

Washington DNR Timber Sales Program

Updated information is being provided for **ON THE LINE** timber sale documents as follows:

Documents amended:

Brief Description	DATE	Initials
Road Section was updated to clarify restriction dates.	6/6/23	mh



TIMBER NOTICE OF SALE

SALE NAME: ON THE LINE

AGREEMENT NO: 30-102018

AUCTION: June 14, 2023 starting at 10:00 a.m., Olympic Region Office, Forks, WA

COUNTY: Clallam

SALE LOCATION: Sale located approximately 18 miles west of Port Angeles

PRODUCTS SOLD AND SALE AREA:

All timber, except trees marked with a band of blue paint or bounded out by leave tree area tags, bounded by Timber Sale Boundary tags and red-painted take trees designating a management line, Hwy 112 in Unit 1; Timber Sale Boundary tags and a distinct Timber Type Change in Unit 2; Timber Sale Boundary tags, the PA -S-1050 and the PA-S-1000 in Unit 3; Timber Sale Boundary tags and the PA-S-1050 in Units 4; Timber Sale Boundary tags and the PA-S-1150 in Unit 5.

All timber bounded by right-of-way boundary tags in Unit 6.

All forest products above located on part(s) of Sections 6 and 7 all in Township 30 North, Range 9 West, Sections 31 and 32 all in Township 31 North, Range 9 West, W.M., containing 87 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:

Table with columns: Species, Avg DBH, Ring Count, Total MBF, and MBF by Grade (1P, 2P, 3P, SM, 1S, 2S, 3S, 4S, UT). Rows include Douglas fir, Hemlock, Red alder, Redcedar, Spruce, and Sale Total.

MINIMUM BID: \$1,526,000.00

BID METHOD: Sealed Bids

PERFORMANCE SECURITY: \$100,000.00

SALE TYPE: Lump Sum

EXPIRATION DATE: October 31, 2025

ALLOCATION: Export Restricted

BID DEPOSIT: \$152,600.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: 100% ground based 30' Equipment limitation zones on all typed water unless approved by the Contract Administrator. Forest products sold under this contract shall be harvested and removed using cable, cable-tethered, and ground based equipment.



TIMBER NOTICE OF SALE

Administrator. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

Designated crossings must be approved by the Contract Administrator.

Falling and yarding will not be permitted from November 1 to April 30 unless approved in writing by the Contract Administrator. In all units there will be no Falling, Yarding, or haul on weekends or State recognized holidays unless authorized in writing by the Contract Administrator.

ROADS:

21.20 stations of required reconstruction. 63.55 stations of optional construction. 4.85 stations of optional reconstruction. 303.95 stations of required pre-haul maintenance. 154.05 stations of optional pre-haul maintenance. Road activities and the hauling of forest products will not be permitted on all roads from November 1 to April 30, State recognized holidays or weekends, unless authorized in writing by the Contract Administrator.

Any road work, rock pit operations or operation of heavy equipment performed during the marbled murrelet nesting season (April 1 through September 23) is restricted to two hours after sunrise to two hours before sunset on the following roads: PA-S-1090 (20+00-22+00), PA-S-1091 (00+00-10+90), PA-S-1150 (66+60-70+90) and the Sirloin Pit. This restriction does not apply to the hauling of timber, rock or equipment.

Development and blasting in Sirloin Pit will not be allowed from April 1 -September 23. See Road Plan for details.

ACREAGE DETERMINATION

CRUISE METHOD: Sale acreage was 100% GPS'd. Sale units were cruised using a variable plot sample.

FEES: \$84,048.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: There are locked gates are located on the PA-S-1000 and PA-S-1150. Contact Olympic Region Dispatch Center at 360-374-2811 to obtain a AA-1 key.

All trees 60 inches in Diameter at Breast Height (DBH) and greater shall not be felled unless for safety reasons, which must be approved by the Contract Administrator. If trees 60 inches DBH or greater need to be felled for safety reasons, trees will be left where felled.

Rock identified to be used out of a State lands rock pit shall meet specifications as identified within the Road Plan, which will be determined by the Contract Administrator. If the rock does not meet the specifications, a commercial source shall be used that does at the Purchaser's expense.

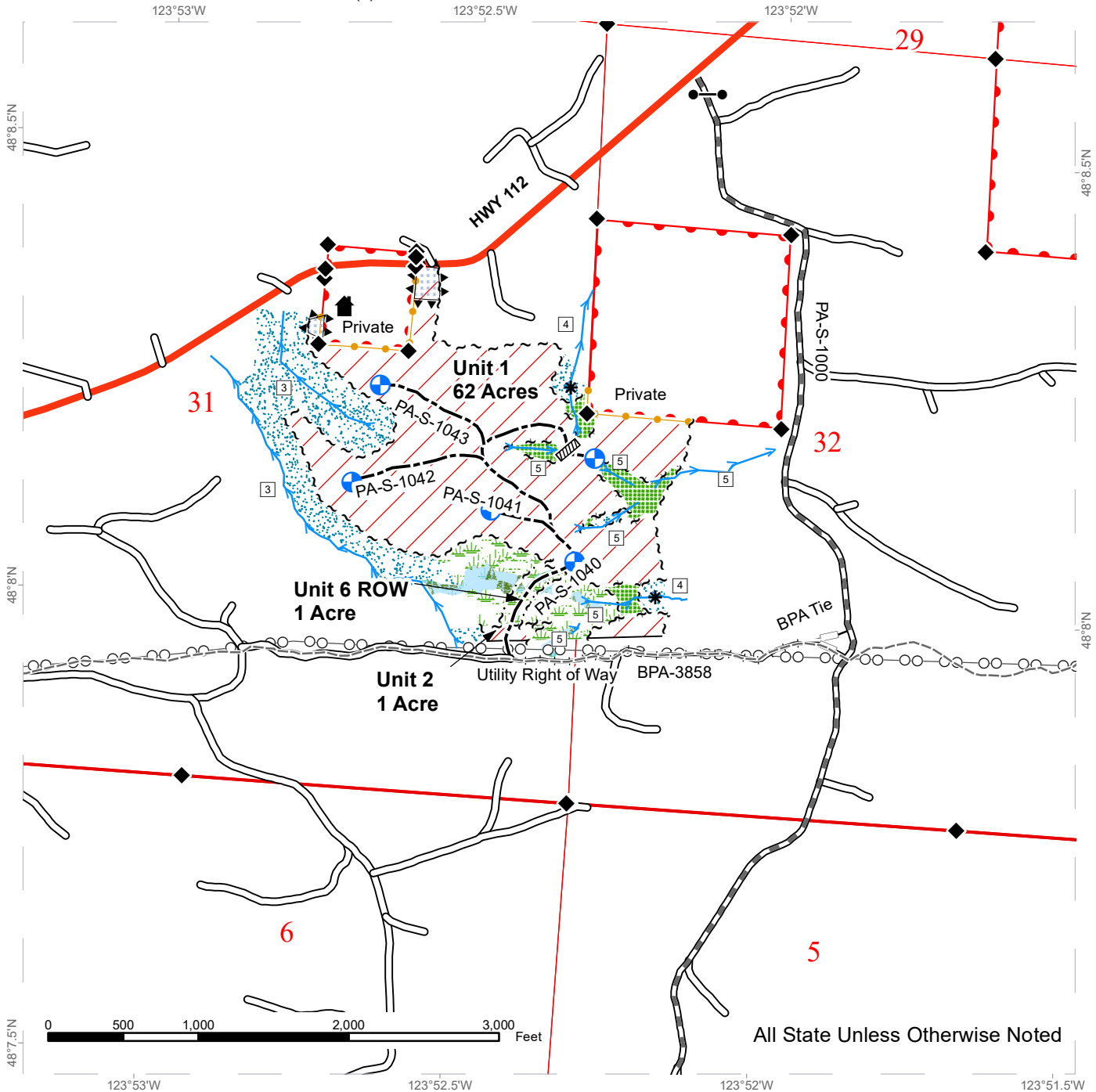
The BPA Checklist (Schedule C) shall be done prior to harvest or road building activities within or adjacent to the BPA power lines.

A Hazard Abatement plan that meets requirements of WAC 332-24 must be provided prior to beginning of logging operations in Unit 1.

TIMBER SALE MAP

SALE NAME: ON THE LINE
AGREEMENT #: 30-102018
TOWNSHIP(S): T30R9W, T31R9W
TRUST(S): State Forest Transfer (1)

REGION: Olympic Region
COUNTY(S): Clallam
ELEVATION RGE: 410'-1410'



All State Unless Otherwise Noted

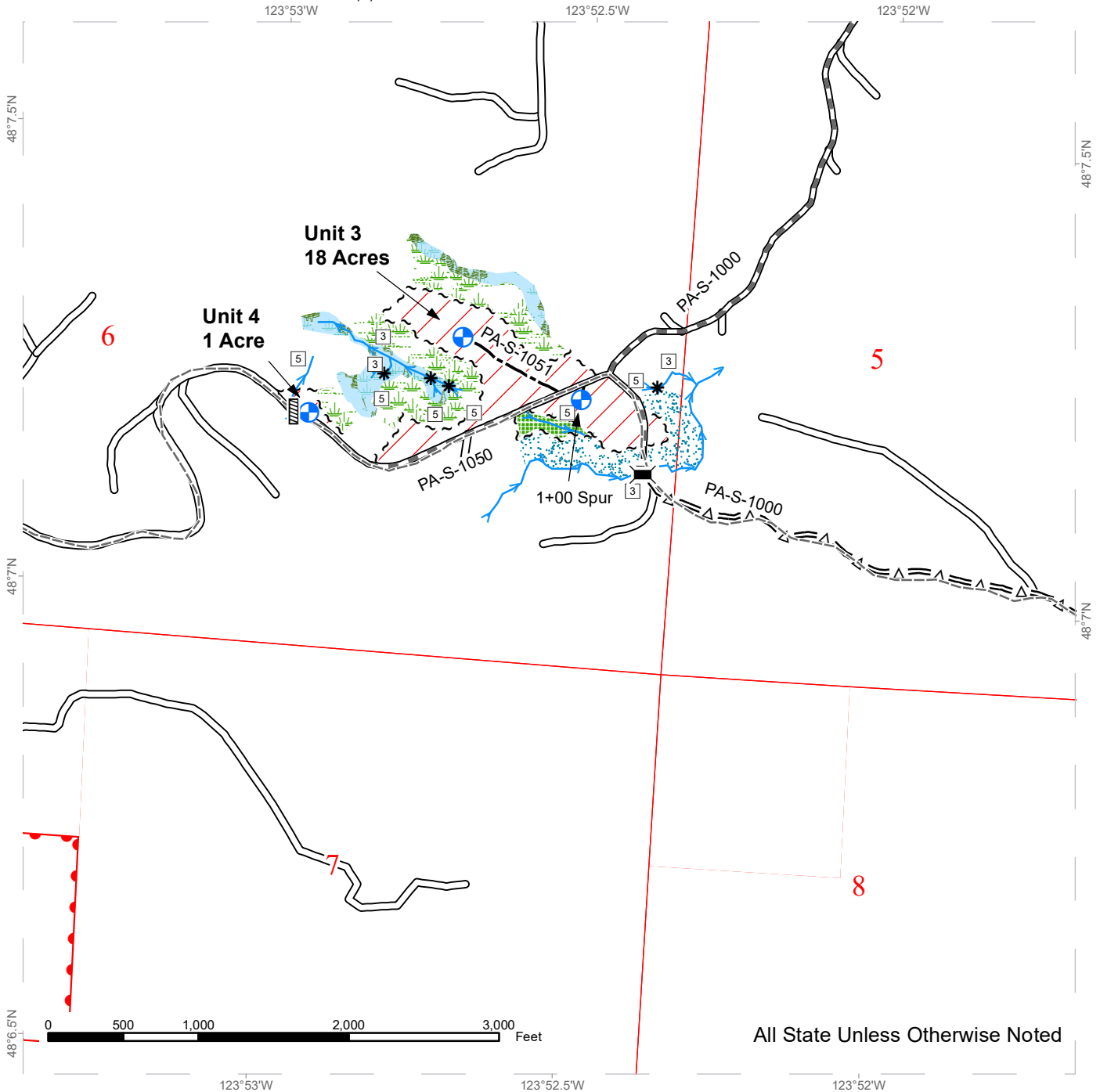
Leave Tree Area	Stream Type Break	Optional Construction	Bridge
Riparian Management Zone	Sale Boundary Tags	Optional Prehaul	Culvert
Right-Of-Way	Leave Tree Tags	Optional Reconstruction	Gate (AA1)
Variable Retention Harvest	Right of Way Tags	Required Prehaul	Waste Area
Wetland Management Zone	Take / Removal Trees	Required Reconstruction	Rock Pit
Forested Wetland	Timber Type Change	Sadie_Creek	Structure
Hazard Abatement	Power Lines	Survey Monument	
Streams	Highway	Proposed Landing	
Stream Type	Existing Roads		



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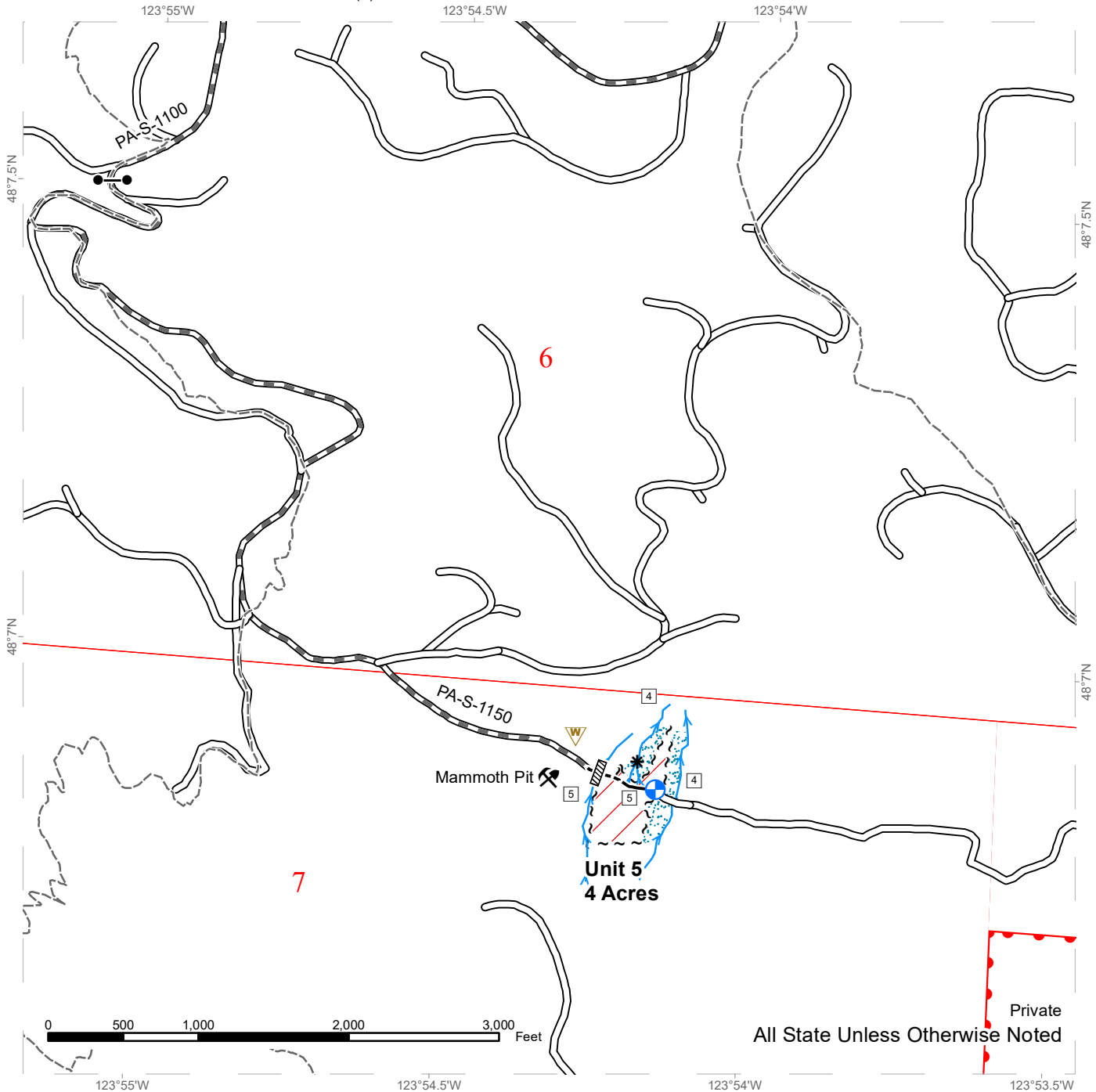
All State Unless Otherwise Noted

Leave Tree Area	Stream Type Break	Optional Construction	Bridge
Riparian Management Zone	Sale Boundary Tags	Optional Prehaul	Culvert
Right-Of-Way	Leave Tree Tags	Optional Reconstruction	Gate (AA1)
Variable Retention Harvest	Right of Way Tags	Required Prehaul	Waste Area
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Private
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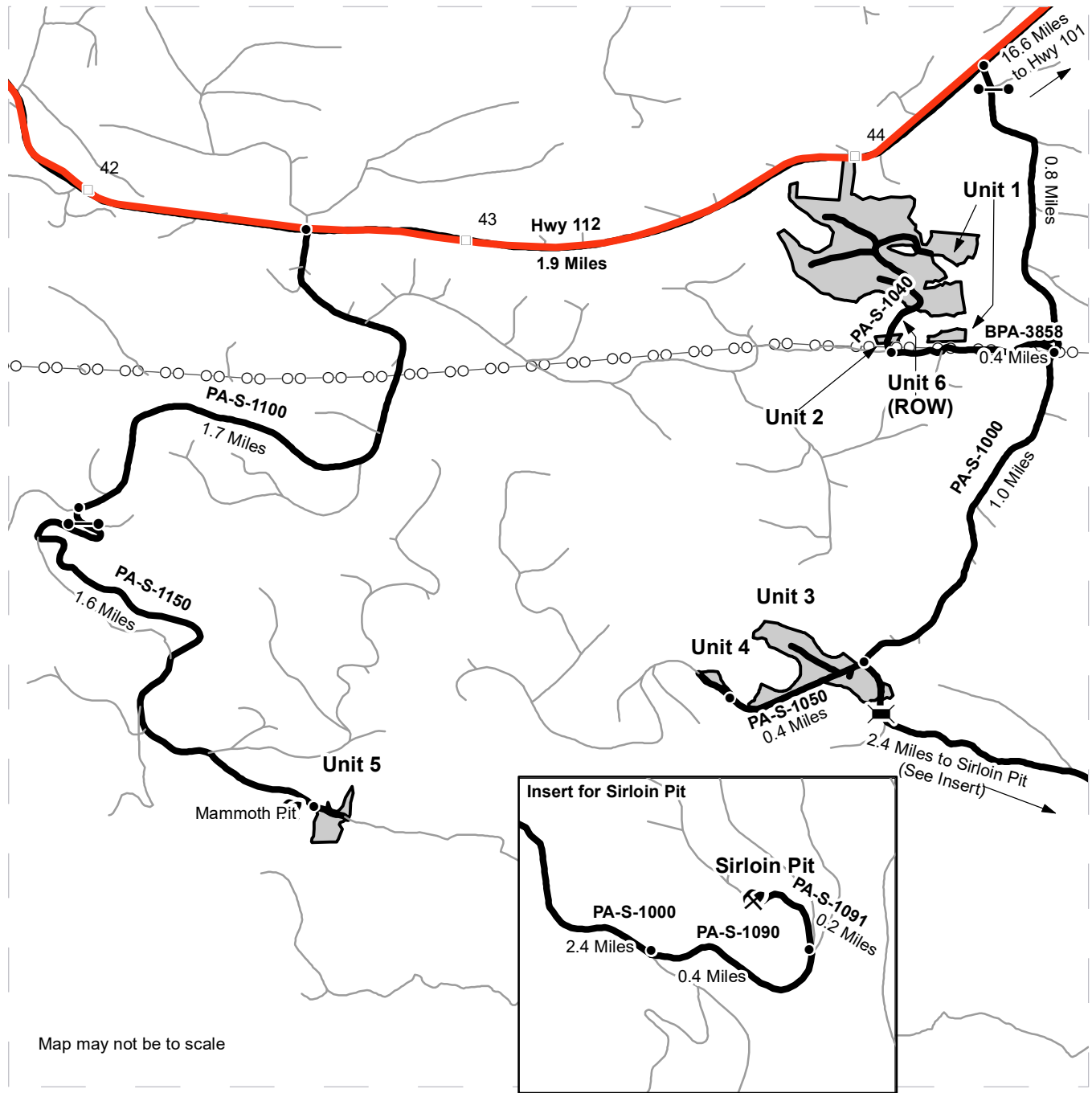
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Streams	Highway	Proposed Landing	
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DRIVING MAP

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AGREEMENT#: 30-102018
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COUNTY(S): Clallam
ELEVATION RGE: 410'-1410'



Map may not be to scale

- Milepost Markers
- Other Road
- Haul Road
- Highway
- Bridge
- Distance Indicator
- Gate (AA1)
- ⚡ Rock Pit
- Power Lines

Unit 1, 2, & 6: From the junction of Hwy 101 and Hwy 112, drive west on Hwy 112 for 16.6 miles. Turn left onto the PA-S-1000. Drive south on the PA-S-1000 for 0.8 miles and turn right onto the BPA-3858. Continue on the BPA-3858 for 0.4 miles. Park at what will be the junction of the PA-S-1040 and walk north to units 1, 2 and 6.

Unit 3: From the junction of the BPA-3858 and PA-S-1000. Continue south on the PA-S-1000 for 1 mile to the PA-S-1050 and unit 3.

Unit 4: From the junction of the PA-S-1050 and PA-S-1000. Go west on the PA-S-1050 for 0.4 miles to unit 4.

Sirloin Pit: From the junction of the PA-S-1050 and PA-S-1000. Go southeast on the PA-S-1000 for 2.4 miles and turn left onto the PA-S-1090. Continue on the PA-S-1090 for 0.4 miles and turn left onto the PA-S-1091. Continue on the PA-S-1091 for 0.2 miles to Sirloin Pit.

Unit 5: From the junction of Hwy 112 and PA-S-1000, continue west on Hwy 112 for 1.9 miles and turn left onto the PA-S-1100. Drive south on the PA-S-1100 for 1.7 miles and turn left onto the PA-S-1150. Continue on the PA-S-1150 for 1.6 miles to unit 5.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-0102018

SALE NAME: ON THE LINE

**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 June 14, 2023 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 a band of blue paint or bounded out by leave tree area tags, bounded by Timber Sale Boundary tags and red-painted take trees designating a management line, Hwy 112 in Unit 1; Timber Sale Boundary tags and a distinct Timber Type Change in Unit 2; Timber Sale Boundary tags, the PA -S-1050 and the PA-S-1000 in Unit 3; Timber Sale Boundary tags and the PA-S-1050 in Units 4; Timber Sale Boundary tags and the PA-S-1150 in Unit 5.

All timber bounded by right-of-way boundary tags in Unit 6.

All forest products above located on approximately 87 acres on part(s) of Sections 6, and 7 all in Township 30 North, Range 9 West, Sections 31, and 32 all in Township 31 North, Range 9 West W.M. in Clallam 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 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	Slash Piling Specifications
B	Green Tree Retention Plan
C	BPA Guideline

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2025.

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 \$1,226.00 per acre per annum for the acres on which an operating release has not been issued.
- 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 Forks, 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 Operations

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; PA-S-1000, BPA Tie, BPA 3858, PA-S-1040, PA-S-1041, PA-S-1042, PA-S-1043, PA-S-1050, PA-S-1051, 1+00 Spur, PA-S-1090, PA-S-1091, PA-S-1100 and the PA-S-1150. 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 PA-S-1000, BPA-3858, PA-S-1050 and the PA-S-1100, unless authority is granted in writing by the Contract Administrator.

G-430 Open Fires

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

G-450 Encumbrances

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

DATA MISSING

Section P: Payments and Securities

P-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 \$128,544.00. The total contract price consists of a \$0.00 contract bid price plus \$128,544.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

Advance payments made under P-045 or P-045.2 remaining on account above the value for the charges shall be returned to Purchaser within 30 days following the final report

of charges. Refunds not made within the 30 day period will accrue interest at the interest rate, as established by WAC 332-100-030, computed on a daily basis until paid.

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Falling and Yarding will not be permitted from November 1 to April 30, on weekends or State recognized holidays unless authorized in writing by the Contract Administrator.

H-013 Reserve Tree Damage Definition

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

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

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 100 square inches.
- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

If the Contract Administrator determines that a reserve tree has been cut or damaged, the Purchaser shall provide a replacement reserve tree of like condition, size, and species within the sale 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 'Unauthorized Activity' clause. Purchaser is required to leave all cut or damaged reserve trees on site.

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-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-090 Designated Trees Felled

All red ring trees along private property in Unit 1, shall be felled concurrently with the falling operation.

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using cable, cable-tethered, and ground based equipment. Cable-tethered equipment is limited to sustained slopes of 75 percent and less. Non-tethered self-leveling tracked equipment is limited to sustained slopes of 65 percent and less. Other ground based equipment is limited to tracked equipment on sustained slopes that are 45 percent and less. Rubber tired skidders are restricted unless approved by the Contract Administrator. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

Designated crossings must be approved by the Contract Administrator.

