



**TIMBER NOTICE OF SALE**

**SALE NAME: MUFFET**

**AGREEMENT NO: 30-092037**

**AUCTION:** September 27, 2016 starting at 10:00 a.m., **COUNTY:** Kitsap  
South Puget Sound Region Office, Enumclaw, WA

**SALE LOCATION:** Sale located approximately 13 miles northwest of Bremerton.

**PRODUCTS SOLD  
AND SALE AREA:**

All timber, except leave trees marked with blue paint or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white "Timber Sale Boundary" tags, the GM-2 Road, and property line marked with pink flagging in Unit #1; white "Timber Sale Boundary" tags and the GM-23 Road in Unit #2; white "Timber Sale Boundary" tags, timber type change, property line marked with pink flagging, and the GM-1 and GM-12 roads in Unit #3; white "Timber Sale Boundary" tags, the GM-1 and GM-2 roads in Unit #4; white "Timber Sale Boundary" tags and Kingsway NW Road in Unit #5; white "Timber Sale Boundary" tags, timber type change, and property line marked with pink flagging in Unit #6; white "Timber Sale Boundary" tags, property line marked with pink flagging, Hintzville Road NW, and the Seabeck Holly Road in Unit #7; white "Timber Sale Boundary" tags and timber type change in Unit #8; all timber bounded by orange right of way tags on part(s) of Sections 14 and 15 all in Township 24 North, Range 2 West, Sections 8, 9, 16 and 17 all in Township 24 North, Range 1 West, W.M., containing 152 acres, more or less.

**CERTIFICATION:** This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: BV-SFIS-US09000572) and FSC 100% raw materials under the Forest Stewardship Council® Standard (cert no: BV-FM/COC-080501).

**ESTIMATED SALE VOLUMES AND QUALITY:**

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	15	8	3,608				102		2,142	818	469	77
Hemlock	12.8	10	588						139	203	197	49
Red cedar	13.9		307							199	108	
White pine	9.8		33						14	12	4	3
Red alder	16.9		15						6	6	3	
Cottonwood	45		11						11			
Maple	13.7		3									3
Sale Total			4,565									

**MINIMUM BID:** \$1,277,000.00 **BID METHOD:** Sealed Bids

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

**EXPIRATION DATE:** September 30, 2018 **ALLOCATION:** Export Restricted

**BID DEPOSIT:** \$127,700.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.



## TIMBER NOTICE OF SALE

**HARVEST METHOD:** Harvesting activities are estimated to be 100% ground-based. Yarding may be restricted during wet weather if rutting becomes excessive, per clause, H-017.

Cutting and yarding will not be permitted from November 1st to April 30th, nor on weekdays from 7:00 pm to 7:00 am, weekends, or state recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate from November 1st to April 30th, the Purchaser shall comply with a Winter Operating Plan to include further protection of water, soil, roads and other forest assets at the Purchaser's expense. Preventative measures must be in place prior to commencing any winter operations.

Cutting, yarding, rock pit operation, road construction or heavy equipment operation is not allowed from one hour before official sunrise to two hours after official sunrise, and from one hour before official sunset to one hour after official sunset from April 1 through August 31, within wildlife timing restriction area as shown on the timber sale map. This restriction does not apply to hauling timber, rock or equipment.

**ROADS:** 68.72 stations of optional construction. 156.35 stations of required pre-haul maintenance. 163.08 stations of required post-haul maintenance. 68.72 stations of decommissioning, if built. Cross section designs are available at the South Puget Sound Region office upon request. Purchaser maintenance on the AR-4, GM-2, GM-10, GM-12, GM-23 roads, and Spurs 1-9. Designated maintenance on all other roads used. Rock for this proposal may be obtained from the state owned Horse Camp Rock Pit located in Section 10, Township 24 North, Range 01 West, W.M. or from any commercial source at the Purchaser's expense, as approved in writing by the Contract Administrator.

Road construction, rock haul and timber haul, will not be permitted from November 1st to April 30th, nor on weekdays from 7:00 pm to 7:00 am at all on weekends or state recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate from November 1st to April 30th, the Purchaser shall comply with a Winter Operating Plan to include further protection of water, soil, roads and other forest assets at the Purchaser's expense. Preventative measures must be in place prior to commencing any winter operations.

## ACREAGE DETERMINATION

**CRUISE METHOD:** Unit acreage was determined by traversing the boundaries by GPS. Right of way acreage was determined by multiplying length times width. GPS data files are available upon request by emailing [rachel.mason@dnr.wa.gov](mailto:rachel.mason@dnr.wa.gov). See cruise narrative for cruise method.

**FEES:** \$81,029.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

**SPECIAL REMARKS:** Purchaser must provide a written Extreme Hazard Abatement Plan, which meets the requirements of contract clause S-020. Hazard Abatement is required within 100 feet of Kingsway NW in Unit #5 and Seabeck Holly Road in Unit #7, and 200 feet from any structures along the north and west boundary of Unit #3 and southwest corner of Unit #7. Approximate areas shown on the Timber Sale Map.

Type 5 streams are protected with 30 foot Equipment Limitation Zones or 50 foot Equipment Exclusion Zones, per contract clauses H-140 and H-141. These are marked with pink and black striped ribbon in Units #1, #3, and #8.



## TIMBER NOTICE OF SALE

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There is a designated skid trail marked with orange flagging across a Type 5 stream located in Unit #8.

Purchaser must enter into two road approach permits with Kitsap County. One for Kingsway NW and one for Seabeck Holly Road NW.

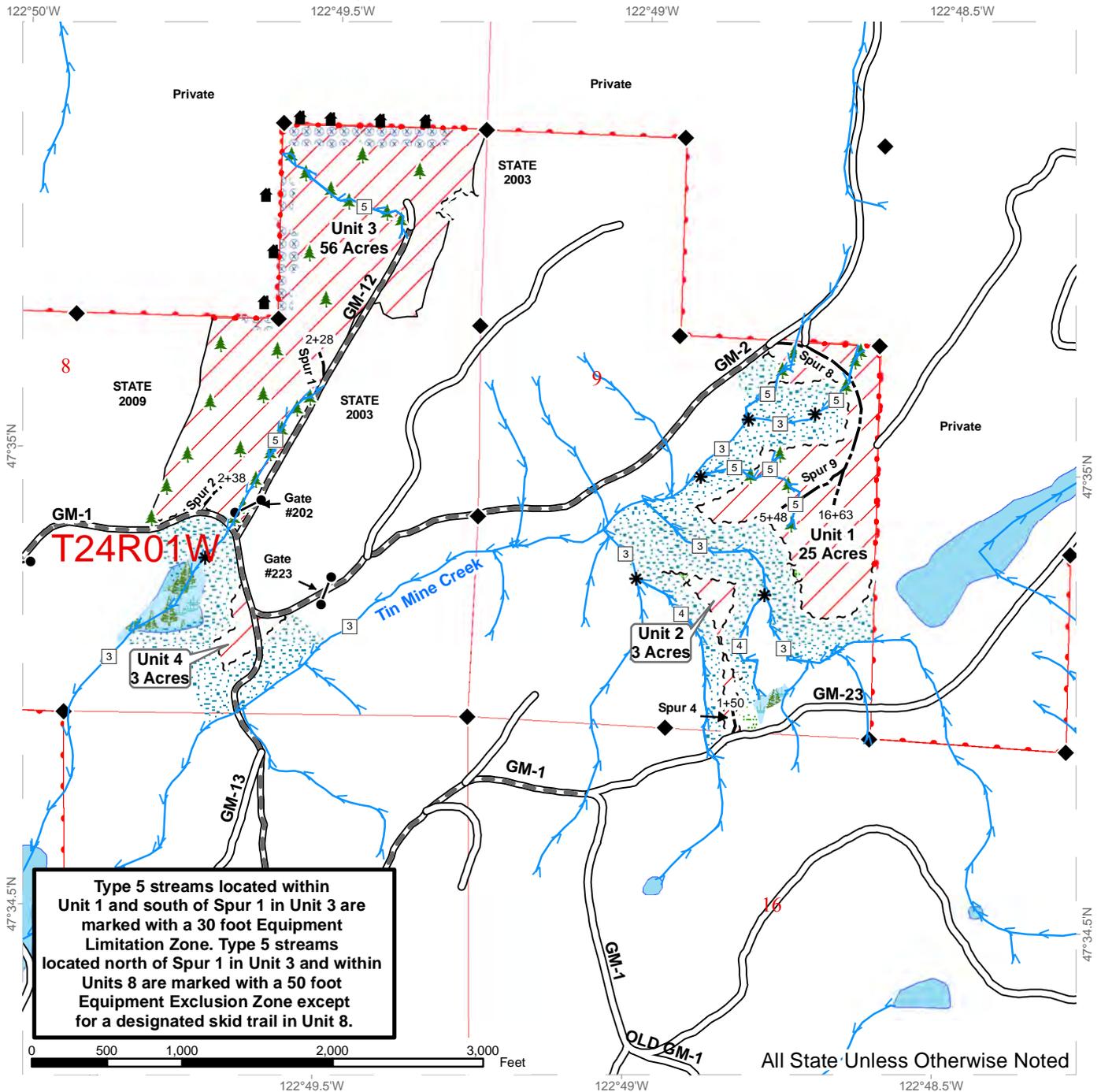
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See map for gate locations. Gate keys may be obtained by contacting the South Puget Sound Region Office at (360) 825-1631 or by contacting Nathan McReynolds at (253) 381-2015.

# TIMBER SALE MAP

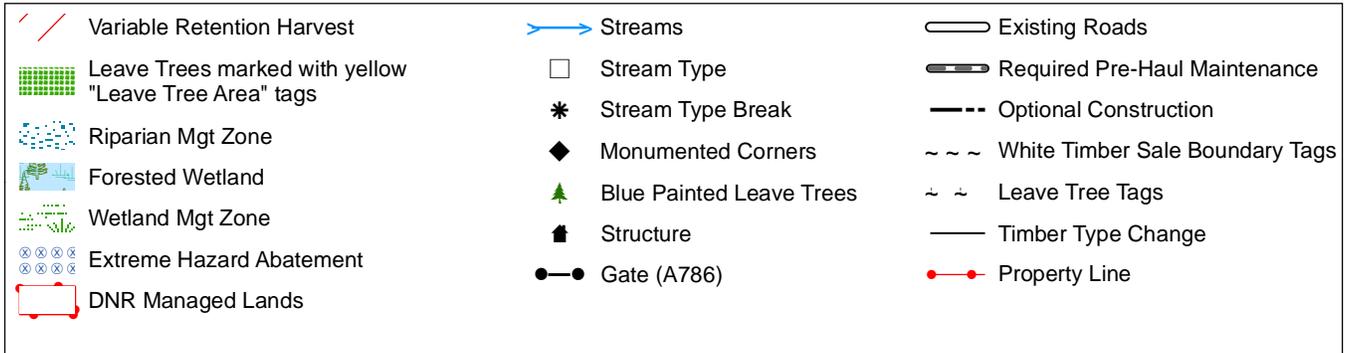
**SALE NAME:** MUFFET  
**AGREEMENT #:** 92037  
**TOWNSHIP(S):** T24R01W, T24R02W  
**TRUST(S):** State Forest Transfer (1)

**REGION:** South Puget Sound Region  
**COUNTY(S):** KITSAP  
**ELEVATION RGE:** 428-941



Type 5 streams located within Unit 1 and south of Spur 1 in Unit 3 are marked with a 30 foot Equipment Limitation Zone. Type 5 streams located north of Spur 1 in Unit 3 and within Units 8 are marked with a 50 foot Equipment Exclusion Zone except for a designated skid trail in Unit 8.

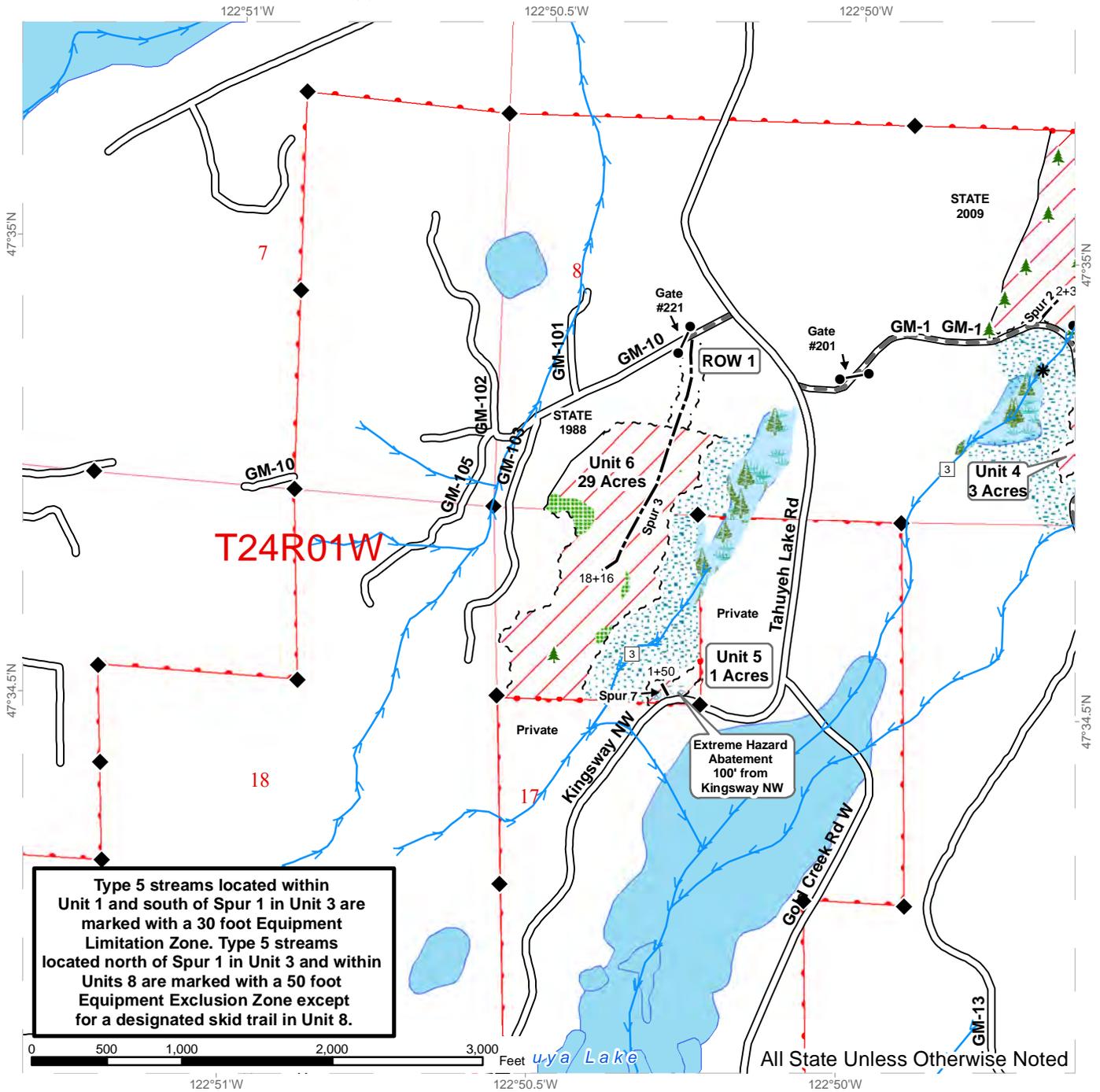
All State Unless Otherwise Noted



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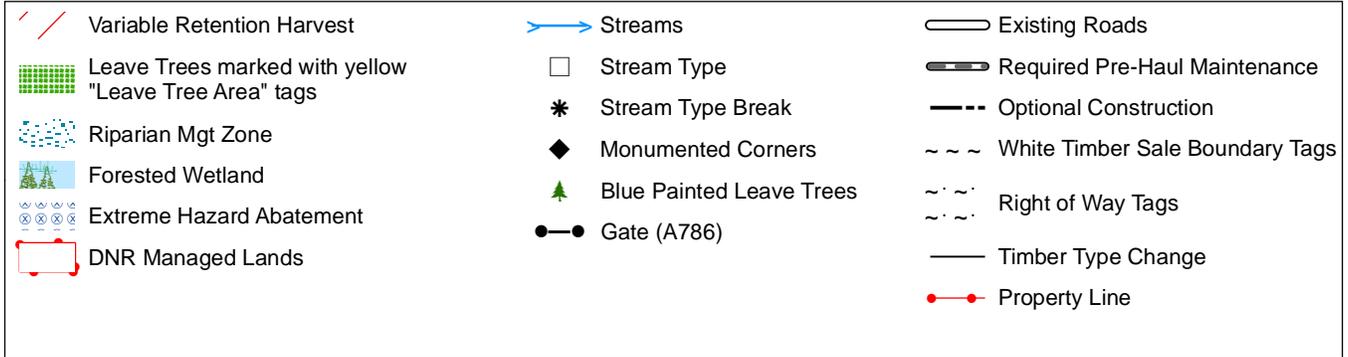
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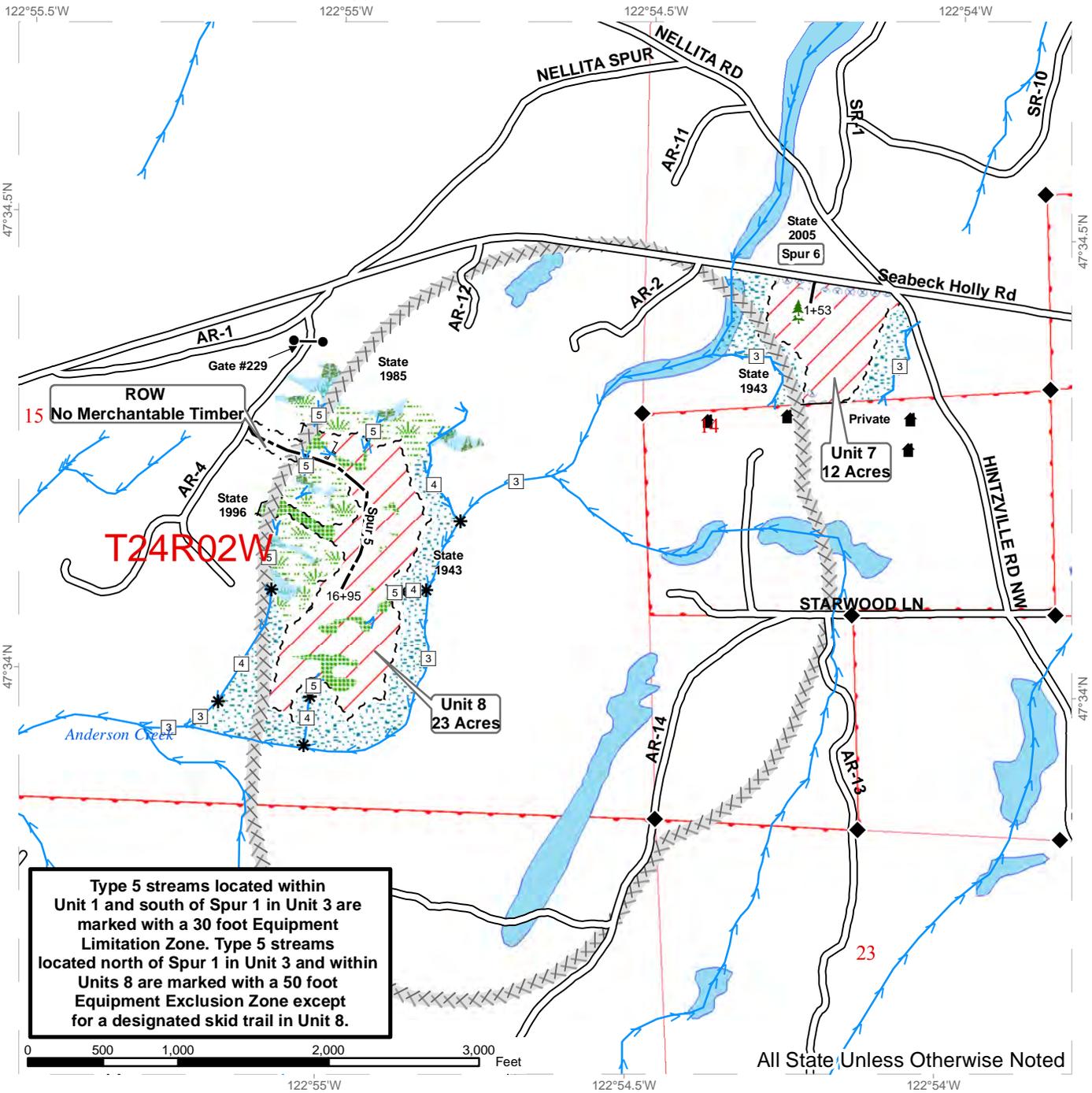
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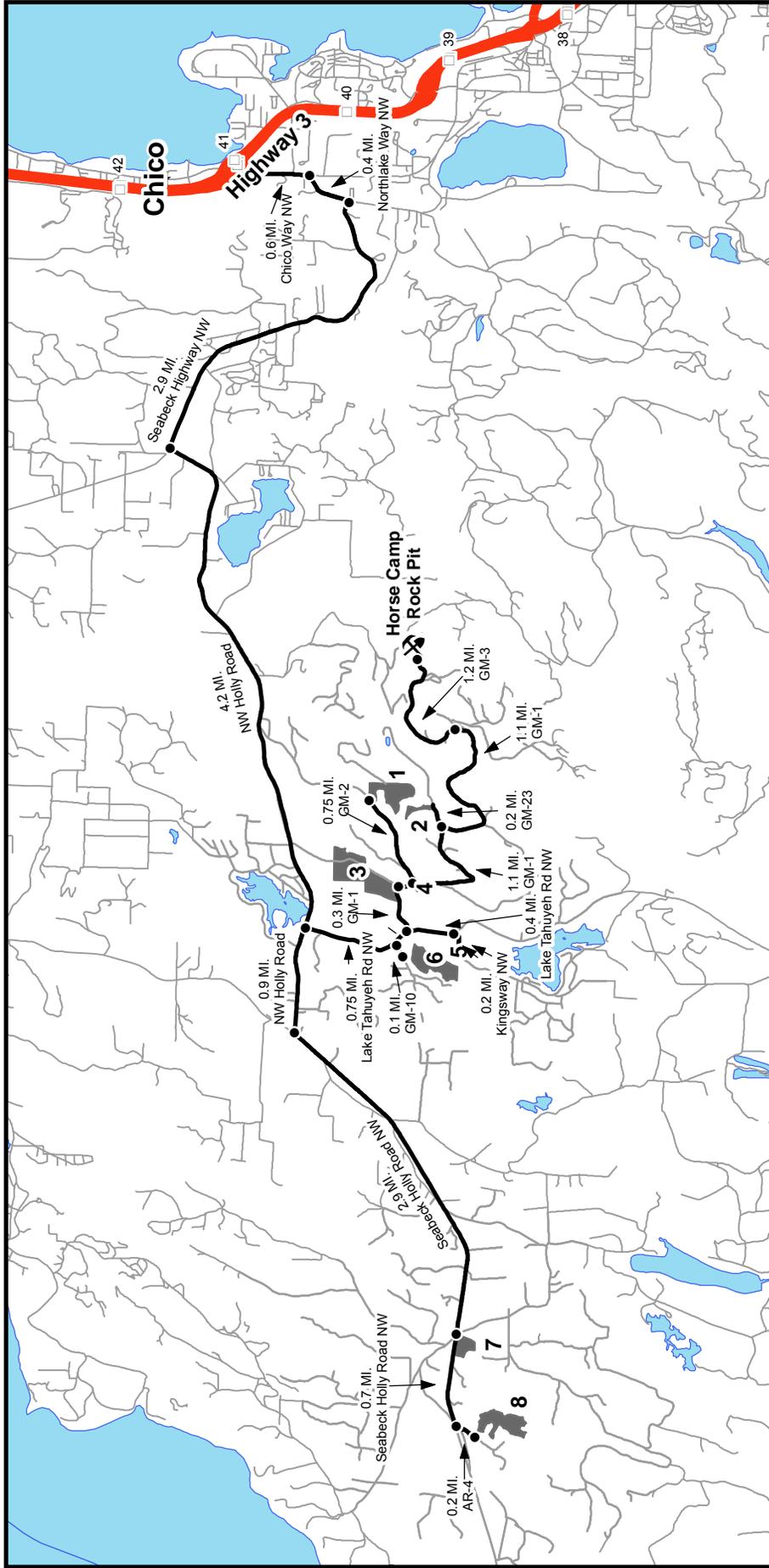
All State Unless Otherwise Noted

Variable Retention Harvest	Streams	Existing Roads
Leave Trees marked with yellow "Leave Tree Area" tags	Stream Type	Optional Construction
Riparian Mgt Zone	Stream Type Break	Designated Skid Trail
Forested Wetland	Monumented Corners	White Timber Sale Boundary Tags
Wetland Mgt Zone	Blue Painted Leave Trees	Right of Way Tags
Extreme Hazard Abatement	Structure	Timber Type Change
DNR Managed Lands	Gate (A786)	Wildlife Timing Restriction

# DRIVING MAP

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## Driving Directions

Directions to Units 1 – 6: From Highway 3 in Chico, head south on Chico Way NW for 0.6 miles. Turn right on Northlake Way NW and travel for 0.4 miles. Take a slight right onto Seabeck Highway NW and travel for 2.9 miles. At the traffic circle, take the 2nd exit onto NW Holly Rd and travel for 4.2 miles. Turn left on to Lake Tahuyeh Rd NW and travel for 0.75 miles to gate #221. Turn right on to the GM-10 Rd and Unit 6 is 0.1 miles down on the left. On Lake Tahuyeh Rd NW, travel another 0.1 miles to gate #201. Take GM-1 0.3 miles, Unit 4 is on the left. Travel 0.2 miles to gate #223, Unit 3 is on both sides of road. Continue 0.75 miles through gate #223 on GM-2 road. Unit 1 is on the right. From gate #223, back on GM-1 road, travel for 1.1 miles, turn left on to GM-23 and travel 0.2 miles. Unit 2 is on the left. Lastly back on Lake Tahuyeh Rd NW at gate #201, travel 0.4 miles south. Turn right on to Kingsway NW. Travel for 0.2 miles, Unit 5 is on the right.

