch reconstruction
- Reconstructing headwalls
- Constructing catchbasin and headwall
- Cross drain culvert replacement
- Live stream culvert replacement
- Keyed Embankment
- Brushing

- Grading and shaping existing road surface and turnouts
- Acquisition, manufacture, and application of rock

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source. Rock source development will involve reducing oversize material, Clearing, Stripping 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 any submitted plan that changes the scope of work or environmental condition from the original road 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, unless controlled by construction stakes or design data (plan, profile, and cross-sections).

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

7. Road Work Maps.

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

Any 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.

SUBSECTION ROAD MARKING

1-15 ROAD MARKING

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

- Pre-haul activities: 2 in. x 48 in. wooden lath with station and activity
- Construction: Orange ribbon tied eye-height along centerline, w/orange pin flags or wooden lath marking centerline

1-16 CONSTRUCTION STAKES SET BY STATE

Purchaser shall perform work in accordance with the construction stakes and/or 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.

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.

SUBSECTION TIMING

1-20 COMPLETE BY DATE

Purchaser shall complete pre-haul road work before the start of timber haul.

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

On the following roads, Purchaser shall notify the Contract Administrator a minimum of 3 calendar days before work begins.

<u>Road</u>	<u>Stations</u>
All Pit Locations	Drilling and Blasting

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:

- Drainage installation
- Subgrade compaction
- Rock compaction

SUBSECTION RESTRICTIONS

1-25 ACTIVITY TIMING RESTRICTION

The operation of road construction equipment is not allowed weekends or state recognized holidays, unless authorized in writing by the Contract Administrator. Restrictions for hauling forest products are specified in Contract Clause H-140 SPECIAL HARVEST REQUIREMENTS.

1-29 SEDIMENT RESTRICTION

Purchaser shall not allow silt-bearing runoff to enter any streams. Purchaser shall accomplish sediment removal through silt traps, silt fences, settling ponds, or other methods as approved, in writing by the Contract Administrator.

1-30 CLOSURE TO PREVENT DAMAGE

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

- Surface or base stability problems persist.

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.

1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION

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

Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surface(s) and have surface(s) evaluated for any damage caused by transporting equipment. Any damage to the surface(s) will be repaired, at the Purchaser’s expense, as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

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

1-43 ROAD WORK AROUND UTILITIES

Road work is in close proximity to a utility. Known utilities are listed, but it is the Purchaser’s responsibility to identify any utilities not listed. Purchaser shall work in accordance with all applicable laws or rules concerning utilities. Purchaser is responsible for all notification, including “call before you dig”, and liabilities associated with the utilities and their rights-of-way.

<u>Road</u>	<u>Stations</u>	<u>Utility</u>	<u>Utility Contact</u>
5500	189+00 to 189+35	Tanner Electric	james@tannerelectric.coop

SUBSECTION OTHER INFRASTRUCTURE

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.

2-4 PASSAGE OF LIGHT VEHICLES

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

<u>Road</u>	<u>Stations</u>
5500	109+15 to 189+35
8000	0+00 to 49+10
8100	0+00 to 202+47

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), Purchaser shall use a grader to shape the existing surface before rock application and/or timber haul.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
5500	109+15 to 189+35	See Compaction List
5540	0+00 to 49+10	See Compaction List

5550	0+00 to 22+40	See Compaction List
8000	0+00 to 49+10	See Compaction List
8100	0+00 to 202+47	See Compaction List
5000	236+55 to 292+20	See Compaction List
5540	49+10 to 85+90	See Compaction List
5500	0+00 to 109+15	See Compaction List

2-6 CLEANING CULVERTS

On the following road(s), Purchaser shall clean the inlets and outlets of all culverts :

<u>Road</u>	<u>Stations</u>
8000	31+10, 44+60
8100	12+75, 24+80, 44+75

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean ditches, headwalls, catchbasins, and outlets. Work must be completed before the application of rock and/or timber haul and must be done in accordance with the TYPICAL SECTION SHEET and CULVERT AND DRAINAGE SPECIFICATION DETAIL. Pulling ditch material across the road or mixing in with the road surface is not allowed.

<u>Road</u>	<u>Stations</u>
5540	0+00 to 49+10
5550	0+00 to 22+40

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

SUBSECTION BRUSHING

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 3 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
5000	236+55 to 292+20
5500	0+00 to 189+35
8000	0+00 to 49+10
8100	0+00 to 202+47

SUBSECTION CLEARING

3-5 CLEARING

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

3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against state owned standing trees.

SUBSECTION GRUBBING

3-10 GRUBBING

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

SUBSECTION ORGANIC DEBRIS

3-20 ORGANIC DEBRIS DEFINITION

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

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 55%.
- On locations where brush can fall into the ditch or onto the road surface.
- Against State owned 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 in natural openings. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

SECTION 4 – EXCAVATION

4-2 PIONEERING

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

- Drainage must be provided on all uncompleted construction as approved, in writing, by the Contract Administrator.
- Road pioneering operations may not undercut the final cut slope, deposit excavated material outside the grubbing limits, or restrict drainage.
- Culverts at live stream crossings must be installed during pioneering operations

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment except as designed:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 15 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 6% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-5 CUT SLOPE RATIO

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

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (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 left rough for easier revegetation.

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-11 KEYED EMBANKMENT

On the following road(s), Purchaser shall key embankments into the native slope in accordance with the EMBANKMENT KEY DETAIL.

<u>Road</u>	<u>Stations</u>
8000	37+65 to 37+85

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-28 DITCH DRAINAGE

Ditches shall be constructed concurrently with construction of the subgrade. Ditches must drain to cross-drain culverts or ditchouts.

SUBSECTION WASTE MATERIAL (DIRT)

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.

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in the listed designated areas. Additional waste areas may also be identified or approved by the Contract Administrator. The amount of material allowed in a waste area is at the discretion of the Contract Administrator.

<u>Road</u>	<u>Waste Area Location</u>	<u>Comments</u>
5540	22+10	West Side of Road

4-38 PROHIBITED WASTE DISPOSAL AREAS

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

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

SUBSECTION SHAPING

4-55 ROAD SHAPING

Purchaser shall shape each lift of 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.

SUBSECTION COMPACTION

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. On fills deeper than 5 feet at the road shoulder Purchaser shall compact fill material in lifts no greater than 18 inches. 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.

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Purchaser shall remove berms from road shoulders to permit escape of runoff.

SUBSECTION CULVERTS

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 AND DRAINAGE LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must meet the specifications in Clauses 10-15 through 10-23.

5-12 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the CULVERT AND DRAINAGE SPECIFICATION DETAIL and materials listed in Clause 5-13 CONTINGENCY CULVERTS that are not installed shall become the property of the state. Purchaser shall stockpile materials as directed by the Contract Administrator.

5-13 CONTINGENCY CULVERTS

The following culverts will be supplied by the Purchaser and are available for installation as directed by the Contract Administrator.

<u>Road</u>	<u>Size</u>
On any portion of road used for timber or rock haul	<ul style="list-style-type: none"> • 18"x30' culvert • 18"x30' culvert • 18" culvert band

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Culvert, downspout, flume and energy dissipator installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings". Culverts over 15 inches diameter shall be banded using lengths of no less than 10 feet, and no more than one length less than 16 feet. Shorter section of banded culvert shall be installed at the inlet end.

5-17 CROSS DRAIN SKEW AND SLOPE

Cross drains, on road grades in excess of 3%, must be skewed at least 30 degrees from perpendicular to the road centerline, except where the cross drain is at the low point in the road culverts will not be skewed. Cross drain culverts must be installed at a slope steeper than the incoming ditch grade, but not less than 3% or more than 12%.

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.

SUBSECTION ENERGY DISSIPATERS

5-20 ENERGY DISSIPATERS

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

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT LIST. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed. QUARRY SPALLS shall meet the specifications in Clause 6-43.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

Purchaser shall construct catch basins to resist erosion 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 CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify the placement of rock.

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be waterbarred by November 1. Purchaser shall construct waterbars according to the attached DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between waterbars or between natural drainage paths, and with a maximum spacing of 300 feet.

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

6-2 ROCK SOURCE ON STATE LAND

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

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Rattlesnake Pit	NW ¼ SE ¼ of Sec 30 T23NR08E W.M.	1 ½ Inch Minus Quarry Spall 4 Inch Jaw
5540 Pit	SW ¼ NE ¼ of Sec 30 T23NR08E W.M.	1 ½ Inch Minus Quarry Spall 4 Inch Jaw

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.

SUBSECTION ROCK SOURCE DEVELOPMENT

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

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

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Rattlesnake Pit	NW ¼ SE ¼ of Sec 30 T23NR08E W.M.	1 ½ Inch Minus Quarry Spall 4 Inch Jaw
5540 Pit	SW ¼ NE ¼ of Sec 30 T23NR08E W.M.	1 ½ Inch Minus Quarry Spall 4 Inch Jaw

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources must be in accordance with the following specifications , unless otherwise specified in the ROCK SOURCE DEVELOPMENT PLAN:

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

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

- Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches must be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches must be uniform and free-draining at a minimum 2% outslope gradient.

- All operations must be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- All vehicle access to the top of the pit faces must be blocked.