H-130 Hauling Schedule

The hauling of forest products will not be permitted on all roads from November 1 to April 30, on weekends or State recognized holidays unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

1. Purchaser shall immediately repair all gate damage resulting from operations to an equal or better condition than existed at the time of the sale.
2. While felling timber, two Warning signs must be posted on the PA-S-1000, PA-S-1050, BPA-3858 and the PA-S-1150 roads.
3. Yarding equipment shall not cross live streams without FPHP.
4. All live stream work shall adhere to this contract, the Road Plan and or the FPHP.
5. The Purchaser shall notify all employees and contractors working on this sale that any danger tree, marked or unmarked may be felled. Any felled marked danger tree shall be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.
6. The Contractor shall perform abandonment of all skid trails in the sale area, at the discretion of the Contract Administrator. Abandonment shall consist of re-establishing natural drainage and natural slopes fluffing compacted soil to an 18 inch depth using shovel grapples, placing stumps and debris back into the trail and installing water bars as directed by the Contract administrator.
7. The BPA Checklist shall be done prior to harvest or road building activities within or adjacent to the BPA power lines.
8. All trees 60 inches in Diameter at Breast Height (DBH) and greater shall not be felled unless for safety reasons, which must be approved by the Contract Administrator. If trees 60 inches DBH or greater needs to be felled for safety reasons, trees will be left where felled.
9. Rock identified to be used out of a State lands rock pit shall meet specifications as identified within the Road Plan, which will be determined by the Contract Administrator. If the rock does not meet the specifications, a commercial source shall be used that does and at the Purchaser's expense.

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

H-142 Wildlife Timing Restrictions

The following wildlife timing restrictions apply to this contract and shall be in place in the locations shown on the attached timber sale map.

On the following roads; PA-S-1190 (20+00-22+00), PA-S-1191 (0+00-10+90), the PA-S-1150 and the Sirloin Pit(All pit work including Blasting) timber felling, road work or operation of heavy equipment performed during the Marbled Murrelet season (April 1 through September 23) is restricted to two hours after sunrise to two hours before sunset. This does not apply to the hauling of timber, rock or equipment.

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 3/2/2021 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 listed in the Road Plan, authorized in clause G-310 and are not listed in clause C-060. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on PA-S-1000 and the PA-S-1100. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-140 Water Bars

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

Section S: Site Preparation and Protection**S-001 Emergency Response Plan**

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-020 Extreme Hazard Abatement

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

S-030 Landing Debris Clean Up

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

S-035 Logging Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

Slash or debris which enters any typed waters 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 30 feet of any typed water 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.

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 (ECY). It is the responsibility of the Purchaser to have all emergency contact information readily available and a means of remote communication for purposes of quick notification. In the event of a spill covered in part a., the Purchaser is responsible for immediately notifying all the following:

- Department of Emergency Management at 1-800-258-5990
- National Response Center at 1-800-424-8802
- Appropriate Department of Ecology (ECY) at 1-800-645-7911
- DNR Contract Administrator

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

The following clauses provide for payments by Purchaser to the State for breaches of the terms of this contract other than failure to perform. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State, which will be caused by Purchaser's breach. These liquidated damages provisions are agreed to by the State and Purchaser with the understanding of the difficulty of proving loss and the inconvenience or infeasibility of

obtaining an adequate remedy. These liquidated damages provisions provide greater certainty for the Purchaser by allowing the Purchaser to better assess its responsibilities under the contract.

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

D-041 Reserve Tree Excessive Damage

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

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

Mona Griswold
Olympic Region Manager

Print Name

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
Slash Piling Specifications

The areas shall be piled by creating circular piles of slash and brush conforming to the following specifications:

1. Piles shall be a minimum of 12 feet tall by 8 feet wide to a maximum of 30 feet tall and 16 feet wide. Piles shall be cone shaped and stable.
2. Piles shall be free of topsoil, large rotten logs and large stumps. No material larger than 8 inches in diameter shall be piled. Any burnable material shall be well scattered.
3. Piles shall not be placed on large stumps or logs.
4. Piles shall be stacked a minimum of 50 feet from all unit boundaries, Riparian Management Zones, leave trees, and any standing timber; a minimum of 100 feet from any public roads and highways; and a minimum of 200 feet from any structures.
5. Piling shall be completed using an approved hydraulic shovel and grapples.
6. Slash and displaced soil shall be removed from swales, irrigation ditches, natural drainage channels, and access roads concurrent with yarding.
7. Purchaser may remove slash as biofuel.
8. Slash may be placed in skid roads, ahead of machinery, or lopped and scattered throughout the harvest area. Slash which accumulates on landings, roads, and "hazard abatement areas" shall be piled per this schedule. Any changes to the above must be approved by the Contract Administrator.
9. Slash generated during cable yarding shall be stacked in dirt free piles and shall not block roads or interfere with functioning of drainage structures, ditches or stream channels.

Schedule B
Green Tree Retention Plan

Leave the following:

1. All trees banded with blue paint and all leave tree area clumps shall remain standing. The perimeter of the leave tree clumps are designated by Leave Tree Area Tags. The tags face outward from the leave tree clumps.

Unit #	# of Individually Marked Trees	# of Clumps	# of Trees Clumped	Total # of Leave Trees
1	94	5	427	521
2	4	1	7	11
3	60	1	86	146
4	8	0	0	8
5	36	0	0	36

Permission to substitute leave trees must be granted by the Contract Administrator.

Schedule C
BPA Guideline

GUIDELINES FOR LOGGING ACTIVITIES
ON OR NEAR BPA RIGHTS-OF-WAY

The Bonneville Power Administration (BPA) wants to keep you and your logging operation safe. Before conducting logging activities adjacent to or under BPA transmission lines, **contact a BPA regional representative before planning logging activities.**

For assistance in your area, please contact:

The following are special concerns for operations on or near BPA transmission lines:

- Assume all **overhead** transmission lines **are always energized**. BPA transmission lines carry high voltage electricity that can injure or kill if conducted to ground through your equipment, fallen trees, or you.
- Do not leave strips of uncut trees between the cut unit boundary and the BPA right-of-way. Trees located near the edge of the right-of way should be felled away from transmission lines.
- BPA access roads used for timber sale roads shall be kept reasonably free of equipment, forest products, and debris. BPA may need to have road access for emergencies. In this case “reasonably free” means; roads could be cleared within an hour of notice; and roads would be left clear and passable when the timber sale purchaser or contractors leave the area for more than an hour at a time. After project completion, access roads should be in as good or better condition than that which existed prior to the project.
- Logging trucks and equipment should be parked on the right-of-way only during emergencies. When this occurs, the truck/equipment should be grounded with a flexible wire connecting the chassis to a approved ground rod driven into the ground, or by making the connection to ground with a drag chain attached to the truck/equipment chassis.
- Haul roads or skid trail location must be at least 50 feet from the point where the steel tower legs enter the earth. If this clearance cannot be met, use of the road may be permitted if adequate protection barriers for BPA structures are provided by the use of guard devices (guard rails, posts, Jersey-type barriers, etc.). If guard devices are used, their location and design must be approved by BPA to assure they will protect the structure from vehicle and logging activity incursions.
- Yarders used near the transmission lines should be grounded with approved copper wire attached to an approved copper rod pounded six to eight feet in the ground. Skyline cables should be grounded as described above at the tail hold. Chokers should be allowed to contact mineral earth prior to contacting any personal and equipment. Track mounted equipment is recommended for use near

transmission lines to promote "drain off" of induced voltage. If rubber tire machines are used, a chain should be used to drain off voltage. Maintain a minimum separation of 25 feet between transmission line conductors and equipment, personnel, and machinery.

- No high-lead or skyline yarding across/perpendicular to the power line right-of-way.
- Avoid loaded helicopter flights over transmission facilities. If necessary fly at right angles to the line and cross at a tower location (for better visibility), maintaining a minimum clearance of 100 feet.
- No slash or debris burning on or near the right-of-way. Concentrated columns of smoke from slash burning off right-of-way should be avoided in order to prevent electrical arc. Burning necessary or authorized by the Regional Forest Service District adjacent to the right-of-way will be discussed with BPA District Maintenance personnel prior to writing the burn plan.
- No log decking or storage of logs on the transmission line right-of-way. No storage of flammable materials on the right-of-way. No personal carrying of flammable material on the right-of-way.
- No loading of logging trucks on the right-of-way. Logging trucks shall not be loaded to a height greater than 14 feet above the roadbed when traveling underneath the line.
- No fueling of vehicles or equipment on the right-of-way.
- If a tree comes in contact with the transmission line, DO NOT ATTEMPT TO REMOVE IT. Quickly remove personnel from the immediate area. Immediately contact BPA Dittmer Dispatch Center, 24 hours per day, 7 days per week: **(800) 392-0816**.
- If a wildfire occurs on or near the right-of-way, contact BPA Dittmer Dispatch Center immediately, 24 hours per day, 7 days per week: (800) 392-0816
- For extreme safety hazard trees near the transmission line, and with advance notification, BPA may be able to provide personnel at the work site.



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: On the Line	Region: Olympic
Agreement #: 30-TBD	District: Straits
Contact Forester: John Schmeltz Phone / Location: 360-640-3308/ PAWC	County(s): Choose a county, Clallam
Alternate Contact: Ben Stein Phone / Location: 360-640-8794/ PAWC	Other information: Click here to enter text.

Type of Sale: Lump Sum	
Harvest System: Ground based Click here to enter text.	100%
Harvest System: Uphill Cable Click here to enter text.	0%

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determinatio n (List method and error of closure if applicable)
				RMZ/ WMZ/wetla nd Acres	Leave Tree Acres	Existing Road Acres	Other Acres		
1	Sec 31 T31N R09W	01	95	22	5	0	-	62	GPS (Garmin)
2	Sec 31 T31N R09W	01	6	5	0	0	-	1	GPS (Garmin)
3	Sec 06 T30N R09W	01	46	26	1	1	-	18	GPS (Garmin)
4	Sec 06 T30N R09W	01	3	2	0	0	-	1	GPS (Garmin)
5	Sec 07 T30N R09W	01	7	3	0	0	-	4	GPS (Garmin)
6 (ROW)	Sec 31 T31N R09W	01	1	-	-	-	-	1	
TOTAL ACRES			158	64	6	1	-	87	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	VRH, bound by white timber sale tags, pink flashers, blue paint, existing road and red "take" trees	N/A	Five LTAs with 427 trees, 94 individuals
2	VRH, bound by white timber sale tags, pink flashers, blue paint and existing road	N/A	One LTA with 7 trees, 4 individuals
3	VRH, bound by white timber sale tags, pink flashers, blue paint, and existing road	N/A	One LTAs with 86 trees, 60 individuals
4	VRH, bound by white timber sale tags, pink flashers, blue paint, and existing road	N/A	8 individual leave trees
5	VRH, bound by white timber sale tags, pink flashers, blue paint and existing road	N/A	36 individual leave trees
6 (ROW)	ROW bound with orange Right-of-way tags, pink flashers, orange paint, and orange flagging	N/A	N/A

OTHER PRE-CRUISE INFORMATION:

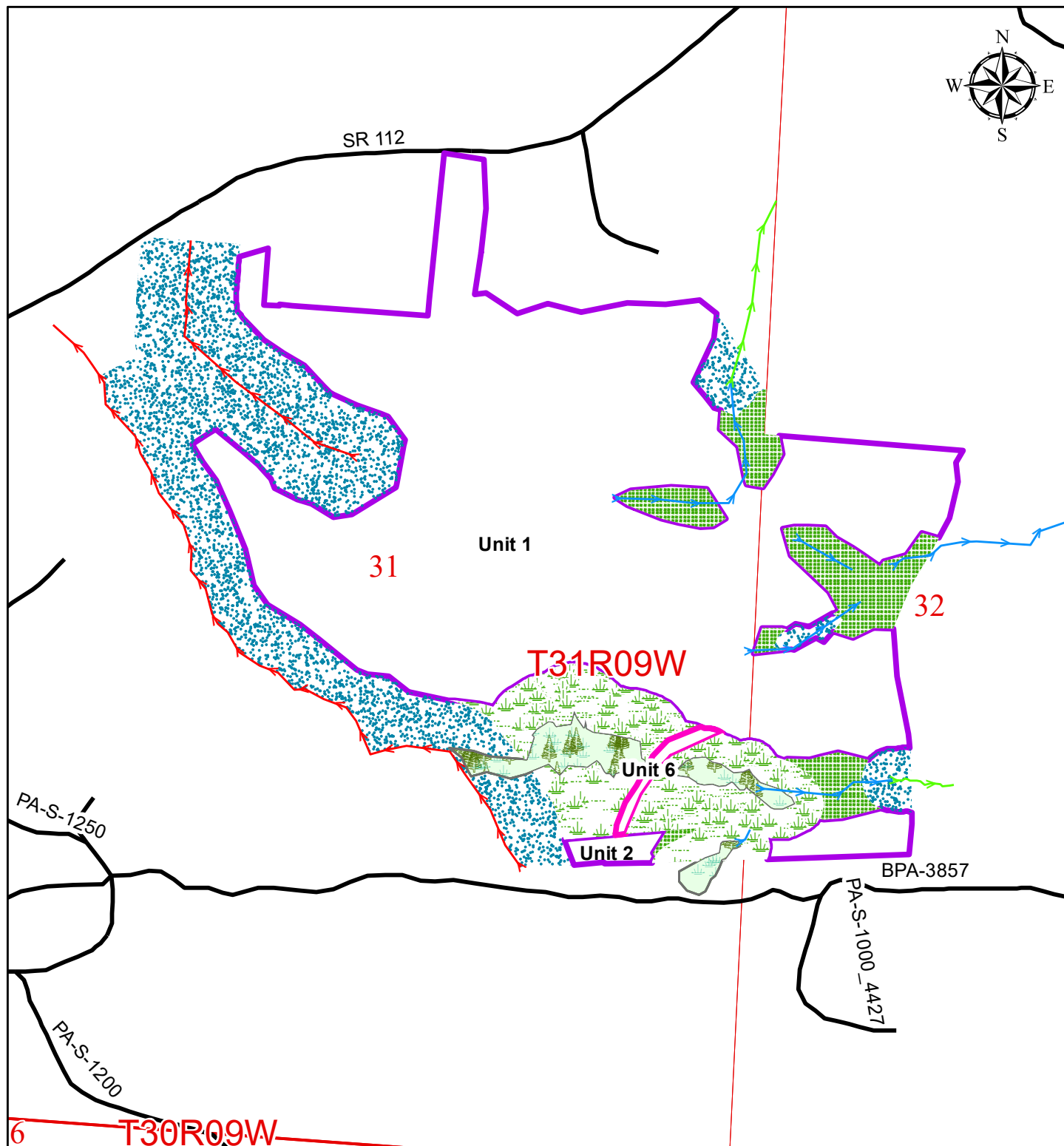
Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	Doug-fir, cedar (1872mbf)	S-1000 (AA-1) road system to BPA-3857	Traverse map
2	Doug-fir, cedar (30mbf)	S-1000 (AA-1) road system to BPA-3857	Traverse map
3	Doug-fir, cedar (546mbf)	S-1000 (AA-1) road system to S-1050	Traverse map
4	Doug-fir, cedar (27mbf)	S-1000 (AA-1) road system to S-1050	Traverse map
5	Doug-fir, cedar (132mbf)	S-1100 road system to S-1150 (AA-1)	Traverse map
6 (ROW)	alder (15mbf)	ROW through WMZ between Units 1 & 2	
TOTAL MBF	2622mbf		

REMARKS:














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Prepared By: Ben Stein Date: 02/11/2021	Title: State Lands Forester	CC:
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On the Line Pre-Cruise Map



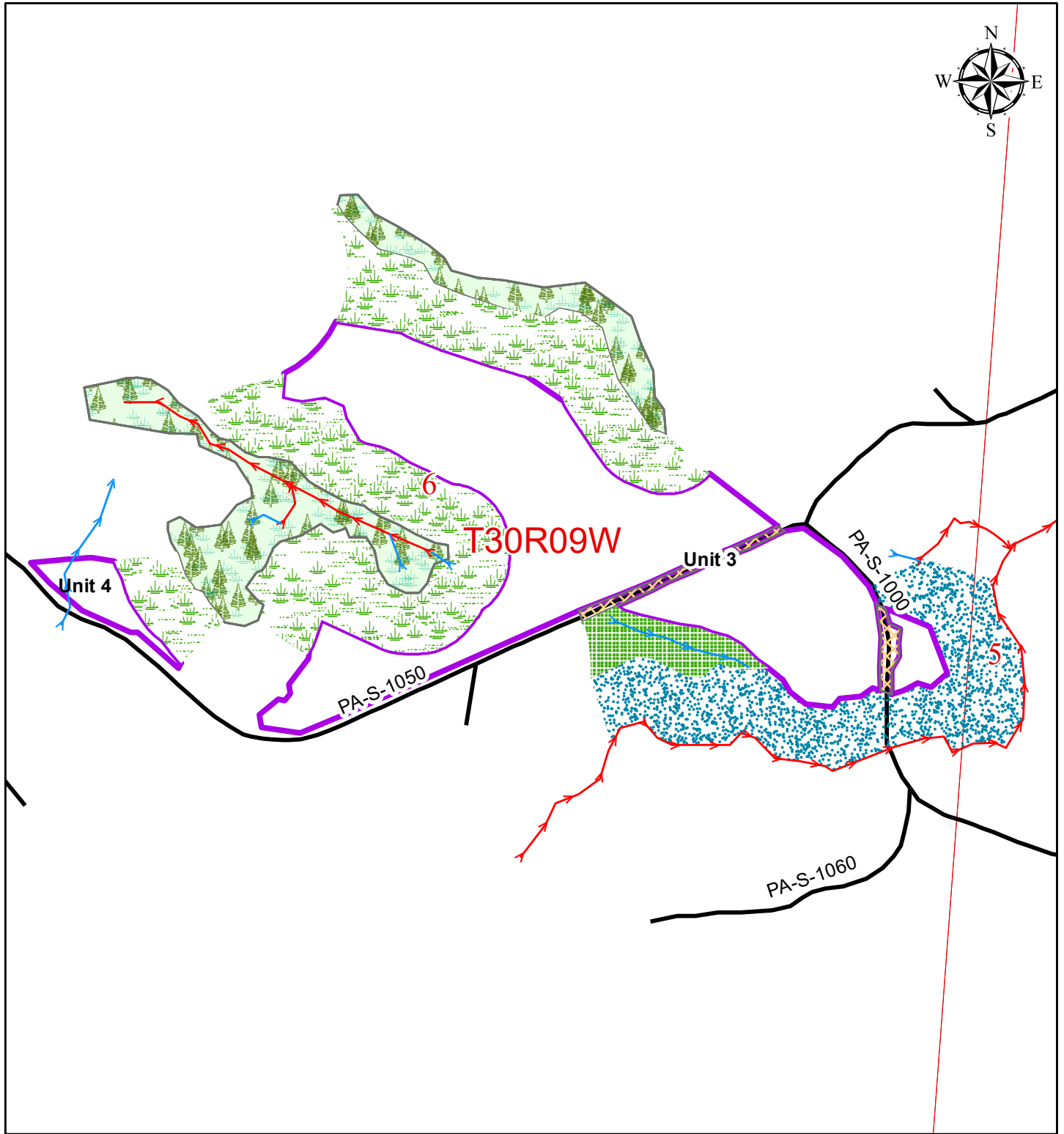
Legend

- | | |
|---|--|
|  VRH |  <all other values> |
|  ROW |  3 |
|  LTA |  4 |
|  Existing Road |  5 |
|  RMZ |  Public Land Survey Townships |
|  WMZ |  Public Land Survey Sections |
|  Wetland | |














0 550 1,100 Feet



On the Line Pre-Cruise Map



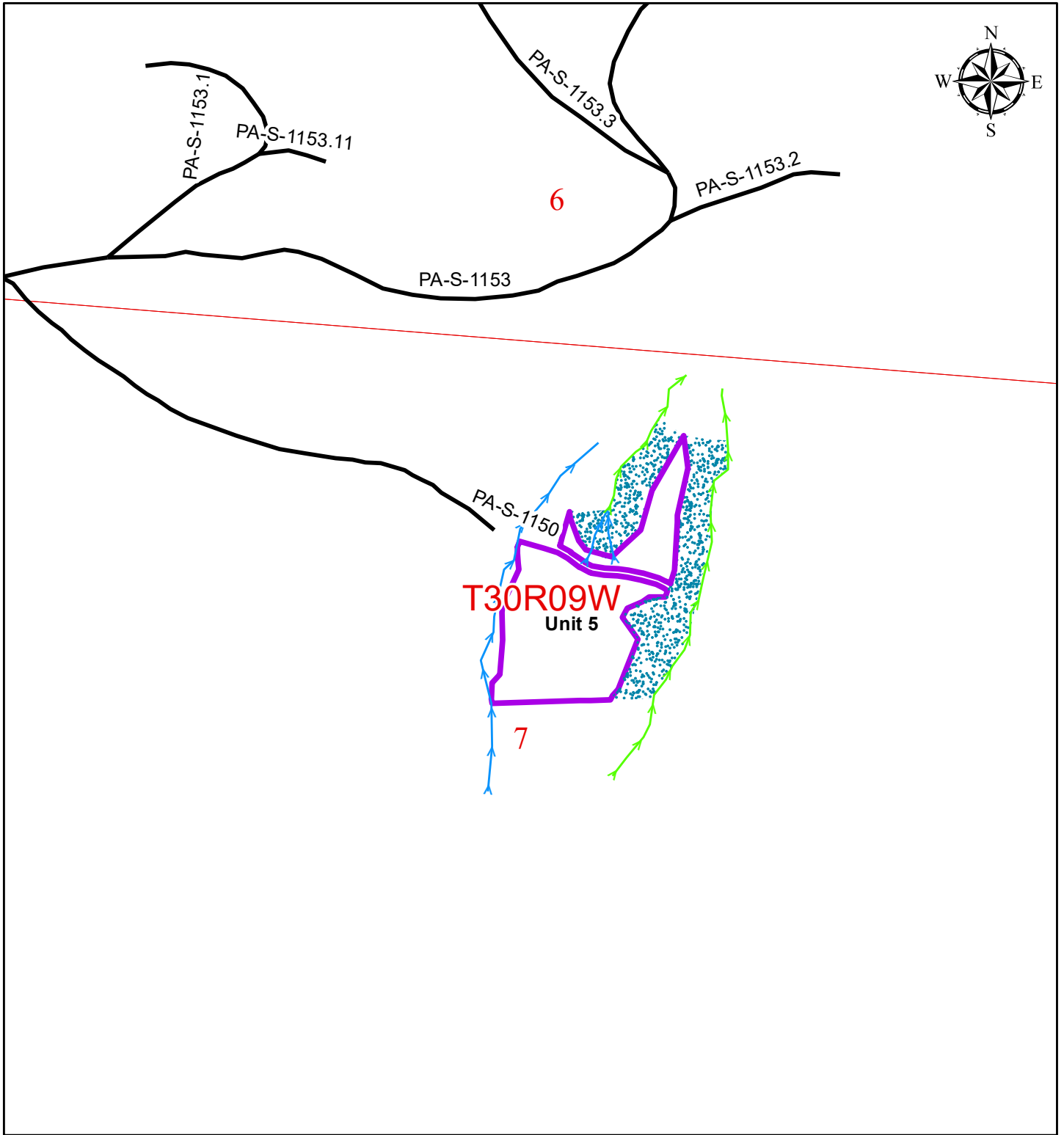
Legend

- | | | | |
|---|---------------|---|------------------------------|
|  | VRH |  | <all other values> |
|  | ROW |  | 3 |
|  | LTA |  | 4 |
|  | Existing Road |  | 5 |
|  | RMZ |  | Public Land Survey Townships |
|  | WMZ |  | Public Land Survey Sections |
|  | Wetland | | |














0 445 890 Feet



On the Line Pre-Cruise Map



Legend

- | | | | |
|---|---------------|---|------------------------------|
|  | VRH |  | <all other values> |
|  | ROW |  | 3 |
|  | LTA |  | 4 |
|  | Existing Road |  | 5 |
|  | RMZ |  | Public Land Survey Townships |
|  | WMZ |  | Public Land Survey Sections |
|  | Wetland | | |

0 445 890 Feet



Timber Sale Cruise Report On The Line

Sale Name: ON THE LINE

Sale Type: LUMP SUM

Region: OLYMPIC

District: STRAITS

Lead Cruiser: Kevin Peterson

Other Cruisers:

Cruise Narrative:

Location:

This sale is located West of Joyce on the S-1000 road system. An AA1 key is needed to access the units

Cruise Design:

This sale used a few different BAF combinations (See cruise report BAFs used) Red Cedar and Red Alder were cruised as minor species.

All logs were cruised in 40' lengths and top diameter was measured at 40% of the diameter at 16'.

Timber Quality:

This sale has a variety of different timber. The larger units have a mixture of large DF and WRC. The smaller units have smaller younger timber and contain some RA.

Some of the DF is high quality

Common defects are sweep, forks and butt rot in the WRC.

Logging and Stand Conditions:

This sale is 100% ground based harvest and is fairly easy to walk around in. There is some areas of dense brush in the units.