Directions to Units 7 & 8: At the intersection of Holly Rd NW and Lake Tahuyeh Rd NW, continue west on Holly Rd NW for 0.9 miles. Turn left on to Seabeck Holly Rd NW, travel for 2.9 miles. Unit 7 is on the left. Continue on Seabeck Holly Rd NW past Unit 7 for 0.7 miles to gate #231. Travel 0.2 miles on AR-4 Rd Unit 8 is on the left.

## Milepost Markers

- Milepost Markers
- Haul Route
- Other Route
- Timber Sale Unit
- Highways
- Distance Indicator
- ★ Town
- ⚡ Existing Rock Pit

**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

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

**Export Restricted Lump Sum AGREEMENT NO. 30-092037**

**SALE NAME: MUFFET**

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on September 27, 2016 and the sale was confirmed on \_\_\_\_\_. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees marked with blue paint or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white "Timber Sale Boundary" tags, the GM-2 Road, and property line marked with pink flagging in Unit #1; white "Timber Sale Boundary" tags and the GM-23 Road in Unit #2; white "Timber Sale Boundary" tags, timber type change, property line marked with pink flagging, and the GM-1 and GM-12 roads in Unit #3; white "Timber Sale Boundary" tags, the GM-1 and GM-2 roads in Unit #4; white "Timber Sale Boundary" tags and Kingsway NW Road in Unit #5; white "Timber Sale Boundary" tags, timber type change, and property line marked with pink flagging in Unit #6; white "Timber Sale Boundary" tags, property line marked with pink flagging, Hintzville Road NW, and the Seabeck Holly Road in Unit #7; white "Timber Sale Boundary" tags and timber type change in Unit #8; all timber bounded by orange right of way tags, located on approximately 152 acres on part(s) of Sections 14, and 15 all in Township 24 North, Range 2 West, Sections 8, 9, 16, and 17 all in Township 24 North, Range 1 West W.M. in Kitsap County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

**G-020 Inspection By Purchaser**

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

**G-031 Contract Term**

Purchaser shall complete all work required by this contract prior to September 30, 2018.

**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 \$668.00 per acre per annum for the acres on which an operating release has not been issued within the harvest area.
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

#### G-053 Surveys - Sensitive, Threatened, Endangered Species

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

#### G-060 Exclusion of Warranties

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

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

descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.

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

#### G-062 Habitat Conservation Plan

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

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

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

G-063 Incidental Take Permit Notification Requirements

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

G-064 Permits

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

## G-065 Regulatory Disclaimer

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

## G-066 Governmental Regulatory Actions

## a. Risk

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

## b. Sale Area

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

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

## c. Adjustment of Price

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

## G-070 Limitation on Damage

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

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

The Parties may agree to adjustments in the sale area boundary. The cumulative changes to the sale area during the term of the contract shall not exceed more than four percent of the original sale area. If the sale area is increased, the added forest products become a part of this contract. The State shall determine the volume added and shall calculate the increase to the total contract price using the rates set forth in clause G-101, G-102, or G-103. If the sale area is reduced, the State shall determine the volume to be reduced. The State shall calculate the reduction to the total contract price using the rates set forth in clause G-101, G-102, or G-103.

G-101 Forest Products Not Designated

Any forest products not designated for removal, which must be removed in the course of operations authorized by the State, shall be approved and designated by the Contract Administrator. Added forest products become a part of this contract and the Scribner log scale volume, as defined by the Northwest Log Rules Advisory Group, shall be determined by the Contract Administrator. Added forest products shall be paid for at the following contract payment rates per Mbf Scribner log scale.

The pricing schedule has not been set for the sale.

G-111 Title and Risk of Loss

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

G-115 Forest Stewardship Council® (FSC®) Certification

Forest products purchased under this contract are FSC 100% certified as being in conformance with the Forest Stewardship Council Standard under certificate number: BV-FM/COC-080501.

**G-116 Sustainable Forestry Initiative® (SFI) Certification**

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

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

**G-120 Responsibility for Work**

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

**G-121 Exceptions**

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

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

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

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

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

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

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

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

G-140 Indemnity

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

G-150 Insurance

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

#### G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Enumclaw, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager has sole authority to waive, modify, or amend the terms of this contract in the manner prescribed in clause G-180.

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

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

G-210 Violation of Contract

G-220 State Suspends Operations

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

G-210 Violation of Contract

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

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

#### G-220 State Suspends Operation

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

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

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

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

#### G-230 Unauthorized Activity

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

**G-240 Dispute Resolution**

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

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

**G-250 Compliance with All Laws**

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

**G-260 Venue**

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

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

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

**G-280 Operating Release**

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

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; the GM-1, GM-2, GM-3, GM-10, GM-12, GM-23, and AR-4 roads and Spurs 1-9. 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 GM-1, GM-2, or GM-3 roads, unless authority is granted in writing by the Contract Administrator.

G-395 Road Approach Permit

Purchaser must enter into a road approach permit with Kitsap County.

Purchaser must provide the State with a copy of the executed permit, or a letter from Kitsap County, indicating that a satisfactory road approach permit has been consummated between Purchaser and Kitsap County.

## 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:

To be determined approximately one month prior to the day of sale.

## 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 \$122,114.00. The total contract price consists of a \$0.00 contract bid price plus \$122,114.00 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-001 Operations Outside the Sale Boundaries

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

## H-013 Reserve Tree Damage Definition

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

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

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 144 square inches.
- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.

- c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

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

#### H-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-018 Temporary Stream Crossings

A temporary stream crossing is required to access 0.5 acres in Unit #3, and 1 acre in Unit #8.

Purchaser shall comply with the following during the yarding operation:

- a. Adhere to the approved Hydraulic Permit Application (HPA) or Forest Practice Application (FPA) with approved hydraulic project work, if required, amend a current FPA or obtain a new FPA prior to commencing any new stream crossing construction.
- b. Location of the temporary stream crossing must be approved by the Contract Administrator.
- c. A temporary stream crossing shall not exceed 12 feet in width, including rub trees.
- d. Purchaser shall suspend operations during periods of wet weather when a high potential for sediment delivery into typed waters may occur.
- e. Temporary stream crossings shall be removed at the time of completion of yarding as required by the Contract Administrator.

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

H-035 Fall Trees Into Sale Area

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

H-051 Branding and Painting

Purchaser shall provide a State of Washington registered log brand, acceptable to the State, unless the State agrees to furnish the brand. All purchased timber shall be branded in a manner that meets the requirements of WAC 240-15-030(2)(a)(i). All timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be yarded by ground based equipment unless authority to use other equipment is granted in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Cutting, yarding and timber haul will not be permitted from November 1st to April 30th, nor on weekdays from 7:00 pm to 7:00 am, weekends, or state recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate from November 1st to April 30th, the Purchaser shall comply with a Winter Operating Plan to include further protection of water, soil, roads and other forest assets at the Purchaser's expense. Preventative measures must be in place prior to commencing any winter operations.
- b. To facilitate proper reforestation in areas of high slash concentrations, the Purchaser shall, in concurrence with ground based yarding, clear plantable spots at an 11 foot by 11 foot spacing.
- c. Any downed timber or logs existing more than 5 years from the day of sale that is yarded to the landing shall be returned to their original locations.

- d. Type 5 stream crossings may be allowed at locations approved in writing by the Contract Administrator. Purchaser shall place a culvert or log puncheon at crossing locations, when water is present, to protect the stream bank and prevent sedimentation. All materials placed in and/or over the stream at these crossings shall be removed immediately upon completion of yarding on that skid trail.
- e. Any and all operations associated with this sale may be temporarily suspended when, in the opinion of the Contract Administrator, there is the potential for delivery to typed water.
- f. No equipment shall operate, or trees damaged, outside the timber sale boundary.
- g. Purchaser shall notify all employees and contractors working on this sale that any danger tree marked or unmarked may be felled. Any marked danger tree will be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.

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

#### H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Purchaser shall leave 2 down logs per acre. A log is defined as having a minimum diameter of 12 inches on the small end of the log and a minimum length of 20 feet or at least 100 board feet.
- b. Wildlife timing restrictions will be in effect for Unit #8 and a portion of Unit #7, as shown as the wildlife timing restriction area on the timber sale map. Cutting, yarding, rock pit operation, road construction or heavy equipment operation within the restricted area will not be permitted from one hour before official sunrise to two hours after official sunrise, and from one hour before official sunset to one hour after official sunset from April 1 through August 31, within wildlife timing restriction area. This restriction does not apply to hauling timber, rock or equipment.
- c. Type 5 streams located within Unit #1 and south of Spur 1 in Unit #3 are marked with a 30 foot equipment limitation zone. Type 5 streams located north of Spur 1 located in Unit #3 and in Unit #8 are marked with a 50 foot equipment exclusion zone, except for a designated skid trail located in Unit #8. No equipment shall operate within the 50 foot equipment exclusion zones located within Units #3 and #8.
- d. There is a designated skid trail marked with orange ribbon located within Unit #8 across a Type 5 stream, as shown on the timber sale and logging plan

maps. A puncheon will be used to cross the stream and will be removed when work is completed.

- e. Purchaser must enter into two road approach permits with Kitsap County. One for Kingsway NW and one for Seabeck Holly Road NW. Additional information in G-395.

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.

**Section C: Construction and Maintenance**

**C-040 Road Plan**

Road construction and associated work provisions of the Road Plan for this sale, dated 1/28/2016 are hereby made a part of this contract.

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

Purchaser shall perform work at their own expense on the AR-4, GM-2, GM-10, GM-12, GM-23 roads, and Spurs 1-9. 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 all other roads used not covered in clause C-050. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the State current Equipment Rate Schedule on file at the region and Olympia offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

**C-090 Landing Location**

Landings shall be built at least 75 feet off the GM-1, and GM-2 road(s).

**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-050 Cessation of Operations for Low Humidity**

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

**S-060 Pump Truck or Pump Trailer**

Purchaser shall provide a fully functional pump truck or pump trailer equipped to meet the specifications of WAC 332-24-005 and WAC 332-24-405 during the "closed

season" or as extended by the State and shall provide trained personnel to operate this equipment on the sale area during all operating periods.

S-100 Stream Cleanout

Slash or debris which enters any stream 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-120 Stream Protection

No timber shall be felled into, across, or yarded through any stream, except at Type 5 stream crossings approved in writing by the Contract Administrator and as described in H-140.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

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

d. Hazardous Material Release Reporting

Releases of oil or hazardous materials to the environment must be reported according to the State Department of Ecology (ECY). It is the responsibility

of the Purchaser to have all emergency contact information readily available and a means of remote communication for purposes of quick notification. In the event of a spill, the Purchaser is responsible for notifying the following:

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

DNR Contract Administrator

ECY - Northwest Region:

1-425-649-7000

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

ECY - Southwest Region:

1-360-407-6300

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

ECY - Central Region:

1-509-575-2490

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

ECY - Eastern Region:

1-509-329-3400

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

S-131 Refuse Disposal

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

S-140 Fence Repair

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

understanding of the difficulty of proving loss and the inconvenience or infeasibility of obtaining an adequate remedy. These liquidated damages provisions provide greater certainty for the Purchaser by allowing the Purchaser to better assess its responsibilities under the contract.

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

D-041 Reserve Tree Excessive Damage

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

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

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

\_\_\_\_\_  
Purchaser

\_\_\_\_\_  
Art Tasker  
South Puget Sound Region Manager

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

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

CORPORATE ACKNOWLEDGEMENT

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

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

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

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

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

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

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



## WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

### FOREST EXCISE TAX ROAD SUMMARY SHEET

**Region:** South Puget Sound

**Timber Sale Name:** Muffet

**Application Number:** 30- 092037

#### EXCISE TAX APPLICABLE ACTIVITIES

**Construction:** 6,872 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:** 6,872 linear feet  
*Road to be made undriveable but not officially abandoned.*

**Pre-Haul Maintenance:** 15,635 linear feet  
*Existing road to receive maintenance work (specifically required by the contract) prior to haul*

#### EXCISE TAX EXEMPT ACTIVITIES

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

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

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

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

(Revised 6/13)

## PRE-CRUISE NARRATIVE

Sale Name: <b>Muffet</b>	Region: <b>South Puget Sound</b>
Agreement #: <b>30-092037</b>	District: <b>Hood Canal</b>
Contact Forester: <b>Nicholas Larson</b>	Phone/ Location: <b>(360)-509-1713</b> Ext: /
Alternate Contact: <b>Nathan McReynolds</b>	Phone/ Location: <b>(253)-381-2015</b> Ext: /

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

### UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit #	Harvest R/W or RMZ WMZ	Legal Description Sec/Twp/Rng	Grant	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination  (List method and error of closure if applicable)
					RMZ/WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1		Sec 09/ T 24N/ R 01 W	01	25.6		0.1	0.4		25.1	Garmin 64S
2		Sec 09/ T 24N/ R 01 W	01/02	3.3		0.2			3.1	Garmin 64S
3		Sec 08/ T 24N/ R 01 W	01	56.4			0.3		56.1	Garmin 64S
4		Sec 08/ T 24N/ R 01 W	01	2.6			0.1		2.5	Garmin 64S
5		Sec 17/ T 24N/ R 01 W	01	1.3					1.3	Garmin 64S
6		Sec 17/ T 24N/ R 01 W	01	30.4		1.5			28.9	Garmin 64S
7		Sec 14/ T 24N/ R 02 W	01	11.5					11.5	Garmin 64S
8		Sec 15/ T 24N/ R 02 W	01	26.6		3.7			22.9	Garmin 64S
ROW 1		Sec 17/ T 24N/ R 01 W	01	0.9					0.9	Garmin 64S
<b>TOTAL ACRES</b>				158.6		5.5	0.8		152.3	

### HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Mark leave, take, etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Leave Trees dispersed and clumped. Marked with blue paint or yellow 'Leave Tree Area' tags	None	208 Leave trees
2	Leave Trees clumped. Marked with yellow 'Leave Tree Area' tags	None	24 Leave trees
3	Leave Trees dispersed and clumped. Marked with blue paint or yellow 'Leave Tree Area' tags	None	24 Leave trees
4	Leave Trees dispersed. Marked with blue paint.	None	448 Leave trees

5	Leave Trees disperse. Marked with blue paint.	None	12 Leave trees
6	Leave Trees dispersed and clumped. Marked with blue paint or yellow "Leave Tree Area" tags	None	248 Leave trees
7	Leave Trees dispersed and clumped. Marked with blue paint or yellow "Leave Tree Area" tags	None	92 Leave trees
8	Leave Trees dispersed and clumped. Marked with blue paint or yellow "Leave Tree Area" tags	None	246 Leave trees
ROW 1	Right-of-way marked with orange flagging.	None	

**OTHER PRE-CRUISE INFORMATION:**

Unit #	Estimated Volume	Access information (Gates, locks, etc.)	Photos, traverse maps required
1		Gates #201 & #223, Locks will be Master A786	Available at Belfair Office
2		Gate #201, Lock will be Master A786	Available at Belfair Office
3		Gates #201 & #202 Locks will be Master A786	Available at Belfair Office
4		Gate #201, Lock will be Master A786	Available at Belfair Office
5		Access from Kingsway NW	Available at Belfair Office
6		Gate #221, Lock will be Master A786	Available at Belfair Office
7		Access from Seabeck Holly road.	Available at Belfair Office
8		Gate #231, Lock will be Master A786	Available at Belfair Office
ROW 1		Gate #221, Lock will be Master A786	Available at Belfair Office

**REMARKS:**

Directions to units 1 – 6: From Highway 3 in Chico, head south on Chico Way NW for 0.6 miles. Turn right onto Northlake Way NW and travel for 0.4 miles. Take slight right on to Seabeck Highway NW and travel for 2.9 miles. At the traffic circle, take the 2<sup>nd</sup> exit onto NW Holly Rd and travel for 4.2 miles. Turn left on to Lake Tahuyeh Rd NW and travel for 0.75 miles to gate #221. Unit 6 is 0.1 miles down GM-10 Rd on left. On Lake Tahuyeh Rd NW, travel another 0.1 miles to gate #201. Take GM-1 0.3 miles, Unit 4 is on the left. Travel 0.2 miles to gate #223, unit 3 is on both sides of road. Travel 0.75 miles through gate #223 on GM-2 road, unit 1 is on the right. From gate #223, back on GM-1 road, travel for 1.1 miles, turn left on to GM-23 and travel 0.2 miles. Unit 2 is on the left. Lastly back on Lake Tahuyeh Rd NW at gate #201, travel 0.4 miles south. Turn right on to Kingsway NW. Travel for 0.2 miles, unit 5 is on the right.

Directions to units 7 & 8: Back at the intersection of Holly Rd NW and Lake Tahuyeh Rd NW, continue west on Holly Rd NW for 0.9 miles. Turn left on to Seabeck Holly Rd NW, travel for 2.9 miles, unit 7 is on the left. Continue on Seabeck Holly Rd NW past unit 7 for 0.7 miles to gate #231. Travel 0.2 miles on AR-4 Rd, unit 8 is on the left.

<b>Prepared By: Nicholas Larson</b> <b>Date: 01/20/2016</b>	<b>Title: State Lands Forester</b>	<b>CC: Lee Roach</b>
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*Revised 2/23/2007 (PSLD)*

## Cruise Narrative

<b>Sale Name:</b> Muffet	<b>Region:</b> South Puget Sound
<b>Agree. #:</b> 30-092037	<b>District:</b> Hood Canal
<b>Lead cruiser:</b> John Piety	<b>Completion date:</b> 2-3-2016
<b>Other cruisers on sale:</b> none	

### Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	25.1	yes	
2	3.1	yes	
3	56.1	yes	
4	2.5	yes	
5	1.3	yes	
6	28.9	yes	
7	11.5	yes	
8	22.9	yes	
RW 01	0.9	yes	
Total	152.3		

### Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (cruise:count)	Total number of plots
1	VP	33.61BAF	4.5	290' X 290'	1:1	14
2	VP	40.0 BAF	4.5	290' X 200'	1:1	3
3	VP	33.61 BAF	4.5	290' X 290'	1:1	27
4	VP	33.61 BAF	4.5	200' X 200'	1:1	3
5	VP	33.61 BAF	4.5	200' X 200'	100%	2
6	VP	33.61 BAF	4.5	290' X 290'	1:1	14
7	VP	33.61 BAF	4.5	250' X 250'	1:1	7
8	VP	33.61 BAF	4.5	270' X 270'	1:1	13
RW 01	VP	20.0 BAF	4.5	300' Along centerline	100%	2

**Sale/Cruise Description:**

<b>Minor species cruise intensity:</b>	<b>100% up to 5 trees per species</b>					
<b>Minimum cruise spec:</b>	<p>HA - Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 1/2" in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators 1/2" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (High Quality sort. Grades SM, 2S, 12"+ TDIB lengths 16-40ft. Max butt 27" Grade 3S lengths 34ft, 26ft, 17ft. TDIB 8-11". )</p> <p>HB - Logs meeting the following criteria: Surface characteristics for an Intermediate B sort will have sound tight knots not to exceed 1 1/2" in diameter. May include logs with not more than two larger knots up to 2 1/2" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (Intermediate sort. Grade 2S, 12"+TDIB lengths 16-40ft. Max butt 27" Grade 3S lengths 34ft, 26ft, 17ft min TDIB 8-11". ).</p> <p>D - Domestic quality logs that do not meet high quality or intermediate definitions. (Domestic sort. Grades 2S, 3S, 4S and utility. Lengths 16ft-40ft, min TDIB 2in.)</p> <p>O- Logs exceeding 27" on the large end. (Oversize sort. Grade 2S. Lengths 16ft-40ft, 2ft multiples butt diameter min dia. 27 in. +)</p> <p>R - Logs meeting the following criteria: Surface characteristics for a rough log sort will not meet the requirements for a domestic 2S, but still be in limitations for a domestic 3S. Meaning logs will contain excessive knots in excess of 2 1/2" and not exceeding 3" with a recovery of less than 65% of the net scale and greater than 33% of the gross scale. (Rough oversize sort. Grade 3S. Lengths 16ft-40ft, 2ft multiples TDIB 12"+)</p>					
<b>Avg ring count by sp:</b>	<b>DF =</b>	8	<b>WH =</b>	10		
<b>Leave/take tree description:</b>	Leave trees are banded with blue paint and tagged out with yellow leave tree tags.					
<b>Other conditions</b>						

**Field observations:**

Well stocked units with DF over story with RC, WH, WP and some minor amounts of hardwood. Unit #1, 3 have a large component of oversized DF. This is ground based logging so should have good recovery. Unit # 3 has some stocking and timber type variability. The other units are pretty consistent with a few openings and timber type differences. The defect seen was mostly sweep, butt rot in the RC and some frost cracks in the WH. I did see a couple poles but these are not pole stands.