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale may not exceed 600 cubic yards.
- Oversize material is defined as rock fragments larger than two feet in any dimension.
- Oversized rock that exceeds the maximum allowable amount must be reduced to a smaller size within the rock source.
- Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 3 working days before any drilling. The drilling and shooting plan must include, at a minimum, the mapped location and spacing of all holes to be loaded, the type of blasting agent used, the powder factor calculated and the units of same, stem amount held per hole. After drilling, the type of rock encountered while drilling e.g. hard black, soft brown, etc shall be amended to submitted plan.
- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- Purchaser shall block access roads before blasting operations.

SUBSECTION ROCK MANUFACTURE

6-20 ROCK GRADATION TYPES

Purchaser shall manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles. 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.

SUBSECTION ROCK GRADATIONS

6-29 1 ½-INCH MINUS CRUSHED ROCK

% Passing 1 ½" square sieve	100%
% Passing 1" square sieve	70 - 90%
% Passing 5/8" square sieve	50 - 80%
% Passing U.S. #4 sieve	30 - 50%

% Passing U.S. #40 sieve	3 - 18%
% Passing U.S. #200 sieve	7.5% 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.

6-37 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.

6-43 QUARRY SPALLS

% Passing 8" square sieve	100%
% Passing 3" square sieve	40% maximum
% Passing 3/4" square sieve	10% maximum

Rock may not contain more than 5 percent vegetative debris or trash. All percentages are by weight.

SUBSECTION ROCK MEASUREMENT

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 compacted 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.

SUBSECTION ROCK APPLICATION

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade including: ditches, headwalls, catch basins, culverts, energy dissipaters, ditch-outs, subgrade shaping and compacting 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. The Contract Administrator will direct locations for rock that is to be applied as spot patching. 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.

6-76 PREHAUL ROCK APPLICATION

On the following road(s), prior to timber haul, Purchaser shall apply rock in accordance with the quantities shown on the ROCK LIST. After rock has been applied and shaped, Purchaser shall compact maintained road surfaces in accordance with the COMPACTION LIST by routing equipment over the entire width. Rock shall be compacted prior to timber haul.

<u>Road</u>	<u>Stations</u>
5500	159+70 to 161+20
5540	0+00 to 49+10
5550	0+00 to 22+40
8000	23+70 to 37+85
8100	36+80 to 46+25
8100	69+70 to 93+50
8100	95+90 to 104+80
8100	110+00 to 133+20
8100	147+80 to 153+40
8100	175+00 to 200+40

SECTION 7 – STRUCTURES

SUBSECTION STREAM CROSSING STRUCTURES GENERAL

7-5 STRUCTURE DEBRIS

Purchaser shall not allow debris from the installation or removal of structures to enter any stream. Purchaser shall maintain a clean jobsite, with all materials stored away from the high water mark or other area presenting a risk of the materials entering a stream. Debris entering any stream must be removed immediately, and placed in the site(s) designated for stockpiling or disposal. Purchaser shall retrieve all material carried downstream from the jobsite.

7-6 STREAM CROSSING INSTALLATION

Purchaser shall install stream crossing structures in accordance with the manufacturer's requirements and according to Forest Practice Permit.

7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES

Purchaser shall construct bank protection to prevent the undermining of the structure.

SUBSECTION GATES AND FENCES

7-71 GATE CLOSURE DURING HAUL

On the following road(s), Purchaser shall keep gates closed and locked except during active haul.

<u>Road</u>	<u>Station</u>	<u>Gate No.</u>
8000	1+21	819

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a layer of straw to all exposed soils that have potential to deliver to typed water.

SUBSECTION REVEGETATION

8-15 REVEGETATION

On the following road(s), Purchaser shall spread grass seed on all exposed soils that have the potential to deliver to typed water. Alternative methods of seeding and mulching must be approved in writing by the Contract Administrator.

<u>Road</u>	<u>Location</u>	<u>Qty (lbs)</u>	<u>Type</u>	<u>Comments</u>
5540	7+00 to 7+40	50 lb/acre	Pasture Mix	Apply when constructed
5540	25+45 to 25+85	50 lb/acre	Pasture Mix	Apply when constructed
5540	29+60 to 30+00	50 lb/acre	Pasture Mix	Apply when constructed
5540	33+05 to 33+45	50 lb/acre	Pasture Mix	Apply when constructed
5540	43+65 to 44+05	50 lb/acre	Pasture Mix	Apply when constructed
5540	53+80 to 54+20	50 lb/acre	Pasture Mix	Apply when constructed

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the seed Pasture mix seed and straw.

8-17 REVEGETATION TIMING

Purchaser shall revegetate immediately after road work is completed unless alternative plan approved in writing by the Contract Administrator. 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.

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

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.

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

SECTION 10 MATERIALS

SUBSECTION CULVERTS

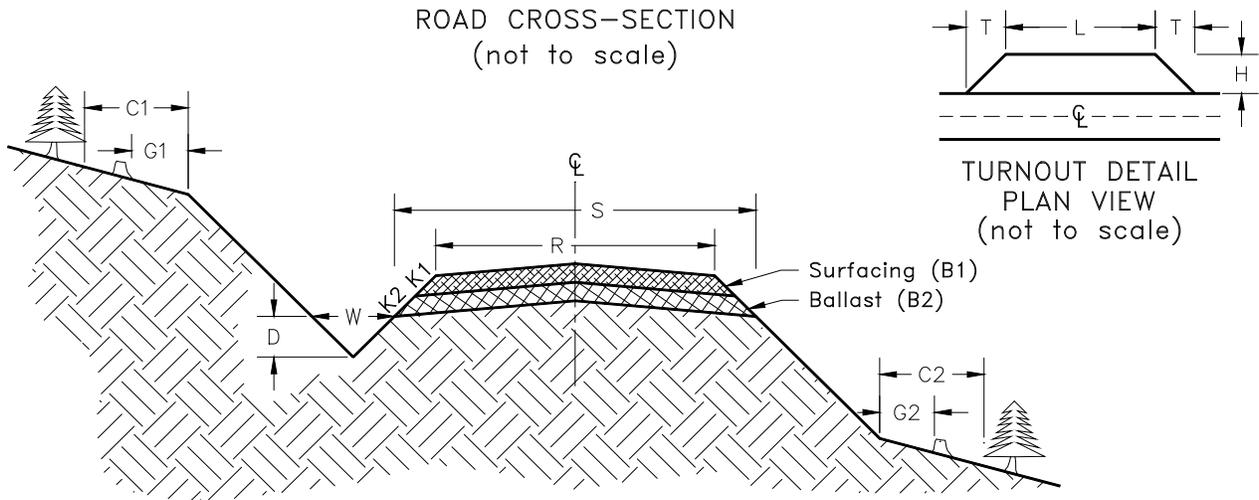
10-17 CORRUGATED PLASTIC CULVERT

Polyethylene culverts must meet AASHTO M-294 specifications, or ASTM F-2648 specifications for recycled polyethylene. Culvert segments not specifically labeled as downspouts must be Type S – double walled with a corrugated exterior and smooth interior.

10-22 PLASTIC BAND

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

TYPICAL SECTION SHEET (pg 1 of 1)



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
						Width (feet)	Depth (feet)		G1	G2	C1	C2		
				S	R	W	D						Clause	Clause
5000	236+55	292+20	B	16	12	3	1	4					4-5	4-6
5500	0+00	189+35	B	16	12	3	1	4					4-5	4-6
5540	0+00	85+90	C	16	12	3	1	4					4-5	4-6
5550	0+00	22+40	C	16	12	3	1	4					4-5	4-6
8000	0+00	49+10	B	16	12	3	1	4					4-5	4-6
8100	0+00	202+47	B	16	12	3	1	4					4-5	4-6

ROCK LIST

BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length	Width	Taper
			K2	B2	4 Inch Jaw				L	H	T
8000	37+65	37+85	1 ½ :1				30	Rattlesnake Pit, 5540 Pit or Commercial			
Existing Road Culvert Installation					10 Per Culvert	27 Culverts	270				
Landings and Turnouts*							160				
					Quarry Spalls						
Culvert Headwalls and Dissapators							70				

4 Inch Jaw Total 460 Cubic Yards
 Quarry Spalls Total 70 Cubic Yards
 Ballast Total 530 Cubic Yards

*Optional Rock: If Purchaser elects to haul on optional rock roads in wet weather, the depth listed above is recommended but not required.

SURFACE

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length	Width	Taper
			K1	B1	1 ½ Inch Minus				L	H	T
5500	159+70	161+20	1 ½ :1	6 inches	26	1.5	39	Rattlesnake Pit, 5540 Pit or Commercial			
5540	0+00	49+10	1 ½ :1	6 inches	26	49.1	1277				
5550	0+00	22+40	1 ½ :1	6 inches	26	22.4	583				
8000	23+70	37+85	1 ½ :1	6 inches	26	14.15	368				
8100	36+80	46+25	1 ½ :1	6 inches	26	9.45	246				
8100	69+70	93+50	1 ½ :1	6 inches	26	23.8	619				
8100	95+90	104+80	1 ½ :1	6 inches	26	8.9	232				
8100	110+00	133+20	1 ½ :1	6 inches	26	23.2	604				
8100	147+80	153+40	1 ½ :1	6 inches	26	5.6	146				
8100	175+00	200+40	1 ½ :1	6 inches	26	25.4	661				

1 ½ Inch Minus Total 4775 Cubic Yards

NOTE: Yardages are estimated on a compacted (In-Place) basis. Compliance of required rock will be based on compacted depth measurement. **Apply appropriate factors to determine loose amounts for estimating purposes.** Roads and rock quantities are designed for dry weather use. If Purchaser elects to haul in wet weather additional rock may be obtained from the rock pits listed in Section 6 at the Purchaser's expense and with prior written approval from the Contract Administrator.

COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
All New Construction			Subgrade,rock	12	Smooth Drum Vibratory Roller	12,000	4 low freq. vibe on	3
All Reconstruction			Subgrade,rock	6	Smooth Drum Vibratory Roller	12,000	4 low freq. vibe on	3
All Pre-Haul maintenance			After pre-haul grading	6	Smooth Drum Vibratory Roller	12,000	2 low freq. vibe on	3
Culvert Backfill			Backfill material	6	Walk behind plate compactor	175	-	-

CULVERT AND DRAINAGE LIST, pg 1 of 1

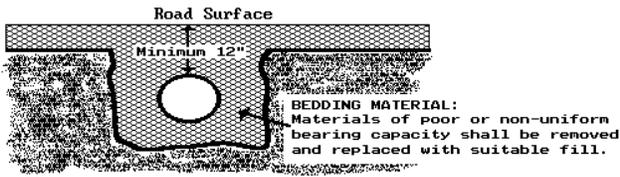
Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material*	Placement Method*	Const. Staked*	Remarks
		Dia. (in)	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type				
5540	2+35	18	PD	30			1	1.5	QS	NT			Install
	7+20	24	PD	40			2	2.5	QS	NT			Type 4 Replace
	8+35	18	PD	30			1	1.5	QS	NT			Install
	9+20	24	PD	35			2	2.5	QS	NT			Type 4 Install
	10+65	18	PD	30			1	1.5	QS	NT			Install
	20+90	18	PD	35			1	1.5	QS	NT			Install
	25+20	18	PD	30			1	1.5	QS	NT			Install
	25+65	24	PD	40			2	2.5	QS	NT			Type 5 Replace
	29+80	30	PD	35			2	2.5	QS	NT			Type 4 Replace
	33+25	30	PD	40			2	2.5	QS	NT			Type 4 Replace
	39+80	18	PD	30			1	1.5	QS	NT			Install
	43+85	24	PD	30			2	2.5	QS	NT			Type 4 Replace
	44+75	18	PD	30			1	1.5	QS	NT			Install
	51+70	18	PD	30			1	1.5	QS	NT			Install
	54+00	24	PD	30			2	2.5	QS	NT			Type 5 Replace
	60+80	18	PD	30			1	1.5	QS	NT			Install
5550	2+95	18	PD	30			1	1.5	QS	NT			Install
	13+30	18	PD	30			1	1.5	QS	NT			Install
8100	26+80	18	PD	30			1	1.5	QS	NT			Replace
	68+65	18	PD	30			1	1.5	QS	NT			Replace
	78+30	18	PD	35			1	1.5	QS	NT			Replace
	88+00	18	PD	35			1	1.5	QS	NT			Replace
	89+10	18	PD	30			1	1.5	QS	NT			Replace
	103+00	18	PD	30			1	1.5	QS	NT			Replace
	110+00	18	PD	30			1	1.5	QS	NT			Replace
	115+50	18	PD	30			1	1.5	QS	NT			Replace
As		18	PD	30			1	1.5	QS	NT			Contingency
Directed		18	PD	30			1	1.5	QS	NT			Contingency
By C.A.		18	Poly	Band									Contingency
and on													
any road													
used by													
the sale													
for													
timber or													
rock haul													

* SEE CULVERT AND DRAINAGE SPECIFICATION DETAIL

PD = Polyethylene Pipe Dual Wall AASHTO No. M294 Type S or ASTM F2648

TEMP = Temporary Culvert

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

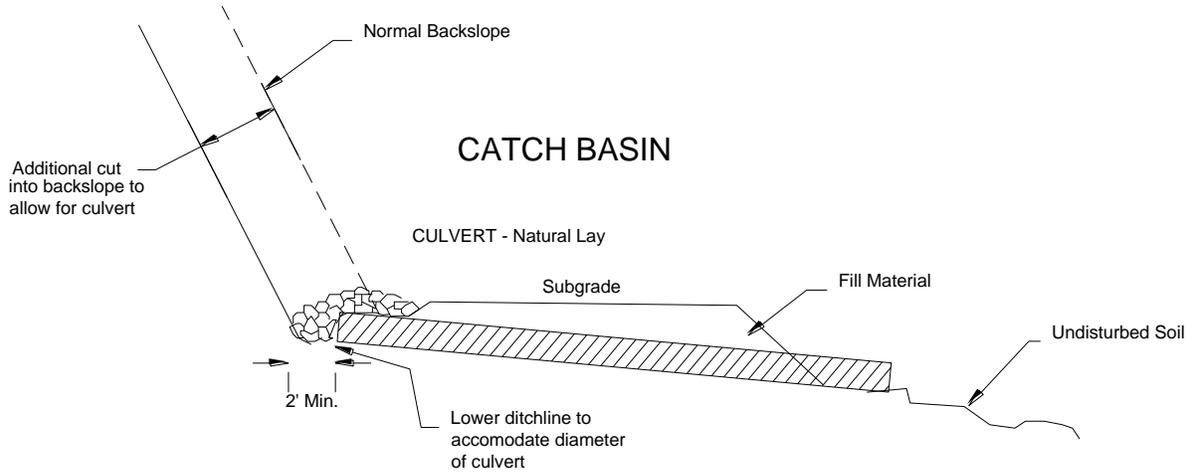


Key:

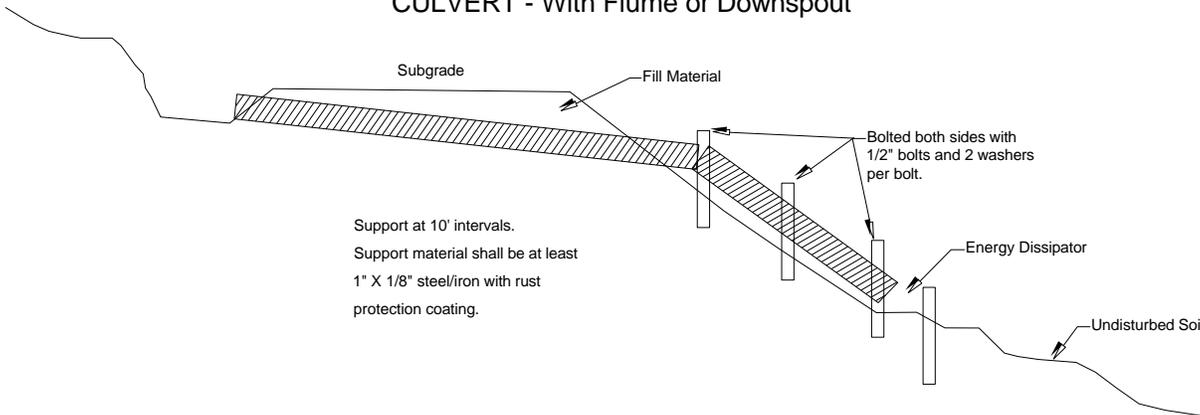
- QS - Quarry Spalls
- LL - Light Loose Riprap
- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- Flume - Half round pipe
- Downspout - Full round pipe

CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 1 of 3)



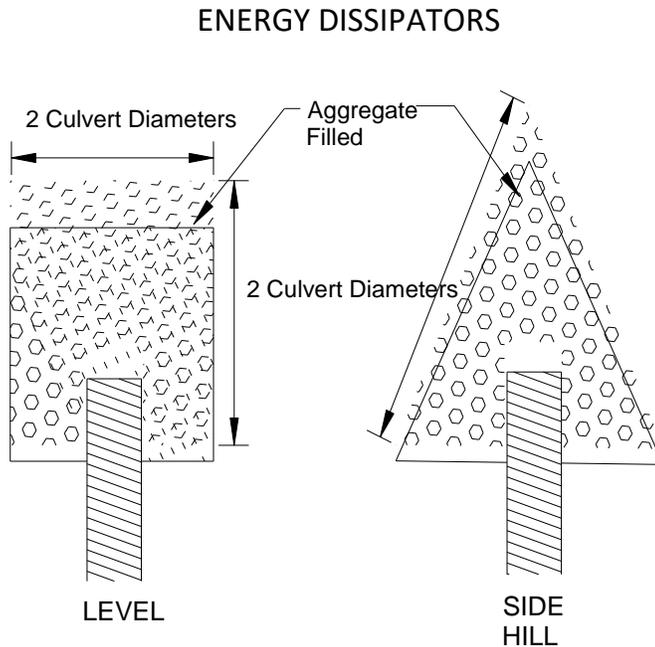
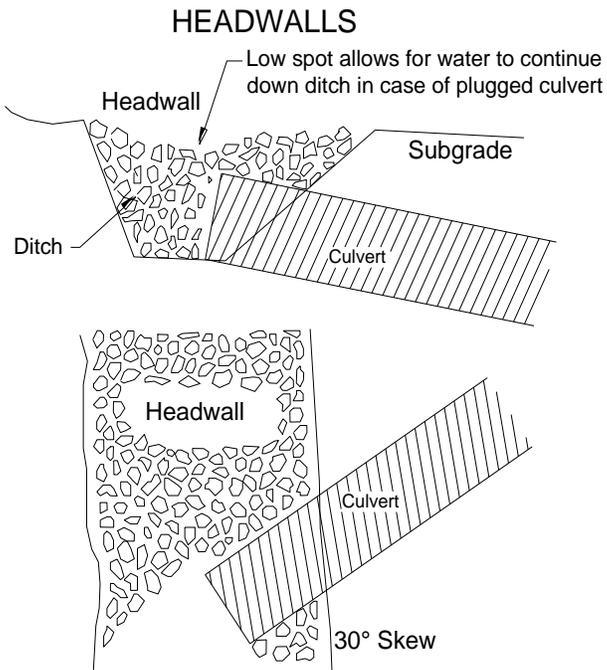
CULVERT - With Flume or Downspout



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.