Timber Sale Notice Volume (MBF)

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	22.5	8.0		3,683	2,967	546	141	29
WH	19.3			432	200	70	22	139
RA	15.3			422	118	60	214	30
RC	18.9			374		323	51	
SS	22.4			34	30	3		1
ALL	19.9	8.0		4,944	3,315	1,003	428	199

Timber Sale Notice Weight (tons)

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
DF	26,703	20,027	4,607	1,181	888

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
RA	3,942	934	539	2,167	302
WH	3,891	1,715	677	183	1,316
RC	3,386		2,915	471	
SS	311	242	34		34
ALL	38,234	22,919	8,772	4,002	2,540

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 (%)
359.9	6.0	159.1	3.6	58,116	7.1

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
ON THE LINE U1	B2C: VR, 2 BAF (71.11, 54.44 for some species) Measure/Count Plots, Sighting Ht = 0 ft	62.4	62.3	31	15	0
ON THE LINE U2	B2C: VR, 2 BAF (40, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.7	0.7	1	1	0
ON THE LINE U3	B2C: VR, 2 BAF (71.11, 54.44 for some species) Measure/Count Plots, Sighting Ht = 0 ft	18.2	18.2	10	10	0
ON THE LINE U4	B2C: VR, 2 BAF (71.11, 54.44 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.9	0.9	1	1	0
ON THE LINE U5	B2C: VR, 2 BAF (62.5, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	4.4	4.4	3	3	0
ON THE LINE U6	B2C: VR, 2 BAF (71.11, 54.44 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.5	0.5	1	1	0
All		87.1	87.0	47	31	0

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	17.9	40	31,848	29,340	7.8	17,066.9	2,555.5
DF	LIVE	2 SAW	HQ-B	18.3	34	5,262	4,725	10.2	2,960.6	411.6
DF	LIVE	3 SAW	Domestic	9.2	38	6,416	6,181	3.6	4,540.0	538.3
DF	LIVE	3 SAW	HQ-B	12.3	34	99	88	12.0	66.5	7.6

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	4 SAW	Domestic	5.8	27	1,631	1,624	0.4	1,181.4	141.4
DF	LIVE	UTILITY	Pulp	2.3	23	333	333	0.0	888.0	29.0
RA	LIVE	2 SAW	Domestic	14.2	30	1,538	1,349	12.3	934.0	117.5
RA	LIVE	3 SAW	Domestic	11.0	38	817	690	15.6	539.4	60.1
RA	LIVE	4 SAW	Domestic	7.3	34	2,559	2,460	3.9	2,167.2	214.3
RA	LIVE	UTILITY	Pulp	3.4	15	342	342	0.0	301.8	29.8
RC	LIVE	3 SAW	Domestic	13.4	35	4,765	3,713	22.1	2,915.4	323.4
RC	LIVE	4 SAW	Domestic	5.2	26	591	581	1.6	471.0	50.6
SS	LIVE	2 SAW	Domestic	13.9	27	366	349	4.5	242.2	30.4
SS	LIVE	3 SAW	Domestic	7.6	38	32	32	0.0	34.3	2.8
SS	LIVE	UTILITY	Pulp	2.1	19	5	5	0.0	34.2	0.4
WH	LIVE	2 SAW	Domestic	15.9	40	2,433	2,295	5.7	1,715.5	199.9
WH	LIVE	3 SAW	Domestic	9.7	38	823	809	1.7	676.7	70.4
WH	LIVE	4 SAW	Domestic	5.7	19	251	251	0.0	182.6	21.8
WH	LIVE	UTILITY	Pulp	5.4	24	1,601	1,601	0.0	1,316.5	139.5

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	Pulp	2.3	22	323	0.0	869.3	28.1
DF	5 - 8	LIVE	Pulp	5.0	32	10	0.0	18.7	0.9
DF	5 - 8	LIVE	Domestic	6.5	29	3,455	0.9	2,659.3	301.0
DF	9 - 11	LIVE	Domestic	10.3	36	3,990	4.3	2,796.7	347.5
DF	12 - 14	LIVE	Domestic	13.3	39	4,138	5.7	2,697.1	360.4
DF	12 - 14	LIVE	HQ-B	13.6	34	852	6.1	610.1	74.2
DF	15 - 19	LIVE	Domestic	16.7	40	9,917	7.8	6,018.4	863.7
DF	15 - 19	LIVE	HQ-B	17.6	34	1,875	9.0	1,161.7	163.3
DF	20+	LIVE	HQ-B	23.0	34	2,086	12.8	1,255.2	181.7
DF	20+	LIVE	Domestic	23.2	40	15,645	8.4	8,616.7	1,362.7
RA	< 5	LIVE	Pulp	2.3	16	93	0.0	154.3	8.1
RA	5 - 8	LIVE	Pulp	5.1	18	223	0.0	129.5	19.4
RA	5 - 8	LIVE	Domestic	6.4	34	1,999	2.4	1,797.2	174.1
RA	9 - 11	LIVE	Pulp	9.0	12	27	0.0	17.9	2.3
RA	9 - 11	LIVE	Domestic	10.4	37	1,024	11.7	811.9	89.2
RA	12 - 14	LIVE	Domestic	12.6	33	810	14.3	609.8	70.6
RA	15 - 19	LIVE	Domestic	16.1	29	665	12.7	421.6	57.9
RC	5 - 8	LIVE	Domestic	5.6	27	792	3.4	671.5	69.0
RC	9 - 11	LIVE	Domestic	10.3	34	582	6.8	411.6	50.6

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
RC	12 - 14	LIVE	Domestic	13.1	35	401	26.1	401.5	34.9
RC	15 - 19	LIVE	Domestic	16.5	36	1,390	18.1	992.7	121.0
RC	20+	LIVE	Domestic	23.8	36	1,131	32.4	909.0	98.5
SS	< 5	LIVE	Pulp	2.1	18	5	0.0	34.2	0.4
SS	5 - 8	LIVE	Domestic	7.6	38	32	0.0	34.3	2.8
SS	12 - 14	LIVE	Domestic	13.5	24	198	0.0	136.2	17.2
SS	15 - 19	LIVE	Domestic	15.7	40	151	9.9	106.0	13.2
WH	< 5	LIVE	Pulp	2.0	17	35	0.0	121.6	3.1
WH	5 - 8	LIVE	Pulp	5.3	19	353	0.0	356.7	30.8
WH	5 - 8	LIVE	Domestic	5.7	23	269	0.0	202.4	23.5
WH	9 - 11	LIVE	Domestic	10.7	40	790	1.7	657.0	68.8
WH	12 - 14	LIVE	Domestic	13.8	39	283	9.8	239.2	24.6
WH	15 - 19	LIVE	Pulp	15.2	40	1,213	0.0	838.2	105.7
WH	15 - 19	LIVE	Domestic	17.0	40	1,857	4.6	1,351.9	161.8
WH	20+	LIVE	Domestic	24.3	40	155	10.0	124.4	13.5

Cruise Unit Report ON THE LINE U1

Unit Sale Notice Volume (MBF): ON THE LINE U1

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	22.6			3,151	2,566	444	116	25
RA	15.1			309	87	11	183	28
WH	23.0			268	106	35		128
RC	18.6			255		215	40	
SS	21.0			18	17			0
ALL	20.4			4,000	2,776	705	338	182

Unit Cruise Design: ON THE LINE U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (71.11, 54.44 for some species) Measure/Count Plots, Sighting Ht = 0 ft	62.4	62.3	31	15	0

Unit Cruise Summary: ON THE LINE U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	50	113	3.6	2
RA	11	27	0.9	0
WH	2	12	0.4	0
RC	16	28	0.9	0
SS	1	2	0.1	0
ALL	80	182	5.9	2

Unit Cruise Statistics (Cut + Leave Trees): ON THE LINE 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	258.1	69.5	12.5	200.9	26.4	3.7	51,871	74.3	13.0
RA	47.4	167.0	30.0	104.5	21.2	6.4	4,957	168.4	30.7
WH	27.5	158.9	28.5	156.0	7.9	5.6	4,293	159.1	29.1
RC	49.2	122.5	22.0	86.1	51.2	12.8	4,236	132.7	25.4
SS	4.6	387.1	69.5	61.5	0.0	0.0	282	387.1	69.5
ALL	386.8	35.8	6.4	169.7	41.2	4.6	65,640	54.6	7.9

Unit Summary: ON THE LINE U1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	50	ALL	22.6	93	118	54,401	50,489	7.2	90.2	251.3	52.9	3,150.5
RA	LIVE	CUT	11	ALL	15.1	65	80	5,295	4,957	6.4	38.1	47.4	12.2	309.3
RC	LIVE	CUT	16	ALL	18.6	48	59	5,104	4,085	20.0	25.1	47.4	11.0	254.9
SS	LIVE	CUT	1	ALL	21.0	40	48	282	282	0.0	1.9	4.6	1.0	17.6
WH	LIVE	CUT	2	ALL	23.0	87	109	4,293	4,293	0.0	9.5	27.5	5.7	267.9
ALL	LIVE	CUT	80	ALL	20.5	79	99	69,375	64,106	7.6	164.8	378.2	82.8	4,000.2
ALL	ALL	ALL	80	ALL	20.5	79	99	69,375	64,106	7.6	164.8	378.2	82.8	4,000.2

Cruise Unit Report ON THE LINE U2

Unit Sale Notice Volume (MBF): ON THE LINE U2

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	4 Saw	Utility
RA	11.3			3	3	0
ALL	11.3			3	3	0

Unit Cruise Design: ON THE LINE U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (40, 40 for some species) Measure/ Count Plots, Sighting Ht = 0 ft	0.7	0.7	1	1	0

Unit Cruise Summary: ON THE LINE U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RA	3	3	3.0	0
ALL	3	3	3.0	0

Unit Cruise Statistics (Cut + Leave Trees): ON THE LINE 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 (%)
RA	120.0	0.0	0.0	36.1	66.2	38.2	4,328	66.2	38.2
ALL	120.0	0.0	0.0	36.1	66.2	38.2	4,328	66.2	38.2

Unit Summary: ON THE LINE U2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RA	LIVE	CUT	3	ALL	11.3	40	47	4,583	4,328	5.6	172.3	120.0	35.7	3.0
ALL	LIVE	CUT	3	ALL	11.3	40	47	4,583	4,328	5.6	172.3	120.0	35.7	3.0
ALL	ALL	ALL	3	ALL	11.3	40	47	4,583	4,328	5.6	172.3	120.0	35.7	3.0

Cruise Unit Report ON THE LINE U3

Unit Sale Notice Volume (MBF): ON THE LINE U3

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	22.4	8.0		369	311	41	15	2
RC	19.5			110		101	9	
RA	16.0			100	26	47	27	1
WH	12.8			99	75	8	9	7
SS	24.0			16	13	3		0
ALL	18.0	8.0		694	426	199	60	11

Unit Cruise Design: ON THE LINE U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (71.11, 54.44 for some species) Measure/Count Plots, Sighting Ht = 0 ft	18.2	18.2	10	10	0

Unit Cruise Summary: ON THE LINE U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	17	18	1.8	1
RC	12	12	1.2	0
RA	9	9	0.9	0
WH	6	6	0.6	0
SS	1	1	0.1	0
ALL	45	46	4.6	1

Unit Cruise Statistics (Cut + Leave Trees): ON THE LINE U3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	128.0	77.7	24.6	167.8	22.5	5.5	21,475	80.9	25.2
RC	65.3	134.9	42.7	92.4	29.8	8.6	6,034	138.2	43.5
RA	49.0	225.0	71.1	112.6	14.7	4.9	5,518	225.5	71.3
WH	42.7	116.5	36.9	127.4	50.7	20.7	5,437	127.1	42.3
SS	7.1	316.2	100.0	124.1	0.0	0.0	883	316.2	100.0
ALL	292.1	63.6	20.1	134.7	35.1	5.2	39,347	72.6	20.8

Unit Summary: ON THE LINE U3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	17	ALL	22.4	63	79	22,204	20,282	8.7	44.2	120.9	25.5	369.1
RA	LIVE	CUT	9	ALL	16.0	69	85	6,249	5,518	11.7	35.1	49.0	12.2	100.4
RC	LIVE	CUT	12	ALL	19.5	52	64	7,510	6,034	19.7	31.5	65.3	14.8	109.8
SS	LIVE	CUT	1	ALL	24.0	80	102	962	883	8.2	2.3	7.1	1.5	16.1
WH	LIVE	CUT	6	ALL	12.8	33	39	5,951	5,437	8.6	47.7	42.7	11.9	99.0
ALL	LIVE	CUT	45	ALL	18.0	53	66	42,876	38,154	11.0	160.8	285.0	65.9	694.4
ALL	ALL	ALL	45	ALL	18.0	53	66	42,876	38,154	11.0	160.8	285.0	65.9	694.4

Cruise Unit Report ON THE LINE U4

Unit Sale Notice Volume (MBF): ON THE LINE U4

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	25.0			22	14	6	1	0
WH	10.7			14	7	3	1	4
ALL	13.9			35	21	9	2	4

Unit Cruise Design: ON THE LINE U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (71.11, 54.44 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.9	0.9	1	1	0

Unit Cruise Summary: ON THE LINE U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	2	2	2.0	0
WH	2	2	2.0	0
ALL	4	4	4.0	0

Unit Cruise Statistics (Cut + Leave Trees): ON THE LINE 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	142.2	0.0	0.0	168.2	2.1	1.5	23,928	2.1	1.5
WH	142.2	0.0	0.0	108.5	70.5	49.8	15,430	70.5	49.8
ALL	284.4	0.0	0.0	138.4	40.5	20.3	39,358	40.5	20.3

Unit Summary: ON THE LINE U4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	25.0	100	128	25,868	23,928	7.5	41.7	142.2	28.4	21.5
WH	LIVE	CUT	2	ALL	10.7	32	38	17,131	15,430	9.9	227.8	142.2	43.5	13.9
ALL	LIVE	CUT	4	ALL	13.9	43	52	42,999	39,358	8.5	269.5	284.4	71.9	35.4
ALL	ALL	ALL	4	ALL	13.9	43	52	42,999	39,358	8.5	269.5	284.4	71.9	35.4

Cruise Unit Report ON THE LINE U5

Unit Sale Notice Volume (MBF): ON THE LINE U5

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	20.8			137	72	54	9	2
WH	12.8			46	8	24	13	1
RA	18.0			6	4		1	0
RC	18.0			5		4	1	
ALL	17.3			193	85	82	24	3

Unit Cruise Design: ON THE LINE U5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (62.5, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	4.4	4.4	3	3	0

Unit Cruise Summary: ON THE LINE U5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	10	10	3.3	0
WH	4	4	1.3	0
RA	1	1	0.3	0
RC	1	1	0.3	0
ALL	16	16	5.3	0

Unit Cruise Statistics (Cut + Leave Trees): ON THE LINE 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	208.3	45.8	26.5	149.6	18.1	5.7	31,167	49.3	27.1
WH	83.3	43.3	25.0	124.5	21.6	10.8	10,377	48.4	27.2
RA	13.3	173.2	100.0	97.9	0.0	0.0	1,305	173.2	100.0
RC	13.3	173.2	100.0	82.1	0.0	0.0	1,094	173.2	100.0
ALL	318.3	19.9	11.5	138.0	23.3	5.8	43,943	30.6	12.9

Unit Summary: ON THE LINE U5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	10	ALL	20.8	89	113	32,598	31,167	4.4	88.3	208.3	45.7	137.1
RA	LIVE	CUT	1	ALL	18.0	75	93	1,577	1,305	17.2	7.5	13.3	3.1	5.7
RC	LIVE	CUT	1	ALL	18.0	74	94	1,328	1,094	17.6	7.5	13.3	3.1	4.8
WH	LIVE	CUT	4	ALL	12.8	56	69	10,716	10,377	3.2	93.3	83.3	23.3	45.7
ALL	LIVE	CUT	16	ALL	17.2	72	91	46,219	43,943	4.9	196.6	318.2	75.2	193.3
ALL	ALL	ALL	16	ALL	17.2	72	91	46,219	43,943	4.9	196.6	318.2	75.2	193.3

Cruise Unit Report ON THE LINE U6

Unit Sale Notice Volume (MBF): ON THE LINE U6

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	29.0			5	4	1		0
DF	24.0			5	4	1		0
RC	24.0			5		4	1	
RA	16.0			3		3	1	0
ALL	22.4			18	8	9	1	0

Unit Cruise Design: ON THE LINE U6

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (71.11, 54.44 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.5	0.5	1	1	0

Unit Cruise Summary: ON THE LINE U6

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	1	1	1.0	0
DF	1	1	1.0	0
RC	2	2	2.0	0
RA	1	1	1.0	0
ALL	5	5	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): ON THE LINE 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	71.1	0.0	0.0	147.4	0.0	0.0	10,480	0.0	0.0
DF	71.1	0.0	0.0	145.8	0.0	0.0	10,367	0.0	0.0
RC	108.9	0.0	0.0	83.1	3.7	2.6	9,047	3.7	2.6
RA	54.4	0.0	0.0	112.4	0.0	0.0	6,122	0.0	0.0
ALL	305.5	0.0	0.0	117.9	27.0	12.1	36,016	27.0	12.1

Unit Summary: ON THE LINE U6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	1	ALL	24.0	91	116	10,752	10,367	3.6	22.6	71.1	14.5	5.2
RA	LIVE	CUT	1	ALL	16.0	70	86	7,018	6,122	12.8	39.0	54.4	13.6	3.1
RC	LIVE	CUT	2	ALL	24.0	73	92	10,931	9,047	17.2	34.7	108.9	22.2	4.5
WH	LIVE	CUT	1	ALL	29.0	90	113	12,154	10,480	13.8	15.5	71.1	13.2	5.2
ALL	LIVE	CUT	5	ALL	22.4	78	98	40,855	36,016	11.8	111.8	305.5	63.5	18.0
ALL	ALL	ALL	5	ALL	22.4	78	98	40,855	36,016	11.8	111.8	305.5	63.5	18.0



Forest Practices Application/Notification
Notice of Decision

FPA/N No: 2616975

Effective Date: 5/21/2021

Expiration Date: 5/21/2024

Shut Down Zone: 653S

EARR Tax Credit: Eligible Non-eligible

Reference: DNR.
On The Line

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.
- Withdrawn** Applicant has withdrawn the Forest Practices Application/Notification (FPA/N).
- Closed** All forest practices obligations are met.

FPA/N Classification

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

Number of Years Granted on Multi-Year Request

- 4 years
- 5 years

Conditions on Approval/Reasons for Disapproval

[Empty box for conditions on approval or reasons for disapproval]

Issued By: Erik Dukes

Region: Olympic

Title: Forest Practice Forester

Date: 5/21/2021

Copies to: Landowner, Timber Owner Operator

Issued in person: Landowner Timber Owner Operator

By: 
Katelynn McGoff

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 Olympic Region
<u>Physical Address</u> 1111 Israel Road, SW Suite 301 Tumwater, WA 98501 <u>Mailing address</u> Post Office Box 40903 Olympia, WA 98504-0903	<u>Physical Address</u> 1125 Washington Street, SE Olympia, WA 98504 <u>Mailing Address</u> Post Office Box 40100 Olympia, WA 98504-0100	<u>Physical & Mailing Address</u> 411 Tillicum Lane Forks, WA 98331

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 <https://www.dnr.wa.gov/programs-and-services/forest-practices/review-applications-fpars/forest-practices-forms-and>. 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 Click here to enter a date., I placed in the United States mail at **Forks**, WA, postage paid, a true and accurate copy of this document. Notice of Decision FPA #**2616975**

(Printed Name)

(Signature)

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

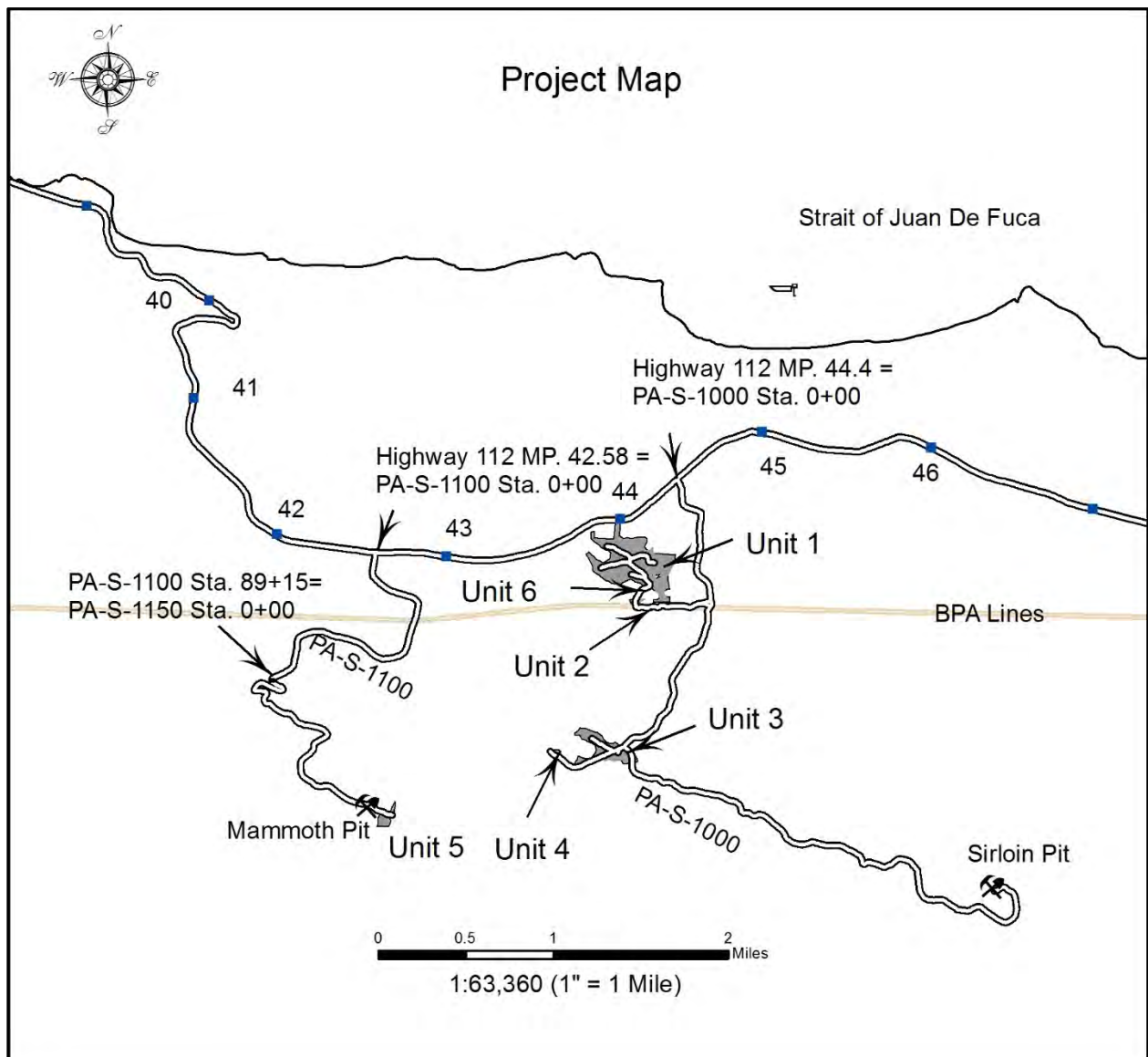
ON THE LINE TIMBER SALE ROAD PLAN
CLALLAM COUNTY
STRAITS DISTRICT
OLYMPIC REGION