**Grants: 01, 02****Prepared by:****John Piety****Title:****Cruiser****CC:**



TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT MUFFET							DATE	2/3/2016	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01	08	MUFFET	0003	THR	152.30	85	503	S	W	
24N	02W	14	MUFFET	0007							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			85	503	5.9						
CRUISE			53	293	5.5	28,525	1.0				
DBH COUNT											
REFOREST											
COUNT			32	195	6.1						
BLANKS											
100 %											
STAND SUMMARY											
		SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR		187	122.0	14.6	62	37.1	141.8	23,823	23,481	5,412	5,412
DOUG FIR-P		3	1.1	15.4	79	0.3	1.4	207	207	50	50
WHEMLOCK		46	33.2	12.8	60	8.2	29.4	4,004	3,862	1,009	1,009
WR CEDAR		47	25.1	13.9	38	7.1	26.5	2,154	2,016	697	697
W PINE		6	4.9	9.8	55	0.8	2.6	258	219	75	75
R ALDER		2	.5	16.9	68	0.2	.9	101	98	27	27
COTWOOD		1	.0	45.0	110	0.1	.4	70	70	12	12
BL MAPLE		1	.4	13.7	40	0.1	.5	22	22	7	7
<b>TOTAL</b>		293	187.3	14.1	58	54.2	203.4	30,640	29,977	7,289	7,289
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF		SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		107.0	7.8	498	540	583					
DOUG FIR-P		5.9	4.1	189	197	205					
WHEMLOCK		69.0	10.2	160	178	196					
WR CEDAR		114.8	16.7	152	182	213					
W PINE		124.8	55.6	92	207	321					
R ALDER		19.1	17.9	152	185	218					
COTWOOD											
BL MAPLE											
<b>TOTAL</b>		122.7	7.2	387	417	446	601	307	150		
CL	68.1	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		103.6	11.2	108	122	136					
DOUG FIR-P		532.1	57.7	0	1	2					
WHEMLOCK		159.4	17.3	27	33	39					
WR CEDAR		180.8	19.6	20	25	30					
W PINE		521.6	56.5	2	5	8					
R ALDER		670.0	72.6	0	1	1					
COTWOOD		922.0	99.9	0	0	0					
BL MAPLE		922.0	99.9	0	0	1					
<b>TOTAL</b>		73.6	8.0	172	187	202	216	110	54		
CL	68.1	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		60.7	6.6	133	142	151					
DOUG FIR-P		525.9	57.0	1	1	2					
WHEMLOCK		147.1	15.9	25	29	34					
WR CEDAR		187.1	20.3	21	27	32					
W PINE		366.0	39.7	2	3	4					
R ALDER		649.8	70.4	0	1	1					

TC PSTATS				PROJECT STATISTICS				PAGE 2		
				PROJECT MUFFET				DATE 2/3/2016		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
24N	01	08	MUFFET	0003	THR	152.30	85	503	S	W
24N	02W	14	MUFFET	0007						
CL	68.1		COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
COTWOOD			922.0	99.9	0	0	1			
BL MAPLE			922.0	99.9	0	0	1			
<b>TOTAL</b>			<i>47.1</i>	<i>5.1</i>	<i>193</i>	<i>203</i>	<i>214</i>	<i>89</i>	<i>45</i>	<i>22</i>
CL	68.1		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR			66.2	7.2	21,797	23,481	25,166			
DOUG FIR-P			529.9	57.4	88	207	327			
WHEMLOCK			158.5	17.2	3,199	3,862	4,526			
WR CEDAR			200.5	21.7	1,578	2,016	2,454			
W PINE			424.3	46.0	118	219	320			
R ALDER			653.5	70.8	29	98	167			
COTWOOD			922.0	99.9	0	70	140			
BL MAPLE			922.0	99.9	0	22	45			
<b>TOTAL</b>			<i>54.7</i>	<i>5.9</i>	<i>28,201</i>	<i>29,977</i>	<i>31,753</i>	<i>119</i>	<i>61</i>	<i>30</i>



TC TSTATS				STATISTICS				PAGE	1	
PROJECT				MUFFET				DATE	2/3/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	09	MUFFET	0001	25.10	14	77	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	14	77	5.5							
CRUISE	9	43	4.8		3,436		1.3			
DBH COUNT										
REFOREST										
COUNT	5	32	6.4							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	20	43.7	20.3	77	21.8	98.4	21,740	21,486	4,505	4,505
WHEMLOCK	15	71.0	13.2	67	18.5	67.2	10,650	10,204	2,583	2,582
W PINE	3	10.8	11.0	50	2.2	7.2	774	592	215	216
WR CEDAR	3	9.9	11.6	37	2.1	7.2	535	535	172	172
COTWOOD	1	.2	45.0	110	0.4	2.4	426	426	74	74
R ALDER	1	1.2	18.9	65	0.6	2.4	259	259	73	73
<b>TOTAL</b>	<b>43</b>	<b>136.9</b>	<b>15.7</b>	<b>66</b>	<b>46.6</b>	<b>184.9</b>	<b>34,384</b>	<b>33,503</b>	<b>7,623</b>	<b>7,622</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	73.1	16.8		813	977	1,140				
WHEMLOCK	70.6	18.9		187	231	274				
W PINE	99.5	68.8		105	337	568				
WR CEDAR	108.3	74.9		20	80	140				
COTWOOD										
R ALDER										
<b>TOTAL</b>	<b>107.1</b>	<b>16.3</b>		<b>514</b>	<b>614</b>	<b>714</b>	<b>458</b>	<b>234</b>	<b>115</b>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	98.8	27.4		32	44	56				
WHEMLOCK	103.0	28.5		51	71	91				
W PINE	327.4	90.7		1	11	21				
WR CEDAR	374.2	103.6			10	20				
COTWOOD	374.2	103.6			0	0				
R ALDER	374.2	103.6			1	3				
<b>TOTAL</b>	<b>83.0</b>	<b>23.0</b>		<b>105</b>	<b>137</b>	<b>168</b>	<b>296</b>	<b>151</b>	<b>74</b>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	82.0	22.7		76	98	121				
WHEMLOCK	89.9	24.9		50	67	84				
W PINE	198.7	55.0		3	7	11				
WR CEDAR	374.2	103.6			7	15				
COTWOOD	374.2	103.6			2	5				
R ALDER	374.2	103.6			2	5				
<b>TOTAL</b>	<b>54.2</b>	<b>15.0</b>		<b>157</b>	<b>185</b>	<b>213</b>	<b>126</b>	<b>64</b>	<b>32</b>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	80.3	22.3		16,705	21,486	26,268				
WHEMLOCK	92.1	25.5		7,602	10,204	12,806				
W PINE	254.4	70.5		175	592	1,010				
WR CEDAR	374.2	103.6			535	1,090				
COTWOOD	374.2	103.6			426	868				

TC TSTATS				<b>STATISTICS</b>				PAGE	2	
				PROJECT		MUFFET		DATE	2/3/2016	
<b>TWP</b>	<b>RGE</b>	<b>SECT</b>	<b>TRACT</b>	<b>TYPE</b>	<b>ACRES</b>	<b>PLOTS</b>	<b>TREES</b>	<b>CuFt</b>	<b>BdFt</b>	
<b>24N</b>	<b>01W</b>	<b>09</b>	<b>MUFFET</b>	<b>0001</b>	25.10	14	77	S	W	
CL:	68.1%	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
R ALDER		374.2	103.6		259	527				
<b>TOTAL</b>		58.5	16.2	28,072	33,503	38,934	147	75	37	



TC TSTATS				STATISTICS				PAGE	1	
PROJECT				MUFFET				DATE	2/3/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	09	MUFFET	0002	3.10	3	15	S	W	
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES			
TOTAL			3	15	5.0					
CRUISE			2	12	6.0	312	3.8			
DBH COUNT										
REFOREST										
COUNT			1	3	3.0					
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	8	40.3	24.6	108	26.9	133.3	30,514	28,170	6,361	6,361
WHEMLOCK	3	40.9	15.5	79	13.6	53.3	8,174	8,042	2,031	2,031
WR CEDAR	1	19.5	11.2	35	4.0	13.3	585	585	200	200
<b>TOTAL</b>	<i>12</i>	<i>100.7</i>	<i>19.1</i>	<i>82</i>	<i>45.8</i>	<i>200.0</i>	<i>39,273</i>	<i>36,797</i>	<i>8,592</i>	<i>8,592</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	52.8	19.9	678	846	1,015					
WHEMLOCK	5.9	4.1	189	197	205					
WR CEDAR										
<b>TOTAL</b>	<i>80.3</i>	<i>24.2</i>	<i>467</i>	<i>616</i>	<i>765</i>	<i>281</i>	<i>143</i>	<i>70</i>		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	89.0	61.6	15	40	65					
WHEMLOCK	114.6	79.3	8	41	73					
WR CEDAR	173.2	119.8		19	43					
<b>TOTAL</b>	<i>57.5</i>	<i>39.8</i>	<i>61</i>	<i>101</i>	<i>141</i>	<i>190</i>	<i>97</i>	<i>48</i>		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	69.3	47.9	69	133	197					
WHEMLOCK	114.6	79.3	11	53	96					
WR CEDAR	173.2	119.8		13	29					
<b>TOTAL</b>	<i>34.6</i>	<i>24.0</i>	<i>152</i>	<i>200</i>	<i>248</i>	<i>69</i>	<i>35</i>	<i>17</i>		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	62.2	43.1	16,042	28,170	40,298					
WHEMLOCK	114.6	79.3	1,668	8,042	14,416					
WR CEDAR	173.2	119.8		585	1,285					
<b>TOTAL</b>	<i>35.0</i>	<i>24.2</i>	<i>27,892</i>	<i>36,797</i>	<i>45,701</i>	<i>70</i>	<i>36</i>	<i>18</i>		

**T24N R01W S08 T0003** **T24N R01W S08 T0003**  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt  
 24N 01W 08 MUFFET 0003 56.10 27 83 S W

Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs Per /Acre						
									Net	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/Lf	
														2-4	5-7	8-11	12+	12-20	21-30		31-35					36-99
DF	HA	SM	1		390	390	22											40	17	460	2.23	.8				
DF	HA	2S	2	3.0	571	554	31											34	12	165	1.09	3.4				
DF	HB	2S	6		1,638	1,638	92											40	14	297	1.68	5.5				
DF	HB	3S	1		286	286	16			100								34	11	150	0.94	1.9				
DF	DM	2S	27	1.1	7,851	7,761	435											40	15	344	1.86	22.6				
DF	DM	3S	20	.6	5,654	5,619	315						5	6	90			38	9	114	0.79	49.2				
DF	DM	4S	8		2,311	2,311	130			94	6		19	40	2	39		27	5	34	0.34	67.6				
DF	DM	UT																22	2		0.14	15.1				
DF	OS	SM	1		455	455	26											40	22	840	3.61	.5				
DF	OS	2S	30	2.3	8,706	8,502	477							3	97			40	22	877	4.32	9.7				
DF	RO	2S	4		897	897	50								6	94		39	16	414	2.32	2.2				
<b>DF</b>	<b>Totals</b>			85	1.2	28,759	28,412	1,594		8	21	71	2	5	4	89		33	9	159	1.09	178.6				
RC	DM	3S	51	4.5	1,443	1,379	77			58	42			14	61	25		34	10	137	1.28	10.1				
RC	DM	4S	36		948	948	53		100				36	19	26	19		25	5	28	0.42	34.4				
RC	OS	3S	13	3.7	353	340	19								54	46		35	15	270	2.79	1.3				
<b>RC</b>	<b>Totals</b>			8	2.8	2,744	2,667	150		36	30	35	13	14	48	25		27	7	58	0.74	45.7				
WH	DM	2S	30	3.4	616	595	33									100		40	13	253	1.58	2.3				
WH	DM	3S	33	2.5	659	642	36								14	86		37	9	102	0.68	6.3				
WH	DM	4S	24		469	469	26		100				7	21		71		32	5	35	0.31	13.4				
WH	DM	UT	13		255	255	14									100		34	7	85	0.71	3.0				
<b>WH</b>	<b>Totals</b>			6	1.9	1,998	1,960	110		24	46	30	2	5	5	89		34	7	78	0.59	25.0				
WP	DM	3S	82	9.9	246	221	12			100						100		40	8	91	0.69	2.4				
WP	DM	4S	18		48	48	3		100							100		24	5	30	0.24	1.6				
WP	DM	UT																22	2		0.23	.9				
<b>WP</b>	<b>Totals</b>			1	8.3	293	269	15		18	82			18		82		32	6	55	0.52	4.9				
RA	DM	3S	81	7.1	131	122	7			100						100		36	10	130	0.89	.9				
RA	DM	4S	19		28	28	2		100							100		32	5	30	0.34	.9				
<b>RA</b>	<b>Totals</b>			0	5.9	159	150	8		19	81				19	81		34	8	80	0.63	1.9				
BM	DM	4S	100		61	61	3		100							100		32	6	50	0.49	1.2				
<b>BM</b>	<b>Totals</b>			0		61	61	3		100						100		32	6	50	0.49	1.2				
<b>Type Totals</b>					1.5	34,015	33,519	1,880		11	24	65	2	6	8	83		32	8	130	0.97	257.3				

TC TSTATS				<b>STATISTICS</b>				PAGE 1		
				<b>PROJECT MUFFET</b>				DATE 2/3/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	08	MUFFET	0003	56.10	27	169	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	27	169	6.3							
CRUISE	16	83	5.2	7,487	1.1					
DBH COUNT										
REFOREST										
COUNT	11	78	7.1							
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	58	79.1	18.9	73	35.5	154.4	28,759	28,412	6,387	6,387
WR CEDAR	15	35.1	13.7	36	9.7	36.1	2,744	2,667	919	919
WHEMLOCK	6	14.7	13.7	61	4.0	14.9	1,998	1,960	510	510
W PINE	2	2.4	13.7	61	0.7	2.5	293	269	81	81
R ALDER	1	.9	15.6	70	0.3	1.2	159	150	40	40
BL MAPLE	1	1.2	13.7	40	0.3	1.2	61	61	19	19
<b>TOTAL</b>	<b>83</b>	<b>133.5</b>	<b>17.0</b>	<b>62</b>	<b>51.0</b>	<b>210.4</b>	<b>34,015</b>	<b>33,519</b>	<b>7,957</b>	<b>7,957</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				<b># OF TREES REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	85.0	11.1	684	770	856					
WR CEDAR	84.9	22.7	114	147	181					
WHEMLOCK	56.4	25.1	144	192	240					
W PINE			110	110	110					
R ALDER										
BL MAPLE										
<b>TOTAL</b>	<b>106.0</b>	<b>11.6</b>	<b>516</b>	<b>584</b>	<b>652</b>	<b>449</b>	<b>229</b>	<b>112</b>		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	51.0	10.0	71	79	87					
WR CEDAR	123.2	24.2	27	35	44					
WHEMLOCK	184.6	36.2	9	15	20					
W PINE	377.1	73.9	1	2	4					
R ALDER	519.6	101.9		1	2					
BL MAPLE	519.6	101.9		1	2					
<b>TOTAL</b>	<b>52.5</b>	<b>10.3</b>	<b>120</b>	<b>133</b>	<b>147</b>	<b>114</b>	<b>58</b>	<b>29</b>		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	40.6	8.0	142	154	167					
WR CEDAR	126.3	24.8	27	36	45					
WHEMLOCK	144.1	28.3	11	15	19					
W PINE	360.3	70.6	1	2	4					
R ALDER	519.6	101.9		1	3					
BL MAPLE	519.6	101.9		1	3					
<b>TOTAL</b>	<b>30.6</b>	<b>6.0</b>	<b>198</b>	<b>210</b>	<b>223</b>	<b>39</b>	<b>20</b>	<b>10</b>		
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	45.9	9.0	25,857	28,412	30,968					
WR CEDAR	140.3	27.5	1,933	2,667	3,400					
WHEMLOCK	142.3	27.9	1,413	1,960	2,507					

TC TSTATS				<b>STATISTICS</b>				PAGE	2	
				PROJECT		MUFFET		DATE	2/3/2016	
<b>TWP</b>	<b>RGE</b>	<b>SECT</b>	<b>TRACT</b>	<b>TYPE</b>	<b>ACRES</b>	<b>PLOTS</b>	<b>TREES</b>	<b>CuFt</b>	<b>BdFt</b>	
<b>24N</b>	<b>01W</b>	<b>08</b>	<b>MUFFET</b>	<b>0003</b>	56.10	27	169	S	W	
CL:	68.1%	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
W PINE		377.1	73.9	70	269	468				
R ALDER		519.6	101.9		150	303				
BL MAPLE		519.6	101.9		61	123				
<b>TOTAL</b>		<b>36.7</b>	<b>7.2</b>	<b>31,108</b>	<b>33,519</b>	<b>35,930</b>	<b>56</b>	<b>29</b>	<b>14</b>	

<b>T24N R01W S08 T0004</b>										<b>T24N R01W S08 T0004</b>			
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>				
<b>24N</b>	<b>01W</b>	<b>08</b>	<b>MUFFET</b>	<b>0004</b>	<b>2.50</b>	<b>3</b>	<b>7</b>	<b>S</b>	<b>W</b>				

Spp	S	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln	Dia	Bd		CF/
									2-4	5-7	8-11	12+	12-20	21-30	31-35	36-99	Ft	In	Ft		Lf
RC		DM	3S	60	2.3	3,404	3,325	8			23	77			100	38	11	184	1.62	18.1	
RC		DM	4S	40		2,184	2,184	5	100					15	72	13	34	5	41	0.43	53.3
<b>RC</b>	<b>Totals</b>			27	1.4	5,588	5,509	14	40	14	47			6	29	65	35	7	77	0.76	71.3
DF		DM	2S	31		4,580	4,580	11			100				100	40	16	400	1.96	11.4	
DF		DM	3S	8		1,214	1,214	3			100			40	60		36	9	106	0.92	11.4
DF		OS	2S	61	1.8	9,129	8,969	22			100				100	40	21	783	3.54	11.4	
<b>DF</b>	<b>Totals</b>			73	1.1	14,923	14,763	37			8	92			3	97	39	15	430	2.18	34.3
<b>Type Totals</b>					1.2	20,511	20,272	51	11	10	80			2	10	88	36	10	192	1.25	105.7

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				MUFFET				DATE	2/3/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	08	MUFFET	0004	2.50	3	11	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	3	11	3.7							
CRUISE	2	7	3.5	185			3.8			
DBH COUNT										
REFOREST										
COUNT	1	4	4.0							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WR CEDAR	5	62.7	14.0	42	17.9	67.2	5,588	5,509	1,901	1,901
DOUG FIR	2	11.4	30.0	120	10.2	56.0	14,923	14,763	2,900	2,900
<b>TOTAL</b>	<b>7</b>	<b>74.1</b>	<b>17.5</b>	<b>54</b>	<b>29.5</b>	<b>123.2</b>	<b>20,511</b>	<b>20,272</b>	<b>4,800</b>	<b>4,800</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WR CEDAR	100.3	49.8	87	174	261					
DOUG FIR	1.1	1.0	1,277	1,290	1,303					
<b>TOTAL</b>	<b>114.2</b>	<b>46.5</b>	<b>264</b>	<b>493</b>	<b>722</b>	<b>605</b>	<b>309</b>	<b>151</b>		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WR CEDAR	91.1	63.0	23	63	102					
DOUG FIR	91.7	63.4	4	11	19					
<b>TOTAL</b>	<b>81.2</b>	<b>56.2</b>	<b>32</b>	<b>74</b>	<b>116</b>	<b>379</b>	<b>193</b>	<b>95</b>		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WR CEDAR	86.6	59.9	27	67	107					
DOUG FIR	91.7	63.4	20	56	92					
<b>TOTAL</b>	<b>68.6</b>	<b>47.5</b>	<b>65</b>	<b>123</b>	<b>182</b>	<b>271</b>	<b>138</b>	<b>68</b>		
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WR CEDAR	117.9	81.6	1,015	5,509	10,003					
DOUG FIR	91.7	63.4	5,402	14,763	24,123					
<b>TOTAL</b>	<b>83.1</b>	<b>57.5</b>	<b>8,622</b>	<b>20,272</b>	<b>31,921</b>	<b>396</b>	<b>202</b>	<b>99</b>		



TC TSTATS				STATISTICS				PAGE 1		
PROJECT MUFFET				ACRES		PLOTS		DATE 2/3/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	17	MUFFET	0005	1.30	2	10	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	2	10	5.0							
CRUISE	2	10	5.0		334		3.0			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	6	85.5	14.7	63	26.3	100.8	14,664	14,445	3,736	3,736
WR CEDAR	2	47.7	11.4	40	10.0	33.6	2,781	2,781	896	896
WHEMLOCK	2	123.6	7.1	43	12.6	33.6	1,943	1,804	804	804
<b>TOTAL</b>	<i>10</i>	<i>256.7</i>	<i>11.0</i>	<i>49</i>	<i>50.8</i>	<i>168.1</i>	<i>19,387</i>	<i>19,031</i>	<i>5,436</i>	<i>5,436</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	48.6	21.6	209	267	324					
WR CEDAR	88.4	82.8	14	80	146					
WHEMLOCK	141.4	132.4		65	151					
<b>TOTAL</b>	<i>76.5</i>	<i>25.5</i>	<i>141</i>	<i>189</i>	<i>237</i>	<i>259</i>	<i>132</i>	<i>65</i>		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	77.1	72.2	24	86	147					
WR CEDAR	61.2	57.3	20	48	75					
WHEMLOCK	141.4	132.4		124	287					
<b>TOTAL</b>	<i>31.0</i>	<i>29.1</i>	<i>182</i>	<i>257</i>	<i>331</i>	<i>68</i>	<i>34</i>	<i>17</i>		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	47.1	44.1	56	101	145					
WR CEDAR			34	34	34					
WHEMLOCK	141.4	132.4		34	78					
<b>TOTAL</b>			<i>168</i>	<i>168</i>	<i>168</i>					
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	49.9	46.8	7,691	14,445	21,199					
WR CEDAR	37.3	34.9	1,811	2,781	3,751					
WHEMLOCK	141.4	132.4		1,804	4,193					
<b>TOTAL</b>	<i>19.1</i>	<i>17.8</i>	<i>15,636</i>	<i>19,031</i>	<i>22,425</i>	<i>25</i>	<i>13</i>	<i>6</i>		