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

CULVERT AND DRAINAGE SPECIFICATION DETAIL

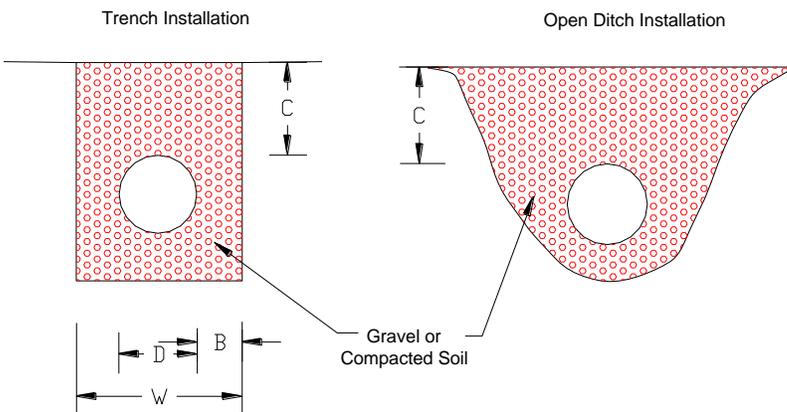
(Page 3 of 3)

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"
6"	6"	12"	54"

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS (Sheet 1 of 2)

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the cut slope/fill slope ratios. Remove slides up to 100 cubic yards in volume from ditches and the roadway. Repair fill-failures with selected material or material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

Surface

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

Drainage

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

Preventative Maintenance

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

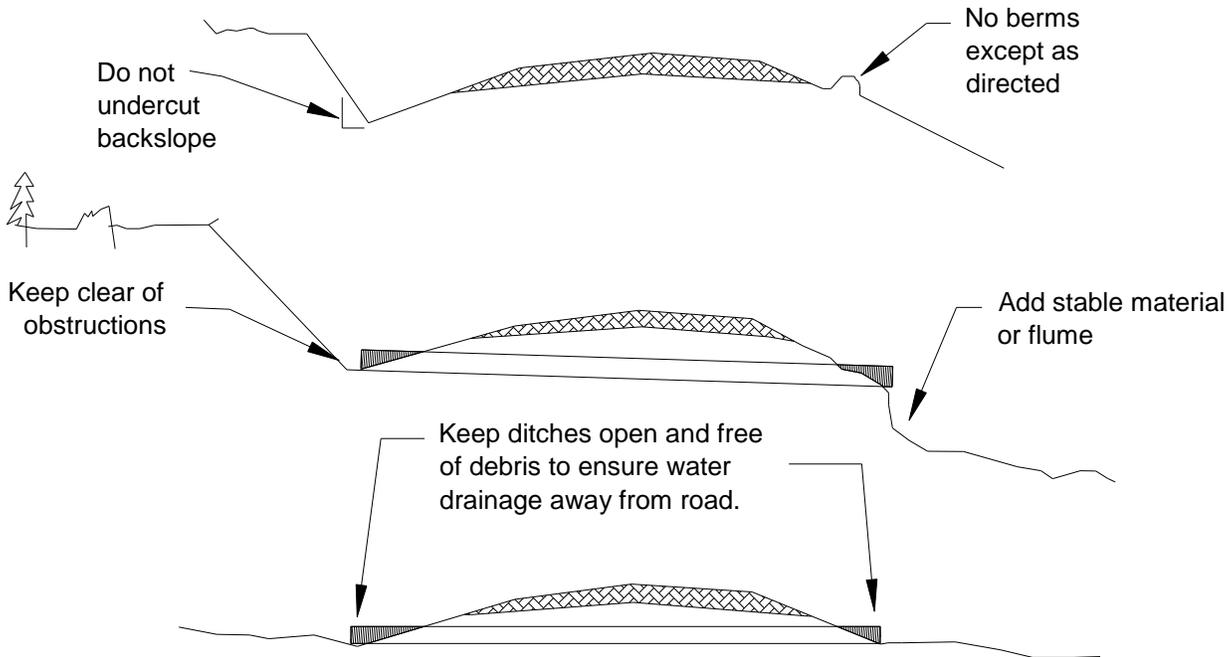
FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS (Sheet 2 of 2)

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.



5540 PIT DEVELOPMENT PLAN

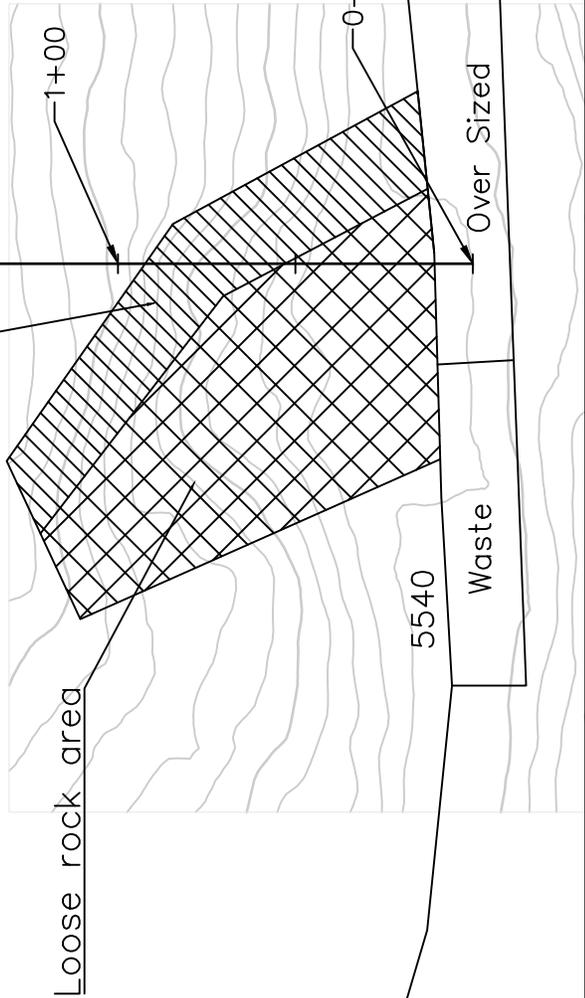
Legal Description: SW1/4 NE 1/4 Section 30, T23NR08E W.M.

Rock Pit Name: 5540

1. Development shall begin on either the drill and shoot area or the loose rock area. A new bench will be started with a face height of 25 feet and minimum working bench of 20 feet.
2. All overburden and vegetation, including stumps, shall be cleared a minimum of 20 feet beyond the top of all working faces. Trees shall be cleared to a minimum of 3/4 of the height of the tallest tree adjacent to the pit face.
3. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden and piled in the designated waste area.
4. Overburden shall be pushed or end hauled to the designated waste area and compacted. Minimal acceptable compaction is achieved by placing material in 2 foot or shallower lifts and routing excavation equipment over entire width of the lifts. A minimum stripping width of 20 feet must be maintained from all pit faces.
5. Pit faces and walls shall not exceed 25 feet in height and shall be sloped no steeper than 1/4H: 1V.
6. Working bench width shall be a minimum of 20 feet.
7. The pit floor shall have smooth continuity of slope, providing drainage. No ponding will be allowed.
8. At the end of operations, faces shall be scaled and cleared of loose and overhanging material, including overburden pushed over the face.
9. Oversize material remaining in the pit at the conclusion of operations shall not exceed 5 percent of the total volume mined during the operation. Oversize material is defined as rock or rock fragments larger than two feet in any dimension. Oversize shall be piled between Lower Bench and existing stockpile.
10. Quantity and Quality of ballast pit is not guaranteed by the State.