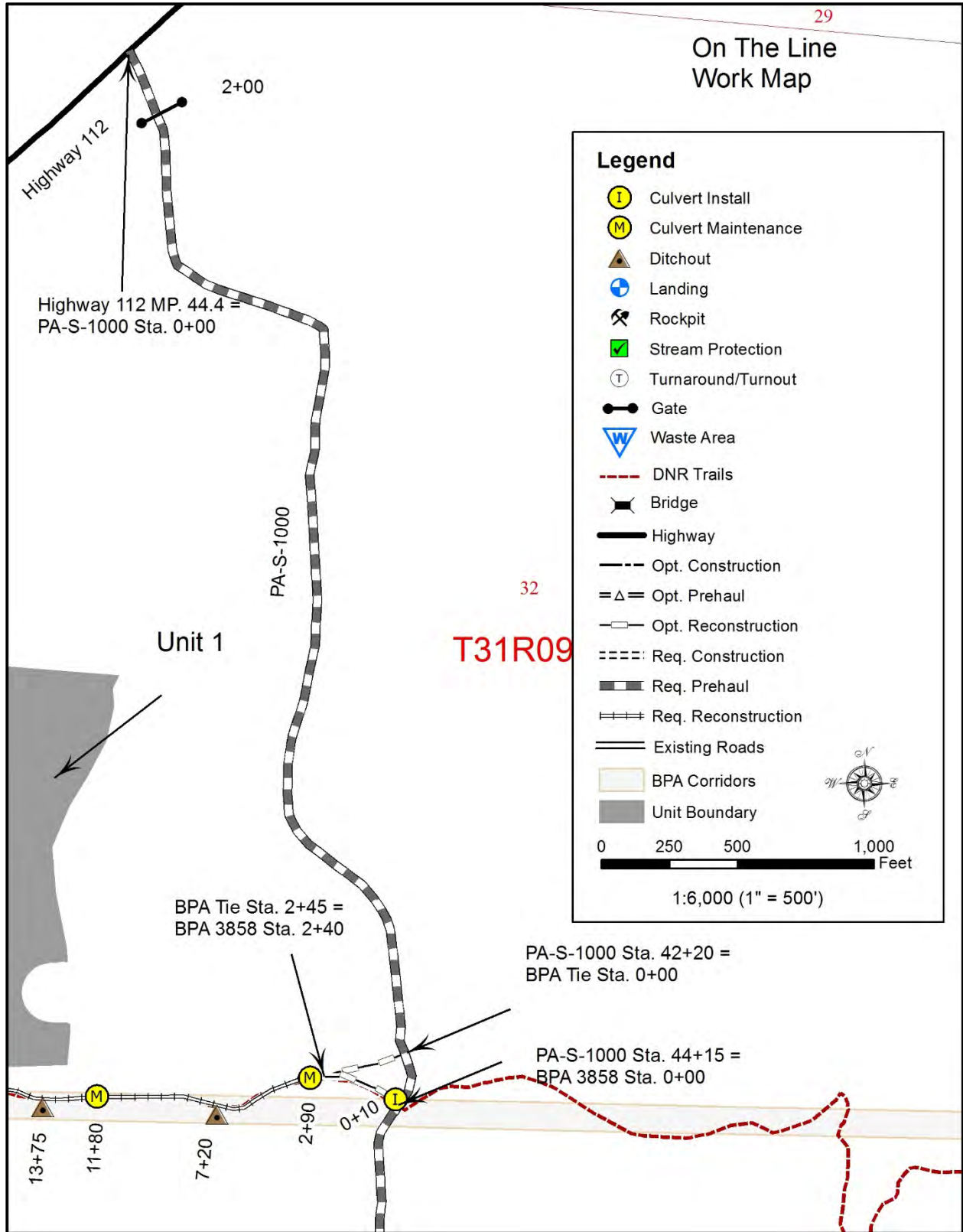
AGREEMENT NO.: 30-102018

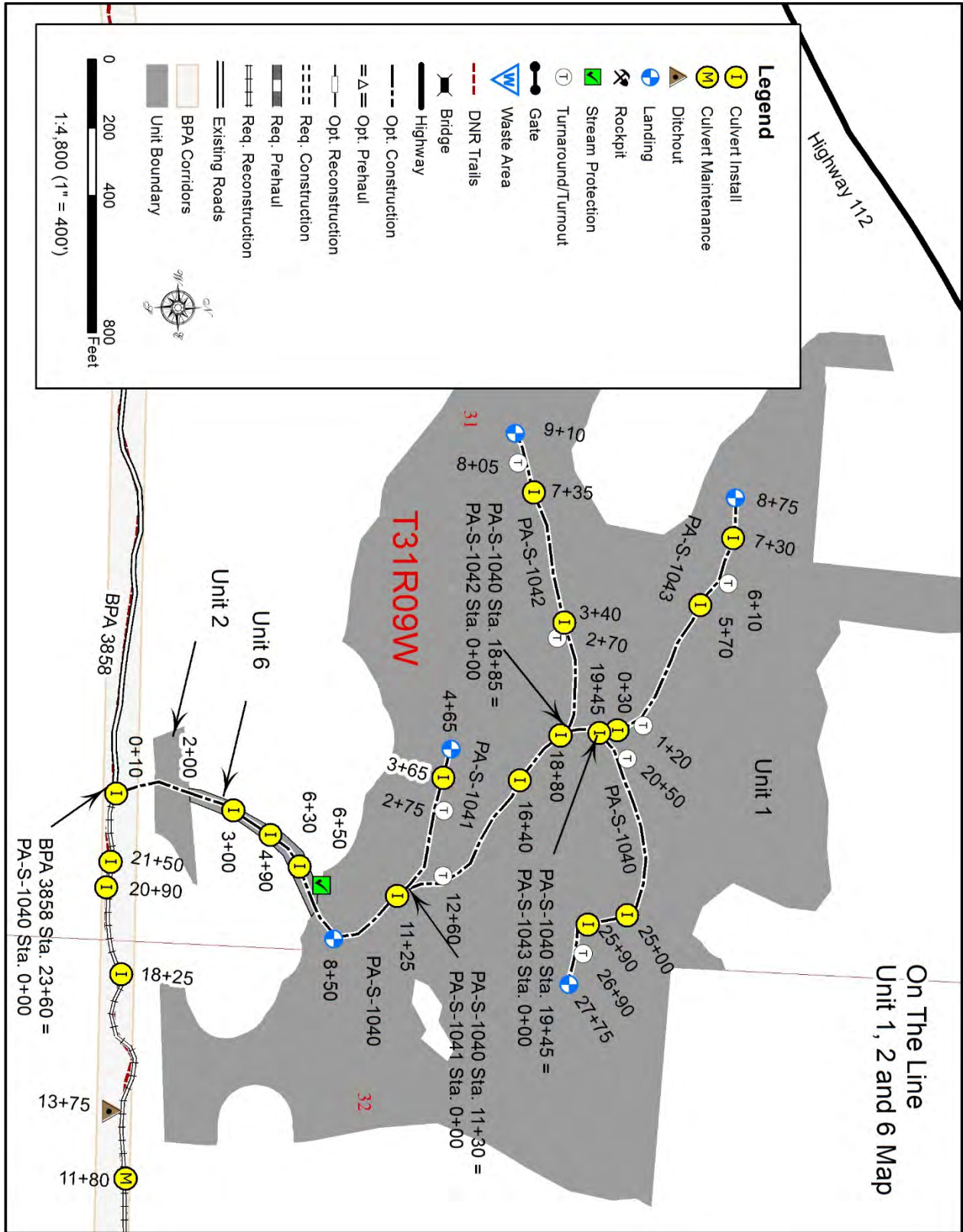
DISTRICT ENGINEER: GREG ELLIS

DATE: 3/2/2021

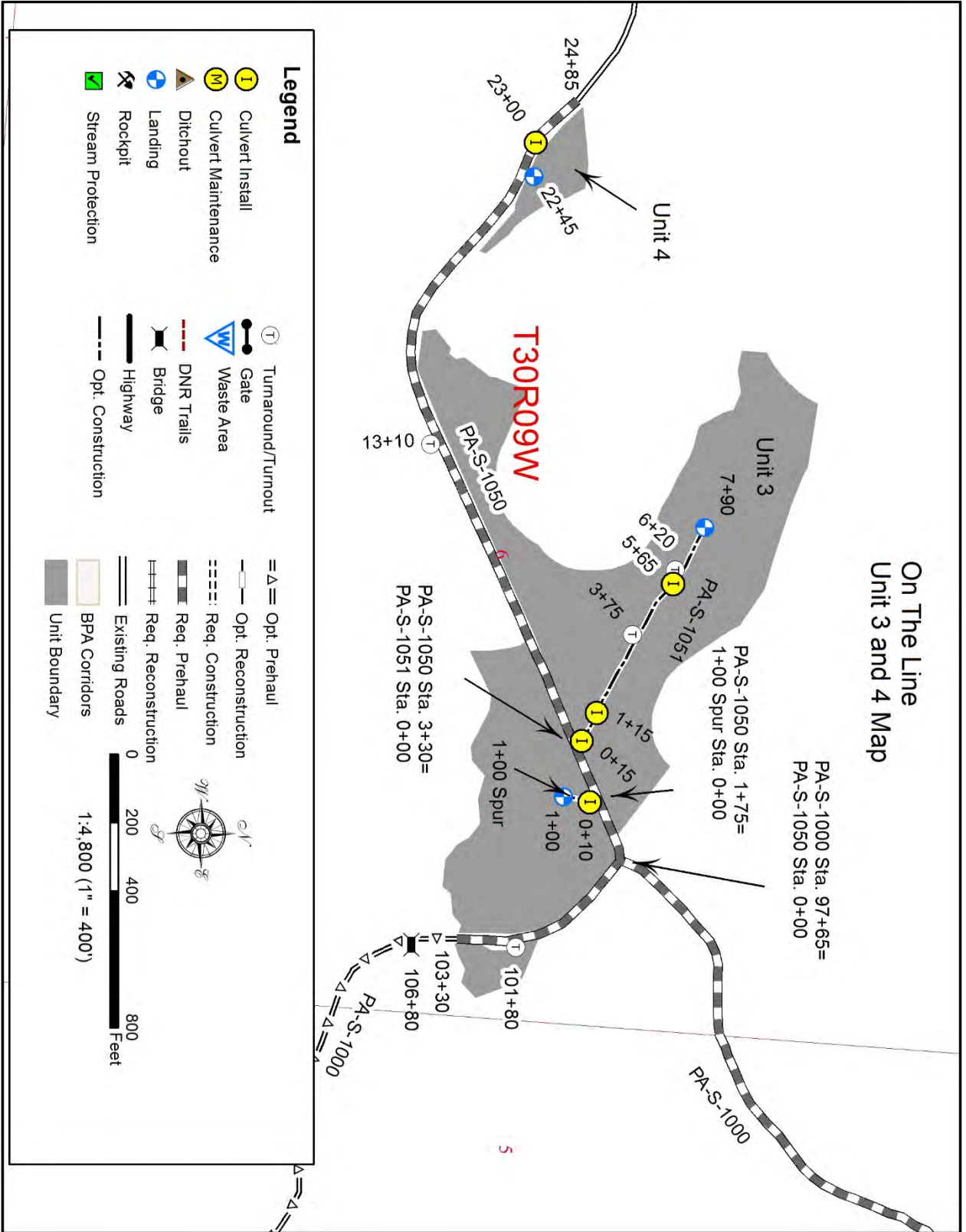
DRAWN & COMPILED BY: GREG ELLIS

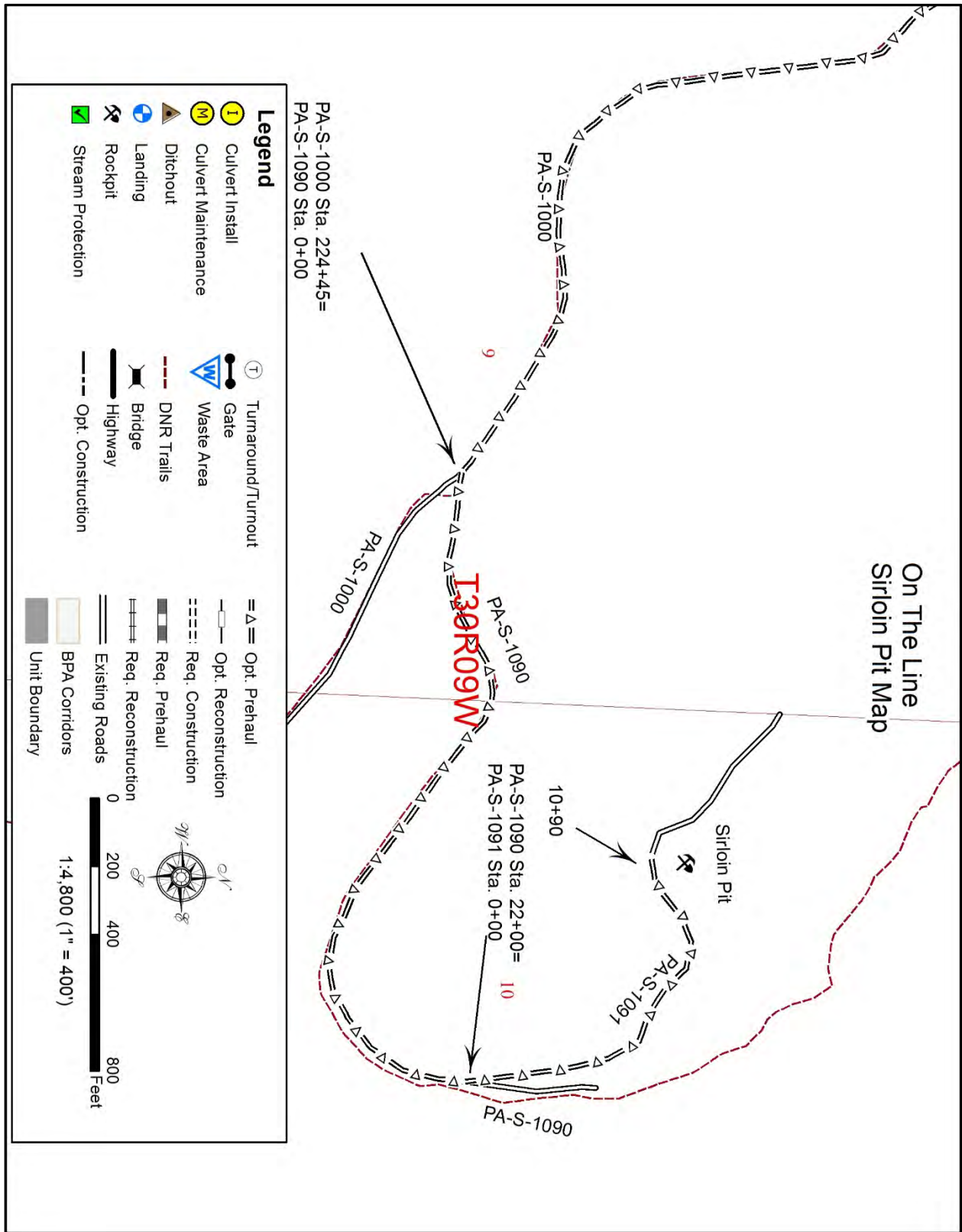


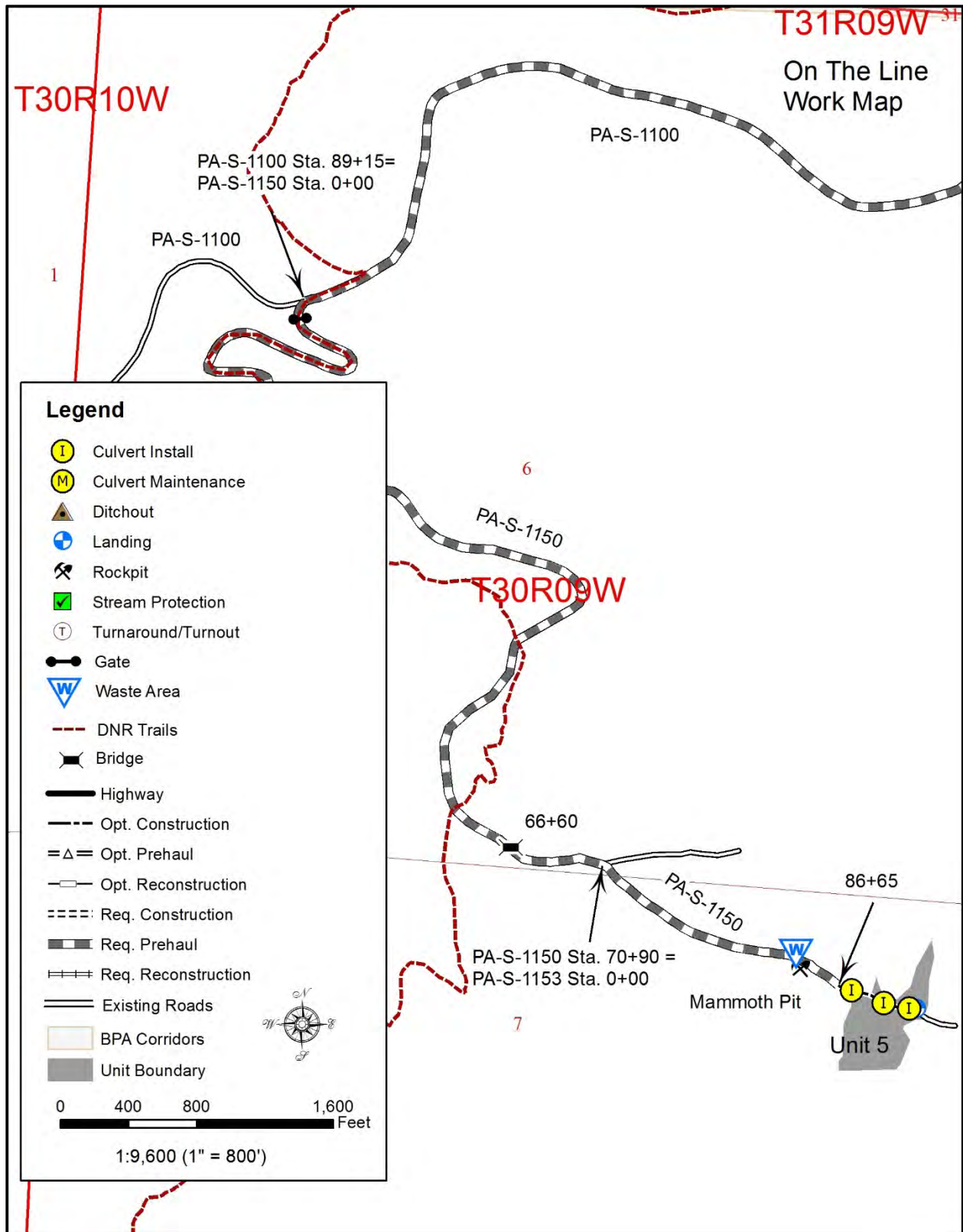




On The Line Unit 3 and 4 Map







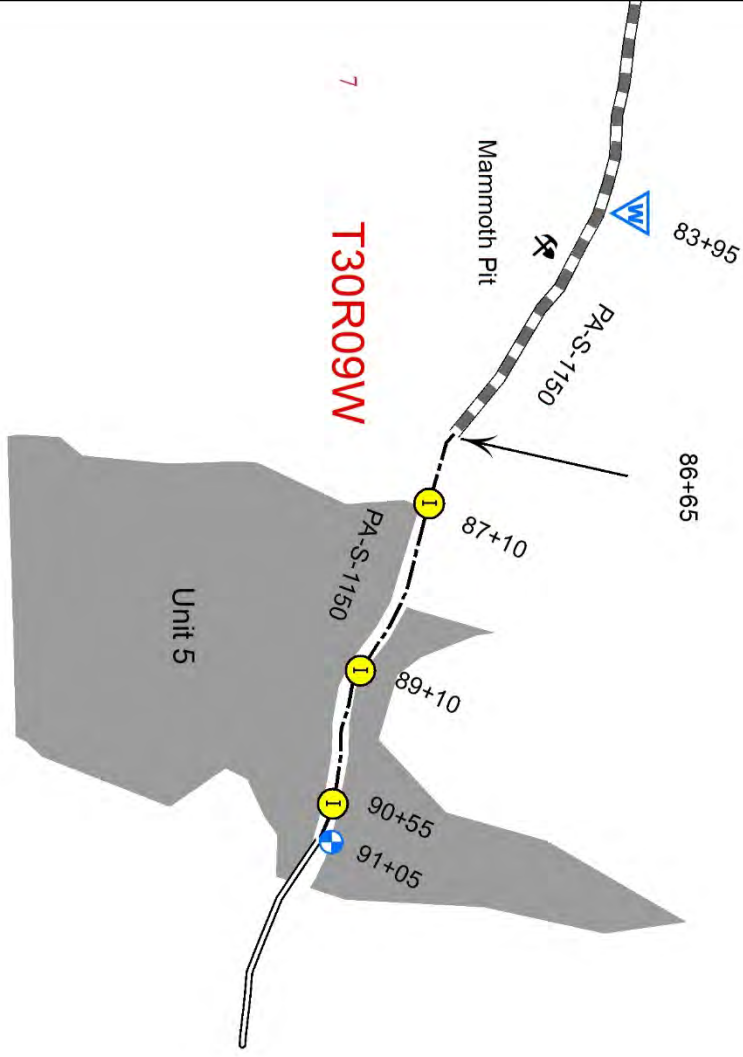
6
On The Line
Unit 5 Map

Legend

- Culvert Install
- Culvert Maintenance
- Ditchout
- Landing
- Rockpit
- Stream Protection
- Turnaround/Turnout
- Gate
- Waste Area
- DNR Trails
- Bridge
- Highway
- Opt. Construction
- Opt. Prehaul
- Opt. Reconstruction
- Req. Construction
- Req. Prehaul
- Req. Reconstruction
- Existing Roads
- BPA Corridors
- Unit Boundary

0 100 200 400 Feet

1:2,400 (1" = 200')



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>
PA-S-1000	0+00 – 103+30	Pre-Haul Maintenance
BPA - 3858	2+40 – 23+60	Reconstruction
PA-S-1050	0+00 – 24+85	Pre-Haul Maintenance
PA-S-1100	0+00 – 89+15	Pre-Haul Maintenance
PA-S-1150	0+00 – 86+65	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>
PA-S-1000	103+30 – 224+45	Pre-Haul Maintenance
BPA Tie	0+00 – 2+45	Reconstruction
BPA - 3858	0+00 – 2+40	Reconstruction
PA-S-1040	0+00 – 27+75	Construction
PA-S-1041	0+00 – 4+65	Construction
PA-S-1042	0+00 – 9+10	Construction
PA-S-1043	0+00 – 8+75	Construction
1+00 Spur	0+00 – 1+00	Construction
PA-S-1051	0+00 – 7+90	Construction
PA-S-1090	0+00 – 22+00	Pre-Haul Maintenance
PA-S-1091	0+00 – 10+90	Pre-Haul Maintenance
PA-S-1150	86+65 – 91+05	Construction

0-4 CONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
PA-S-1040	0+00 – 27+75	See Below
PA-S-1041	0+00 – 4+65	
PA-S-1042	0+00 – 9+10	
PA-S-1043	0+00 – 8+75	
1+00 Spur	0+00 – 1+00	

PA-S-1051	0+00 – 7+90	
PA-S-1150	86+65 – 91+05	
Total Stations	63.55 Stations	

Construction includes, but is not limited to: Clearing, grubbing, right-of-way debris disposal, excavation and/or embankment to subgrade, end hauling material for construction, compacting road surfaces, constructing ditchlines, constructing ditchouts, constructing turnouts and turnarounds, curve widening, acquisition and installation of drainage structures, application of rock, spreading grass seed and hay.

0-5 RECONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
BPA Tie	0+00 – 2+45	See Below
BPA-3858	0+00 – 2+40	
BPA-3858	2+40 – 23+60	
Total Stations	26.05 Stations	

Reconstruction includes, but is not limited to: Removal of all vegetative material with minimum loss of rock and dispose of in accordance with Clause 2-9 and Clause 3-23. Cleaning ditches and constructing ditches, constructing headwalls, cleaning culvert inlets and outlets in accordance with Clause 2-6 and Clause 2-7. Installing additional culverts and replacing culverts in accordance with the culvert list. Grading, shaping and compacting existing road surface, turnouts and turnaround in accordance with Clause 2-5, realigning road segments, spreading grass seed and hay, and the application of rock in accordance with the Rock List.

0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
PA-S-1000	0+00 – 103+30	Grade, shape and compact existing running surface in accordance to Clause 2-5 as directed by contract administrator and apply rock in accordance with Rock List, perform gate maintenance in accordance with Clause 7-75 and add turnouts/turnarounds.
PA-S-1000	103+30 – 224+45	Grade, shape and compact existing running surface in accordance to

		Clause 2-5 as directed by contract administrator and apply rock in accordance with Rock List and Brush road in accordance with Clause 3-1.
PA-S-1050	0+00 – 24+85	Grade, shape and compact existing running surface in accordance to Clause 2-5, apply rock in accordance with Rock List, install culverts in accordance with culvert list, clean/construct ditch lines in accordance with Clause 2-7, Brush road in accordance with Clause 3-1, and add turnouts/turnarounds.
PA-S-1090	0+00 – 22+00	Grade, shape and compact existing running surface in accordance to Clause 2-5, apply rock in accordance with Rock List, clean/construct ditch lines in accordance with Clause 2-7 and Brush road in accordance with Clause 3-1.
PA-S-1091	0+00 – 10+90	Grade, shape and compact existing running surface in accordance to Clause 2-5, apply rock in accordance with Rock List, clean/construct ditch lines in accordance with Clause 2-7 and Brush road in accordance with Clause 3-1.
PA-S-1100	0+00 – 89+15	Grade, shape and compact existing running surface in accordance to Clause 2-5 as directed by contract administrator and apply rock in accordance with Rock List.
PA-S-1150	0+00 – 86+65	Grade, shape and compact existing running surface in accordance to Clause 2-5, apply rock in accordance with Rock List and Brush road in accordance with Clause 3-1.
Total Stations	458.00 Stations	

Pre-haul maintenance includes, but is not limited to: Brushing right-of-way, right-of-way debris disposal, cleaning ditches, constructing ditches, installing additional culverts, widening road segments, constructing headwalls, cleaning culvert inlets and outlets, cross drain culvert replacements, installing erosion control materials and sediment

removal structures, spot rocking, grading and shaping existing road surface and turnouts, constructing additional turnouts, compaction of road surface, application of rock, acquisition and application of grass seed and hay.

0-7 POST-HAUL MAINTENANCE

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

0-8 CLOSURE

This project includes road closure listed in Clause 9-15 ROAD CLOSURE.

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source called Sirloin Pit. Rock source development will involve stripping approximately 0.75 acres, drilling and shooting to obtain a minimum of 7200 yds³ of Clean rock Shot Ballast, 300 yds³ of Light Loose Rip Rap and the manufacture of a minimum of 4540 yds³ of 3" minus Jaw Run Rock in accordance with Clause 6-20. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

Purchaser may develop an existing rock source called Mammoth Pit. Rock source development may involve digging, sorting and loading previously shot material to obtain 300 yards of light loose rip rap. Rock not obtained from stockpiles on Rockpit Development Plan shall be approved from Contract Administrator prior to use. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

All rock manufactured out of rock sources listed above shall meet specifications as listed in Section 6 ROCK AND SURFACING. In the event that rock does not meet specifications, which will be determined by the Contract Administrator, a commercial source shall be used at the purchaser's expense meeting listed specifications.