TC TSTATS				STATISTICS				PAGE	1	
				PROJECT MUFFET				DATE	2/3/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	17	MUFFET	0006	28.90	14	82	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	14	82	5.9							
CRUISE	8	45	5.6		10,016		.4			
DBH COUNT										
REFOREST										
COUNT	6	32	5.3							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	36	282.5	10.1	52	49.8	158.4	18,074	17,858	4,540	4,540
DOUG FIR-P	3	5.6	15.4	79	1.8	7.2	1,093	1,093	265	265
WHEMLOCK	3	32.6	10.4	44	6.0	19.2	1,674	1,674	452	452
WR CEDAR	2	14.0	11.2	27	2.9	9.6	619	619	191	191
W PINE	1	11.8	6.1	56	1.0	2.4	118	118	52	52
<b>TOTAL</b>	<b>45</b>	<b>346.6</b>	<b>10.2</b>	<b>51</b>	<b>61.6</b>	<b>196.9</b>	<b>21,578</b>	<b>21,362</b>	<b>5,500</b>	<b>5,500</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	88.4	14.7		111	130	149				
DOUG FIR-P	5.9	4.1		189	197	205				
WHEMLOCK	50.9	35.2		37	57	77				
WR CEDAR	110.0	103.0			90	183				
W PINE										
<b>TOTAL</b>	<b>86.9</b>	<b>12.9</b>		<b>109</b>	<b>125</b>	<b>141</b>	<b>301</b>	<b>154</b>	<b>75</b>	
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	37.4	10.4		253	282	312				
DOUG FIR-P	201.6	55.8		2	6	9				
WHEMLOCK	162.3	44.9		18	33	47				
WR CEDAR	232.1	64.3		5	14	23				
W PINE	374.2	103.6			12	24				
<b>TOTAL</b>	<b>20.6</b>	<b>5.7</b>		<b>327</b>	<b>347</b>	<b>366</b>	<b>18</b>	<b>9</b>	<b>5</b>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	33.7	9.3		144	158	173				
DOUG FIR-P	198.7	55.0		3	7	11				
WHEMLOCK	164.1	45.5		10	19	28				
WR CEDAR	213.9	59.3		4	10	15				
W PINE	374.2	103.6			2	5				
<b>TOTAL</b>	<b>17.5</b>	<b>4.9</b>		<b>187</b>	<b>197</b>	<b>206</b>	<b>13</b>	<b>7</b>	<b>3</b>	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	34.7	9.6		16,143	17,858	19,573				
DOUG FIR-P	200.6	55.6		486	1,093	1,700				
WHEMLOCK	165.8	45.9		905	1,674	2,442				
WR CEDAR	216.6	60.0		247	619	990				
W PINE	374.2	103.6			118	241				
<b>TOTAL</b>	<b>24.7</b>	<b>6.8</b>		<b>19,902</b>	<b>21,362</b>	<b>22,823</b>	<b>26</b>	<b>13</b>	<b>7</b>	

<b>T24N R02W S14 T0007</b>										<b>T24N R02W S14 T0007</b>			
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>				
<b>24N</b>	<b>02W</b>	<b>14</b>	<b>MUFFET</b>	<b>0007</b>	<b>11.50</b>	<b>7</b>	<b>32</b>	<b>S</b>	<b>W</b>				

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre		
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft		CF/ Lf	
									2-4	5-7	8-11	12+	12-20	21-30	31-35	36-99						
DF		HA	2S	18	3.2	2,819	2,729	31										40	14	301	1.63	9.1
DF		HA	3S	4		556	556	6										34	8	70	0.57	7.9
DF		HB	3S	7		1,009	1,009	12										34	10	120	0.82	8.4
DF		DM	2S	21	.7	3,053	3,031	35				100		16		84		37	17	417	2.15	7.3
DF		DM	3S	16		2,365	2,365	27				100				31	69	37	9	118	0.85	20.0
DF		DM	4S	5		809	809	9		100				37	11	21	31	25	5	28	0.30	29.0
DF		DM	UT															30	2		0.28	2.2
DF		OS	SM	8	2.4	1,169	1,141	13				100						40	26	1220	5.58	.9
DF		OS	2S	21	4.0	3,116	2,992	34				100						39	21	729	3.72	4.1
<b>DF</b>	<b>Totals</b>			50	1.8	14,896	14,632	168		6	27	68		2	4	17	77	33	10	165	1.10	88.9
RC		DM	3S	51	12.4	3,721	3,261	37			40	60			11	51	38	34	12	170	1.62	19.2
RC		DM	4S	23		1,493	1,493	17		92	8			17	34	28	22	27	5	29	0.40	51.9
RC		OS	3S	26	19.7	1,985	1,594	18				100					70	35	20	505	4.56	3.2
<b>RC</b>	<b>Totals</b>			22	11.8	7,200	6,348	73		22	23	56		4	21	33	42	29	8	86	0.98	74.2
WH		DM	2S	16	18.0	1,607	1,318	15				100					100	40	14	238	1.79	5.5
WH		DM	3S	32	5.4	2,748	2,599	30				100					100	40	9	103	0.67	25.3
WH		DM	4S	28		2,284	2,284	26		100				15	20		65	30	6	39	0.35	58.1
WH		DM	UT	24		1,895	1,895	22		36	31	33			64		36	33	9	88	0.62	21.4
<b>WH</b>	<b>Totals</b>			28	5.1	8,534	8,095	93		37	39	24		4	21		75	33	7	73	0.58	110.4
<b>Type Totals</b>					5.1	30,629	29,075	334		18	29	53		3	12	16	69	32	8	106	0.85	273.6

TC TSTATS				STATISTICS				PAGE 1		
PROJECT MUFFET				DATE 2/3/2016						
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	02W	14	MUFFET	0007	11.50	7	44	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		7	44	6.3						
CRUISE		5	32	6.4	1,709	1.9				
DBH COUNT										
REFOREST										
COUNT		2	12	6.0						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	11	36.3	19.7	81	17.3	76.8	14,896	14,632	3,221	3,221
WR CEDAR	12	52.8	15.8	42	18.1	72.0	7,200	6,348	2,113	2,113
WHEMLOCK	9	59.6	13.9	65	16.8	62.4	8,534	8,095	2,114	2,114
<b>TOTAL</b>	<b>32</b>	<b>148.6</b>	<b>16.1</b>	<b>61</b>	<b>52.6</b>	<b>211.3</b>	<b>30,629</b>	<b>29,075</b>	<b>7,448</b>	<b>7,448</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				<b># OF TREES REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	83.0	26.2	539	731	923					
WR CEDAR	106.0	31.9	214	314	414					
WHEMLOCK	51.1	18.0	138	168	198					
<b>TOTAL</b>	<b>112.0</b>	<b>19.8</b>	<b>334</b>	<b>416</b>	<b>499</b>	<b>501</b>	<b>255</b>	<b>125</b>		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	63.8	26.0	27	36	46					
WR CEDAR	143.9	58.6	22	53	84					
WHEMLOCK	128.6	52.3	28	60	91					
<b>TOTAL</b>	<b>77.3</b>	<b>31.4</b>	<b>102</b>	<b>149</b>	<b>195</b>	<b>277</b>	<b>141</b>	<b>69</b>		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	33.1	13.5	66	77	87					
WR CEDAR	118.8	48.3	37	72	107					
WHEMLOCK	113.9	46.4	33	62	91					
<b>TOTAL</b>	<b>54.9</b>	<b>22.3</b>	<b>164</b>	<b>211</b>	<b>258</b>	<b>140</b>	<b>71</b>	<b>35</b>		
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>				<b># OF PLOTS REQ.</b>		<b>INF. POP.</b>		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	29.0	11.8	12,905	14,632	16,359					
WR CEDAR	125.1	50.9	3,116	6,348	9,580					
WHEMLOCK	120.4	49.0	4,129	8,095	12,060					
<b>TOTAL</b>	<b>47.3</b>	<b>19.3</b>	<b>23,475</b>	<b>29,075</b>	<b>34,675</b>	<b>104</b>	<b>53</b>	<b>26</b>		



TC TSTATS				STATISTICS				PAGE	1	
PROJECT				MUFFET				DATE	2/3/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	15	MUFFET	0008	22.90	13	88	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	13	88	6.8							
CRUISE	7	54	7.7	4,804		1.1				
DBH COUNT										
REFOREST										
COUNT	6	34	5.7							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	39	172.9	14.0	61	49.7	186.1	27,177	26,782	6,637	6,637
WHEMLOCK	8	23.1	12.8	54	5.8	20.7	2,444	2,332	676	675
WR CEDAR	7	13.7	16.6	57	5.1	20.7	1,775	1,481	606	607
<b>TOTAL</b>	<b>54</b>	<b>209.8</b>	<b>14.1</b>	<b>60</b>	<b>60.6</b>	<b>227.5</b>	<b>31,396</b>	<b>30,596</b>	<b>7,919</b>	<b>7,919</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	86.4	13.8	289	336	382					
WHEMLOCK	62.9	23.7	113	149	184					
WR CEDAR	81.4	33.1	106	159	211					
<b>TOTAL</b>	<b>93.0</b>	<b>12.6</b>	<b>249</b>	<b>285</b>	<b>321</b>	<b>345</b>	<b>176</b>	<b>86</b>		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	75.2	21.7	135	173	210					
WHEMLOCK	169.0	48.7	12	23	34					
WR CEDAR	314.9	90.8	1	14	26					
<b>TOTAL</b>	<b>64.8</b>	<b>18.7</b>	<b>171</b>	<b>210</b>	<b>249</b>	<b>181</b>	<b>92</b>	<b>45</b>		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	47.6	13.7	161	186	212					
WHEMLOCK	156.1	45.0	11	21	30					
WR CEDAR	314.9	90.8	2	21	39					
<b>TOTAL</b>	<b>48.7</b>	<b>14.0</b>	<b>196</b>	<b>228</b>	<b>259</b>	<b>102</b>	<b>52</b>	<b>26</b>		
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	63.3	18.2	21,898	26,782	31,667					
WHEMLOCK	157.7	45.5	1,272	2,332	3,393					
WR CEDAR	314.9	90.8	137	1,481	2,826					
<b>TOTAL</b>	<b>57.0</b>	<b>16.4</b>	<b>25,572</b>	<b>30,596</b>	<b>35,620</b>	<b>140</b>	<b>72</b>	<b>35</b>		

<b>T24N R01W S17 TRW01</b>										<b>T24N R01W S17 TRW01</b>			
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>				
<b>24N</b>	<b>01W</b>	<b>17</b>	<b>MUFFET</b>	<b>RW01</b>	<b>.90</b>	<b>2</b>	<b>7</b>	<b>S</b>	<b>W</b>				

Spp	S T	So rt	Gr ad	%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre				
									Net BdFt	Def%	Gross	Net	Log Scale Dia.				Log Length					Ln Ft	Dia In	Bd Ft	CF/ Lf
													2-4	5-7	8-11	12+	12-20	21-30	31-35	36-99					
DF		DM	4S	86	.0	2,152	2,152	2	100				79	21			19	5	21	0.23	100.2				
DF		DM	UT	14		344	344	0	100					100			29	2	2	0.09	168.5				
<b>DF</b>	<b>Totals</b>			100		2,496	2,496	2	14	86				68	18			14	25	3	9	0.13	268.7		
<b>Type Totals</b>						2,496	2,496	2	14	86				68	18			14	25	3	9	0.13	268.7		

TC TSTATS				<b>STATISTICS</b>				PAGE 1		
				<b>PROJECT MUFFET</b>				DATE 2/3/2016		
<b>TWP</b>	<b>RGE</b>	<b>SECT</b>	<b>TRACT</b>	<b>TYPE</b>	<b>ACRES</b>	<b>PLOTS</b>	<b>TREES</b>	<b>CuFt</b>	<b>BdFt</b>	
<b>24N</b>	<b>01W</b>	<b>17</b>	<b>MUFFET</b>	<b>RW01</b>	0.90	2	7	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	2	7	3.5							
CRUISE	2	7	3.5		242		2.9			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	7	268.7	6.9	31	26.6	70.0	2,496	2,496	872	872
<b>TOTAL</b>	<b>7</b>	<b>268.7</b>	<b>6.9</b>	<b>31</b>	<b>26.6</b>	<b>70.0</b>	<b>2,496</b>	<b>2,496</b>	<b>872</b>	<b>872</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	79.4	32.3	10	14	19					
<b>TOTAL</b>	<b>79.4</b>	<b>32.3</b>	<b>10</b>	<b>14</b>	<b>19</b>	<b>292</b>	<b>149</b>	<b>73</b>		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	7.3	6.8	250	269	287					
<b>TOTAL</b>	<b>7.3</b>	<b>6.8</b>	<b>250</b>	<b>269</b>	<b>287</b>	<b>4</b>	<b>2</b>	<b>1</b>		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	20.2	18.9	57	70	83					
<b>TOTAL</b>	<b>20.2</b>	<b>18.9</b>	<b>57</b>	<b>70</b>	<b>83</b>	<b>29</b>	<b>15</b>	<b>7</b>		
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	40.6	38.1	1,546	2,496	3,447					
<b>TOTAL</b>	<b>40.6</b>	<b>38.1</b>	<b>1,546</b>	<b>2,496</b>	<b>3,447</b>	<b>116</b>	<b>59</b>	<b>29</b>		

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

T24N R01W S08 Ty0003	56.1
T24N R01W S08 Ty0004	2.5
T24N R02W S14 Ty000	11.5

**Project MUFFET**  
**Acres 152.30**

**Page No 1**  
**Date: 2/3/2016**  
**Time 9:36:54AM**

Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
				Tree	Log		Gross	Net	Gross	Net
DOUG FIR	18,744	34,162	23,709	44.38	24.35	0.73	8,319	8,319	3,660	3,608
WHEMLOCK	5,051	9,176	4,918	30.42	16.74	0.49	1,537	1,536	610	588
WR CEDAR	3,821	4,938	2,493	27.77	21.49	0.77	1,061	1,061	328	307
W PINE	750	920	275	15.26	12.45	0.35	115	115	39	33
R ALDER	84	167	112	48.89	24.45	0.75	41	41	15	15
COTWOOD	5	5	45	339.69	339.69	8.49	19	19	11	11
BL MAPLE	68	68	28	15.71	15.71	0.49	11	11	3	3
<b>Totals</b>	<b>28,525</b>	<b>49,438</b>	<b>31,581</b>	<b>38.92</b>	<b>22.45</b>	<b>0.68</b>	<b>11,101</b>	<b>11,101</b>	<b>4,667</b>	<b>4,565</b>

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
				Tree	Log		Gross	Net	Gross	Net
C	28,367	49,197	31,395	38.89	22.42	0.68	11,031	11,031	4,637	4,536
H	157	241	186	44.58	29.11	0.89	70	70	30	29
<b>Totals</b>	<b>28,525</b>	<b>49,438</b>	<b>31,581</b>	<b>38.92</b>	<b>22.45</b>	<b>0.68</b>	<b>11,101</b>	<b>11,101</b>	<b>4,667</b>	<b>4,565</b>



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

FPA/N No: 2418554  
 Effective Date: 5/19/2016  
 Expiration Date: 5/19/2019  
 Shut Down Zone: 654  
 EARR Tax Credit:  Eligible     Non-eligible  
 Reference: Muffet

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

Decision

- Notification      Operations shall not begin before the effective date.
- Approved          This Forest Practices Application is subject to the conditions listed below.
- Disapproved      This Forest Practices Application is disapproved for the reasons listed below.
- Closed              Applicant has withdrawn FPA/N.

FPA/N Classification

Number of Years Granted on Multi-Year Request

- Class II     Class III     Class IVG     Class IVS     4 years     5 years

Conditions on Approval / Reasons for Disapproval

Temporary culverts removal will occur during the dry or water will be pumped around. Culvert removal will occur prior to expiration date of this FPA.

NOTE: Extreme hazard abatement associated with this FPA was discussed with FP Forester.

Issued By: Aileen Nichols      Region: South Puget Sound  
 Title: Resource Protection Forester      Date: 5/19/2016

Copies to:     Landowner, Timber Owner and Operator.

Issued in person:     Landowner  Timber Owner  Operator By: Charlotte Bass - Charlotte Bass

*AEM  
5-23-16*

**Appeal Information**

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

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

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

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

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

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

And

Department Of Natural Resources  
South Puget Sound Region  
950 Farman Ave. N  
Enumclaw, WA 98022

**Other Applicable Laws**

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

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

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

Notify DNR of new Operators within 48 hours.

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

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

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

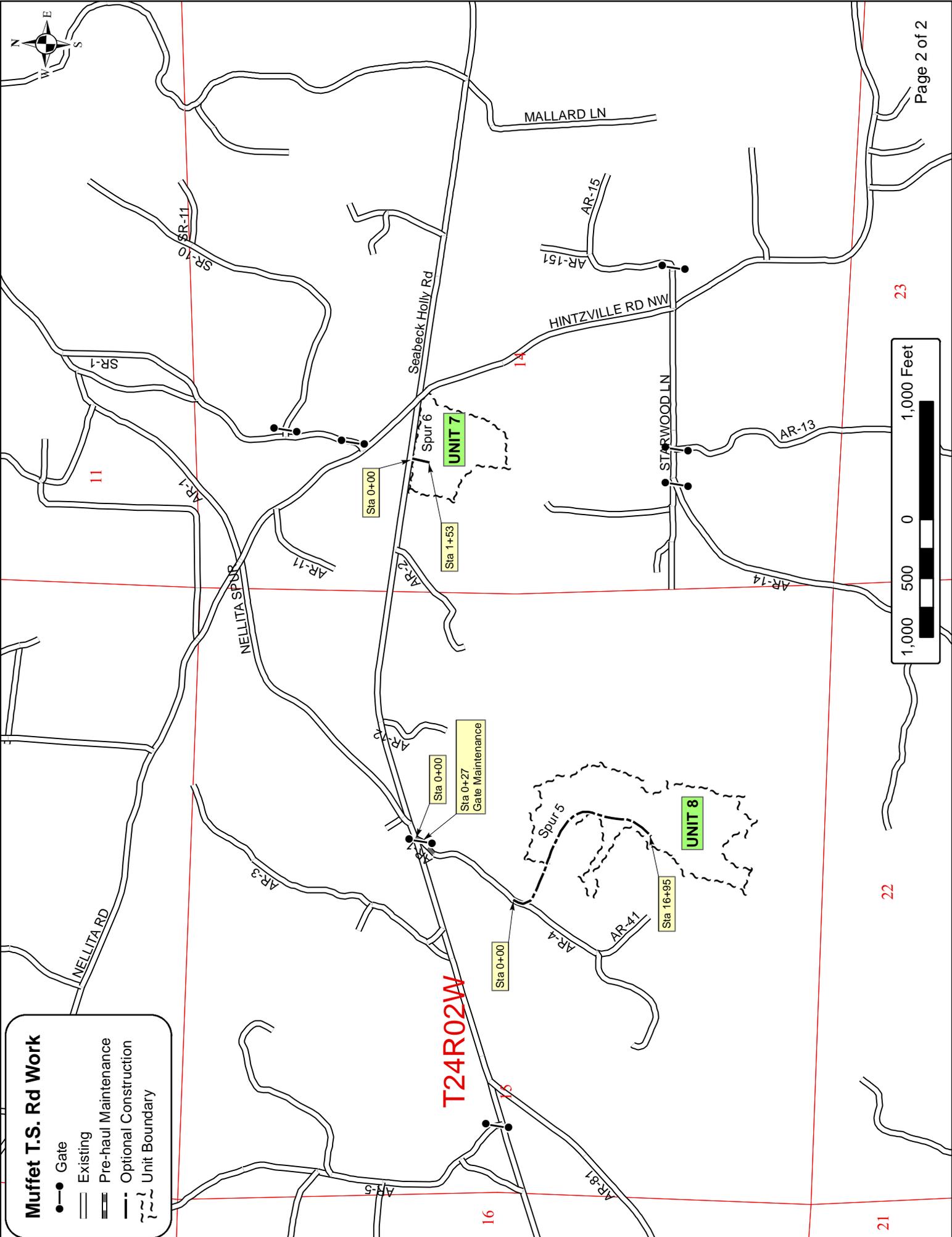
If the seller fails to notify the buyer about the continuing forest land obligation, the seller must pay the buyer's costs related to continuing forest land obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forest land obligation against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

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

**DNR affidavit of mailing:**

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





**Muffet T.S. Rd Work**

- Gate
- Existing
- ▬ Pre-haul Maintenance
- - - Optional Construction
- ⋯ Unit Boundary



STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

MUFFET TIMBER SALE ROAD PLAN  
KITSAP COUNTY  
HOOD CANAL DISTRICT

AGREEMENT NO.: 30-092037

STAFF ENGINEER: Heymann

DATE: 1/28/16

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>
AR-4	0+25 to 0+30	Pre-haul Maintenance
GM-1	0+00 to 79+14	Pre-haul Maintenance
GM-2	0+00 to 50+37	Pre-haul Maintenance
GM-10	0+00 to 3+25	Pre-haul Maintenance
GM-12	0+00 to 23+54	Pre-haul Maintenance
AR-4	2+14 to 8+92	Post-haul Maintenance
GM-1	0+00 to 79+14	Post-haul Maintenance
GM-2	0+00 to 50+37	Post-haul Maintenance
GM-10	0+00 to 3+25	Post-haul Maintenance
GM-12	0+00 to 23+54	Post-haul Maintenance
Spur 1	0+00 to 2+28	Decommission, if built
Spur 2	0+00 to 2+38	Decommission, if built
Spur 3	0+00 to 18+16	Decommission, if built
Spur 4	0+00 to 3+81	Decommission, if built
Spur 5	0+00 to 16+95	Decommission, if built
Spur 6	0+00 to 1+53	Decommission, if built
Spur 7	0+00 to 1+50	Decommission, if built
Spur 8	0+00 to 16+63	Decommission, if built
Spur 9	0+00 to 5+48	Decommission, if built

**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>
Spur 1	0+00 to 2+28	Construction
Spur 2	0+00 to 2+38	Construction
Spur 3	0+00 to 18+16	Construction
Spur 4	0+00 to 3+81	Construction
Spur 5	0+00 to 16+95	Construction
Spur 6	0+00 to 1+53	Construction
Spur 7	0+00 to 1+50	Construction
Spur 8	0+00 to 16+63	Construction
Spur 9	0+00 to 5+48	Construction

**0-4 CONSTRUCTION**

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

- clearing;
- grubbing;
- right-of-way debris disposal;
- excavation and/or embankment to subgrade;
- landing construction;
- acquisition and installation of drainage structures;
- acquisition, manufacture, and application of rock;
- grass seeding;
- road decommissioning.

**0-6 PRE-HAUL MAINTENANCE**

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

- brushing right-of-way;
- removing fallen right-of-way debris;
- gate maintenance (painting);
- pulling ditches;
- cleaning ditches;
- cleaning culvert inlets and outlets;
- acquisition and installation of additional drainage structures;
- grading and shaping existing road surface and turnouts;
- spot rocking.

**0-12 DEVELOP ROCK SOURCE**

Purchaser may develop an existing rock source. Rock source development will involve; overburden removal and access road maintenance. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

**SECTION 1 – GENERAL**

**1-1 ROAD PLAN CHANGES**

If the Purchaser desires a change from this road plan including, but not limited to, relocation, extension, change in design, or adding roads; a revised road plan must be submitted in writing to the

Contract Administrator for consideration. Before work begins, Purchaser shall obtain approval from the State for any submitted plan that changes the scope of work or environmental condition from the original road plan.

**1-2 UNFORESEEN CONDITIONS**

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

**1-3 ROAD DIMENSIONS**

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

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

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

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

**1-9 DAMAGED METALLIC COATING**

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

**1-15 ROAD MARKING**

Purchaser shall perform road work in accordance with the state’s marked location

**1-18 REFERENCE POINT DAMAGE**

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

**1-21 HAUL APPROVAL**

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

**1-23 ROAD WORK PHASE APPROVAL**

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

- Drainage installation & Subgrade approval
- Rock compaction

**1-25 ACTIVITY TIMING RESTRICTION**

No operation of road construction equipment and rock haul will be allowed weekdays from 7 p.m. to 7 a.m., nor on weekends or state recognized holidays or during the listed closure periods, unless authorized in writing by the Contract Administrator. The specified activities are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator. Restrictions for hauling forest products are specified in Contract Clause H-140 SPECIAL HARVEST REQUIREMENTS.