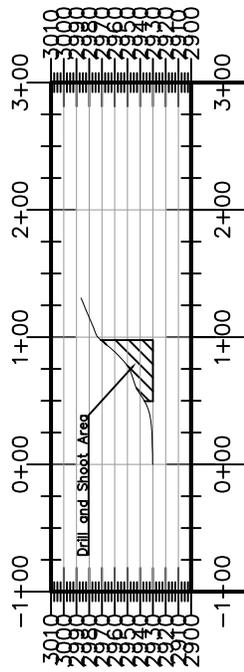


Drill and Shoot Area



5540 Pit PROFILE

Station



DESIGN BY: E. Bauer
 DRAWN BY: E. Bauer
 CHECKED BY:
 DATE: 11/19/2019

5540 Pit Plan
 Coal Day T.S.
 Plan View



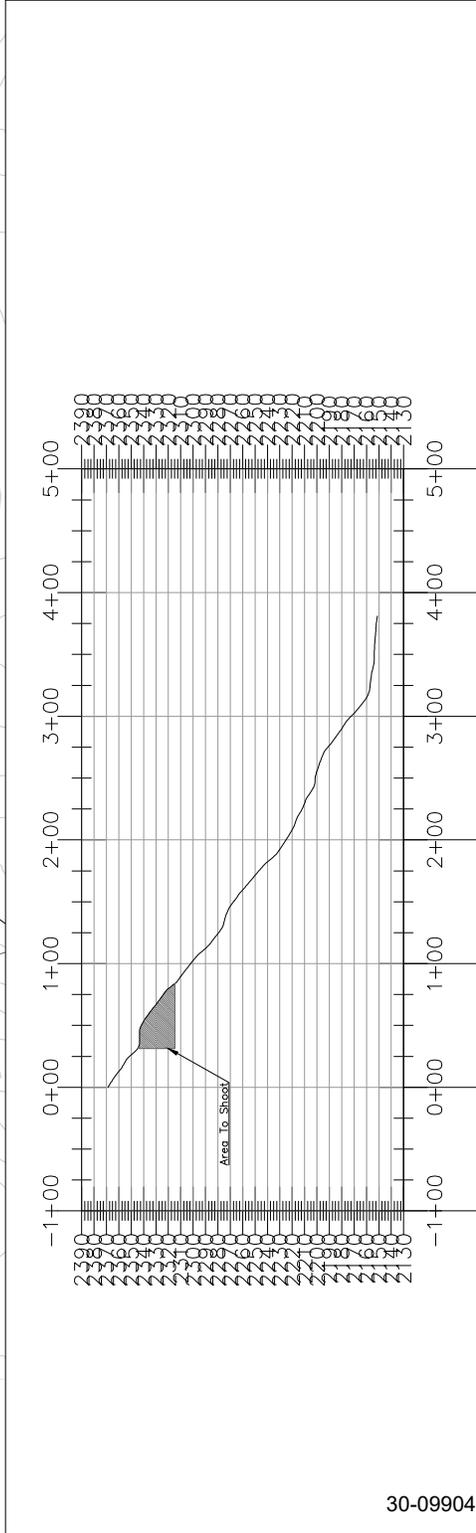
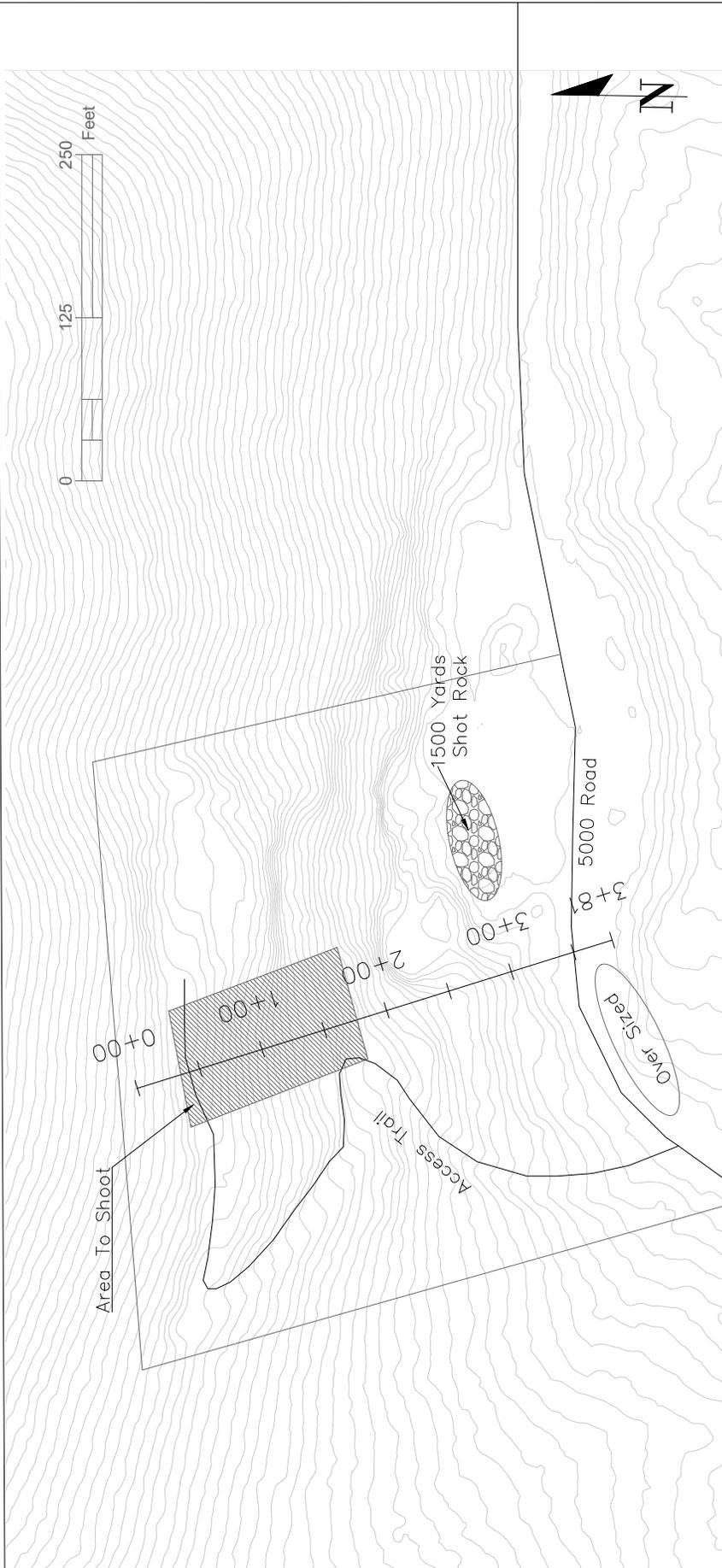
WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

RATTLE SNAKE PIT DEVELOPMENT PLAN

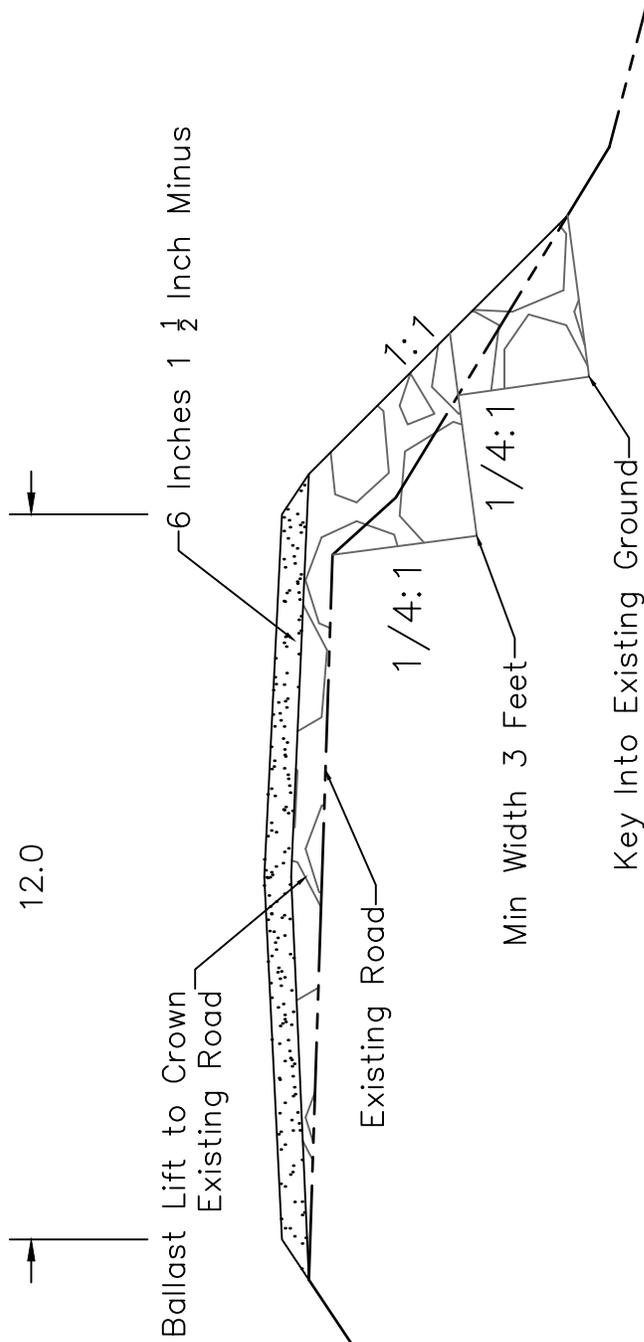
Legal Description: NE1/4 SE 1/4 Section 30, T23NR08E W.M.