0-13 STRUCTURES

Purchaser shall provide and install all structures. Requirements for these structures are listed in Section 7 STRUCTURES.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

References in this road plan to “WSDOT Standard Specifications” mean the Washington State Department of Transportation’s Standard Specifications for Road, Bridge, and Municipal Construction 2012 (M41-10).

1-12 SURVEY MONUMENTS

At no time during construction, reconstruction, or maintenance shall survey monuments, witness trees, or bearing trees be disturbed or damaged. If damaged or disturbed, Purchaser shall hire a licensed land surveyor to repair, replace, and/or reset them.

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:

- Orange ribbon and paint for construction centerlines.
- Construction stakes for everything else.

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 reconstruction, construction and pre-haul road work before the start of timber haul.

1-21 HAUL APPROVAL

Purchaser shall not use roads under this road plan without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

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

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction
- Drainage installation
- Subgrade compaction
- Rock application
- Rock compaction

SUBSECTION RESTRICTIONS

1-25 ACTIVITY TIMING RESTRICTION

On the following road(s), are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator.

<u>Road</u>	<u>Stations</u>	<u>Activity</u>	<u>Closure Period</u>
All	All	All	Weekends and State Recognized Holidays
All	All	All roadwork activities including Timber Haul	November 1 st – April 30 th
Sirloin Pit	Sirloin Pit	Rock Pit Development	April 1 st – September 23 rd

1-26 OPERATING DURING CLOSURE PERIOD

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

1-27 TIMING RESTRICTION FOR MARBLED MURRELET

On the following road(s), timber felling, road work or operation of heavy equipment performed during the marbled murrelet nesting season (April 1 through September 23), is restricted to, two hours after sunrise to two hours before sunset. This does not apply to hauling timber, rock or equipment.

<u>Road</u>	<u>Stations</u>
PA-S-1090	20+00 – 22+00

PA-S-1091	0+00 – 10+90
PA-S-1150	66+60 – 70+90
Sirloin Pit	All pit work*

*Blasting not allowed from April 1st through September 23

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

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

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

1-32 BRIDGE 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.

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

1-33 SNOW PLOWING RESTRICTION

On all roads, snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact 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.

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.

The following county roads and state highways are affected by this sale:

<u>Road Name</u>
Hwy 112

1-41 REQUIREMENTS FOR PAVED ROAD APPROACHES

Purchaser shall build up approaches to allow a smooth grade transition between the DNR Roads and paved roads. The top of the DNR road surfacing must be kept level with the surface of the paved road at all times. The surface of the DNR road approach must slope from the edge of the paved road at the rate of 2% , unless otherwise directed by the Contract Administrator.

1-42 UTILITY ACCESS ROAD

The following road(s) intersect(s) existing utility access roads. Purchaser shall conduct road work on the intersecting roads so that the utility access roads are accessible at all times.

<u>Road</u>	<u>Stations</u>
PA-S-1000	0+00 – 44+15
BPA - 3858	0+00 – 23+60
PA-S-1100	0+00 – 29+75

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. Purchaser shall notify the utility before starting road work. **BPA Guidelines for Logging Activities shall be followed.**

<u>Road</u>	<u>Stations</u>	<u>Utility</u>	<u>Utility Contact</u>
PA-S-1000	44+00 – 45+50	Overhead BPA	811
BPA - 3858	0+00 – 23+60	Overhead BPA	811
PA-S-1100	28+25 – 29+75	Overhead BPA	811

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-4 PASSAGE OF LIGHT VEHICLES

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

2-5 MAINTENANCE GRADING – EXISTING ROAD

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
PA-S-1000	0+00 – 224+45	Grade, shape, compact and remove shoulder vegetation as required by contract administrator.
PA-S-1050	0+00 – 24+85	Grade, shape, compact and remove shoulder vegetation.

PA-S-1090	0+00 – 22+00	Grade, shape, compact and remove shoulder vegetation.
PA-S-1091	0+00 – 10+90	Grade, shape, compact and remove shoulder vegetation.
PA-S-1100	0+00 – 89+15	Grade, shape, compact and remove shoulder vegetation as required by contract administrator.
PA-S-1150	0+00 – 86+65	Grade, shape, compact and remove shoulder vegetation.

2-6 CLEANING CULVERTS

On the following road(s), Purchaser shall clean the inlets and outlets of all culverts and shall obtain written approval from the Contract Administrator before start of timber haul.

<u>Road</u>	<u>Stations</u>
BPA - 3858	2+90, 11+80

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean and/or construct ditches, headwalls, and catchbasins. Work must be completed before the start of timber haul and must be done in accordance with the Typical Section Sheet. Pulling ditch material across the road or mixing in with the road surface is not allowed. Ditchlines, headwalls, and catch basins shall not encroach into the existing road.

<u>Road</u>	<u>Stations</u>	<u>Left and/or Right</u>	<u>Comments</u>
BPA Tie	0+00 – 2+45	Left and Right	Ditching
BPA - 3858	0+00 – 23+60	Right	Ditching
BPA - 3858	7+20 – 10+10, 13+75 – 23+60	Left	Ditching
PA-S-1040	6+50	Left	Catch Basin Install x 3
PA-S-1050	0+00 – 24+85	Left	Ditching
PA-S-1090	0+00 – 22+00	Left	Ditching
PA-S-1091	0+00 – 10+90	Left	Ditching

2-9 REMOVING VEGETATIVE MATERIAL

On the following road(s), Purchaser shall remove all vegetative material, dirt, mud and other debris on the existing road surface with a minimum loss of rock. Material must be disposed of as specified in Clauses 4-35 through 4-38.

<u>Road</u>	<u>Stations</u>
BPA Tie	0+00 – 2+45

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

SUBSECTION BRUSHING

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 5 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by 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>
PA-S-1000	210+25 – 224+45
PA-S-1050	0+00 – 24+85
PA-S-1090	0+00 – 22+00
PA-S-1091	0+00 – 10+90
PA-S-1150	0+00 – 86+65

3-2 BRUSHING RESTRICTION

Pulling, digging, pushing over, and other non-cutting methods used for vegetation removal may not be used for brushing. Excavator buckets, log loaders and similar equipment may not be used for brushing unless otherwise approved in writing by the Contract Administrator.

3-3 BRUSH REMOVAL

Remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets. Brush should be disposed of so that it will not fall back onto the road prism.

SUBSECTION CLEARING

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 5 inches DBH or over 15 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.

3-7 RIGHT-OF-WAY DECKING

Purchaser shall deck all right-of-way timber. Decks must be parallel to the road centerline and placed within the cleared right-of-way. Decks must be free of dirt, limbs, and other right-of-way debris, and removable by standard log loading equipment from the roadbed.

3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 40%.
- Against standing trees.

SUBSECTION GRUBBING

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Purchaser shall remove stumps using a hydraulic mounted excavator unless authorized in writing by the Contract Administrator. Grubbing must be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the clearing limits, as directed by the Contract Administrator and in compliance with all other clauses in this road plan. Stumps must be positioned upright, with root wads in contact with the forest floor and on stable locations.

3-13 STUMPS FOR PUNCHEON MATERIAL

On the following road(s), stumps from within the grubbing limits may be overturned and driven flush with the ground surface for use as subgrade puncheon material.

Road	Stations
PA-S-1040	4+20 – 5+60
1+00 Spur	0+00 – 1+00
PA-S-1051	0+00 – 7+90

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.

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris are located as listed below.

<u>Road</u>	<u>Stations</u>	<u>Disposal Location</u>	<u>Requirements</u>
PA-S-1150	88+70 – 89+85	Waste Area Location PA-S-1150 Sta. 83+95	Deposit organic waste from Slope Stabilization and road construction into waste area.

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 45%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the grubbing limits in accordance with Clause 3-23 unless otherwise detailed in this road plan and as directed by the Contract Administrator.

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

Purchaser shall use a track mounted hydraulic excavator for construction, reconstruction and maintenance work unless stated otherwise within this Road Plan or authorized in writing by the Contract Administrator.

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. Pioneering may not extend more than 1000 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions must be taken as pioneering progresses:

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 16 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-4 SWITCHBACK STANDARDS

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

Purchaser shall follow these standards for switchbacks:

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

4-5 CUT SLOPE RATIO

Purchaser shall construct excavation slopes no steeper than shown on the following table, unless construction staked or designed:

<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, unless construction staked or designed:

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

SUBSECTION INTERSECTIONS, TURNOUTS AND TURNAROUNDS

4-21 TURNOUTS

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

4-22 TURNAROUNDS

Turnarounds must be no larger than 50 feet long and 30 feet wide. Locations are subject to written approval by the Contract Administrator.

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-27 DITCH WORK – MATERIAL USE PROHIBITED

Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be end hauled to the location specified in Clauses 4-36 through 4-38.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified in the table below and as needed to fit as built conditions. Ditchouts must be constructed in a manner that diverts ditch water onto the forest floor and must have excavation backslopes no steeper than a 1:1 ratio. L or R denotes ditchout left or ditchout right.

<u>Road</u>	<u>Stations</u>	<u>L or R</u>
BPA-3858	7+20, 13+75	L

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. On side slopes greater than 45%, all waste material must be end hauled or pushed to the designated embankment sites subject to approval by the Contract Administrator or their designee.

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in the listed designated areas. The amount of material allowed in a waste area is at the discretion of the Contract Administrator.

Note: All amount values are estimated bank yards.

<u>Waste Area Location</u>	<u>Waste Generated From Road</u>	<u>Waste Generated at Stations</u>	<u>Estimated Volume</u>
PA-S-1150 Sta. 83+95	PA-S-1150	88+70 - 89+85	300 CY

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

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

4-39 WASTE AREA COMPACTION

Excavated material may be deposited adjacent to the road prism on side slopes up to 45% if the waste material is compacted and free of debris. On side slopes of 45% or more, all excavation shall be end hauled or pushed to designated waste areas. All waste material shall be compacted. The minimum acceptable compaction is achieved by placing embankments in 2 foot or shallower lifts and routing excavation equipment over the entire width of the lifts, with the exception of side hill embankments too narrow to accommodate excavation equipment which may be placed by end-dumping or sidecasting until sufficiently wide to support the equipment.

SUBSECTION BORROW

4-47 NATIVE MATERIAL

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 12 inches in any dimension.

4-48 BORROW MATERIAL

Borrow material may not contain more than 5% clay, organic debris, or trash by volume.

SUBSECTION SHAPING

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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. A plate compactor must be used for areas specifically requiring keyed embankment construction and for embankment segments too narrow to accommodate equipment.

4-61 SUBGRADE COMPACTION

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

4-62 DRY WEATHER COMPACTION

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

4-63 EXISTING SURFACE COMPACTION

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

4-64 WASTE MATERIAL COMPACTION

All waste material shall be compacted by running equipment over it or bucket tamping.

4-65 CULVERT BACKFILL COMPACTION

Culvert backfills shall be accomplished by using a jumping jack compactor, performing at least 2 passes per lift, in lifts not to exceed 8 inches.

4-66 COMPACTION BY METHOD

Compaction shall consist of three complete passes over the entire width of each lift with a vibratory drum roller weighing a minimum of 6,000 pounds at a maximum operating speed of 3 mph. For embankment segments too narrow to accommodate a drum roller, a plate compactor shall be used.

SUBSECTION SUBGRADE REINFORCEMENT

4-70 SUBGRADE REINFORCEMENT

On the following road(s), Purchaser shall provide and install geotextile fabric directed by the Contract Administrator or as specified in the Engineer's design. Subgrade reinforcement must be installed to a width that is 2 feet more than the subgrade width, including turnouts. Geotextile fabric must overlap by a minimum of 2 feet at all joints. The geotextile fabric must be covered with a minimum of 12 inches of compacted rock as specified in the ROCK LIST. Geotextile fabric must meet the specifications in Clause 10-3 GEOTEXTILE FOR STABILIZATION. Subgrade reinforcement shall be on top of puncheon logs as specified in Clause 5-3.

<u>Road</u>	<u>Stations</u>
PA-S-1040	4+20 – 5+60

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Purchaser shall remove berms from road shoulders. The construction of ditchouts is required where ponding could result from the effects of sidecast debris.

5-3 PUNCHEON PLACEMENT

On the following road(s), puncheon may/shall (see table below) be utilized in the subgrade on the following road. Puncheon shall consist of logs of at least 4 inches in diameter and shall be at least 17 feet long.

<u>Road</u>	<u>Stations</u>	<u>May or Shall</u>
PA-S-1040	4+20 – 5+60	Shall
PA-S-1040	0+00 – 4+20, 17+00 – 20+50	May
1+00 Spur	0+00 – 1+00	May
PA-S-1051	0+00 – 7+90	May

5-4 PUNCHEON RESTRICTED

At no time shall puncheon be used in the subgrade, unless approved by the Contract Administrator.

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

5-7 USED CULVERT MATERIAL

On the following road(s), Purchaser may install used culverts. All other culverts must have new culverts installed. Purchaser shall obtain approval from the Contract Administrator for the quality of the used culverts before installation. Culverts must meet the specifications in Clauses 10-15 through 10-23.

<u>Road</u>	<u>Stations</u>
1+00 Spur	0+00 – 1+00

5-12 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the CULVERT LIST and ROCK LIST that are not installed will 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. In the event that culverts are not used, culverts shall be stockpiled at Port Angeles Work Center.

<u>Road</u>	<u>Size</u>
On any portion of road used for timber or rock haul.	2 - 18" x 30' culvert 1 - 18" culvert band 1 - 24" x 30' culvert

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the TYPICAL CROSS DRAIN CULVERT INSTALLATION DETAIL SHEET, TYPICAL TYPE NS NP CULVERT INSTALLATION DETAIL SHEET, the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures" and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings". Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer's recommendations. 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.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Purchaser shall obtain written approval from the District Engineer or his/her designee for the installation of culverts 30 inches in diameter and over before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

Cross drain culverts must be installed with a depth of cover of not less than 18 inches of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover specified in the Engineer's design, TYPICAL TYPE NS NP DETAIL SHEET, or recommended by the culvert manufacturer for the type and size of the pipe, whichever is greater.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

Purchaser shall construct catch basins to resist erosion. Minimum dimensions of catch basins are 1-2 feet wide, 1-2 feet deep and 2-4 feet long.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the TYPICAL CROSS DRAIN CULVERT INSTALLATION DETAIL at all cross drain culverts that specify the placement of rock. Rock used for headwalls must consist of oversize or quarry spall material. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins. No placement by end dumping or dropping of rock is allowed.

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 5 business days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Sirloin Pit	T30N R09W Sec 10	Shot Rock Ballast, 3” minus Jaw Run Rock, Light Loose Rip Rap
Mammoth Pit	T30N R09W Sec 7	Light Loose Rip Rap

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following existing stockpile(s) on state land at no charge to the Purchaser. Purchaser shall not remove more than 300 cubic yards of Light Loose Rip Rap rock. Purchaser shall not remove additional yardage without prior written approval from the Contract Administrator. Other stockpiles may not be used without prior written approval from the Contract Administrator.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>	<u>Quantity</u>
Mammoth Pit	T30N R09W Sec 7	Light Loose Rip Rap	300 yd ³

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. Prior to approval, purchaser shall submit a passing sieve test performed by procedure described in WSDOT FOP for WAQTC T 27/11.

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 5 days before starting any operations in the rock source.

<u>Source</u>	<u>Rock Type</u>
Sirloin Pit	Shot Rock Ballast, 3" minus Jaw Run Rock, Light Loose Rip Rap
Mammoth Pit	Light Loose Rip Rap

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 5% of the total volume mined in that source.
- Oversize material is defined as rock fragments larger than five feet in any dimension.
- Oversized rock that exceeds the maximum allowable amount must be shot or broken up.
- Purchaser shall notify the Contract Administrator a minimum of 3 business days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 5 business days before any drilling (Form #M-126PAC).
- 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 and trails before blasting operations.
- Purchaser is require to inform Clallam County Dispatch (PenCom) of a day and approximate time of the pit blasting.
- Rock pit drilling and shooting shall be in accordance with Clause 1-27 Timing Restriction for Marbled Murrelet.

6-16 DRILL AND SHOOT TECHNICAL SPECIFICATIONS

DRILLING

The Purchaser shall drill in accordance to an approved Shot Plan. Drill depth shall not extend more than 5 feet below existing pit floor. The District Engineer or their designee and Purchaser shall jointly measure and determine drill depths, hole spacing and pattern and must be approved prior to loading explosives. During drilling operation, drill operator

shall keep a bore log which includes the depth and location of each hole drilled. The District Engineer or their designee may ask to see the bore log during and after the drilling process has completed.

BLASTING

The Purchaser shall furnish and load appropriate explosives, detonators, and ignition sources in accordance to all State and Federal laws and in accordance to an approved Shot Plan.

DRILLING AND SHOOTING PLAN "SHOT PLAN"

The Purchaser shall submit a written drilling and shooting plan, including drawings, to the District Engineer or their designee, which must meet the approval of the District Engineer or their designee prior to the start of the drilling operation. The plan and drawing(s) shall include the following proposals: drill hole diameter, drill hole spacing, drill hole pattern, drill hole depth, any stemming depths, type and depth of explosive including amount per drill hole, detonator and ignition type, and proposed delay pattern. Any adjustment or modifications to the proposals during operations must be noted and resubmitted prior to loading of explosives.

WEATHER LIMITATIONS

When, in the opinion of the District Engineer or their designee, the weather is such that satisfactory results cannot be obtained in any phase of operation, Purchaser shall suspend operations until the weather is favorable. Before and during any suspension, Purchaser shall protect the work from damage or deterioration.

SUBSECTION ROCK MANUFACTURE

6-20 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 45 business days from the time it begins.
- All testing and operations must be performed in accordance with the attached ROCK CRUSHING COMPLIANCE PROCEDURE.
- Purchaser shall produce sieve analysis for crushing operations upon request of Contract Administrator.
- Purchaser may use a commercial testing lab to produce sieve analyses.
- Sieve analysis for acceptance of aggregate shall be performed by procedure described in WSDOT FOP for WAQTC T 27/11.
- Rock crushing operations shall be in accordance with Clause 1-27 Timing Restriction for Marbled Murrelet.

6-23 ROCK GRADATION TYPES

Purchaser shall provide or manufacture rock in accordance with the types and amounts listed in the Manufacturing list below. Rock must meet the following specifications for gradation and uniform quality during manufacture and placement into a stockpile. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

<u>Rock Type</u>	<u>Amount</u>
3" minus Jaw Run Rock	4540 yd ³
Clean Rock, Shot Ballast	7200 yd ³
Light Loose Rip Rap	300 yd ³

6-24 ROCK CRUSHING COMPLIANCE PROCEDURE

Phase I. Equipment Adjustment

Step 1:

At start up of crushing operations, the Purchaser will notify the Contract Administrator when the rock meets the gradation specifications in the contract. None of the rock crushed during this calibration period will be counted toward the amount required to be crushed, and this rock must be kept separate from accepted rock crushed later.

Step 2:

The Purchaser will test the rock. Two samples will be taken. If the rock meets specifications, crushing may begin. If the rock does not meet specifications, return to Step 1.

Phase II. Production

Step 3:

The Purchaser will continue periodic testing to ensure that rock stays in spec. Testing will take place according to the following schedule:

- After the first 500 yards
- After every 2,000 yards thereafter.

- a) Any time a sample is out of spec, but is within 5%*, the Purchaser will be notified and a second sample will be taken later in the day. If the second sample meets specifications, the rock crushed during that day will be accepted. If the second sample also fails to meet spec, none of the rock crushed since the last acceptable test will be counted toward the amount to be crushed.
- b) Any time a sample is out of spec and is more than 5% off in any category, none of the rock crushed since the last acceptable test will be accepted and that rock must be kept separate from the stockpile. Return to Step 1.

- c) Purchaser is strongly encouraged to take their own samples regularly and keep their operations in spec to avoid unnecessary expenses.
 - The 5% will be applied only to sieve specs for 2" to 1/4"; rock that is out of spec in larger sizes must be kept separate from the acceptable rock.
- d) Testing of rock shall be required for 2" minus rock or smaller. Periodic visual inspection required for all rock gradations larger for rock larger than 2". If in the opinion of the Contract Administrator that gradations are not meeting specifications, Contract Administrator may require testing of material 2" or larger.

SUBSECTION ROCK GRADATIONS

6-28 1 1/4-INCH MINUS CRUSHED ROCK

% Passing 1 1/4" square sieve	100%
% 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	5%

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.

6-34 3-INCH JAW RUN MINUS ROCK

% Passing 3" square sieve	100%
% Passing 1 1/2" square sieve	45 - 65%

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

6-42 CLEAN ROCK, SHOT BALLAST

No more than 10 percent of the rock by visual inspection may exceed 8 inches in any dimension and no rock may be larger than 12 inches in any dimension. Shot Ballast rock may not contain more than 5 percent by weight of organic debris, dirt, and trash.

6-50 LIGHT LOOSE RIP RAP

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

<u>Quantity</u>	<u>Approximate Size Range</u>
20% to 90%	500 lbs. to 1 ton (18" - 28")
15% to 80%	50 lbs. to 500 lbs. (8" - 18")
10% to 20%	3 inch to 50 lbs. (3" - 8")

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 estimated truck 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 drainage installation included grading and compaction before rock application.

6-71 ROCK APPLICATION

Purchaser shall apply rock in accordance with the specifications and quantities shown on the ROCK LIST. Rock must be spread, shaped, and compacted full width concurrent with rock hauling operations. 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 and in lifts not to exceed 6 inches.

6-72 ROCK APPLICATION AFTER HAULING

On the following road(s), upon completion of all hauling operations, Purchaser shall apply rock in accordance with the quantities shown on the ROCK LIST and listed below.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>	<u>Amount</u>
PA-S-1000	0+00 – 103+30	1 ¼" minus	200 yd ³
PA-S-1000	103+30 – 224+45	3" minus	200 yd ³
PA-S-1050	0+00 – 24+85	1 ¼" minus	150 yd ³
PA-S-1100	0+00 – 89+15	3" minus	150 yd ³
PA-S-1150	0+00 – 86+65	3" minus	200 yd ³

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 DRY WEATHER ROCK COMPACTION

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

6-77 ROCK OVER GEOTEXTILE

On the following road(s), rock shall be applied over geotextiles in accordance with manufacturer's specifications.

<u>Road</u>	<u>Stations</u>
PA-S-1040	4+20 – 5+60

6-78 ROCK FOR SPOT PATCHING

Rock for spot patching shall be applied before any grading is done and before any rock lifts are applied. Once applied, spot patches shall be graded into the existing running surface.

SECTION 7 – STRUCTURES

SUBSECTION SIGNS

7-1 SIGN INSTALLATION

Purchaser shall purchase, install, and maintain the following road signs. Signs must be installed a minimum of 7 days before hauling logs and/or rock. Signs must comply with the Federal Highway Administration’s Manual on Uniform Traffic Control Devices.

<u>Road</u>	<u>Station</u>	<u>Sign</u>
PA-S-1000	Juntion of Hwy 112 and PA-S-1000	2 Truck Crossing Signs East and West
PA-S-1100	Juntion of Hwy 112 and PA-S-1100	2 Truck Crossing Signs East and West

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. Components removed from existing structure(s) must be removed from state land or, as directed in writing, by the Contract Administrator. 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 as directed by the District Engineer or their designee.

SUBSECTION BRIDGE MAINTENANCE

7-30 BRIDGE MAINTENANCE

Purchaser shall conduct bridge maintenance as listed. Purchaser shall remove all old bridge material from state land before the termination of the contract.

<u>Road</u>	<u>Station</u>	<u>Requirements</u>
PA-S-1000	106+80	Clean Bridge deck of dirt and debris

SUBSECTION GATE CLOSURE

7-70 GATE CLOSURE

On the following road(s), Purchaser shall keep gates closed and locked except during periods of haul. All gates that remain open during haul must be locked or securely fastened in the open position. All gates must be closed at termination of use.

<u>Road</u>	<u>Station</u>
PA-S-1000	2+00
PA-S-1150	1+50

SUBSECTION GATES AND FENCES

7-75 GATE MAINTENANCE

Purchaser shall conduct gate maintenance as listed. Purchaser shall remove all old gate material from state land before the termination of the contract.

<u>Road</u>	<u>Station</u>	<u>Requirements</u>
PA-S-1000	2+00	Grease all lubrication points.
PA-S-1150	1+50	Grease all lubrication points.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

On the following road(s), Sediment control shall be accomplished as listed below or other methods as approved in writing by the Contract Administrator.