<u>Activity</u>	<u>Closure Period</u>
Road Construction & Rock Haul	November 1 to April 30

**1-26 OPERATING DURING CLOSURE PERIOD**

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION or Contract Clause H-130 HAULING SCHEDULE, Purchaser shall comply with a “Winter Operating 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. If other operators are using, or desire to use these 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), any road work, right-of-way timber falling and yarding, rock pit operation, or heavy equipment operation is not allowed from one hour before official sunrise to two hours after official sunrise, and from one hour before official sunset to one hour after official sunset from April 1 through August 31. This restriction does not apply to hauling timber, rock, or equipment.

<u>Road</u>	<u>Stations</u>
Spur 5	0+00 to 16+95

**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:

- 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 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 for any damage caused by transporting equipment. Any damage to the surface(s) will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

**1-33 SNOW PLOWING RESTRICTION**

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

**1-40 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.

**1-41 REQUIREMENTS FOR PAVED ROAD APPROACHES**

Requirements for the Kingsway NW & Seabeck-Holly RD NW road approaches:

Purchaser shall build up approaches to allow a smooth grade transition between the spur roads and paved roads. The top of the spur road surfacing must be kept level with the surface of the paved road

at all times. The surface of the spur approach must slope down from the edge of the paved road at the rate of 2 inches per foot for a distance of 10 feet, unless otherwise shown in the approach permit.

**1-43 ROAD WORK AROUND UTILITIES**

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

<u>Road</u>	<u>Stations</u>	<u>Utility</u>	<u>Utility Contact</u>	
GM-1	0+00 to 223+06	Puget Sound Energy		800-562-1482
		Kitsap CENCOM	Mark Nelson	Office: 360-307-5860 Cell: 360-979-9075
GM-2	0+00 to 8+94	Puget Sound Energy		
		Kitsap CENCOM		
Spur 6	0+00 to 0+30	Overhead/Unknown Underground		
Spur 7	0+00 to 0+30	Overhead /Unknown Underground		

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.

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

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

<u>Road</u>	<u>Stations</u>
GM-1	0+00 to 79+14
GM-2	0+00 to 50+37
GM-10	0+00 to 3+25
GM-12	0+00 to 23+54

**2-6 CLEANING CULVERTS**

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

<u>Road</u>	<u>Stations</u>
GM-2	0+00 to 50+37
GM-12	0+00 to 23+54

**2-7 DITCH MAINTENANCE**

On the following road(s), Purchaser shall pull the ditches. Work must be completed before grading and timber haul. Mixing in with the road surface will not be allowed.

<u>Road</u>	<u>Stations</u>
GM-1	0+00 to 79+14
GM-2	0+00 to 50+37
GM-12	0+00 to 23+54

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

**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 manual or mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
GM-1	0+00 to 79+14
GM-2	0+00 to 50+37
GM-12	0+00 to 23+54

**3-5 CLEARING**

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

**3-8 PROHIBITED DECKING AREAS**

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

- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.

- In locations that impede drainage.
- Against standing trees unless approved by the Contract Administrator.

**3-10 GRUBBING**

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

**3-20 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 subgrade compaction, rock application/ and/or timber haul.

**3-23 PROHIBITED DISPOSAL AREAS**

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On 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 natural openings. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

**SECTION 4 – EXCAVATION**

**4-2 PIONEERING**

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

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

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

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

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.

**4-5 CUT SLOPE RATIO**

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

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

**4-6 EMBANKMENT SLOPE RATIO**

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

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

**4-7 SHAPING CUT AND FILL SLOPE**

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

**4-8 CURVE WIDENING**

The minimum widening placed on the inside of curves is:

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

**4-9 EMBANKMENT WIDENING**

The minimum embankment widening is:

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

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

**4-22 TURNAROUNDS**

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

#### **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.

#### **4-26 DITCH WORK – USE MATERIAL IN EXISTING SUBGRADE**

Purchaser may use the excavated ditch material to build up the subgrade.

#### **4-28 DITCH DRAINAGE**

Ditches must drain to cross-drain culverts or ditchouts.

#### **4-35 WASTE MATERIAL DEFINITION**

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

#### **4-36 DISPOSAL OF WASTE MATERIAL**

Purchaser may sidecast waste material on side slopes up to 65% if the waste material is compacted and free of organic debris. On side slopes greater than 65%, all waste material must be end hauled or pushed to a suitable location as approved by the Contract Administrator.

#### **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 65%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.

#### **4-47 NATIVE MATERIAL**

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

#### **4-48 BORROW MATERIAL**

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

#### **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.

### **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.

**5-5 CULVERTS**

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

**5-6 USED CULVERT MATERIAL**

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

<u>Road</u>
Spurs 1-9

**5-11 UNUSED MATERIALS STATE PROPERTY**

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

**5-15 CULVERT INSTALLATION**

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL 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.

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

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

**5-18 CULVERT DEPTH OF COVER**

Cross drain culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover recommended by the culvert manufacturer for the type and size of the pipe.

**5-20 ENERGY DISSIPATERS**

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts, except for temporary culverts. Energy dissipater installation is subject to approval by the Contract Administrator.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT LIST. No placement by end dumping or dropping of rock is allowed.

**5-25 CATCH BASINS**

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

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

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts, except for temporary culverts. 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. Rock type and quantity shall meet the specifications in CULVERT LIST.

**5-33 NATIVE SURFACE ROADS**

If overwintered, native surface roads must be waterbarred by November 1. Purchaser shall construct waterbars according to the attached DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between waterbars or between natural drainage paths, and with a maximum spacing of 200 feet.

**SECTION 6 – ROCK AND SURFACING**

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

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

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Horse Camp Pit	SW ¼ SE ¼ Sect. 10 T24R01W	4-INCH IN-PLACE, QUARRY SPALLS

**6-5 ROCK FROM COMMERCIAL SOURCE**

Rock used in accordance with the quantities on the ROCK LIST shall be obtained from any commercial source at the Purchaser's expense.

<u>Rock type</u>
4-8 Inch Clean Shot Rock

**6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE**

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

## 6-12 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.

## 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 too large to be converted by the Purchaser to a size that will meet specifications used for the roads in this sale.
- Oversized rock that exceeds the maximum allowable amount must be stockpiled asw directed by the Contract Administrator.
- Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 3 working days before any drilling.
- 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

**6-20 ROCK GRADATION TYPES**

Purchaser shall provide and/or manufacture rock in accordance with the types and amounts listed in the ROCK LIST.

**6-38 4-INCH IN-PLACE ROCK**

4-inch in-place rock must have a minimum of 90 percent of the top 4 inches of the running surface pass a 4-inch square opening.

In-place rock may not contain more than 5 percent by weight of organic debris and trash. No more than 50 percent of rock may be larger than 6 inches in any dimension and no rock may be larger than 8 inches in any dimension.

**6-42 4-INCH TO 8 INCH CLEAN SHOT ROCK**

4"-8" clean shot rock shall range in size from 4 inches to 8 inches with 100 percent passing an 8 inch square opening and less than 5% passing a 3 inch opening.

**6-43 QUARRY SPALLS**

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

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

**6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH**

Measurement of specified rock depths, are defined as the compacted depth(s) using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are compacted yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

**6-70 APPROVAL BEFORE ROCK APPLICATION**

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

**6-71 ROCK APPLICATION**

Rock shall be applied in accordance with the specifications and quantities shown on the ROCK LIST. The Contract Administrator shall direct locations for rock that is to be applied as spot patching. Rock shall be spread, shaped, and compacted full width concurrent with rock hauling operations. Rock shall be spread and compacted full width in one lift. Compaction shall be by smooth drum vibratory roller weighing at least 14,000 pounds. Three complete passes at a maximum speed of 3 mph shall be made on each lift.

**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.

## SECTION 7 – STRUCTURES

### 7-70 GATE CLOSURE

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.

### 7-75 GATE MAINTENANCE

Purchaser shall conduct gate maintenance as listed.

1. Clean Gate and lock box/bell

Each gate and lock box/bell to be thoroughly scraped, wire brushed and cleaned. Remove all rust and loose or peeling material from previous-painted surfaces. All surfaces must be clean, dry, free of mildew, grease, chalk, soap film, sanding dust or other contaminants.

2. Prevent Rust

Use a suitable anti-corrosive primer for all bare surfaces.

3. Paint

Paint color shall be Rodda Safety Yellow.

<u>Road</u>	<u>Station</u>	<u>Requirements</u>
AR-4	0+27	Clean, spot prime and paint gate and lock box.
GM-2	0+25	Clean, spot prime and paint gate and lock box.
GM-10	0+25	Clean, spot prime and paint gate and bell.
GM-12	0+35	Clean, spot prime and paint gate and bell.

## SECTION 9 – POST-HAUL ROAD WORK

### 9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

### 9-5 POST-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>
AR-4	2+14 to 8+92
GM-1	0+00 to 79+14
GM-2	0+00 to 50+37
GM-10	0+00 to 3+25
GM-12	0+00 to 23+54

### 9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

**9-20 ROAD DECOMMISSIONING**

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

<u>Road</u>	<u>Stations</u>
Spur 1	0+00 to 2+28
Spur 2	0+00 to 2+38
Spur 3	0+00 to 18+16
Spur 4	0+00 to 3+81
Spur 5	0+00 to 16+95
Spur 6	0+00 to 1+53
Spur 7	0+00 to 1+50
Spur 8	0+00 to 16+63
Spur 9	0+00 to 5+48

**9-22 DECOMMISSIONING**

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached BARRICADE DETAIL.
- Remove culverts.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 2:1.
- Scatter woody debris onto decommissioned road surfaces.

**SECTION 10 MATERIALS**

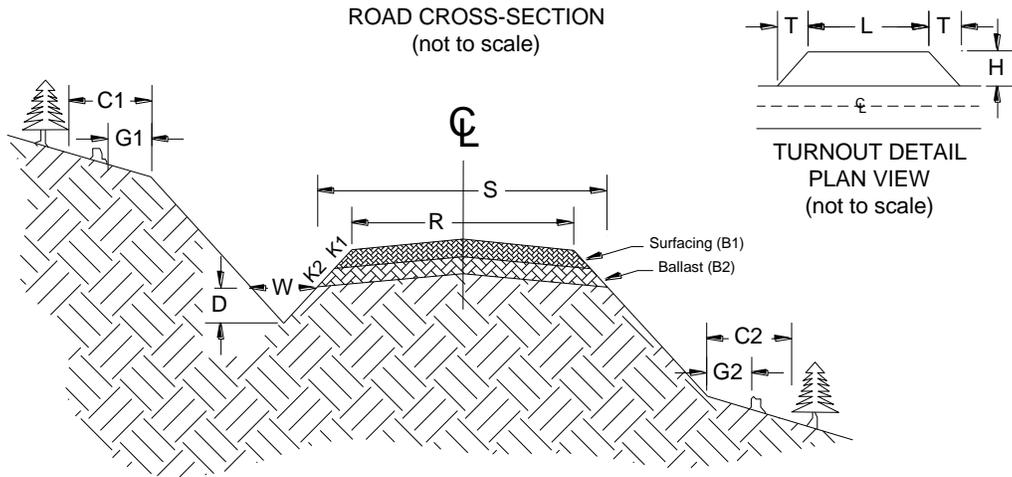
**10-17 CORRUGATED PLASTIC CULVERT**

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

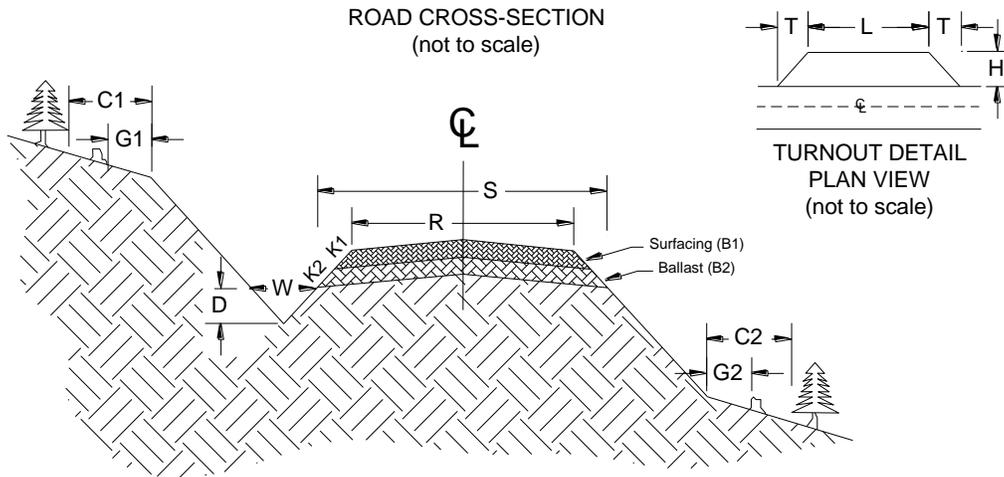
**10-22 PLASTIC BAND**

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

# TYPICAL SECTION SHEET



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio %	Fill Slope Ratio %
						Width (feet)	Depth (feet)		G1	G2	C1	C2		
				S	R	W	D		G1	G2	C1	C2	%	%
AR-4	0+0	8+92	C	16	12	2	1	4	0	0	0	0	100	67
GM-1	0+00	79+14	C	18	14	2	1	4	0	0	0	0	100	67
GM-2	0+00	50+37	C	16	12	2	1	4	0	0	0	0	100	67
GM-10	0+00	3+25	C	16	12	2	1	4	0	0	0	0	100	67
GM-12	0+00	23+54	C	16	12	2	1	4	0	0	0	0	100	67
Spur 1	0+00	2+28	C	16	12	2	1	4	0	0	0	0	100	67
Spur 2	0+00	2+38	C	16	12	2	1	4	0	0	0	0	100	67
Spur 3	0+00	6+97	C	16	12	2	1	4	0	0	Tags	Tags	100	67
Spur 3	6+97	18+16	C	16	12	2	1	4	0	0	0	0	100	67
Spur 4	0+00	3+81	C	16	12	2	1	4	0	0	0	0	100	67
Spur 5	0+00	5+04	C	16	12	2	1	4	0	0	Tags	Tags	100	67
Spur 5	5+04	16+95	C	16	12	2	1	4	0	0	0	0	100	67
Spur 6	0+00	1+53	C	16	12	2	1	4	0	0	0	0	100	67
Spur 7	0+00	1+50	C	16	12	2	1	4	0	0	0	0	100	67
Spur 8	0+00	16+63	C	16	12	2	1	4	0	0	0	0	100	67
Spur 9	0+00	5+48	C	16	12	2	1	4	0	0	0	0	100	67



## ROCK LIST

### BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y. Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length	Width	Taper
			K2	B2					L	H	T
GM-10	0+00	2+00	1 ½ : 1	4-8 Inch clean shot rock for road approach			70	Commercial			
Spur 6	0+00	1+50	1 ½ : 1	4-8 Inch clean shot rock for road approach			53	Commercial			
Spur 7	0+00	1+50	1 ½ : 1	4-8 Inch clean shot rock for road approach			53	Commercial			
				Quarry Spalls for culvert headwalls/energy dissipaters			5	Horse Camp Pit			
*Spur 1	0+00	2+28	1 ½ : 1	8"	32	2.28	73	Horse Camp Pit*			
*Spur 2	0+00	2+38	1 ½ : 1	8"	32	2.38	76	Horse Camp Pit*			
*Spur 3	0+00	18+16	1 ½ : 1	8"	32	18.16	581	Horse Camp Pit*			
*Spur 4	0+00	3+81	1 ½ : 1	8"	32	3.81	122	Horse Camp Pit*			
*Spur 5	0+00	16+95	1 ½ : 1	8"	32	16.95	542	Horse Camp Pit*			
*Spur 8	0+00	16+63	1 ½ : 1	8"	32	16.63	532	Horse Camp Pit*			
*Spur 9	0+00	5+48	1 ½ : 1	8"	32	5.48	175	Horse Camp Pit*			

OPTIONAL ROCK 2,101 Cubic Yards  
 REQUIRED ROCK 181 Cubic Yards  
 BALLAST TOTAL 2,282 Cubic Yards

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

NOTE: Yardages are estimated on a compacted (In-Place) basis. Compliance of required rock will be based on compacted depth measurement.

\*Optional rock

## CULVERT LIST

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material	Placement Method	Const. Staked	Remarks
		Dia.	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type				
GM-10	3+01	18	PD	30			0.5	0.5	QS				Ditchout Outlet
GM-12	10+93	18	PD	30			0.5	0.5	QS				
GM-12	13+29	18	PD	30			0.5	0.5	QS				
GM-12	15+71	18	PD	40			0.5	0.5	QS				
GM-12	23+08	18	PD	30			0.5	0.5	QS				
Spur 2	0+20	18	TEMP	50									
Spur 3	2+99	18	TEMP	30									
Spur 3	7+58	18	TEMP	30									
Spur 3	14+46	18	TEMP	30									
Spur 5	2+82	18	TEMP	30									
Spur 5	5+66	24	TEMP	30									
Spur 5	10+61	18	TEMP	30									
Spur 5	11+80	18	TEMP	30									
Spur 5	13+64	18	TEMP	30									
Spur 6	0+25	18	TEMP	50									Approach Permit
Spur 7	0+15	18	TEMP	50									Approach Permit
Spur 8	2+91	24	TEMP	32									
Spur 8	3+82	18	TEMP	34									
Spur 8	7+27	24	TEMP	30									
Spur 8	8+60	18	TEMP	30									
Spur 9	1+54	18	TEMP	32									
Spur 9	3+92	24	TEMP	30									

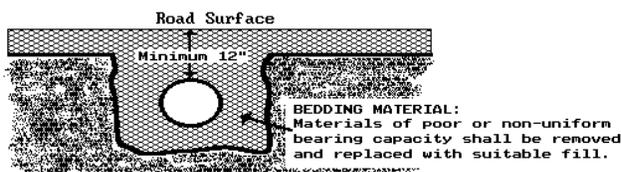
PD = Polyethylene Pipe Dual Wall AASHTO No. M294 Type S or ASTM F2648

TEMP = Temporary Culvert

**Key:**

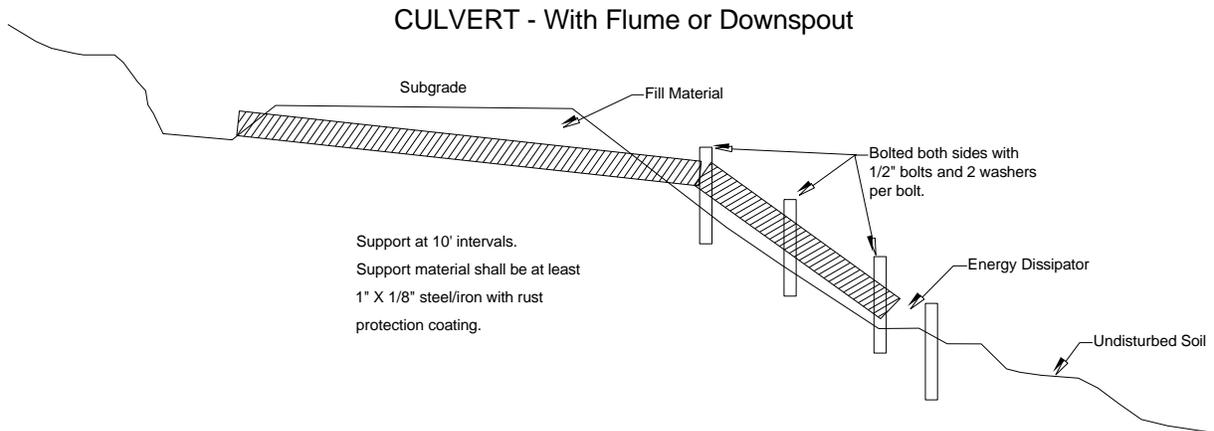
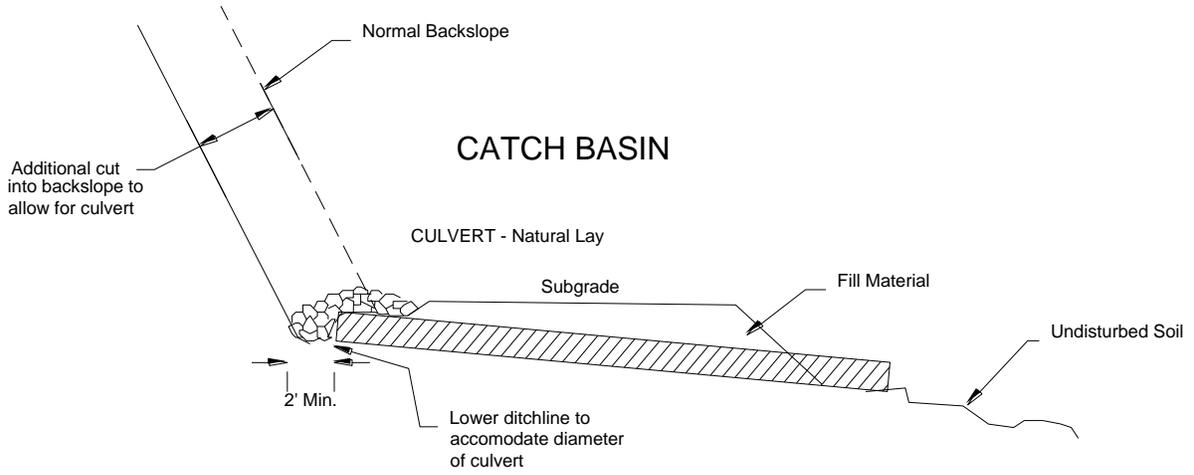
- QS - Quarry Spalls
- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- HL - Heavy Loose Riprap
- LL - Light Loose Riprap
- Flume - Half round pipe
- Downspout - Full round pipe

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



# CULVERT AND DRAINAGE SPECIFICATION DETAIL

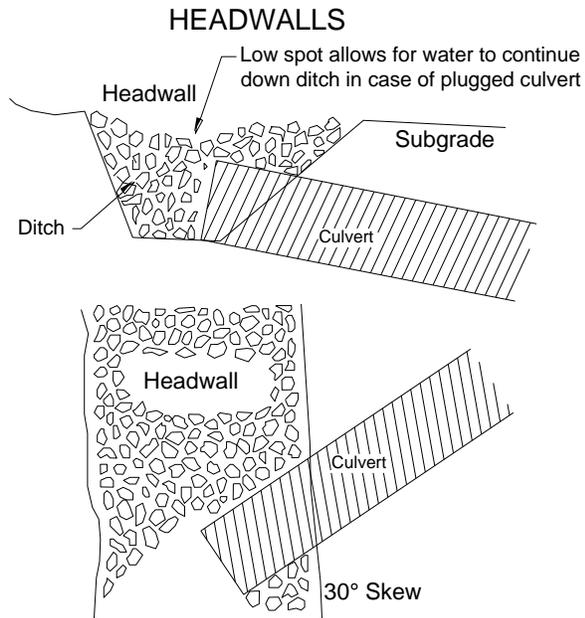
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## CULVERT AND DRAINAGE SPECIFICATION DETAIL

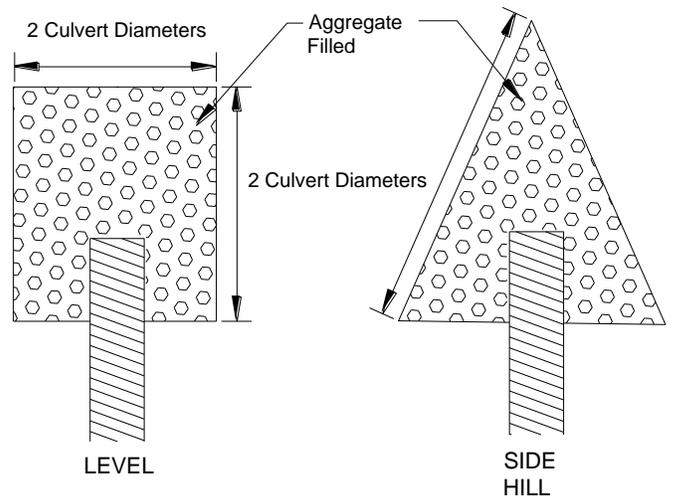
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Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense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



Headwalls to be constructed of material that will resist erosion.