Rock Pit Name: Rattle Snake

1. Development shall begin in the Area to Shoot. A new bench will be started in this area with a face height of 30 feet and minimum working bench of 20 feet.
2. All overburden and vegetation, including stumps, shall be cleared a minimum of 20 feet beyond the top of all working faces. Trees shall be cleared to a minimum of 3/4 of the height of the tallest tree adjacent to the pit face.
3. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden and piled in the designated waste area.
4. Overburden shall be pushed or end hauled to the designated waste area and compacted. Minimal acceptable compaction is achieved by placing material in 2 foot or shallower lifts and routing excavation equipment over entire width of the lifts. A minimum stripping width of 20 feet must be maintained from all pit faces.
5. Pit faces and walls shall not exceed 30 feet in height and shall be sloped no steeper than 1/4H: 1V.
6. Working bench width shall be a minimum of 20 feet.
7. The pit floor shall have smooth continuity of slope, providing drainage. No ponding will be allowed.
8. At the end of operations, faces shall be scaled and cleared of loose and overhanging material, including overburden pushed over the face.
9. Oversize material remaining in the pit at the conclusion of operations shall not exceed 5 percent of the total volume mined during the operation. Oversize material is defined as rock or rock fragments larger than two feet in any dimension. Oversize shall be piled between Lower Bench and existing stockpile.
10. Quantity and Quality of ballast pit is not guaranteed by the State.



DESIGN BY: E. Bauer	<p>Rattle Snake Pit Plan Coal Day T.S. Plan View</p>	<p>WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES</p>	SHEET
DRAWN BY: E. Bauer			1
CHECKED BY:			OF
DATE: 05/06/2020			1



DESIGN BY: E. Bauer
DRAWN BY: E. Bauer
CHECKED BY:
DATE: 1 May 2020

Embankment Key Detail



WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

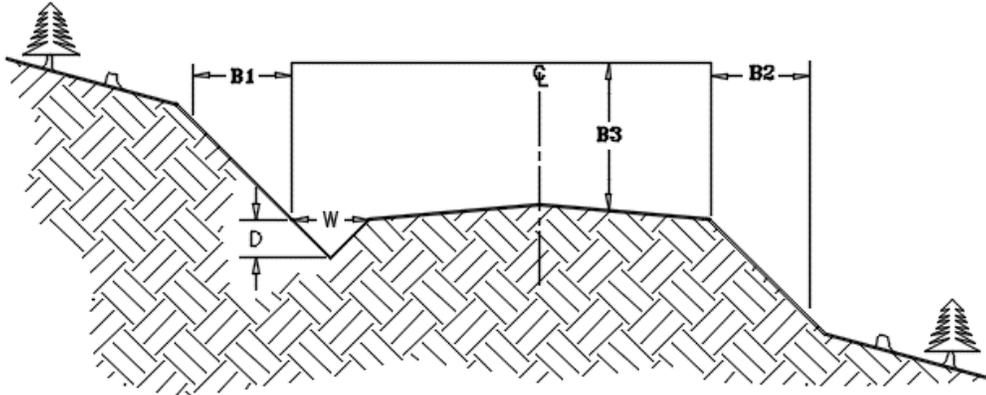
8000 Road STA 37+65 to 37+85

Coal Day Timber Sale

SHEET	1
OF	1

BRUSHING DETAIL

(not to scale)



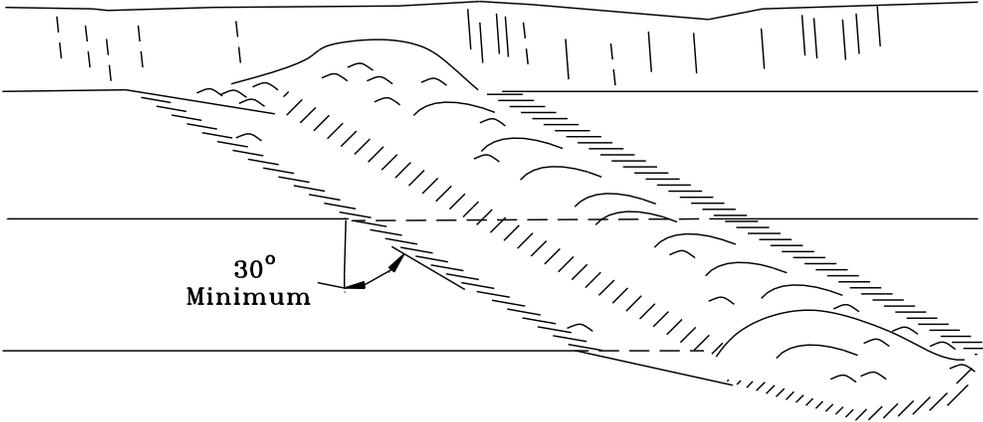
BRUSHING LIST

Road Number	From station	To station	Road Width (feet)	Ditch		Brushing Limits (feet)			Remarks <u>In addition to brushing...</u>
				Width (feet)	Depth (feet)	B1	B2	B3	
				W	D	B1	B2	B3	
5000	236+55	292+20	16	3	1	8	8	14	
5500	0+00	189+35	16	3	1	8	8	14	Cut brush and extra 16 feet on the inside of a curve to provide visibility on switchbacks and curves.
8000	0+00	49+10	16	3	1	8	8	14	
8100	0+00	202+47	16	3	1	8	8	14	

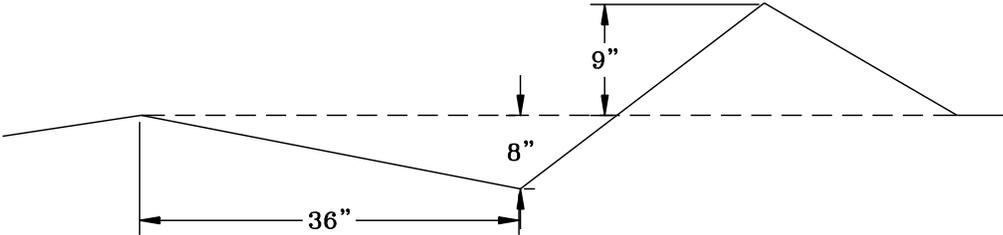
B1 extends horizontally the specified distance in feet from the back of the ditch. B2 extends horizontally the specified distance in feet from the outside edge of the running surface. Brush is defined as all non-merchantable vegetative material found within the specified limits. Brush must be cut to a height of 3 inches above the ground. Brush that is cut shall be removed to the downhill side of the road and placed such that it will not block ditches, ditch-outs, or drainage structures. Signs, culvert location markers, culverts or any other identification features damaged by brushing shall be replaced at the Purchasers expense.

Drivable Water Bar Detail

Cross Ditch



Cross Section at Centerline

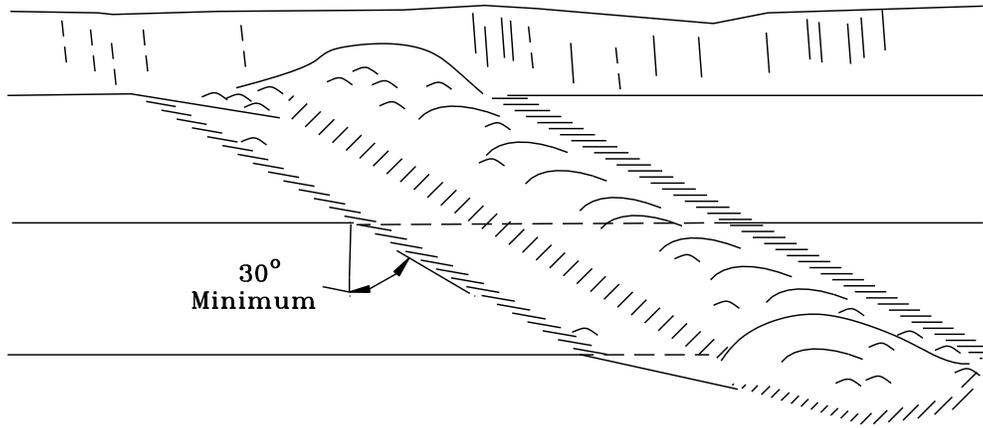


Date:
Scale : None
App#
Drawn by: M.A.D.

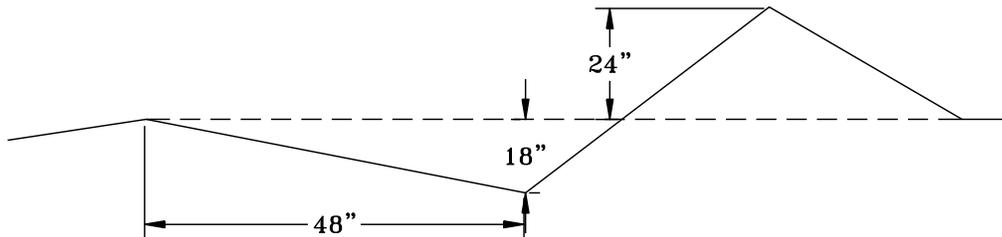
Water Bar Detail	
	WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
<small>SPS REGION</small>	