<u>Road</u>	<u>Stations</u>	<u>Left and/or Right</u>	<u>Comments</u>
PA-S-1040	4+00 – 6+00	Left and Right	Silt Fence Along Road
PA-S-1040	6+50	Left	Silt Fence in Ditch x 3

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 3-inch layer of straw or hay to all exposed soils at culvert installations within 100 feet of a stream or wetland. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

SUBSECTION SLOPE STABILIZATION

8-10 STABILIZE SLOPES – ROCK APPLICATION

On the following road(s), Purchaser shall stabilize embankment slopes by applying rock as specified below. Rock must be set in place in conjunction with construction of the embankment. Rock must be applied in quantities specified in the ROCK LIST to exposed soil on the entire embankment to a minimum depth of 24 inches. Rock must be set in place by machine. Placement must with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>	<u>Slope</u>	<u>Minimum Depth</u>	<u>Toe of Rock From Crown of Road</u>
PA-S-1150	88+70 – 89+85	Light Loose Rip Rap	1:1	24"	10'

SUBSECTION REVEGETATION

8-15 REVEGETATION

Purchaser shall spread grass seed and straw and/or hay mulch on all exposed soils including, but not limited to, stream culverts, waste areas, sidecast pullback areas, stream crossing removals, bridge installations, pit reclamation and other areas directed by the Contract Administrator. Revegetation of exposed soils shall be accomplished by manual dispersal of grass seed unless otherwise detailed in this Road Plan. Other methods of covering must be approved in writing by the Contract Administrator.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the all seed, mulch, straw and/or hay, matting etc..

8-17 REVEGETATION TIMING

Purchaser shall revegetate during the first available opportunity. 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. Soils shall not be allowed to sit exposed during any rain event.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover over the revegetated area. The protective cover may consist of but not be limited to, such items as dispersed hay mulch 3” thick or jute matting. Seed must be covered before the first anticipated storm event.

8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the grass seed and/or straw and/or hay mulch in areas that have failed to germinate or have been damaged through any cause, restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the grass seed and/or straw and/or hay mulch at no addition cost to the state.

SUBSECTION SEED, FERTILIZER, AND MULCH

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soil at a rate of 60 pounds per acre of exposed soil. Grass seed must meet the following specifications:

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

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>	<u>Minimum % germination</u>
Perennial Rye	35-45	90
Red Fescue	30-40	90
Highland Bent	5-15	85
White Clover	10-20	90
Inert and Other Crop	0.5	

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

9-1 EARTHEN BARRICADES

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

<u>Road</u>	<u>Stations</u>
PA-S-1041	0+15
PA-S-1042	0+15
1+00 Spur	0+10

SUBSECTION POST-HAUL MAINTENANCE

9-5 POST-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Additional Requirements</u>
All	All	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator.
PA-S-1000	0+00 – 224+45	Apply post haul rock per Clause 6-72.
PA-S-1050	0+00 – 24+85	
PA-S-1100	0+00 – 89+15	
PA-S-1150	0+00 – 86+65	

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

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

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

SUBSECTION CLOSURE

9-15 ROAD CLOSURE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
PA-S-1041	0+15	See Clause 9-16
PA-S-1042	0+15	
1+00 Spur	0+10	

9-16 CLOSURE

At a minimum, closure consists of:

- Maintain road according to the FOREST ACCESS ROAD SPECIFICATIONS.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.

SECTION 10 MATERIALS

SUBSECTION GEOTEXTILES

10-3 GEOTEXTILE FOR STABILIZATION

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

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

10-6 GEOTEXTILE FOR TEMPORARY SILT FENCE

Geotextiles must meet the following minimum requirements for strength and property qualities, and must be designed by the manufacturer to be used for filtration. Woven slit-film geotextiles are not allowed. Material must be free of defects, cuts, and tears.

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Unsupported between posts
Apparent opening size	D 4751	No. 30 max., No. 100 min.
Water permittivity	D 4491	0.02 sec ⁻¹
Grab tensile strength	D 4632	180 lb in machine direction, 100lb in cross-machine direction
Grab tensile elongation	D 4632	30% max. at 180 lb or more
Ultraviolet stability	D 4355	70% retained after 500 hours of exposure

SUBSECTION CULVERTS

10-15 CORRUGATED STEEL CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

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

10-21 METAL BAND

Metal coupling and end bands must meet the AASHTO specification designated for the culvert and must have matching corrugations. Culverts 24 inches and smaller must have bands with a minimum width of 12 inches. Culverts over 24 inches must have bands with a minimum width of 24 inches.

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.

10-23 RUBBER CULVERT GASKETS

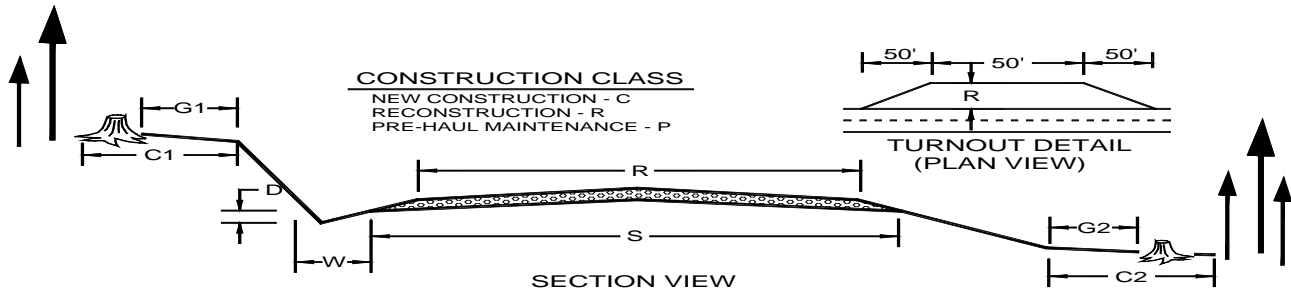
Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAUGE AND CORRUGATION

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

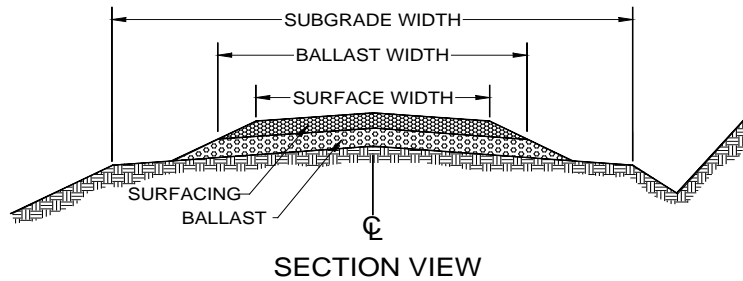
<u>Diameter</u>	<u>Gauge</u>	<u>Corrugation</u>
18"	16 (0.064")	2 ² / ₃ " X 1/2"
24" to 48"	14 (0.079")	2 ² / ₃ " X 1/2"
54" to 96"	12 (0.109")	3" X 1"

TYPICAL SECTION SHEET



ROAD NAME	START STATION	END STATION	CONSTRUCTION CLASS	TOLERANCE CLASS	SUBGRADE WIDTH (S)	ROAD WIDTH (R)	CROWN AT CL (in)	DITCH WIDTH (W)	DITCH DEPTH (D)	GRUBBING CUT BANK (G1)	GRUBBING FILL TOE (G2)	ROAD CUT CLEARING (C1)	ROAD FILL CLEARING (C2)
PA-S-1000	0+00	224+45	P			12'	3"	3'	1'				
BPA Tie	0+00	2+45	R	C	17'	12'	3"	3'	1'	5'	5'	10'	5'
BPA-3858	0+00	23+60	R	B	17'	12'	3"	3'	1'	5'	5'	10'	5'
PA-S-1040	0+00	27+75	C	C	17'	12'	3"	3'	1'	5'	5'	10'	5'
PA-S-1041	0+00	4+65	C	C	17'	12'	3"	3'	1'	5'	5'	10'	5'
PA-S-1042	0+00	9+10	C	C	17'	12'	3"	3'	1'	5'	5'	10'	5'
PA-S-1043	0+00	8+75	C	C	17'	12'	3"	3'	1'	5'	5'	10'	5'
PA-S-1050	0+00	24+85	P			12'	3"	3'	1'				
1+00 Spur	0+00	1+00	C	C	17'	12'	3"	3'	1'	5'	5'	10'	5'
PA-S-1051	0+00	7+90	C	C	17'	12'	3"	3'	1'	5'	5'	10'	5'
PA-S-1090	0+00	22+00	P			12'	3"	3'	1'				
PA-S-1091	0+00	10+90	P			12'	3"	3'	1'				
PA-S-1100	0+00	89+15	P			12'	3"	3'	1'				
PA-S-1150	0+00	86+65	P			12'	3"	3'	1'				
PA-S-1150	86+65	87+50	C	B	17'	12'	3"	3'	1'	5'	5'	10'	5'
PA-S-1150	87+50	90+55	C	B	17'	12'	3/-3	3'	1'	5'	5'	10'	5'
PA-S-1150	90+55	91+05	C	B	17'	12'	3"	3'	1'	5'	5'	10'	5'

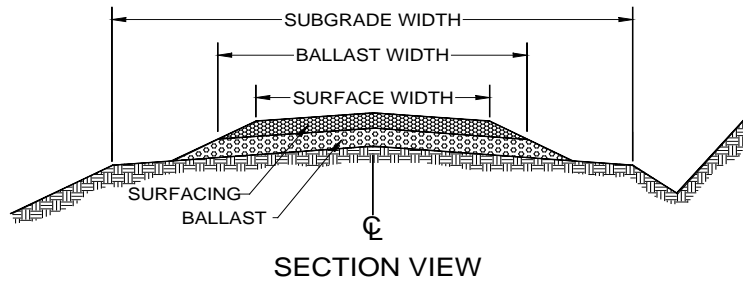
ROCK LIST SHEET



1. Rock quantities, subtotals and totals are "truck measure" estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼" minus to 4" minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1 :Sirloin Pit Shot Ballast*, 2 :Sirloin Pit 3" minus*, 3: Sirloin or Mammoth Pit Light Loose Rip Rap*, 4: 1 ¼" minus Commercal Source, *may be acquired from a commercial source upon approval from Contract Administrator

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd ³ /sta)	Pitrun SUBTOTAL(yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd ³ /sta)	Crushed Subtotal(yd ³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd ³)
PA-S-1000															
Misc.	0+00	103+30							4				100		
Misc.	103+30	224+45							2				100		
Post Haul	0+00	103+30							4				200		
Post Haul	103+30	224+45							2				200		
BPA Tie															
Lift	0+00	2+45	17	1	14	12	70	170	2	12	6	35	80		
BPA 3858															
Lift	0+00	2+40	17	1	14	12	70	170	2	12	6	35	80		
Culvert Install	0+10								2				20		
Lift	2+40	23+60	17	1	14	12	70	1490	2	12	6	35	750		
Culvert Install	18+25								2				20		
Culvert Install	20+90								2				20		
Culvert Install	21+50								2				20		
PA-S-1040															
Lift	0+00	4+20	17	1	14	12	70	290	2	12	6	35	150		
Culvert Install	0+10								2				20		
Culvert Install	3+00								2				20		
Lift	4+20	5+60	19	1	14	18	110	150	2	12	6	35	50		
Totals:								1: 2270					2: 1530 4: 300		

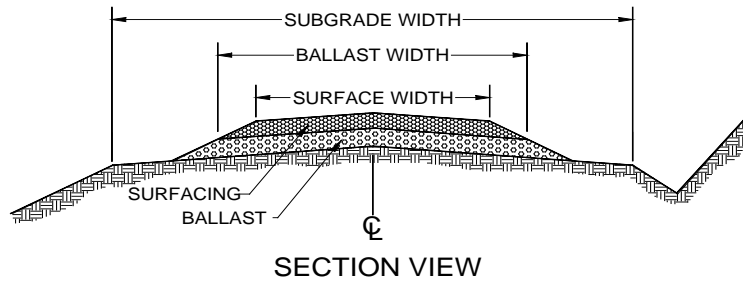
ROCK LIST SHEET CONTINUED



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ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd ³ /sta)	Pitrun SUBTOTAL(yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd ³ /sta)	Crushed Subtotal(yd ³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd ³)
PA-S-1040 Cont.															
Culvert Install	4+90								2				20		
Lift	5+60	22+75	17	1	14	12	70	1550	2	12	6	35	780		
Culvert Install	6+30								2				20		
Landing	8+50			1			50								
Culvert Install	11+25								2				20		
Turnout (L)	12+60			1			30								
Culvert Install	16+40								2				20		
Culvert Install	18+80								2				20		
Culvert Install	19+45								2				20		
Turnout (L)	20+50			1			30								
Culvert Install	25+00								2				20		
Culvert Install	25+90								2				20		
Turnaround (L)	26+90			1			50								
Landing	27+75			1			50								
PA-S-1041															
Lift	0+00	4+65	17	1	14	12	70	330	2	12	6	35	160		
Turnaround (R)	2+75			1			50								
Totals:								1: 2140					2: 1100		

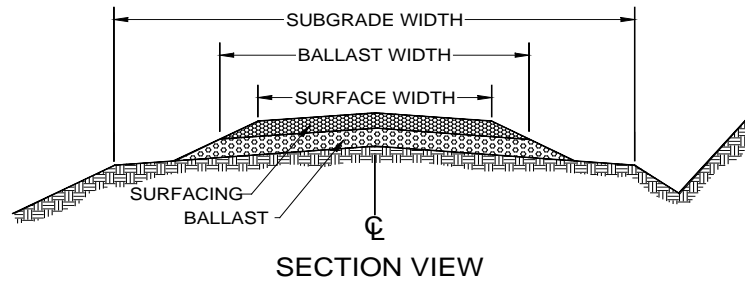
ROCK LIST SHEET CONTINUED



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ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd ³ /sta)	Pitrun SUBTOTAL(yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd ³ /sta)	Crushed Subtotal(yd ³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd ³)
PA-S-1041 Cont.															
Culvert Install	3+65								2				20		
Landing	4+65			1			50								
PA-S-1042															
Lift	0+00	9+10	17	1	14	12	70	640	2	12	6	35	320		
Turnout (L)	2+70			1			30								
Culvert Install	3+40								2				20		
Culvert Install	7+35								2				20		
Turnaround (L)	8+05			1			50								
Landing	9+10			1			50								
PA-S-1043															
Lift	0+00	8+75	17	1	14	12	70	610	2	12	6	35	310		
Culvert Install	0+30								2				20		
Turnout (R)	1+20			1			30								
Culvert Install	5+70								2				20		
Turnaround (R)	6+10			1			50								
Culvert Install	7+30								2				20		
Landing	8+75			1			50								
Totals:								1: 1560					2: 750		

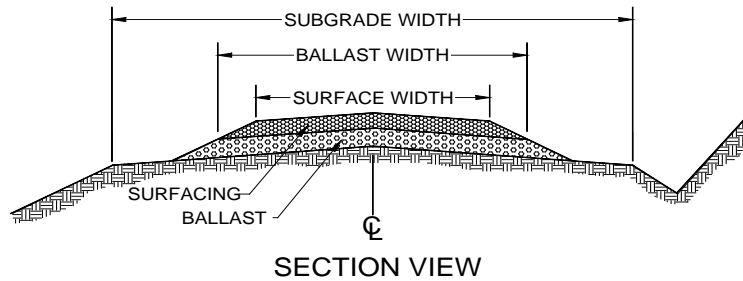
ROCK LIST SHEET CONTINUED



1. Rock quantities, subtotals and totals are "truck measure" estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
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ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd ³ /sta)	Pitrun SUBTOTAL(yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd ³ /sta)	Crushed Subtotal(yd ³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd ³)
PA-S-1050															
Misc.	0+00	24+85							4				100		
Landing (R)	22+45			1				50							
Culvert Install	23+00								2				20		
Post Haul	0+00	24+85							4				150		
1+00 Spur															
Lift	0+00	1+00	17	1	14	12	70	70	2	12	6	35	40		
Culvert Install	0+10								2				20		
Landing	1+00			1				50							
PA-S-1051															
Lift	0+00	7+90	17	1	14	12	70	550	2	12	6	35	280		
Culvert Install	0+15								2				20		
Culvert Install	1+15								2				20		
Turnout (L)	3+75			1				30							
Culvert Install	5+65								2				20		
Turnaround (L)	6+20			1				50							
Landing	7+90			1				50							
PA-S-1100															
Misc.	0+00	89+15							2				100		
Post Haul									2				150		
Totals:								1: 850					2: 670, 4: 250		

ROCK LIST SHEET CONTINUED



1. Rock quantities, subtotals and totals are "truck measure" estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
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4. All rock sources are subject to approval by the Contract Administrator.
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ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd ³ /sta)	Pitrun SUBTOTAL(yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd ³ /sta)	Crushed Subtotal(yd ³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd ³)
PA-S-1150															
Misc.	0+00	86+65							2				100		
Post haul	0+00	86+65							2				200		
Lift	86+65	91+05	17	1	14	12	70	310	2	12	6	35	150		
Culvert Install	87+10								2				20		
Stablization Rock	88+70	89+85												3	300
Shot Rock Culvert	89+10			1				20							
Culvert Install	90+55								2				20		
Landing	91+05			1				50							
Totals:								1: 380					2: 490		

Rock Pit	Grand Total
1: Sirloin Pit Shot Rock Ballast*	7200 yd ³
2: Sirloin Pit 3" minus Jaw Run Rock*	4540 yd ³
3: Sirloin or Mammoth Pit Light Loose Rip Rap*	300 yd ³
4: 1 ¼" minus crushed rock - Commerical Source	550 yd ³
*may be acquired from a commercial source upon approval from Contract Administrator	

CULVERT LIST

ROAD NAME	STATION	CULVERT DIAMETER (in)	CULVERT LENGTH (ft)	FLUME LENGTH (ft)		RIP RAP - INLET (cy)	RIP RAP - OUTLET (cy)	BACKFILL MATERIAL	NOTES
BPA 3858	0+10	18	40					CR	Culvert Install
BPA 3858	2+90	18							Clean Inlet and Outlet
BPA 3858	11+80	18							Clean Inlet and Outlet
BPA 3858	18+25	24	30					CR	Culvert Install*
BPA 3858	20+90	24	30					CR	Culvert Install*
BPA 3858	21+50	18	30					CR	Culvert Install
PA-S-1040	0+10	18	40					CR	Culvert Install
PA-S-1040	3+00	18	30					CR	Culvert Install
PA-S-1040	4+90	24	36					CR	Culvert Install*
PA-S-1040	6+30	18	30					CR	Culvert Install
PA-S-1040	11+25	18	40					CR	Culvert Install
PA-S-1040	16+40	18	30					CR	Culvert Install
PA-S-1040	18+80	18	40					CR	Culvert Install
PA-S-1040	19+45	18	60					CR	Culvert Install
PA-S-1040	25+00	18	30					CR	Culvert Install
PA-S-1040	25+90	24	30					CR	Culvert Install*
PA-S-1041	3+65	18	30					CR	Culvert Install
PA-S-1042	3+40	18	30					CR	Culvert Install
PA-S-1042	7+35	18	30					CR	Culvert Install
PA-S-1043	0+30	18	30					CR	Culvert Install
PA-S-1043	5+70	18	30					CR	Culvert Install
PA-S-1043	7+30	18	30					CR	Culvert Install
PA-S-1050	23+00	24	30					CR	Culvert Install*
1+00 Spur	0+10	18	40					CR	Culvert Install
PA-S-1051	0+15	18	40					CR	Culvert Install
PA-S-1051	1+15	18	30					CR	Culvert Install
PA-S-1051	5+65	18	30					CR	Culvert Install

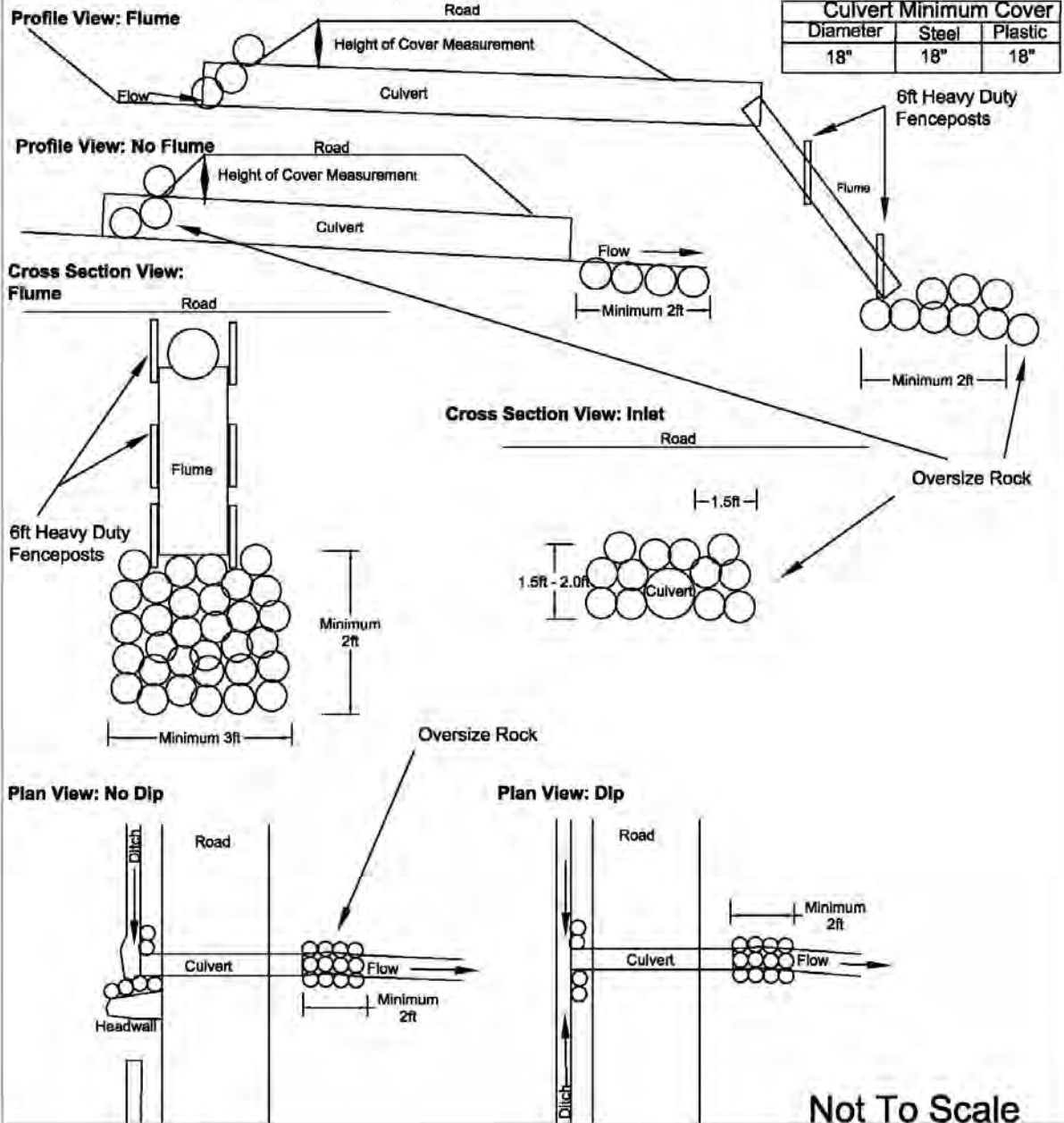
All rip rap shall be Oversize unless specified in the Rock List, or in the field.
All backfill shall be native material (NT) unless specified otherwise. CR= Crushed rock see Rock List, PR= Pit Run Rock, SR=Shot rock Ballast. * Live water

COMPACTION LIST

Road	Stations	Type	Max Depth Per Lift (inches)	Equipment Type	Minimum Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
Pre-haul	All	Culvert Backfill	8"	Jumping Jack		3	
Pre-haul	All	Rock Lifts	6"	Vibratory Smooth Drum	6,000	3	3
Pre-haul	All	Pre-haul Surface		Vibratory Smooth Drum	6,000	3	3
Construction	All	Subgrade (Except Puncheon)	6"	Vibratory Smooth Drum	6,000	2	3
Construction	All	Culvert Backfill	8"	Jumping Jack		3	
Construction	All	Rock Placement	6"	Vibratory Smooth Drum	6,000	2	3
Reconstruction	All	Subgrade (Except Puncheon)	6"	Vibratory Smooth Drum	6,000	2	3
Reconstruction	All	Culvert Backfill	8"	Jumping Jack		3	
Reconstruction	All	Rock Placement	6"	Vibratory Smooth Drum	6,000	2	3
Post-haul Maintenance	All	Rock Placement	6"	Vibratory Smooth Drum	6,000	2	3

Typical Cross Drain Culvert Installation Detail Sheet

- Culvert lay shall not exceed 10%.
- Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.
- Oversize shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.
- Oversize shall be placed at headwalls, along the fill at the inlet, and at the end off flumes in accordance with this Detail. On culverts with no flume oversize shall be placed at the outlet as an energy dissipater as specified in this Detail. All oversize distance to be determined by the Contract Administrator.
- Backfill compaction for installations on existing roads shall be achieved using a jumping jack, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus at least the width of the compactor footprint used.



Typical Type Ns, Np Culvert Installation Detail Sheet.

-Water shall be diverted away from the work site before any "in stream" work begins, and shall continue until culvert installation is complete.

-Culvert lay shall match stream gradient up to 5%.