## ENERGY DISSIPATORS



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

## CULVERT AND DRAINAGE SPECIFICATION DETAIL

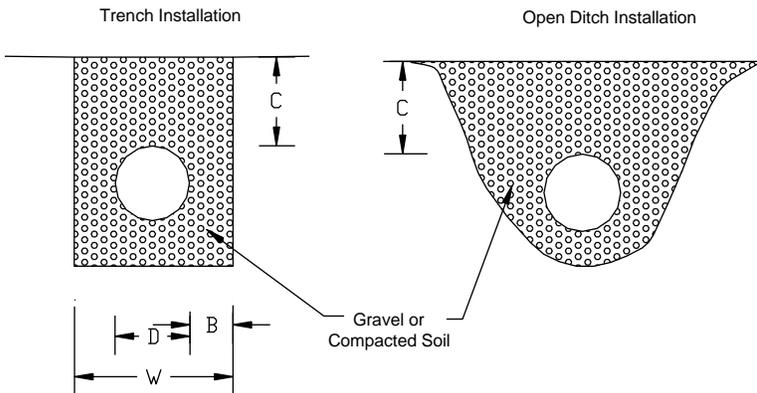
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### POLYETHYLENE PIPE INSTALLATION

#### INSTALLATION REQUIREMENTS:

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

#### *MINIMUM DIMENSIONS*



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

## FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

### Cuts and Fills

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

### Surface

- Grade 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.

### Preventative Maintenance

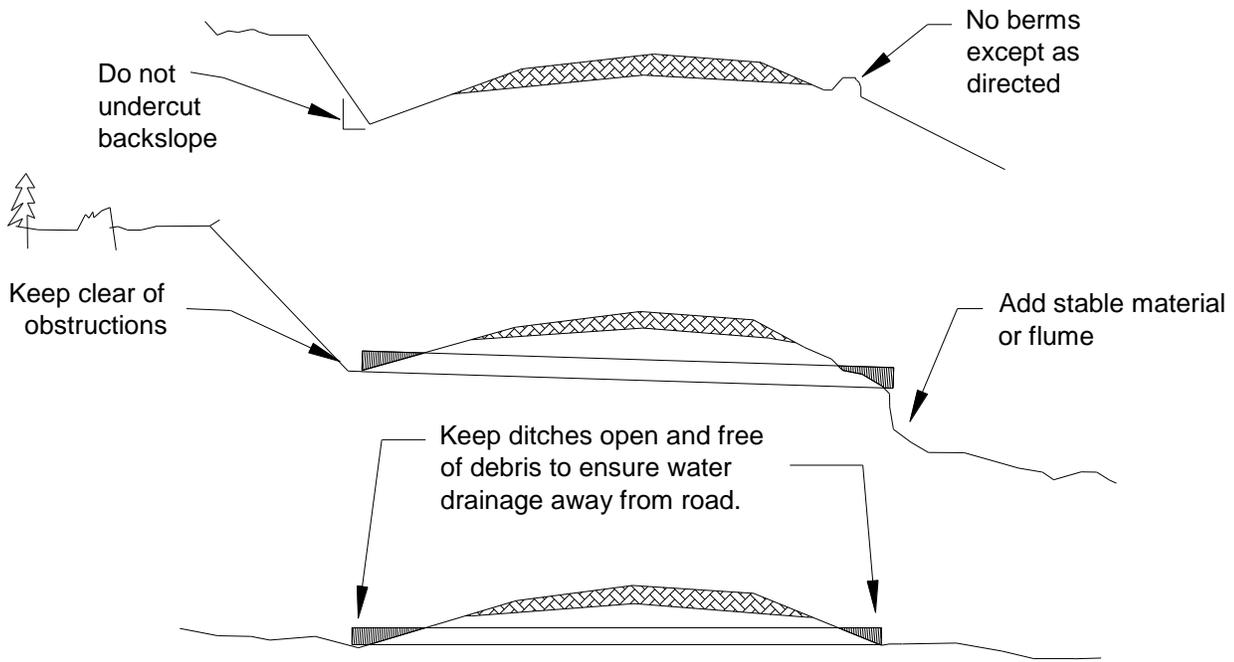
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

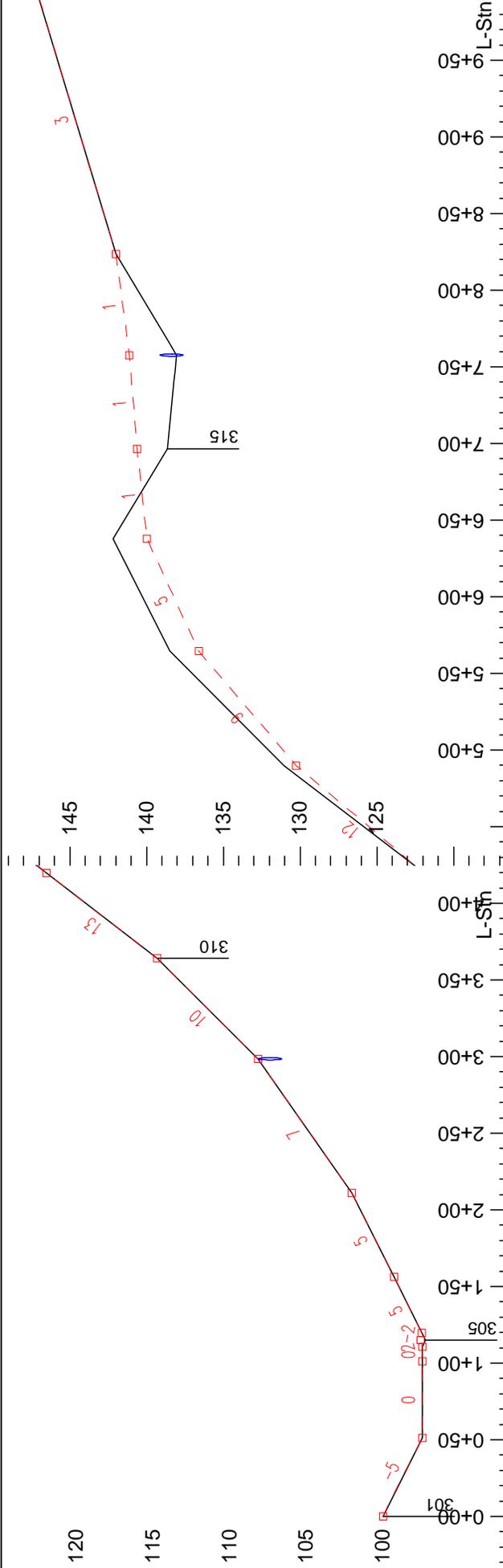
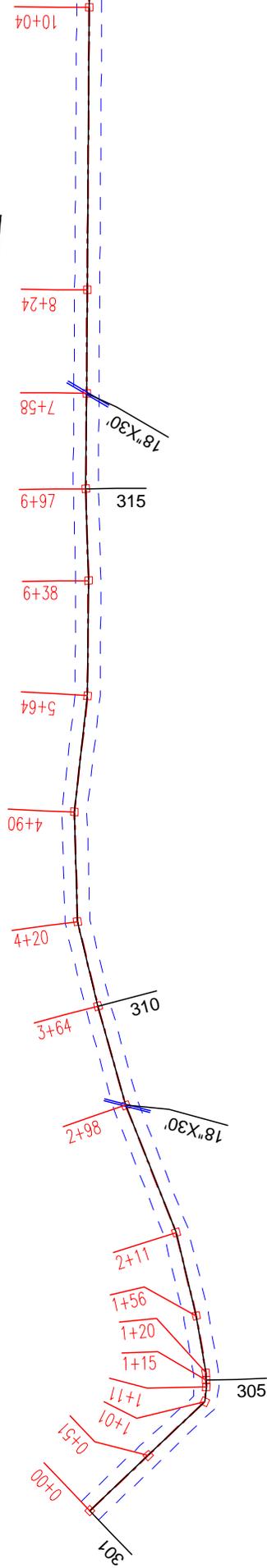
### Termination of Use or End of Season

- 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.





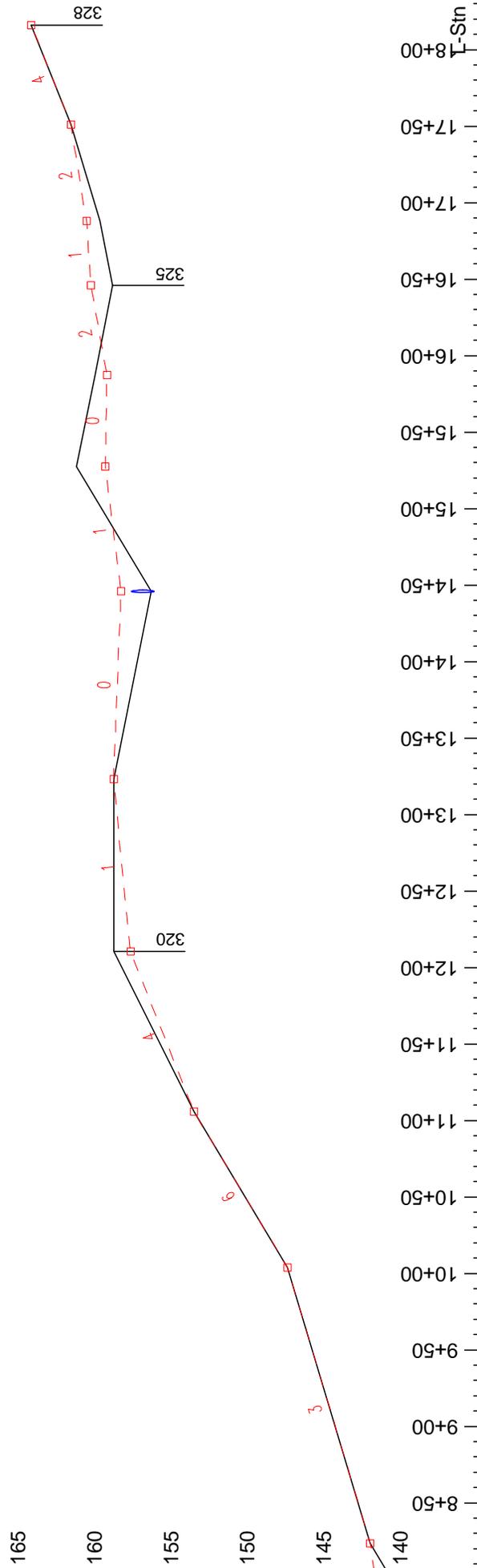
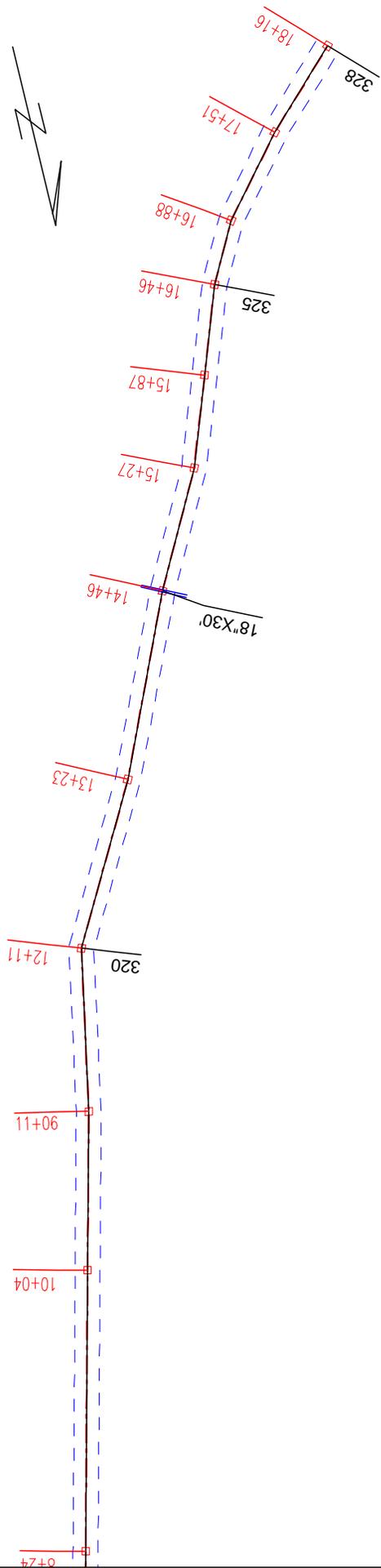
Muffet Timber Sale  
 Spur 3  
 Contract #: 30-092037

Washington State Department of Natural Resources  
 South Puget Sound Region

Plan Scale 1:1200  
 Profile Vert Scale 1:120  
 Profile Horz Scale 1:1200

Engineer: Heymann  
 16/01/20

Page 1 of 2



Engineer: Heymann

16/01/20

Page 2 of 2

Plan Scale 1:1200

Profile Vert Scale 1:120

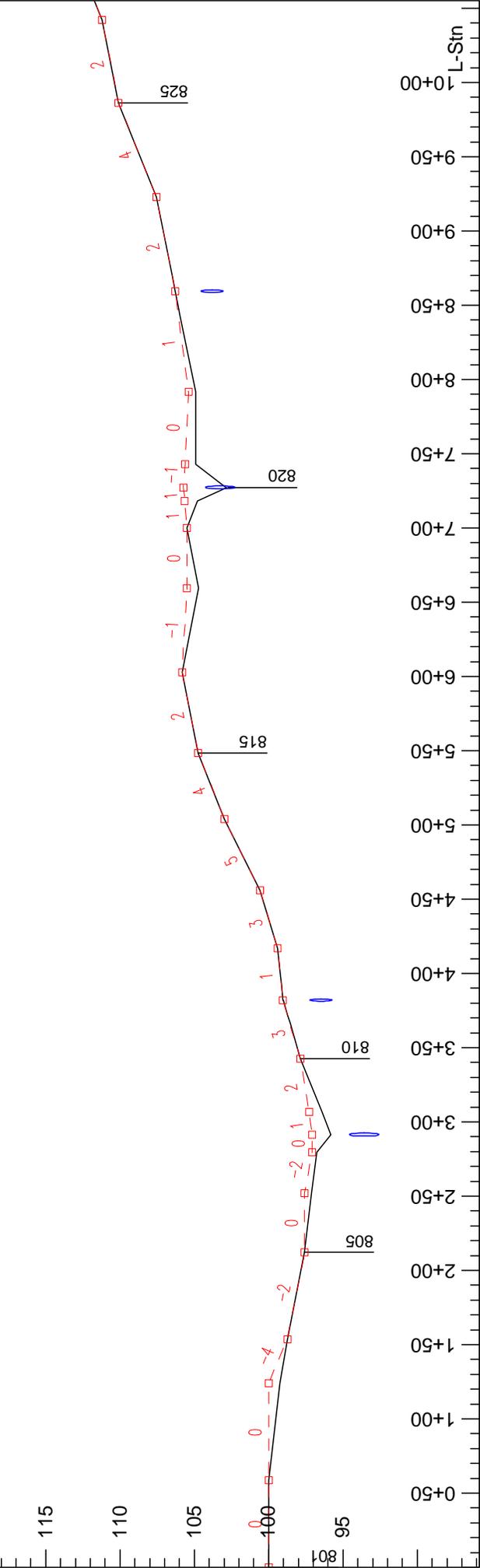
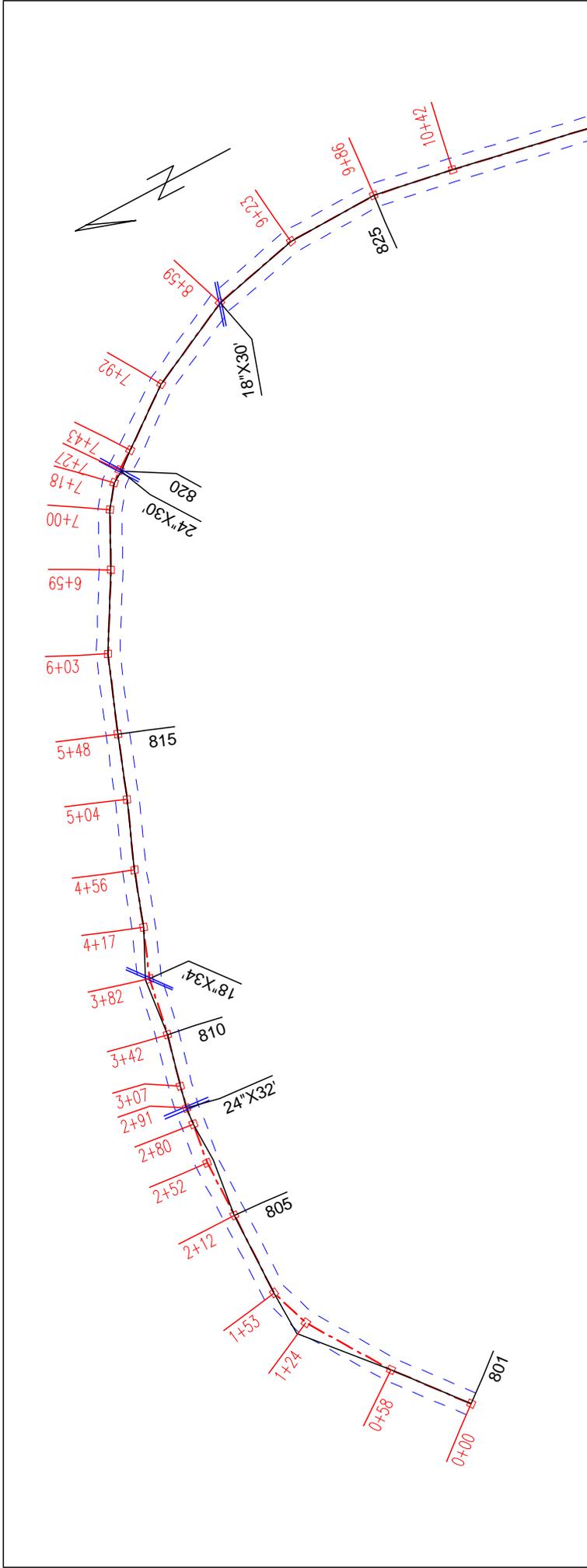
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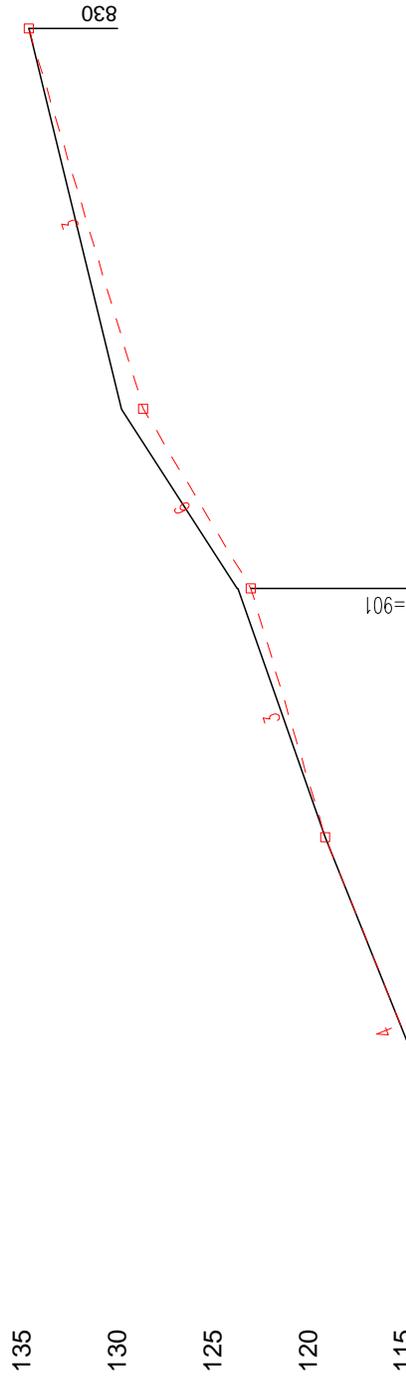
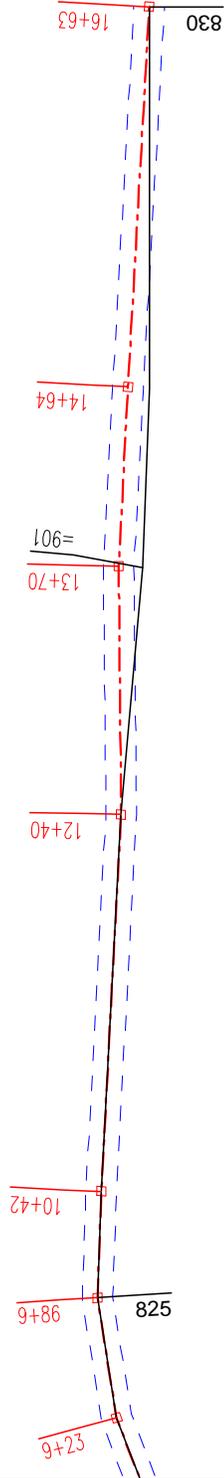
Washington State Department of Natural Resources  
South Puget Sound Region