Non-Drivable Water Bar Detail

Cross Ditch



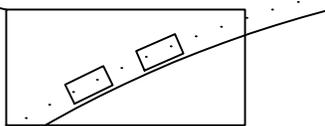
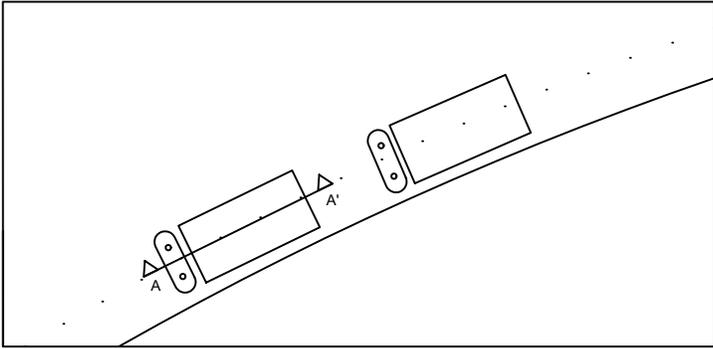
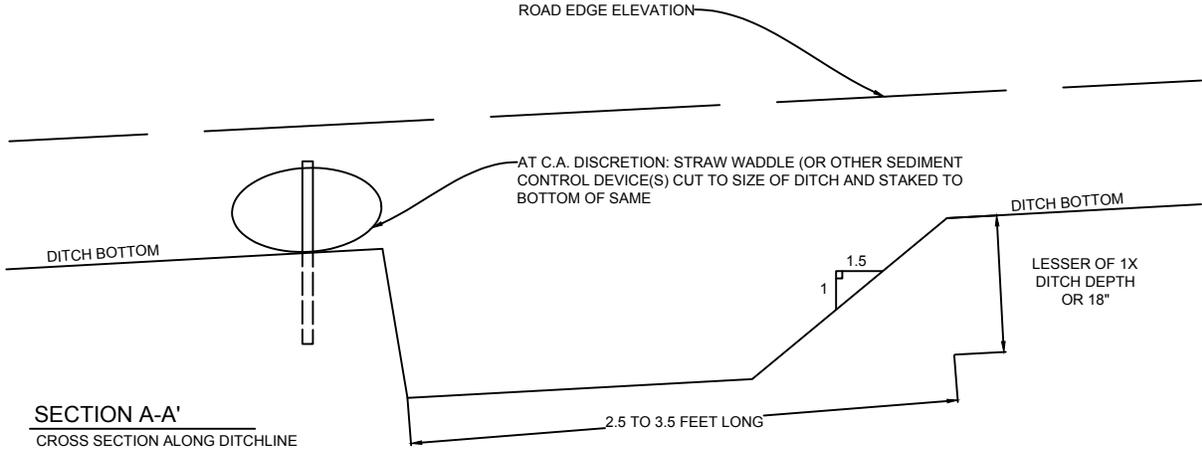
Cross Section at Centerline



Date:
Scale : None
App#
Drawn by: M.A.D.

Water Bar Detail	
	WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
<small>SPS REGION</small>	

SEDIMENT TRAP DETAIL



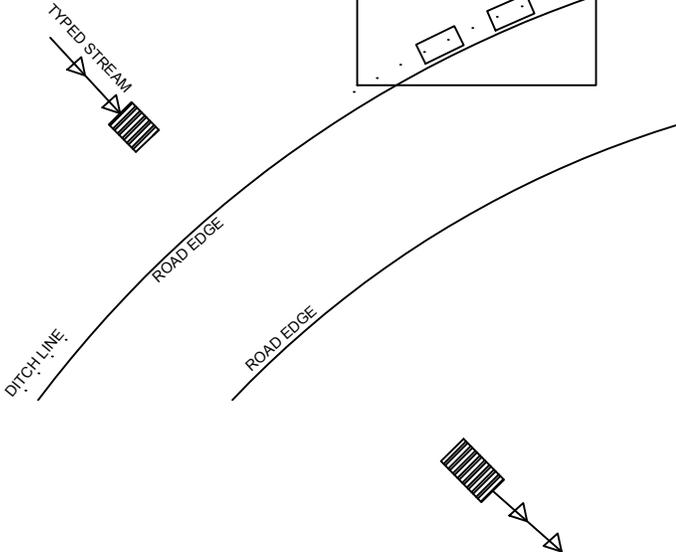
NOTES:

CONSTRUCT SEDIMENT TRAPS IN SETS GREATER THAN ONE, WHENEVER POSSIBLE.

SEDIMENT TRAPS SHOULD BE PLACED AS CLOSE AS PRACTICABLE TO STREAM CROSSING.

IF SEDIMENT TRAPS FILL WITH SEDIMENT DURING HAUL OPERATIONS, REMOVING SEDIMENT FROM TRAPS IS CONSIDERED ROUTINE MAINTENANCE.

ADDITIONAL SEDIMENT CONTROL DEVICES, SUCH AS HAY BALES, STRAW WADDLES OR OTHERS MAY BE REQUIRED AS SHOWN IF IN THE OPINION OF THE CONTRACT ADMINISTRATOR, SEDIMENT TRAP ALONE DOES NOT APPEAR TO BE EFFECTIVE.

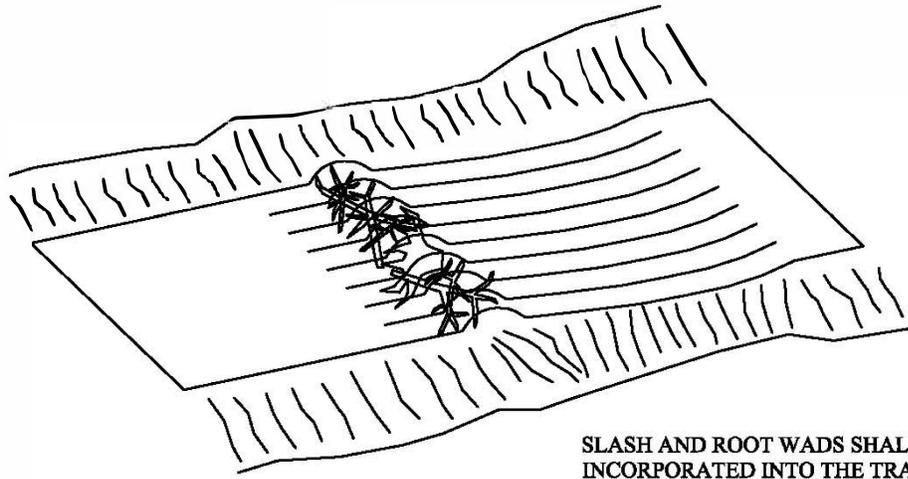


SEDIMENT TRAP DETAIL

WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

Date: 07/24/2018
 Scale : NTS
 App#
 Drawn by: WPH
 Sheet 1 of 1

BARRICADE DETAIL

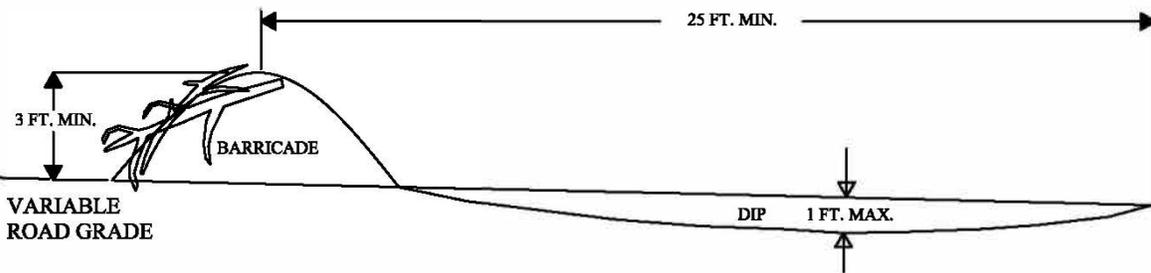


SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.

PLAN VIEW

TRAFFIC SIDE
OF BARRICADE

CLOSED SIDE
OF BARRICADE



PROFILE VIEW

Barricade Detail



WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

SPS REGION

DEPARTMENT OF NATURAL RESOURCES - SOUTH PUGET SOUND REGION

FORM 9-87(Rev. 01-09)

Road Development Cost Estimate

(For internal DNR use only. Costs are estimates only & are not guaranteed by the State or part of the Road Plan.)

REGION: SPS

UNIT: Snoquilmie

SALE/PROJECT NAME: Coal Day

CONTRACT NUMBER: 30-099047

LEGAL DESCRIPTION: Sec 18,19 T23R08E

ROAD STANDARD:	Construction	Reconstruction	5000, 5500, 5540, 5500, 8000, 8100 Pre-haul maintenance
ROAD NUMBER:			
NUMBER OF STATIONS:	0.00	0.00	560.37
SIDESLOPE:	0%	0%	0%
CLEARING AND GRUBBING:	\$0	\$0	
EXCAVATION AND FILL:	\$0	\$0	
MISC. MAINTENANCE:			\$13,729
ROCK TOTALS (Cu. Yds.):			
1 1/2 Inch Minus 6204	\$0	\$0	\$100,087
Q.S. 80	\$0	\$0	\$2,335
4 Inch Jaw 460			\$7,476
CULVERTS AND FLUMES:	\$0	\$0	\$18,319
STRUCTURES:	\$0	\$0	\$0
GENERAL EXPENSES:	\$0	\$0	\$11,356
MOBILIZATION:	\$0	\$0	\$11,280
TOTAL COSTS:	\$0	\$0	\$164,581
COST PER STATION:	\$0	\$0	\$294
ROAD DEACTIVATION AND ABANDONMENT COSTS:		\$6,159	

NOTE¹: This appraisal has no allowance for profit and risk.