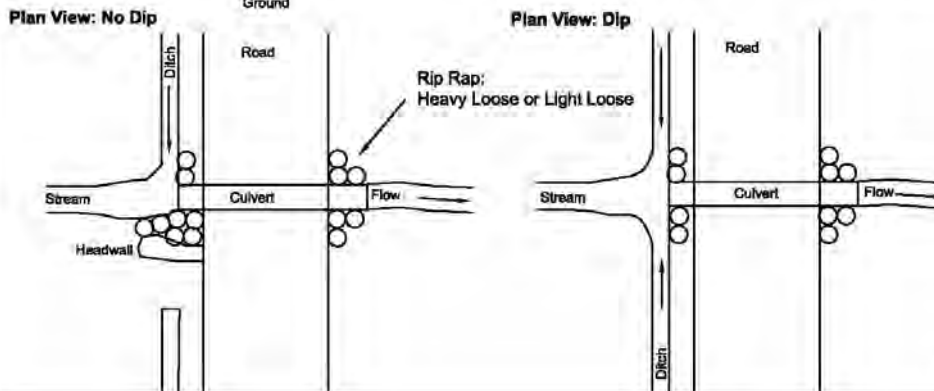
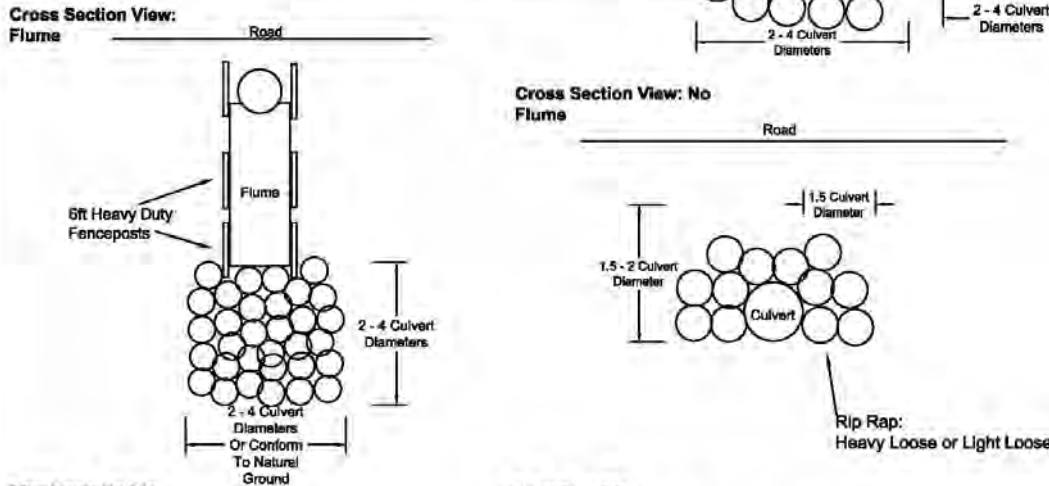
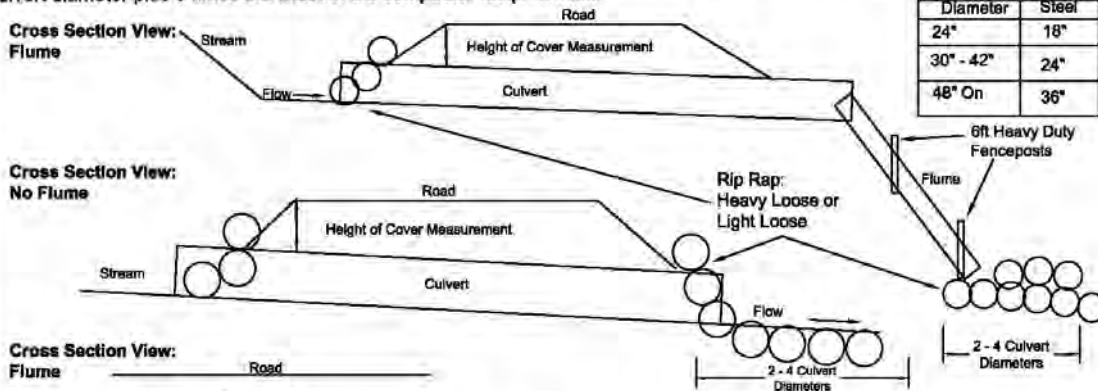
-Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.

-Rip rap shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.

-Rip rap shall be placed at headwalls, along the fill at the inlet, and at the end off flumes in accordance with this Detail. On culverts with no flume rip rap shall be placed along the fill at the outlet, unless there is stream drop or it is called for in the Road Plan, at which point it will be installed as an energy dissipater at the end of the culvert as specified in this Detail. All rip rap distance to be determined by the Contract Administrator or the District Engineer.

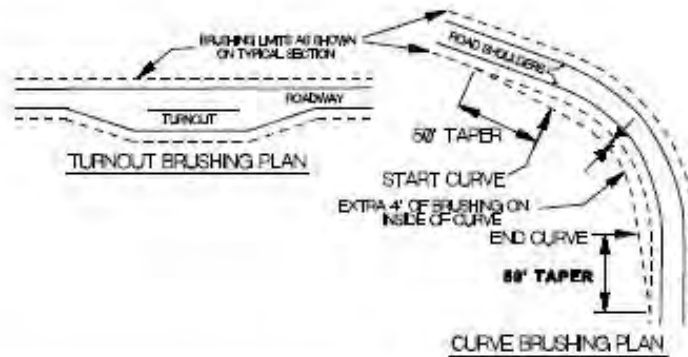
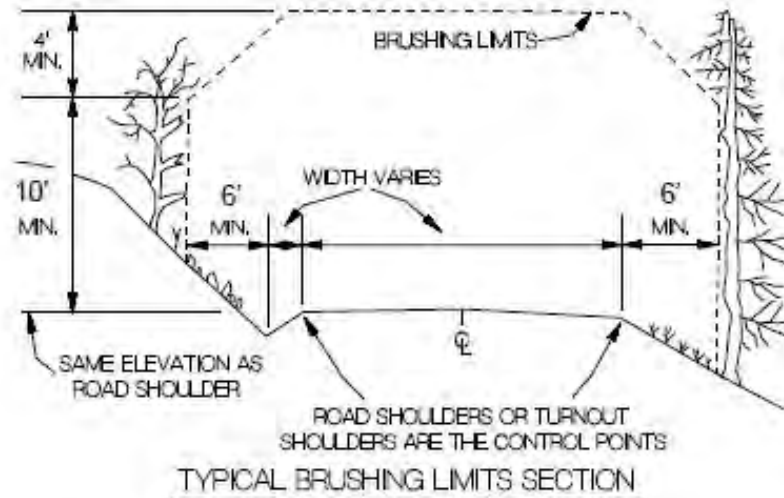
-Backfill compaction shall be achieved using a jumping jack, walk behind vibratory roller, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation french width shall be at least culvert diameter plus 3 times the width of the compactor footprint used.

Culvert Diameter	Culvert Minimum Cover	
	Steel	Plastic
24"	18"	24"
30" - 42"	24"	24"
48" On	36"	36"



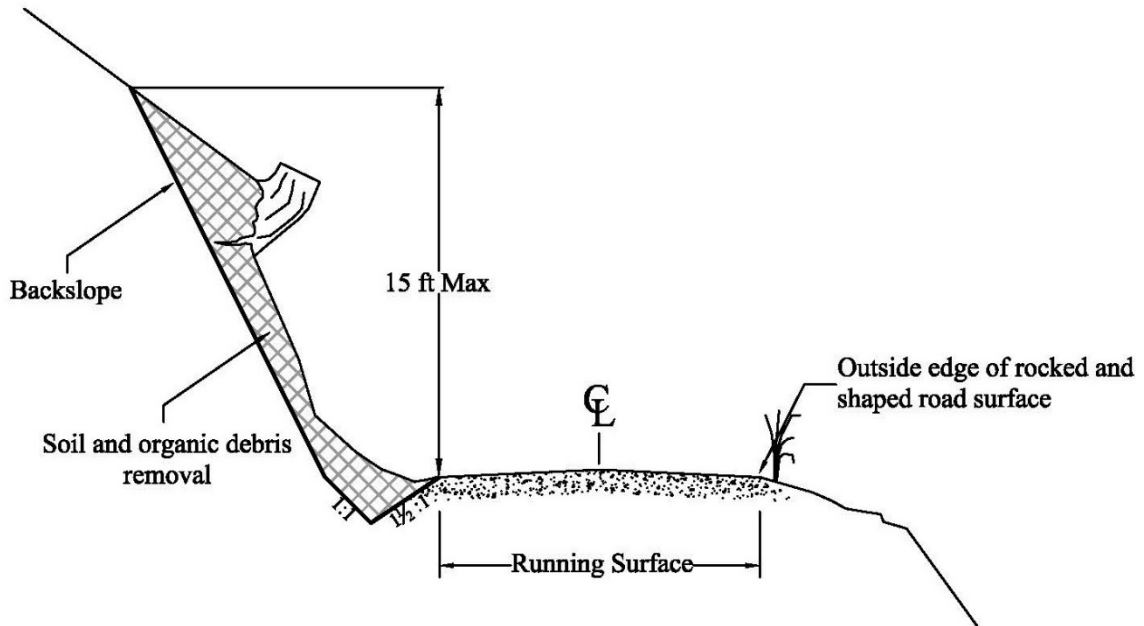
Not To Scale

BRUSHING DETAIL



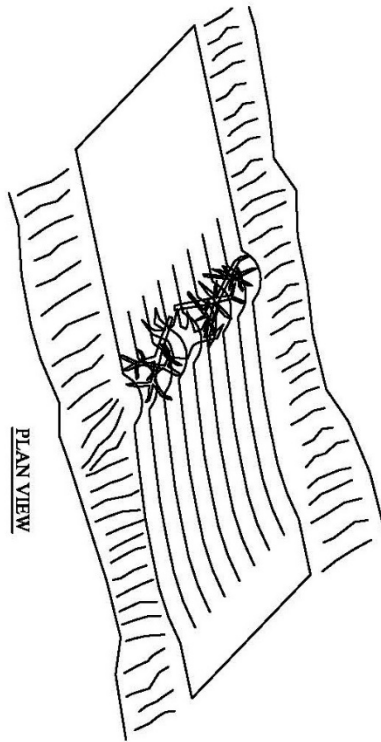
1. All vegetation within the brushing limits shall be cut to within 3 inches of the ground, unless otherwise directed by the Contract Administrator
2. All brush, trees, limbs, etc. shall be removed from the road surface, cut banks, culvert inlets/outlets, and ditch lines
3. All debris that may roll or move into the ditch line shall be removed and placed in a stable location

Ditch Cleaning Detail

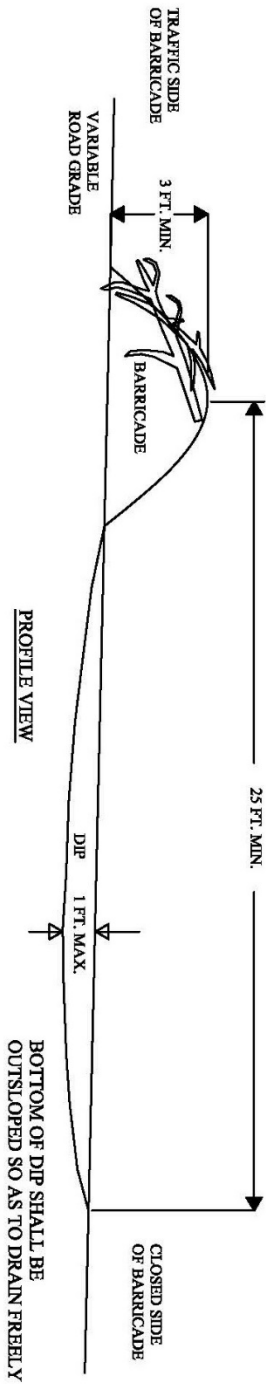


1. The backslope shall be no steeper than $\frac{1}{2}:1$, unless the material is hardpan or solid rock, in which case it may be $\frac{1}{4}:1$.
2. If there is sufficient width for the ditch without affecting the cut bank, than removing bank material is not required.
3. Bank material above the ditch shall be removed to a maximum height of 15 feet, if needed to meet the requirements of this detail.
4. If there is insufficient width to clean or construct a ditch without disturbing more than 15 vertical feet of bank, the Contract Administrator may authorize changes to this plan in order to still meet the intent of having a ditch, while staying within the excavation limits already set.
5. Ditch cleaning or construction shall not shrink the running surface of the road.

EARTHEN BARRICADE DETAIL

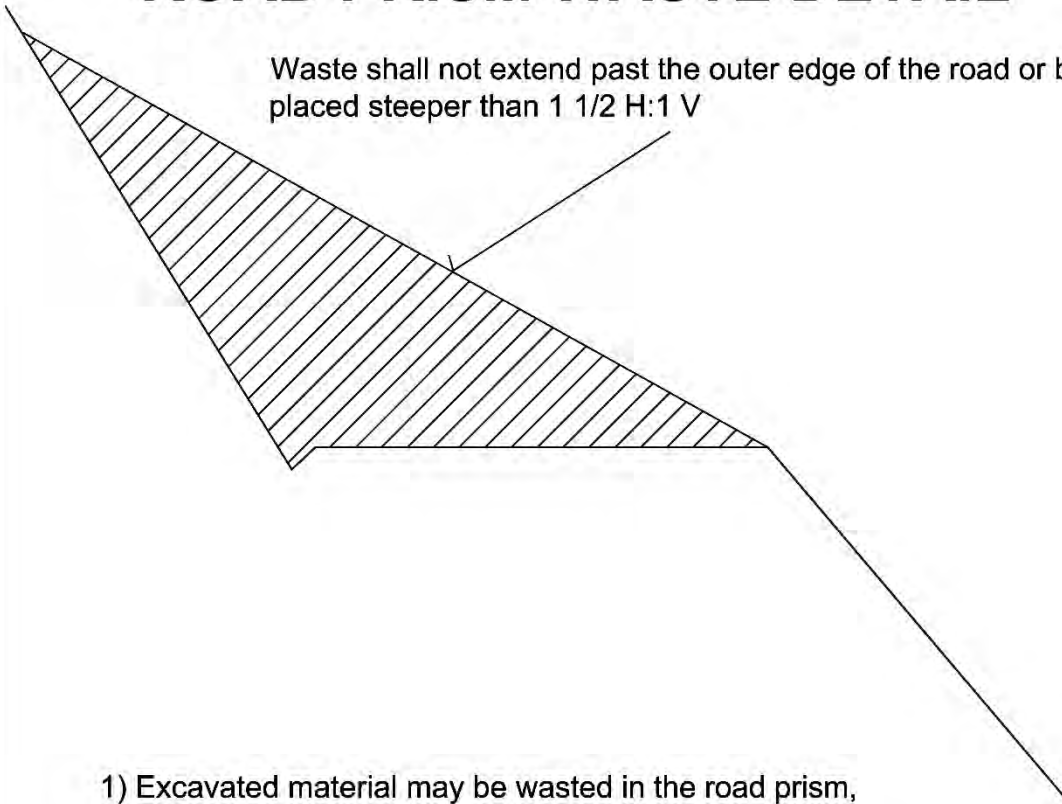


SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.



ROAD PRISM WASTE DETAIL

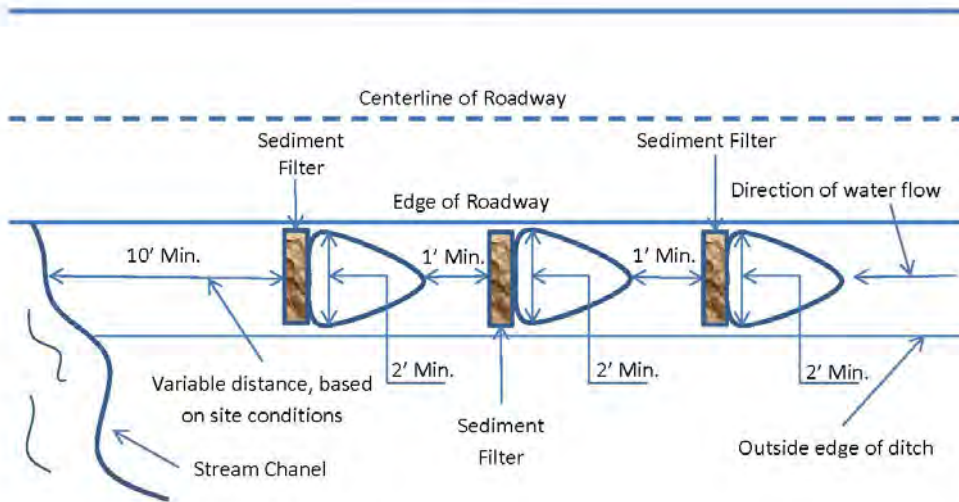
Waste shall not extend past the outer edge of the road or be placed steeper than 1 1/2 H:1 V



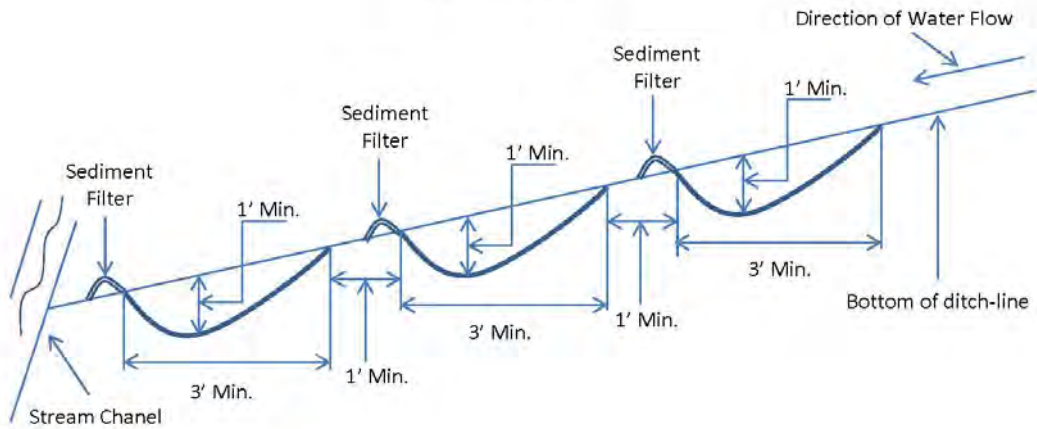
- 1) Excavated material may be wasted in the road prism, including ditchline.
- 2) Waste shall be sloped no steeper than 1 1/2 H : 1 V and placed a minimum of 10 feet from the edge of excavation limits.
- 3) Waste material shall not impede the natural drainage of water.
- 4) Waste shall be placed in 2 foot lifts and compacted by routing tracked excavation equipment over it.
- 5) A water bar shall be constructed immediately above the waste area.
- 6) Woody debris shall not be buried in waste areas. Available woody debris shall be scattered across the top of the waste area.

SEDIMENT TRAP DETAIL

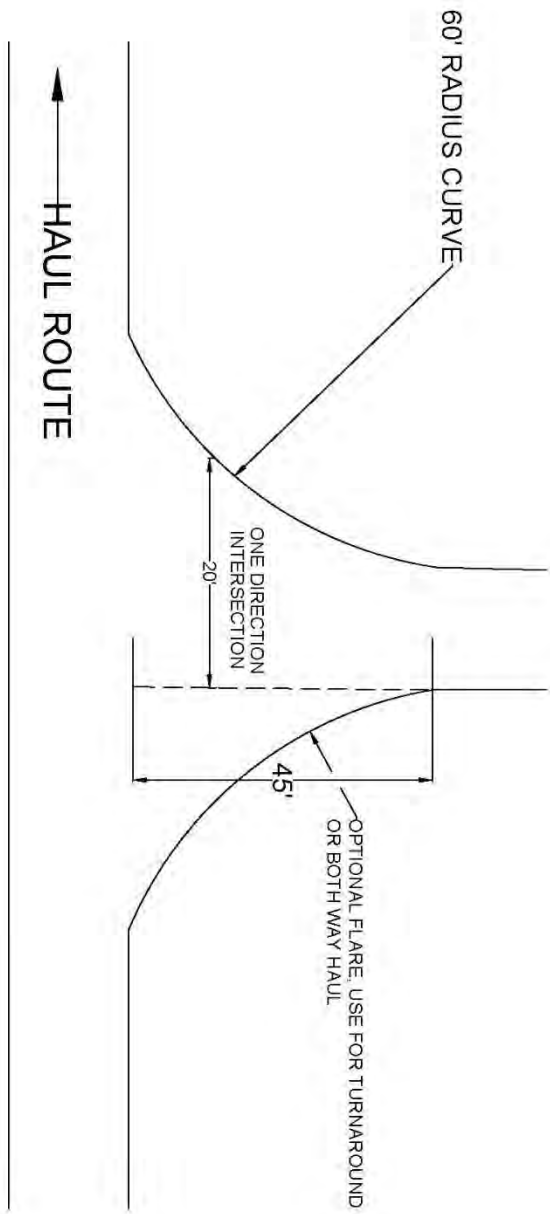
Top View



Profile View

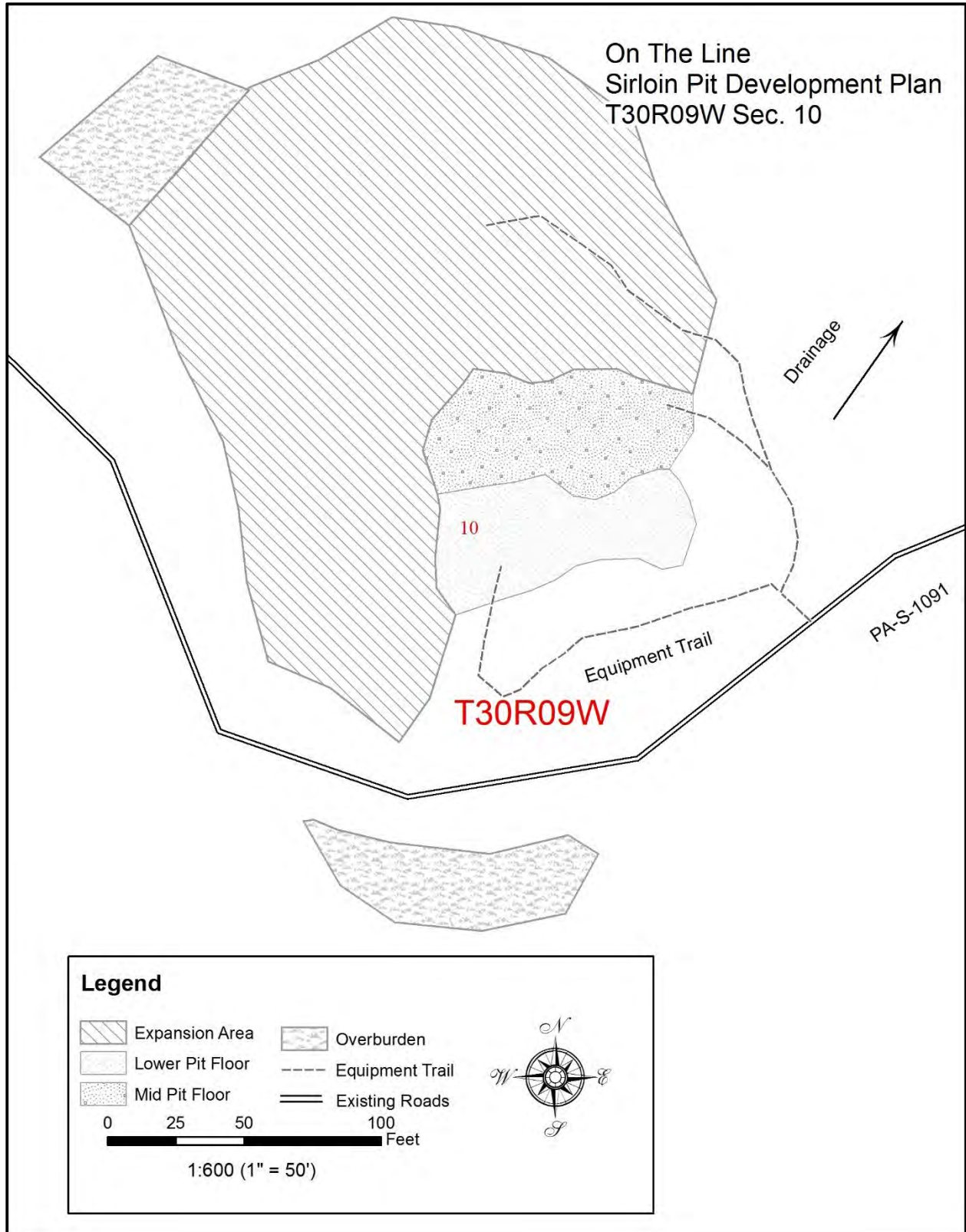


TYPICAL INTERSECTION



NOT TO SCALE

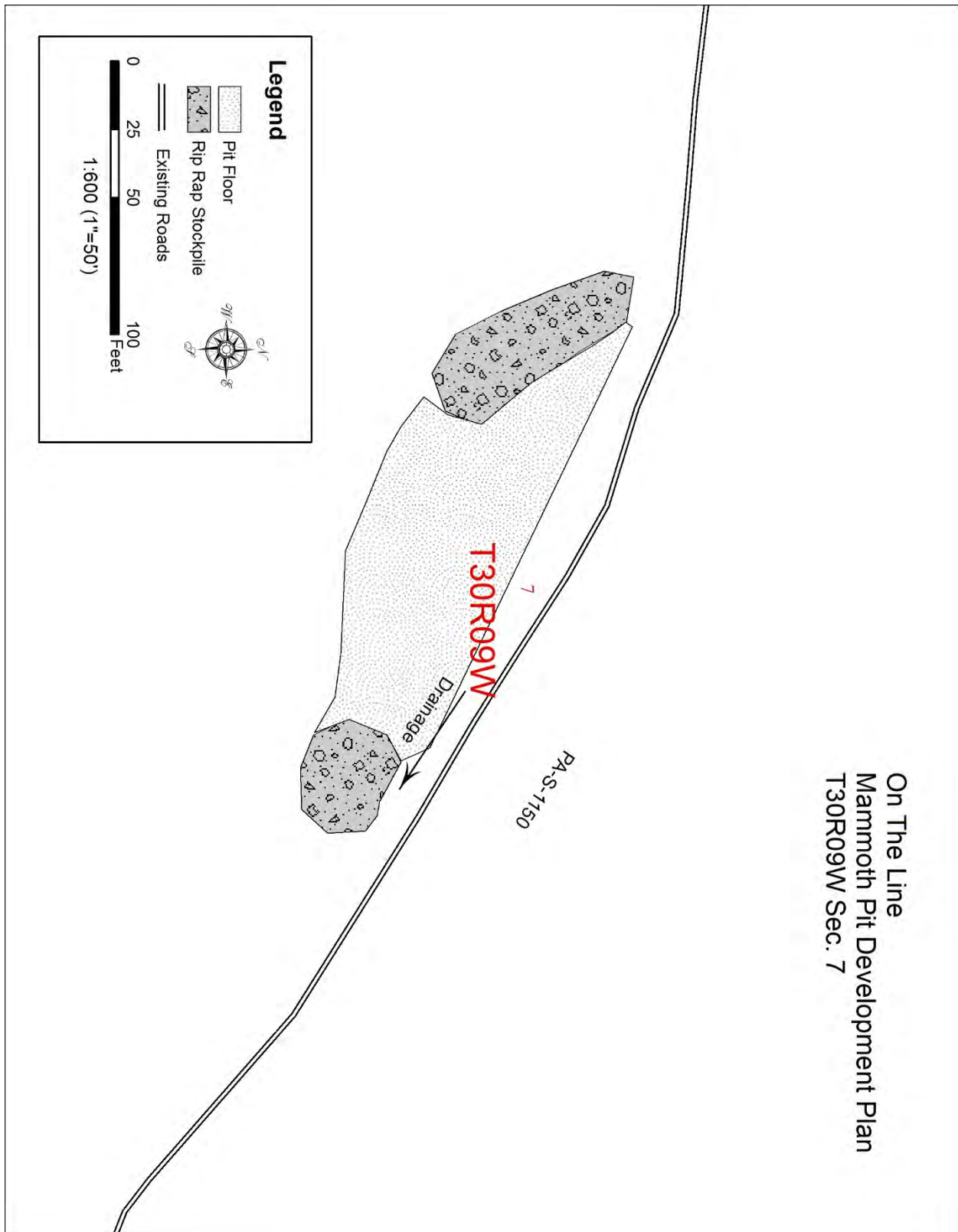
On The Line
 Sirloin Pit Development Plan
 T30R09W Sec. 10