Muffet Timber Sale  
Spur 3  
Contract #: 30-092037

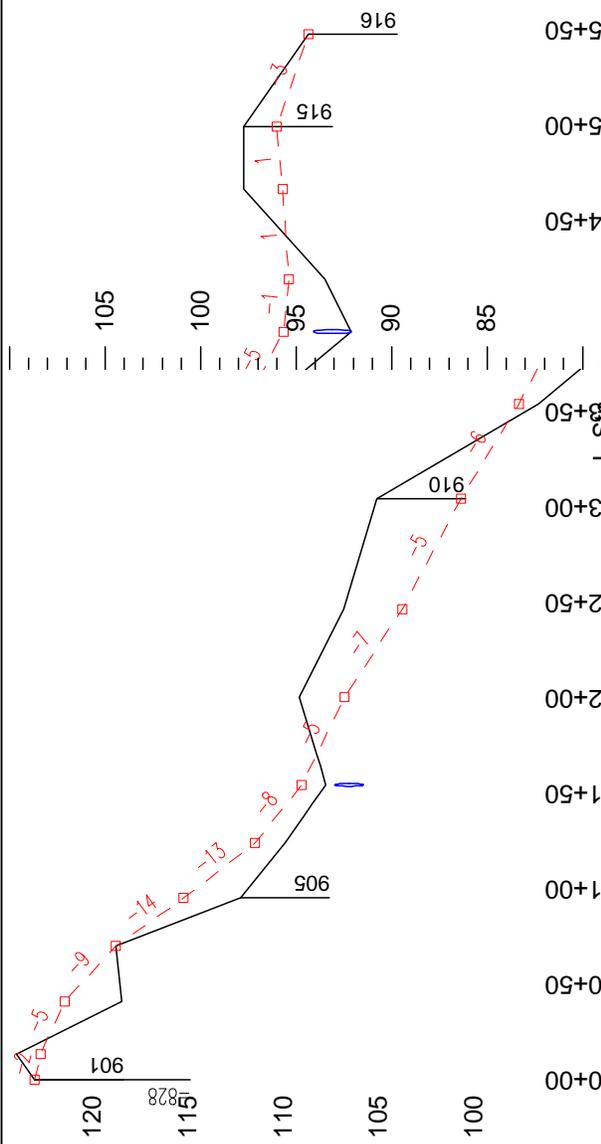
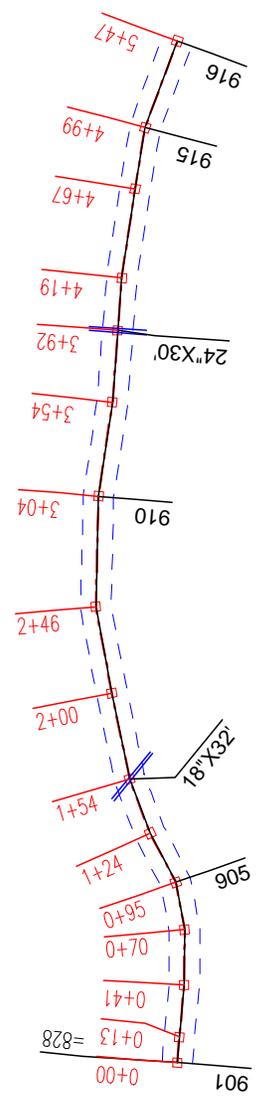
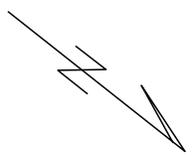








17+00  
17+50  
18+00  
18+50  
19+00  
19+50  
T-Station



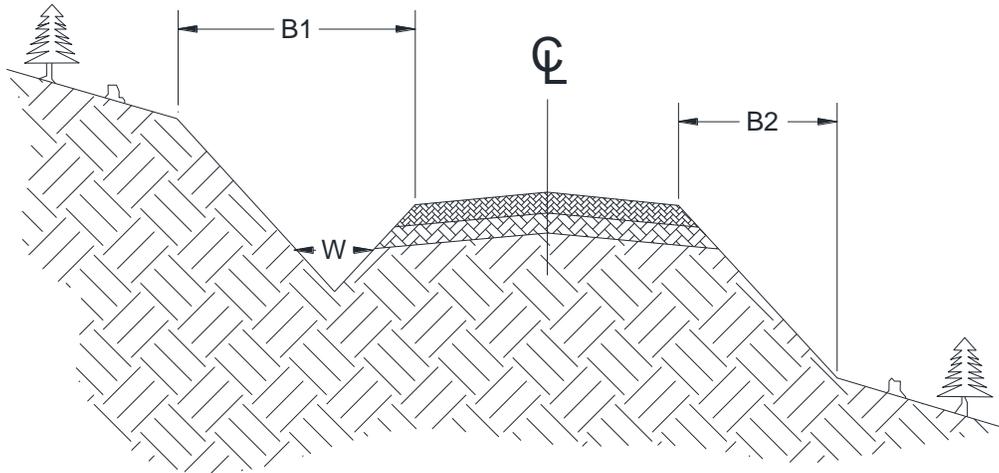
Engineer: Heymann  
 16/01/20  
 Page 1 of 1

Plan Scale 1:1200  
 Profile Vert Scale 1:120  
 Profile Horz Scale 1:1200

Washington State Department of Natural Resources  
 South Puget Sound Region

Muffet Timber Sale  
 Spur 9  
 Contract #: 30-092037

**BRUSHING DETAIL**  
(not to scale)



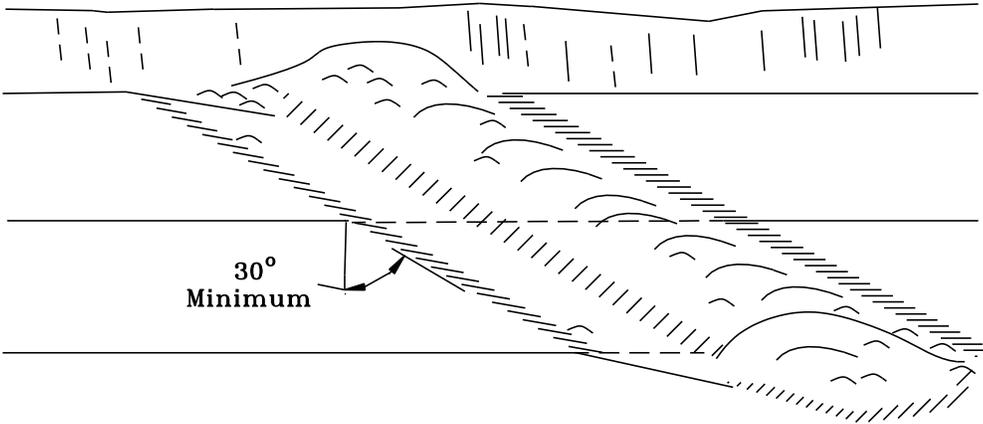
**BRUSHING LIST**

Road Number	From station	To station	Road Width (feet)	Ditch		Brushing Limits (feet)		Remarks  <u>In addition to brushing...</u>
				Width (feet)	Depth (feet)	B1	B2	
				W	D			
GM-1	0+00	79+14	14	2	1	10	10	
GM-2	0+00	50+37	12	2	1	10	10	
GM-12	0+00	23+54	12	2	1	10	10	

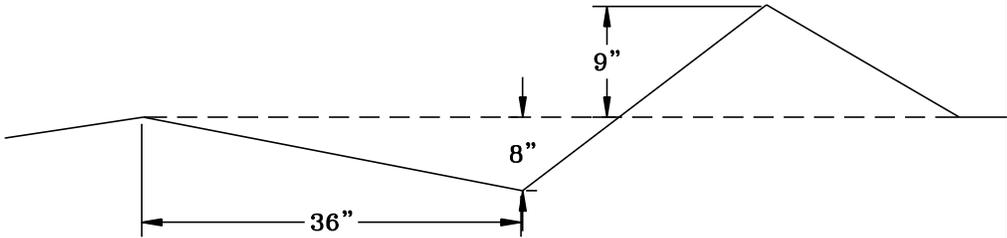
B1 extends horizontally the specified distance in feet from the back of the ditch. B2 extends horizontally the specified distance in feet from the outside edge of the running surface. Brush is defined as all non-merchantable vegetative material found within the specified limits. Brush that is cut shall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

# Drivable Water Bar Detail

## Cross Ditch



## Cross Section at Centerline

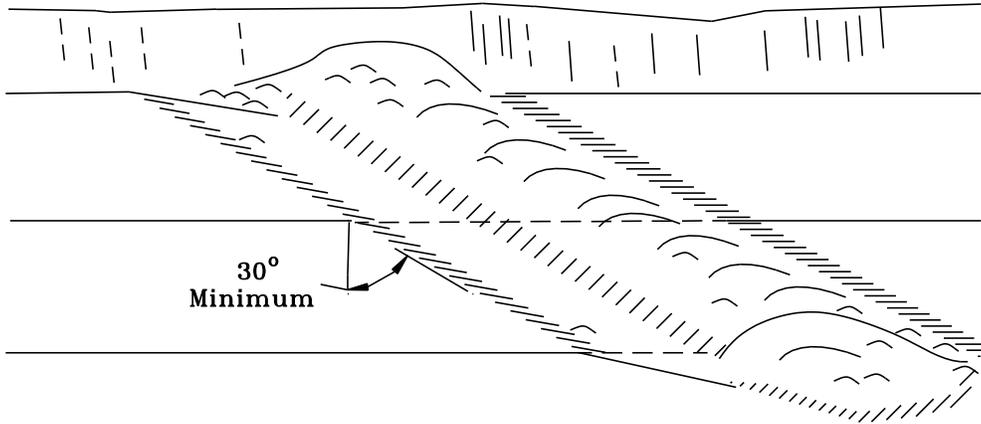


Date:  
Scale : None  
App#  
Drawn by: M.A.D.

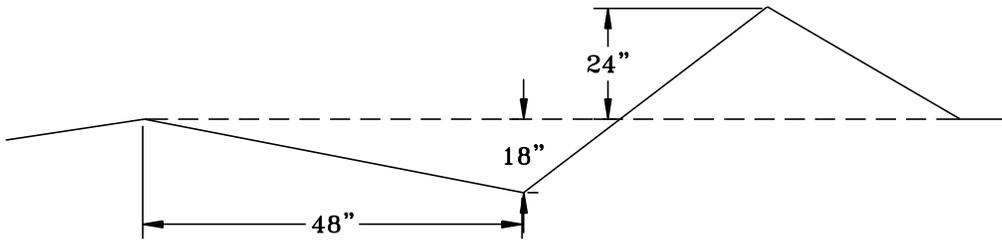
Water Bar Detail	
	WASHINGTON STATE DEPARTMENT OF Natural Resources
<small>SPS Region</small>	

# Non-Drivable Water Bar Detail

## Cross Ditch



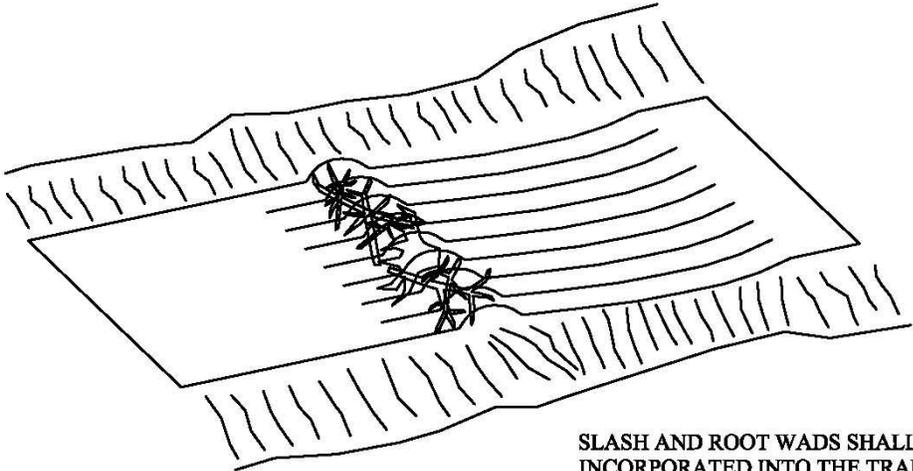
## Cross Section at Centerline



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App#  
Drawn by: M.A.D.

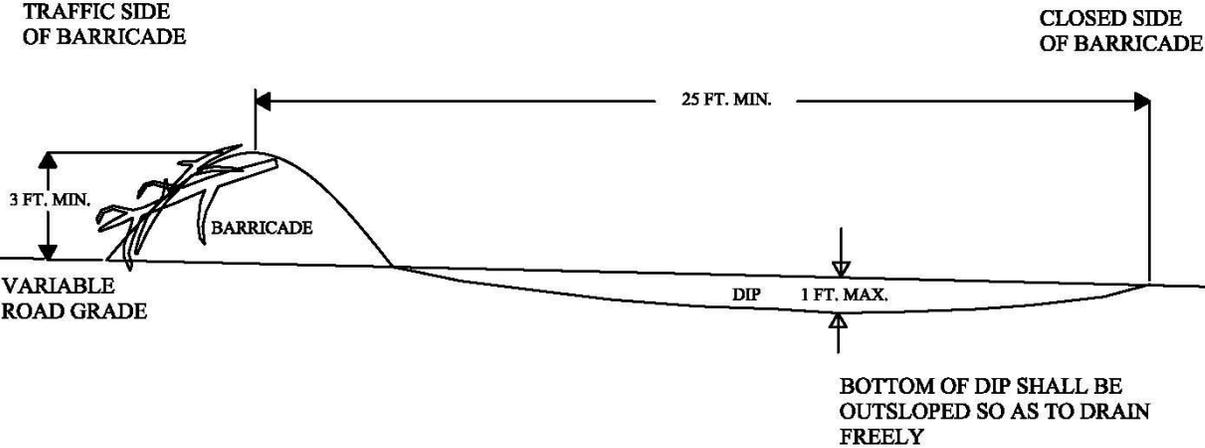
Water Bar Detail	
	WASHINGTON STATE DEPARTMENT OF Natural Resources
<small>SPS Region</small>	

# BARRICADE DETAIL



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

PLAN VIEW

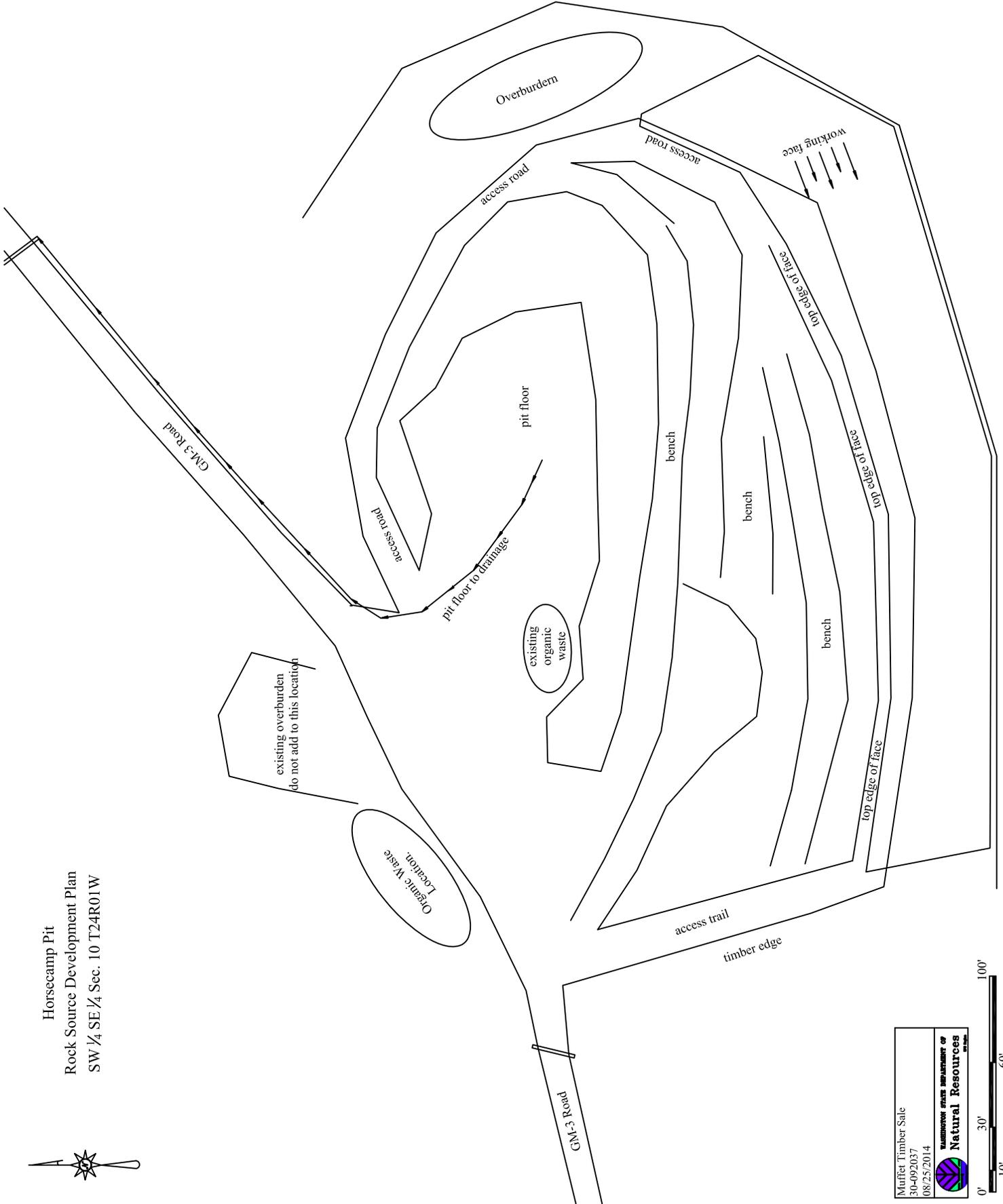


PROFILE VIEW

## PIT DEVELOPMENT PLAN

1. Scatter root wads and organic debris larger than one cubic foot in volume as directed by the Contract Administrator.
2. A minimum stripping width of 20 feet must be maintained from all pit faces and at the termination of operations pit shall be left in said condition.
3. Pile all reject rock and overburden away from pit working area as shown.
4. Pit floor shall be sloped to allow drainage as shown. No ponding will be allowed.
5. Maximum face height shall not exceed 30 feet in height.
6. Pit face shall have a maximum backslope of 1/4:1.
7. Working bench width shall be a minimum of 25 feet.
8. At the completion of operations, Contractor shall request written approval from the Contract Administrator for final rock source condition and compliance with the terms of this plan
9. Quantity and Quality of ballast pit is not guaranteed by the State.

Horsecamp Pit  
 Rock Source Development Plan  
 SW 1/4 SE 1/4 Sec. 10 T24R01W



Martlet Timber Sale 30-092037 08/25/2014	 <b>Natural Resources</b> <small>WASHINGTON STATE DEPARTMENT OF</small>
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DEPARTMENT OF NATURAL RESOURCES - SOUTH PUGET SOUND REGION

FORM 9-87(Rev. 01-09)

Road Development Cost Estimate

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

REGION: SPS  
DISTRICT: Hood Canal

SALE/PROJECT NAME: Muffet T.S. CONTRACT NUMBER: 30-092037  
LEGAL DESCRIPTION: Sec 8,9,16 & 17 T24NR01W & Sec 14 & 15 T24NR02W

ROAD NUMBER:	Spurs 1-9		AR-4	GM-1	GM-2
ROAD STANDARD:	Construction	Reconstruction	GM-10	GM-12	
			Pre / Post-haul maintenance		
NUMBER OF STATIONS:	68.72	0.00		156.35	
SIDESLOPE:	5-20%	0		0	
CLEARING AND GRUBBING:	\$6,013	\$0			
EXCAVATION AND FILL:	\$13,744	\$0			
MISC. MAINTENANCE:				\$11,369	
ROCK TOTALS (Cu. Yds.):					
Ballast: 2759	\$36,281	\$0		\$0	
Commercial: 175	\$4,082	\$0		\$0	
Q-Spalls: 5	\$0	\$0		\$66	
CULVERTS AND FLUMES:	\$12,880	\$0		\$3,216	
STRUCTURES:	\$0	\$0		\$0	
GENERAL EXPENSES:	\$6,570	\$0		\$1,465	
MOBILIZATION:	\$2,500	\$0		\$2,500	
TOTAL COSTS:	\$82,071	\$0		\$18,615	
COST PER STATION:	\$1,194	\$0		\$119	

ROAD DEACTIVATION AND ABANDONMENT COSTS: \$10,664

NOTE<sup>1</sup>: This appraisal has no allowance for profit and risk.  
NOTE<sup>2</sup>: This appraisal does not account for optional rock.

TOTAL (All Roads) = \$111,350  
SALE VOLUME MBF = 4,565  
TOTAL COST PER MBF = \$24.39

Date: 01/28/16

SPS REGION - ROAD COST ESTIMATE - CONSTRUCTION

SALE NAME: Muffet T.S.

CONTRACT NUMBER: 30-092037

I. CLEARING AND GRUBBING:

Flat Rate -	% Side Slope	MBF/ac	Disposal Factor	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
Spurs 1-9	20	15	1.00	1.75	\$50	1.00	68.72	\$6,013
			1.00	1.00	\$50	1.00		\$0
			1.00	1.00	\$50	1.00		\$0
			1.00	1.00	\$42	0.80		\$0
			1.00	1.00	\$42	0.80		\$0

Clear and Grub TOTAL = \$6,013

II. EXCAVATION:

Flat Rate -	% Side Slope	Exc. Type Fact.	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
Spurs 1-9	20	1.0	2.00	\$100	1.00	68.72	\$13,744
	0	1.0	1.00	\$78	0.50	0.00	\$0
	0	1.0	1.00	\$78	0.50	0.00	\$0
	0	1.0	1.00	\$78	0.50	0.00	\$0
	0	1.0	1.00	\$78	0.50	0.00	\$0

\*End Haul, Over Haul, Large Fills/Cuts

End Haul/ Over Haul  
Large Fills/ Cuts

Estimated Vol. (cy)	No. of Equip. Days	Cost/day	Sub Total
			\$0
			\$0

Excavation TOTAL = \$13,744

III. BALLAST AND SURFACING :

Ballast source: Horse Camp Pit  
Surface source: Commercial  
Riprap source :

Description	cu.yds/sta x stations =	cubic yards	
Ballast (4"-)	42	65.69	2,759
Surfacing (2 1/2"-)	5	35.00	175
Riprap			0

UNIT COSTS	Ballast	4-8" clean	Riprap
Drill & Shoot	\$3.75		
Dig and load	\$1.50		
Crushing		\$12.41	
Purchase			\$5.00
Haul *	\$5.00	\$7.22	\$5.00
Spread	\$1.36	\$1.36	
Compact	\$0.51	\$0.51	
Strip			
Reclamation			
Use tax	\$0.09	\$0.09	\$0.09
<b>TOTAL (\$/cy)</b>	<b>\$13.15</b>	<b>\$23.33</b>	<b>\$5.43</b>

\* Haul Formula: (R.T.Miles/MPH+Delay)/(\$/hr / Cy/load)

R. T. Miles =	10.0	20.0	
Ave. Speed =	25	30	
Delay (Hrs.)=	0.2	0.2	Surfacing (2 1/2)
Cost / Hour =	\$100.00	\$100.00	Riprap
CY / Load =	12	12	

2759 Cu. yds @	\$13.15 /cu. yd =	\$36,281
175 Cu. yds @	\$23.33 /cu. yd =	\$4,082
0 Cu. yds @	\$5.43 /cu. yd =	\$0

Rock total = \$40,363

IV. CULVERTS AND FLUMES:

Description	Qty.	Gauge	Diameter	No/Length	Installed Cost/ft	Sub-total
18"PD	1			456	\$19.96	\$9,102
24"PD	1			122	\$29.89	\$3,647
30"PD					\$40.30	\$0
36"PD					\$43.30	\$0
48"PD					\$58.30	\$0
Bands & Gaskets	6				\$22.00	\$132

Geotextile 0.08-0.12/ft^2 (purchase only)

Culvert total = \$12,880

V. STRUCTURES

Description	Type	Width	Length	Cost/ft.	Sub-total
					\$0
					\$0
					\$0

Structure total = \$0

Sub-TOTAL = \$73,001

VI. GENERAL EXPENSES:

Overhead & General Exp. Add 9% \$6,570

VII. MOBILIZATION:

Description	\$ per Move	# of Moves	Sub-total
Dump Trucks	\$100	5	\$500
* Move in costs are averaged over all three sheets.			
Grader	\$400	2	\$800
Compactor	\$450	2	\$900
Excavator	\$500	3	\$1,500
Dozer D8)	\$600		\$0
Front end loader	\$400		\$0
Rock crusher	\$1,500		\$0
Drill	\$400	1	\$400
Dozer (D5)	\$300	3	\$900

Total Mobilization = \$5,000 Mobilization sub-total = \$2,500

Road No. Spurs 1-9  
Standard: Construction  
Stations: 68.72

SHEET TOTAL = \$82,071

By:

Sheet 2 of 5

Date: 01/28/16

SPS REGION - ROAD COST ESTIMATE - RECONSTRUCTION

SALE NAME: Muffet T.S.