TOTAL (All Roads) = \$170,740

SALE VOLUME MBF = 3,665

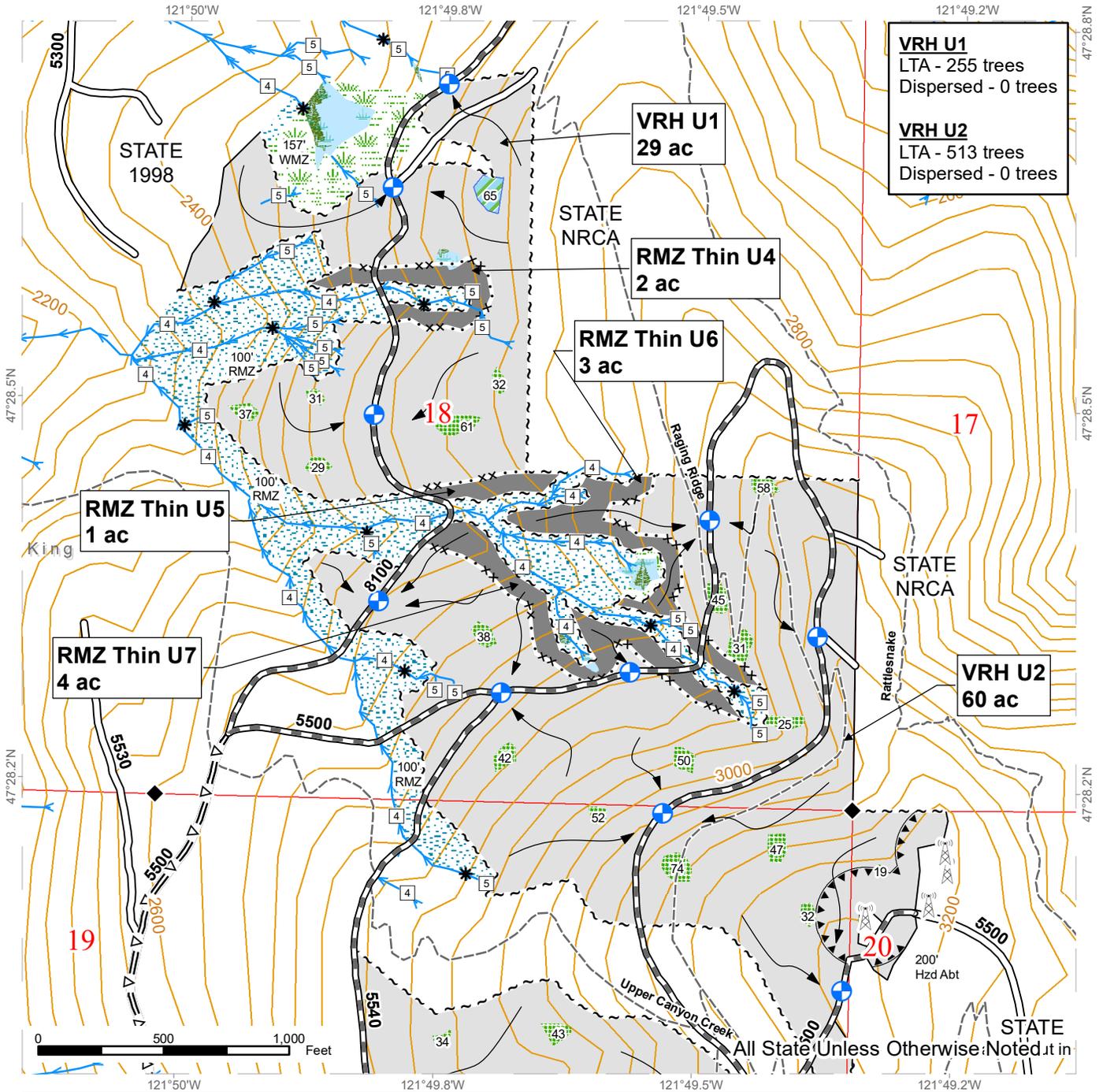
TOTAL COST PER MBF = \$46.59

Date: 05/07/20

LOGGING PLAN MAP 1

SALE NAME: COAL DAY VRH AND RMZ THIN
 AGREEMENT#: 30-099047
 TOWNSHIP(S): T23R8E
 TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3)

REGION: South Puget Sound Region
 COUNTY(S): King
 ELEVATION RGE: 2360-3240



VRH U1
 LTA - 255 trees
 Dispersed - 0 trees

VRH U2
 LTA - 513 trees
 Dispersed - 0 trees

VRH U1
 29 ac

RMZ Thin U4
 2 ac

RMZ Thin U6
 3 ac

RMZ Thin U5
 1 ac

RMZ Thin U7
 4 ac

VRH U2
 60 ac

All State Unless Otherwise Noted in

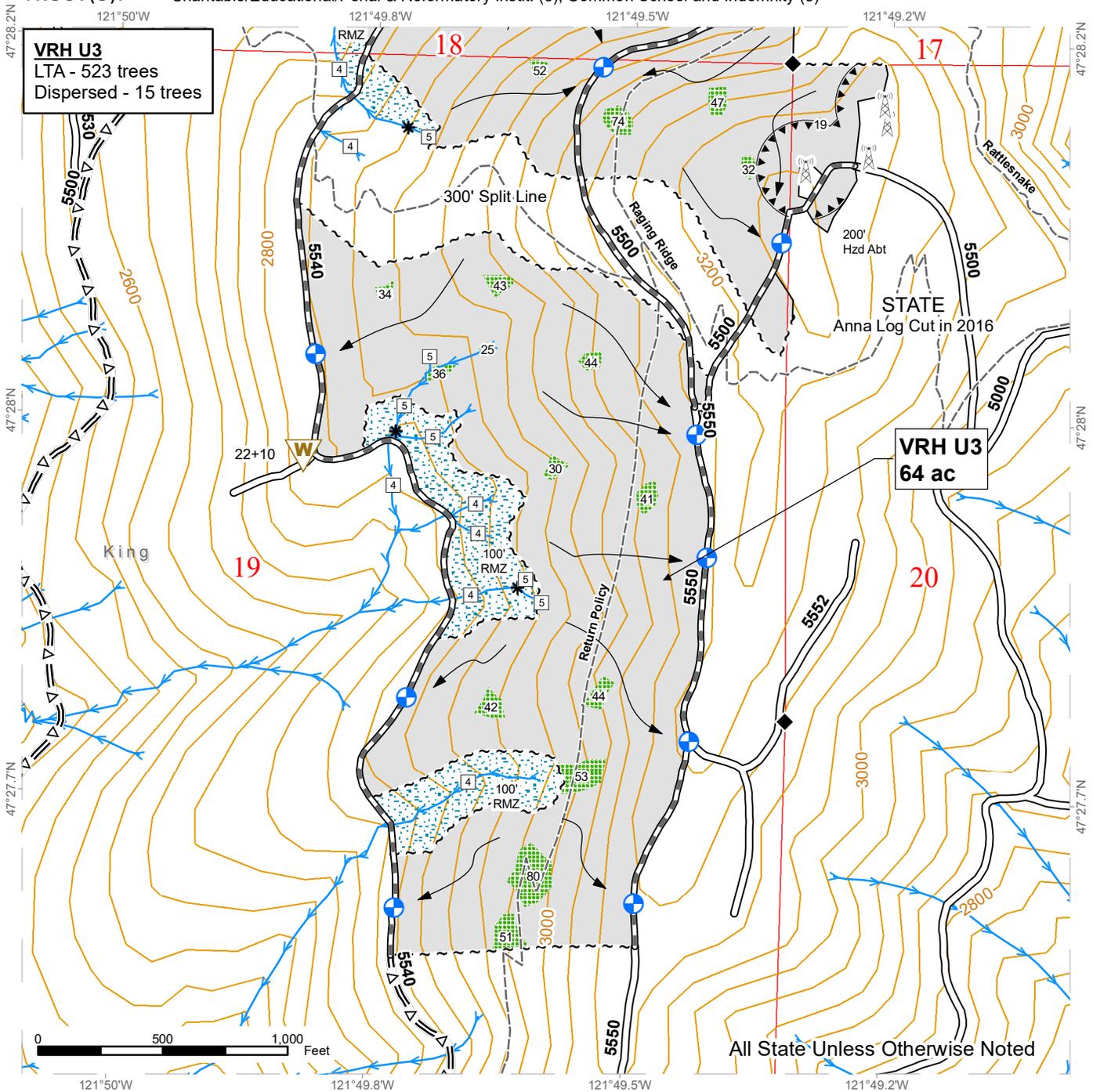
	Ground Harvest		Existing Roads		Streams
	Variable Retention Harvest		Required Pre-Haul Maintenance		Stream Type
	Variable Density Thinning		Optional Pre-Haul Maintenance		Stream Type Break
	Non-Tradeable Leave Tree Area		Recreation Trails		Survey Monument
	Leave Tree Area		Sale Boundary Tags		Hazard Abatement Area
	Riparian Mgt Zone		Timber Type Change		Communication Tower
	Forested Wetland		Special Mgmt Area		Landing - Proposed
	Wetland Mgt Zone		Contours 40-foot		



LOGGING PLAN MAP 2

SALE NAME: COAL DAY VRH AND RMZ THIN
 AGREEMENT#: 30-099047
 TOWNSHIP(S): T23R8E
 TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3)

REGION: South Puget Sound Region
 COUNTY(S): King
 ELEVATION RGE: 2360-3240



VRH U3
 LTA - 523 trees
 Dispersed - 15 trees

VRH U3
 64 ac