Sirloin Pit
ROCK SOURCE DEVELOPMENT PLAN
Sec. 10, T.30N., R.09W.
PIT USE REQUIREMENTS

1. Pit expansion shall commence in the following order until the desired quantity of rock is achieved; Expainsion area; then Mid Pit Area.
2. Activity restrictions per Clause 1-25.
3. Only the quantities and sorts specified in this road plan for this sale may be used or manufactured, unless otherwise approved by the Contract Adminstrator in writing.
4. Maintain drainage of the pit floor and all drainage structures within the pit boundaries. The pit floor shall have continuity of slope be left in a smooth and neat condition, providing drainage to the southwest at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques.
5. Excavated face height shall not exceed 20 feet and shall be sloped no steeper than 1/4:1.
6. Excavated slopes shall have a 1 1/2:1 backslope or less at the completion of operations.
7. A minimum 4 foot high berm shall be constructed and constantly maintained along the upper edge of excavated pit faces. No pit faces shall be left unblocked at any time.
8. All operations shall be completed prior to the end of each operating season, including but not limited to: drainage maintenance, sloping of the excavated face, and construction of berms, unless otherwise approved in writing by the Constract Adminstrator.
9. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material, benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life. The Purchaser shall use Light Loose Rip Rap to block the drill trail.
10. All material shall remain the property of the State.
11. At the conclusion of operations, Purchaser shall ask the Contract Administrator for written approval of the final rock source condition and comptiance with the terms of this plan.
12. All work shall be conducted according to relevant specifications in this Road Plan, and the Contract Adminstrator.
13. All operations shall be carried out in compliance with the regulation of:
 - a. Regulations and Standards Applicable to "Metal and Nonmetal Mining and Milling Operations" (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration
14. Purchaser shall give the Contract Administrator a minimum of 7 days notice prior to commencing any operations.
15. Purchaser is require to inform Clallam County Dispatch (PenCom) of a day and approximate time of the pit blasting.

On The Line
 Mammoth Pit Development Plan
 T30R09W Sec. 7



Mammoth Pit
ROCK SOURCE DEVELOPMENT PLAN
Sec. 7, T.30N., R.09W.
PIT USE REQUIREMENTS

1. Pit expansion shall commence in the following order until the desired quantity of rock is achieved; Rip Rap Stockpile; Contract Administrator approval loose rock.
2. Activity restrictions per Clause 1-25.
3. Only the quantities and sorts specified in this road plan for this sale may be used or manufactured, unless otherwise approved by the Contract Administrator in writing.
4. Maintain drainage of the pit floor and all drainage structures within the pit boundaries. The pit floor shall have continuity of slope be left in a smooth and neat condition, providing drainage to the southwest at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques.
5. Excavated face height shall not exceed 20 feet and shall be sloped no steeper than 1/4:1.
6. Excavated slopes shall have a 1 1/2:1 backslope or less at the completion of operations.
7. All operations shall be completed prior to the end of each operating season, including but not limited to: drainage maintenance, sloping of the excavated face, and construction of berms, unless otherwise approved in writing by the Contract Administrator.
8. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material, benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life. The Purchaser shall use Light Loose Rip Rap to block the drill trail.
9. All material shall remain the property of the State.
10. At the conclusion of operations, Purchaser shall ask the Contract Administrator for written approval of the final rock source condition and compliance with the terms of this plan.
11. All work shall be conducted according to relevant specifications in this Road Plan, and the Contract Administrator.
12. All operations shall be carried out in compliance with the regulation of:
 - a. Regulations and Standards Applicable to "Metal and Nonmetal Mining and Milling Operations" (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration
13. Purchaser shall give the Contract Administrator a minimum of 7 days notice prior to commencing any operations.

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
OLYMPIC REGION

INFORMATIONAL BLASTING PLAN

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

1. Blaster-in-Charge: Name: _____
Company: _____
Address: _____

Telephone: _____
2. Quarry Name/Location: _____
3. Total Estimated Cubic Yards in Blast (loose): _____
4. Hole Spacing: _____
5. Burden: _____
6. Hole Diameter: _____
7. Hole Depth: _____
8. Sub Drill: _____
9. Number of Holes: _____
10. Stemming Depth: _____
11. Explosive (mfg., name, density, %, V.O.D.): _____

12. Type and Size of Primer (if applicable): _____
13. Total Weight of Primers for Shot: _____
14. Calculated Powder Factor/Cubic Yard: _____
15. Number of Delays (in M.S.): _____

16. Number of Holes Fired on Each Delay: _____

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

18. Type of Blasting Machine: _____

19. Date, Start Drilling: _____
20. Date and Time, Start Loading: _____
21. Date and Time of Blast (approx.): _____

INFORMATIONAL BLASTING PLAN
M-126PAC (03/04)

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

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

23. Submitted by: _____ Date: _____

24. Received by: _____ Date: _____

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

INFORMATIONAL BLASTING PLAN
M-126PAC (03/04)

SUMMARY - Road Development Costs														
SALE NAME:	On The Line	CONTRACT#:	30-102018	REGION:	Olympic	DISTRICT:	Straits							
LEGAL DESCRIPTION:	0													
ROAD NAME:		S-1000	S-1050	S-1090	S-1091	S-1100	S-1150	S-1000 R	S-1000	S-1050	S-1090	S-1091	S-1100	S-1150
ROAD TYPE:		Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul
NUMBER OF STATIONS:		121.15	24.85	22.00	10.90	89.15	86.65	103.30	121.15	24.85	22.00	10.90	89.15	86.65
SIDESLOPE:		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CLEARING AND GRUBBING:		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ROAD BRUSHING:		\$256	\$447	\$396	\$196	\$0	\$1,560	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EXCAVATION AND FILL:		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ROAD GRADING:		\$787	\$162	\$143	\$71	\$579	\$563	\$671	\$787	\$162	\$143	\$71	\$579	\$563
DITCH CLEANING/CONSTRUCTION:		\$0	\$969	\$858	\$425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ROCK TOTALS (Cu. Yds.)/ROCK COSTS:														
Ballast:		0	50	0	0	0	0	0	0	0	0	0	0	0
		\$0	\$796	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Surface:		100	120	0	0	100	100	200	200	150	0	0	150	200
		\$1,986	\$3,048	\$0	\$0	\$2,633	\$2,868	\$4,964	\$3,972	\$3,810	\$0	\$0	\$3,950	\$5,736
Oversize:		0	0	0	0	0	0	0	0	0	0	0	0	0
		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CULVERTS AND FLUMES:		\$0	\$1,092	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
STRUCTURES:		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
MISC. EXPENSES:		\$709	\$145	\$129	\$64	\$522	\$507	\$604	\$709	\$145	\$129	\$64	\$522	\$507
OVERHEAD:		\$336	\$599	\$137	\$68	\$336	\$495	\$562	\$492	\$371	\$24	\$12	\$455	\$613
TOTAL COSTS:		\$4,074	\$7,259	\$1,663	\$824	\$4,070	\$5,993	\$6,801	\$5,960	\$4,487	\$296	\$147	\$5,505	\$7,419
COST PER STATION:		\$33.63	\$292.09	\$75.59	\$75.59	\$45.65	\$69.16	\$65.84	\$49.20	\$180.58	\$13.46	\$13.46	\$61.75	\$85.62

Forest Access Road Maintenance Specifications

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the cut slope/fill slope ratios. Remove slides from ditches and the roadway. Repair fill-failures, in accordance with Clause 4-6 EMBANKMENT SLOPE RATIO, with selected material or material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

Surface

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

Drainage

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

Forest Access Road Maintenance Specifications

Preventative Maintenance

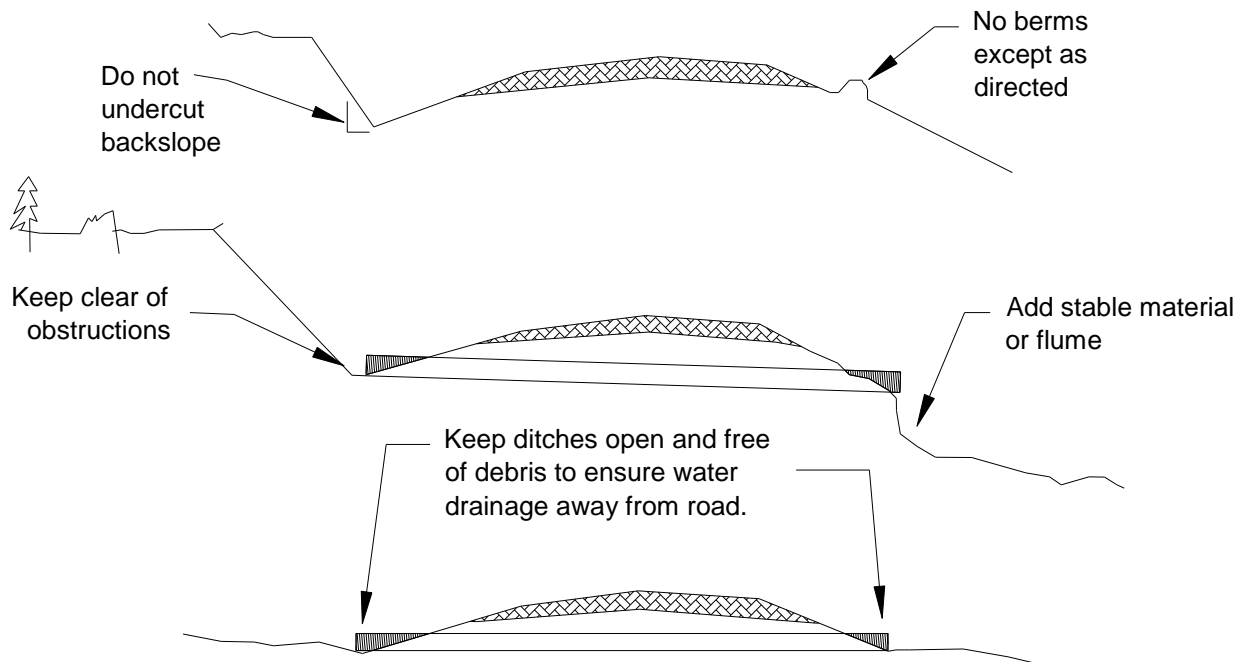
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

Debris

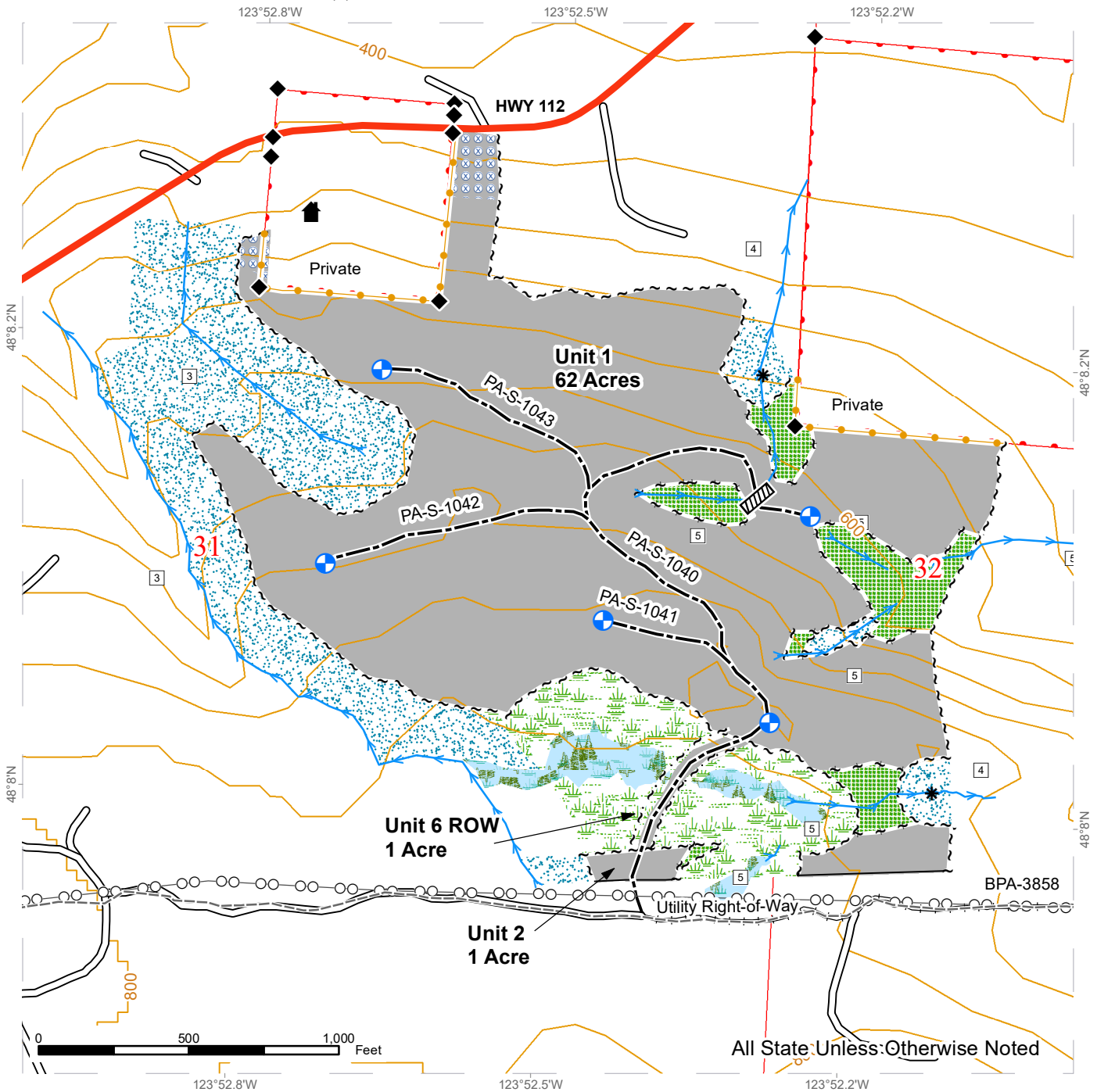
- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



LOGGING PLAN MAP

SALE NAME: ON THE LINE
AGREEMENT#: 30-102018
TOWNSHIP(S): T30R9W, T31R9W
TRUST(S): State Forest Transfer (1)

REGION: Olympic Region
COUNTY(S): Clallam
ELEVATION RGE: 410'-1410'



All State Unless Otherwise Noted

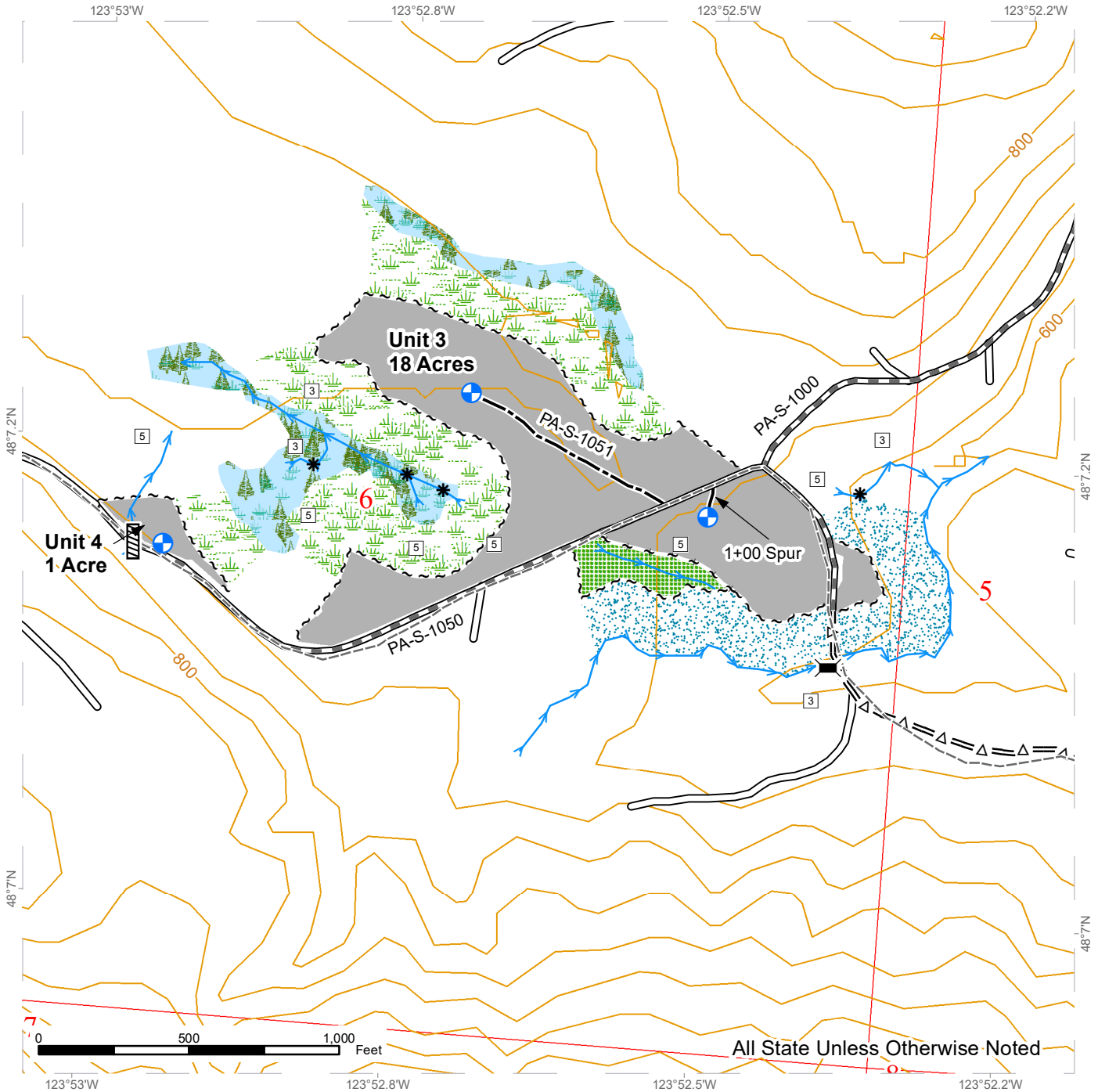
Leave Tree Area	Sale Boundary Tags	Existing Roads	Bridge
Riparian Management Zone	Timber Type Change	Optional Construction	Culvert
Ground Based Harvest	Leave Tree Tags	Optional Prehaul	Gate (AA1)
Wetland Management Zone	Take / Removal Trees	Optional Reconstruction	Rock Pit
Forested Wetland	Stream Type	Required Prehaul	Structure
Hazard Abatement	Stream Type Break	Required Reconstruction	Waste Area
Power Lines	Streams	Sadie_Creek	Survey Monument
	Highway	Proposed Landing	



LOGGING PLAN MAP

SALE NAME: ON THE LINE
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TOWNSHIP(S): T30R9W, T31R9W
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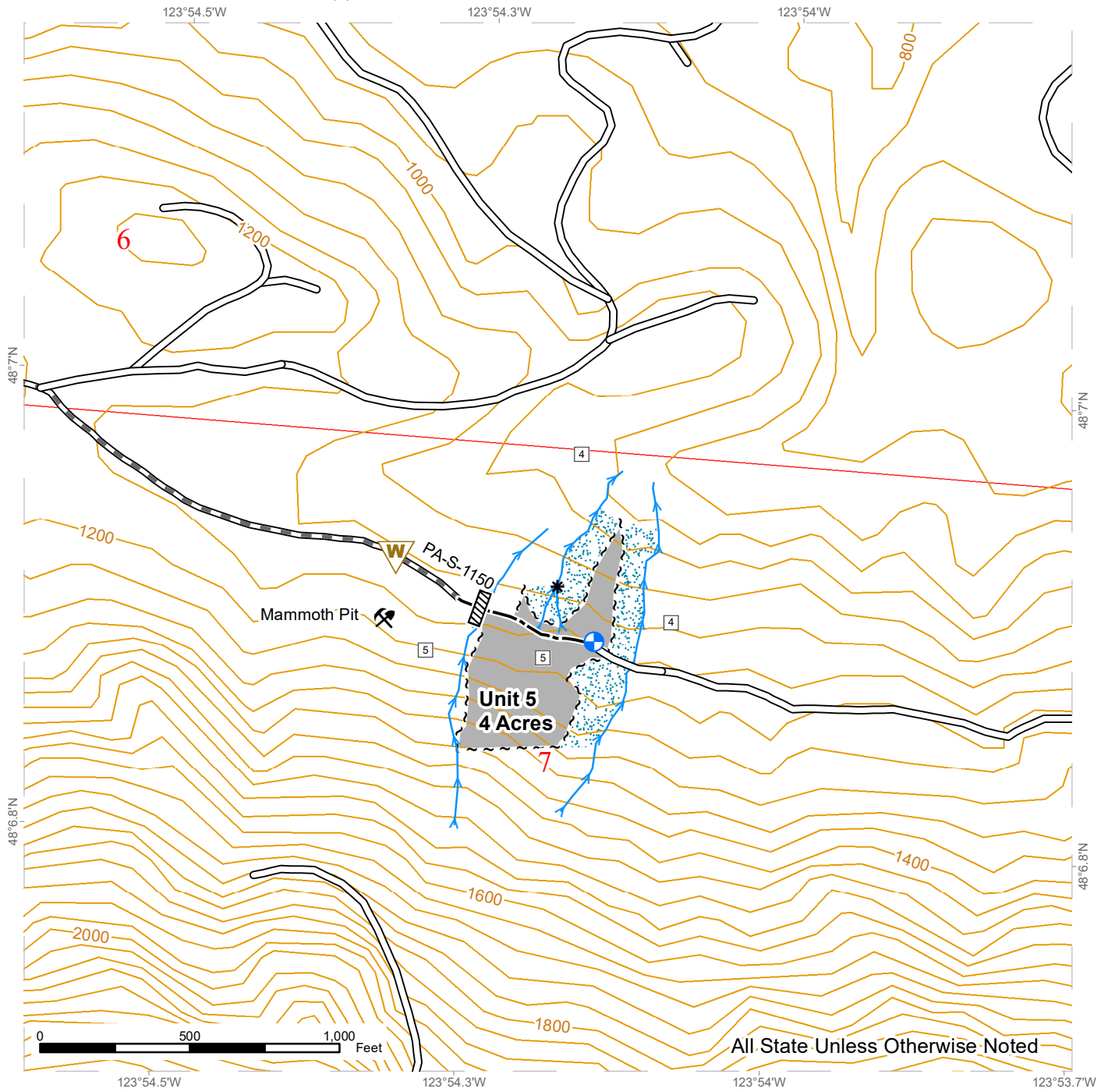


Leave Tree Area	Sale Boundary Tags	Existing Roads	Bridge
Riparian Management Zone	Timber Type Change	Optional Construction	Culvert
Ground Based Harvest	Leave Tree Tags	Optional Prehaul	Gate (AA1)
Wetland Management Zone	Take / Removal Trees	Optional Reconstruction	Rock Pit
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