CONTRACT NUMBER: 30-092037

I. CLEARING AND GRUBBING:

Flat Rate -	% Side Slope	MBF/ac	Disposal Factor	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
			1.00	1.00	\$40	1		\$0
			1.00	1.00	\$40	1		\$0
			1.00	1.00	\$40	1		\$0
			1.00	1.00	\$40	1		\$0
			1.00	1.00	\$40	1		\$0

Clear and Grub TOTAL = \$0

II. EXCAVATION:

Flat Rate -	% Side Slope	Exc. Type Fact.	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
0		1.0	1.00	\$88	1.00	0.00	\$0
0		1.0	1.00	\$88	1.00	0.00	\$0
0		1.0	1.00	\$88	1.00	0.00	\$0
0		1.0	1.00	\$88	1.00	0.00	\$0
0		1.0	1.00	\$88	1.00	0.00	\$0

\*End Haul, Over Haul, Large Fills/Cuts

End Haul/ Over Haul  
Large Fills/ Cuts

Estimated Vol. (cy)	No. of Equip. Days	Cost/day	Sub Total
			\$0
			\$0

Excavation TOTAL = \$0

III. BALLAST AND SURFACING :

Ballast source:  
Surface source:  
Riprap source :

Description	cu.yds/sta x stations = cubic yards	
Ballast (4"-)		0
Surfacing (2 1/2"-)		0
Riprap		0

\* Haul Formula: (R.T.Miles/MPH+Delay)/(\$/hr / Cy/load)

R.T. Miles =	5.0
Ave. Speed =	25
Delay (Hrs.)=	0.2
Cost / Hour =	\$100.00
CY / Load =	12

Ballast (4"-)	0 Cu. yds @	\$3.61 /cu. yd =	\$0
Surfacing (2 1/2")	0 Cu. yds @	\$3.61 /cu. yd =	\$0
Riprap	0 Cu. yds @	\$3.61 /cu. yd =	\$0

Rock total = \$0

UNIT COSTS	Ballast	Surfacing	Riprap
Drill & Shoot			
Dig and load			
Crushing			
Purchase			
Haul *	\$3.33	\$3.33	\$3.33
Spread			
Compact			
Strip			
Reclamation			
Use tax	\$0.09	\$0.09	\$0.09
<b>TOTAL (\$/cy)</b>	<b>\$3.61</b>	<b>\$3.61</b>	<b>\$3.61</b>

IV. CULVERTS AND FLUMES:

Description	Qty.	Gauge	Diameter (in.)	No/Length (ft)	Installed Cost/ft	Sub-total
18"PD					\$19.96	\$0
24"PD					\$29.89	\$0
30"PD					\$40.30	\$0
36"PD					\$43.30	\$0
48"PD					\$58.30	\$0
Bands & Gaskets						\$0

Culvert total = \$0

V. STRUCTURES

Description	Type	Width	Length	Cost/ft.	Sub-total
					\$0
					\$0
					\$0

Structure total = \$0

Sub-TOTAL = \$0

VI. GENERAL EXPENSES:

Overhead & General Exp. Add 12% \$0

VII. MOBILIZATION:

Description	\$ per Move	# of Moves	Sub-total
Dump Trucks	\$100	5	\$500
* Move in costs are averaged over all three sheets.			
Grader	\$400	2	\$800
Compactor	\$450	2	\$900
Excavator	\$500	3	\$1,500
Dozer D8)	\$600	0	\$0
Front end loader	\$400	0	\$0
Rock crusher	\$1,500	0	\$0
Drill	\$400	1	\$400
Dozer (D5)	\$300	3	\$900

Total Mobilization = \$5,000 Mobilization sub-total = \$0

Road No.  
Standard: Reconstruction  
Stations: 0.00

SHEET TOTAL = \$0

By:

Sheet 3 of 5

Date: 01/28/16

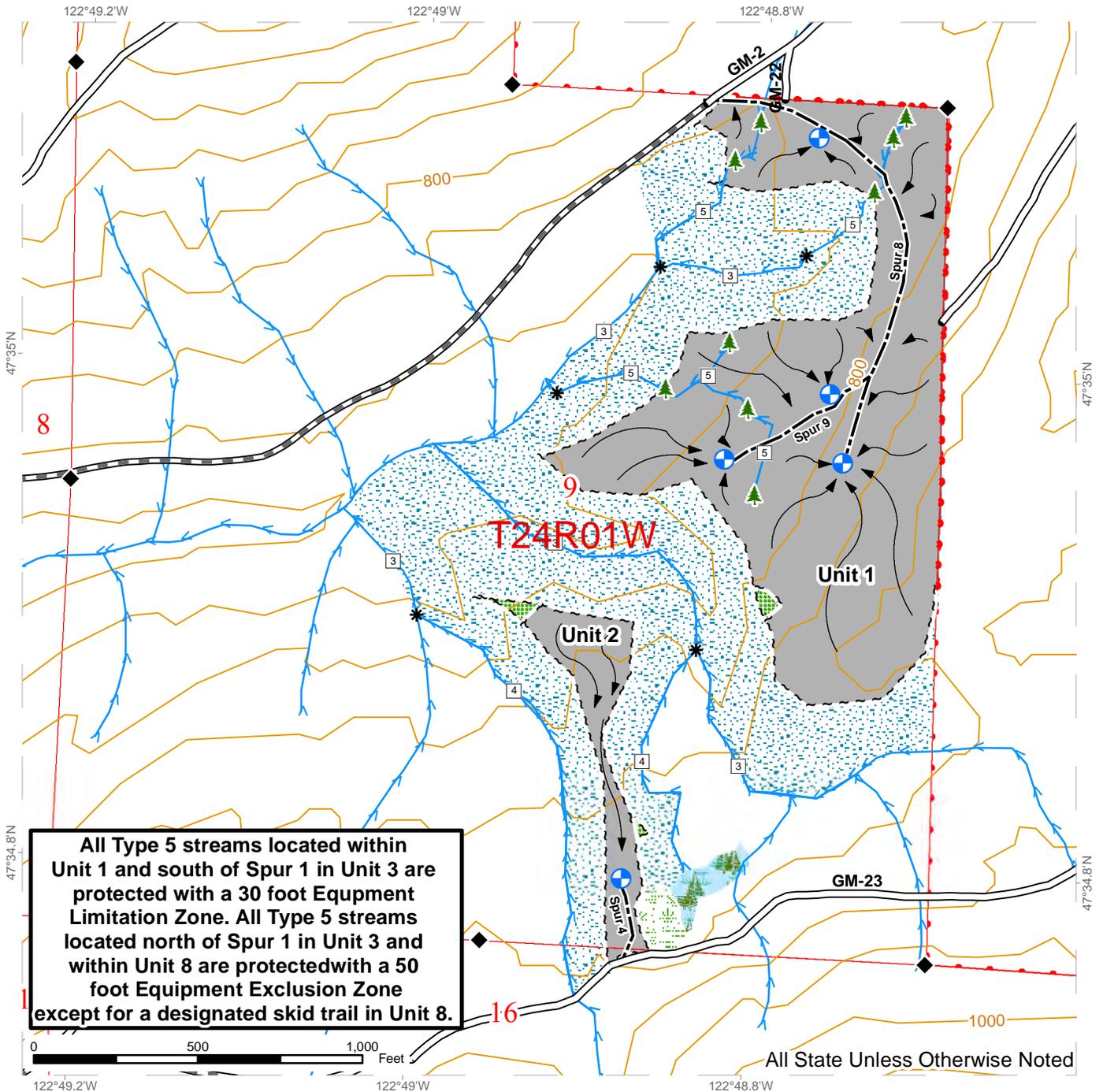




# LOGGING PLAN MAP

SALE NAME: MUFFET  
 AGREEMENT#: 92037  
 TOWNSHIP(S): T24R01W, T24R02W  
 TRUST(S): State Forest Transfer (1)

REGION: South Puget Sound Region  
 COUNTY(S): KITSAP  
 ELEVATION RGE: 428-941



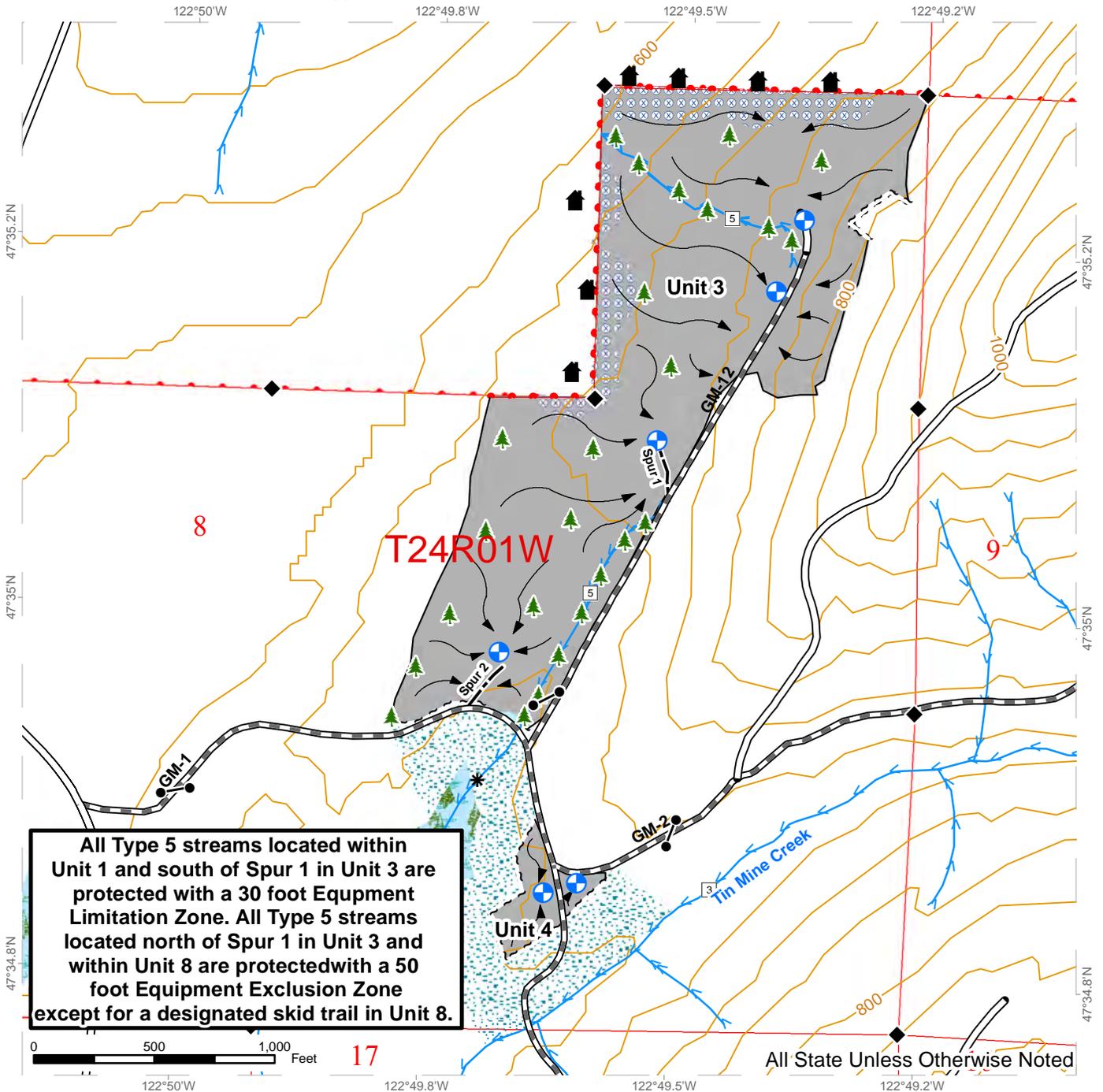
**All Type 5 streams located within Unit 1 and south of Spur 1 in Unit 3 are protected with a 30 foot Equipment Limitation Zone. All Type 5 streams located north of Spur 1 in Unit 3 and within Unit 8 are protected with a 50 foot Equipment Exclusion Zone except for a designated skid trail in Unit 8.**

--- White "Timber Sale Boundary" Tags	🌲 Blue Painted Leave Trees	🌲 Forested Wetland
--- Leave Tree Tags	📍 Landing - Proposed	🌲 Leave Tree Area marked with yellow "Leave Tree Area" tags
--- Property Line	🌊 Streams	🌲 Riparian Mgt Zone
📍 Ground Based	☐ Stream Type	🌲 Wetland Mgt Zone
🛣 Existing Roads	✳ Stream Type Break	📍 Monumented Corners
🛣 Required Pre-Haul Maintenance		📍 Contours 40ft
--- Optional Construction		📍 DNR Managed Lands

# LOGGING PLAN MAP

SALE NAME: MUFFET  
 AGREEMENT#: 92037  
 TOWNSHIP(S): T24R01W, T24R02W  
 TRUST(S): State Forest Transfer (1)

REGION: South Puget Sound Region  
 COUNTY(S): KITSAP  
 ELEVATION RGE: 428-941



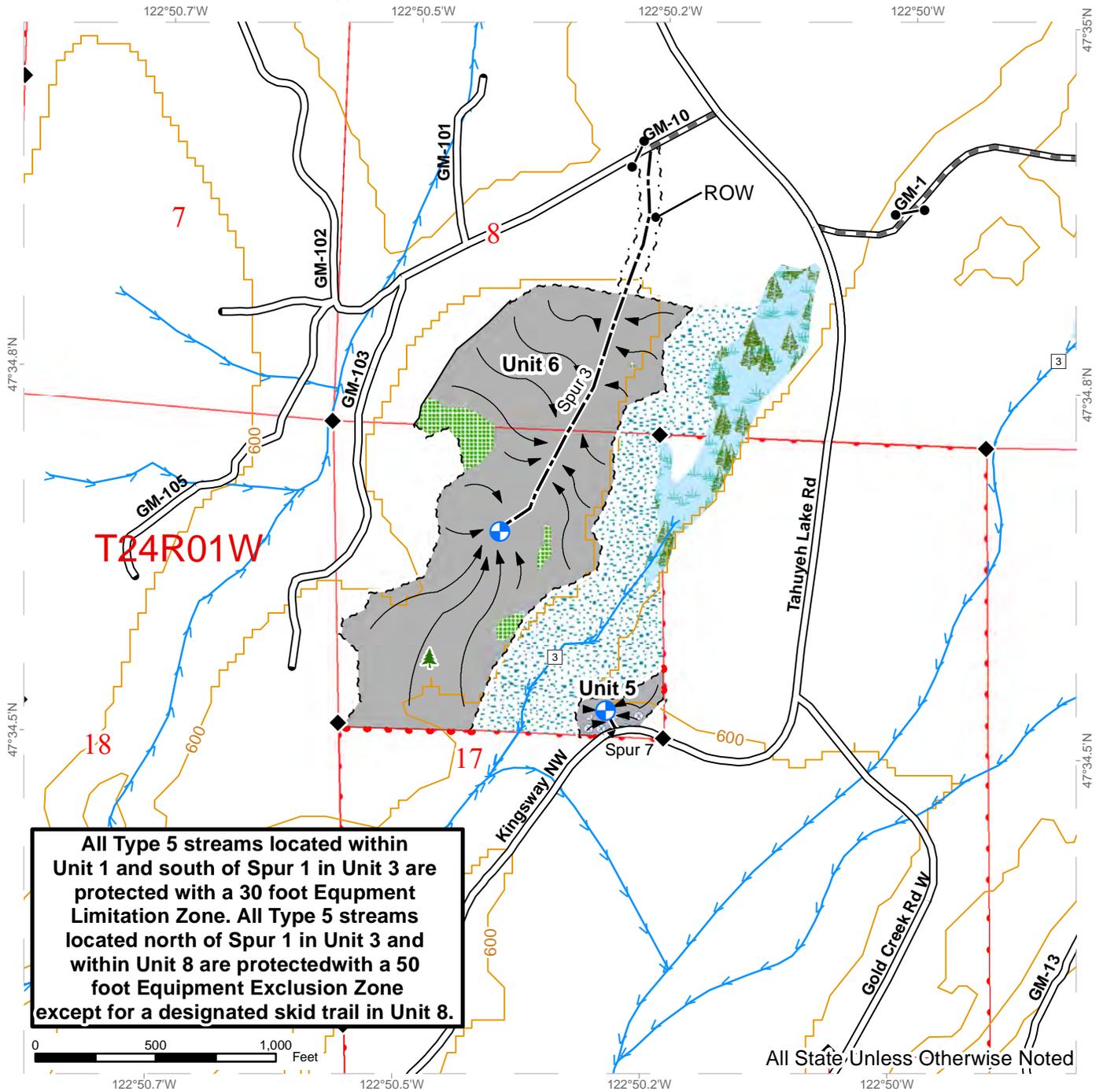
All Type 5 streams located within Unit 1 and south of Spur 1 in Unit 3 are protected with a 30 foot Equipment Limitation Zone. All Type 5 streams located north of Spur 1 in Unit 3 and within Unit 8 are protected with a 50 foot Equipment Exclusion Zone except for a designated skid trail in Unit 8.

--- White "Timber Sale Boundary" Tags	🌲 Blue Painted Leave Trees	🚧 Extreme Hazard Abatement
— Timber Type Change	🏠 Structure	🌿 Forested Wetland
— Property Line	📍 Landing - Proposed	🌿 Riparian Mgt Zone
📏 Ground Based	⚙️ Gate (A786)	◆ Monumented Corners
🛣 Existing Roads	🌊 Streams	📏 Contours 40ft
🛣 Required Pre-Haul Maintenance	☐ Stream Type	📏 DNR Managed Lands
— Optional Construction	✳ Stream Type Break	

# LOGGING PLAN MAP

SALE NAME: MUFFET  
 AGREEMENT#: 92037  
 TOWNSHIP(S): T24R01W, T24R02W  
 TRUST(S): State Forest Transfer (1)

REGION: South Puget Sound Region  
 COUNTY(S): KITSAP  
 ELEVATION RGE: 428-941

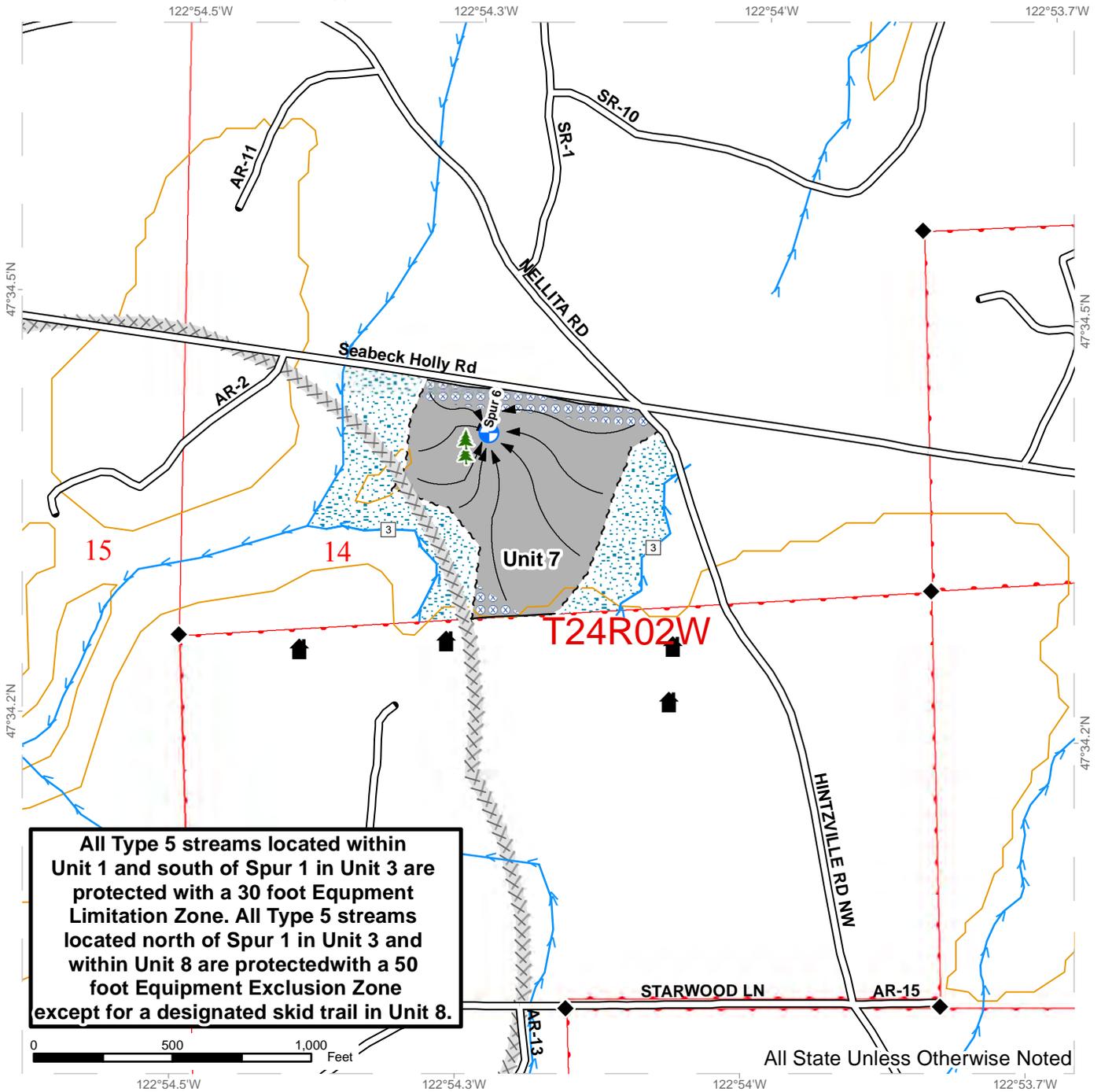


--- White "Timber Sale Boundary" Tags	🌲 Blue Painted Leave Trees	⚠️ Extreme Hazard Abatement
- - - Right of Way Tags	📍 Landing - Proposed	🌿 Forested Wetland
— Timber Type Change	● Gate (A786)	🌳 Leave Tree Area marked with yellow "Leave Tree Area" tags
— Property Line	🔵 Streams	🌿 Riparian Mgt Zone
📐 Ground Based	□ Stream Type	◆ Monumented Corners
🛣 Existing Roads	✳ Stream Type Break	📏 Contours 40ft
🛠 Required Pre-Haul Maintenance		📏 DNR Managed Lands
🚧 Optional Construction		

# LOGGING PLAN MAP

**SALE NAME:** MUFFET  
**AGREEMENT#:** 92037  
**TOWNSHIP(S):** T24R01W, T24R02W  
**TRUST(S):** State Forest Transfer (1)

**REGION:** South Puget Sound Region  
**COUNTY(S):** KITSAP  
**ELEVATION RGE:** 428-941



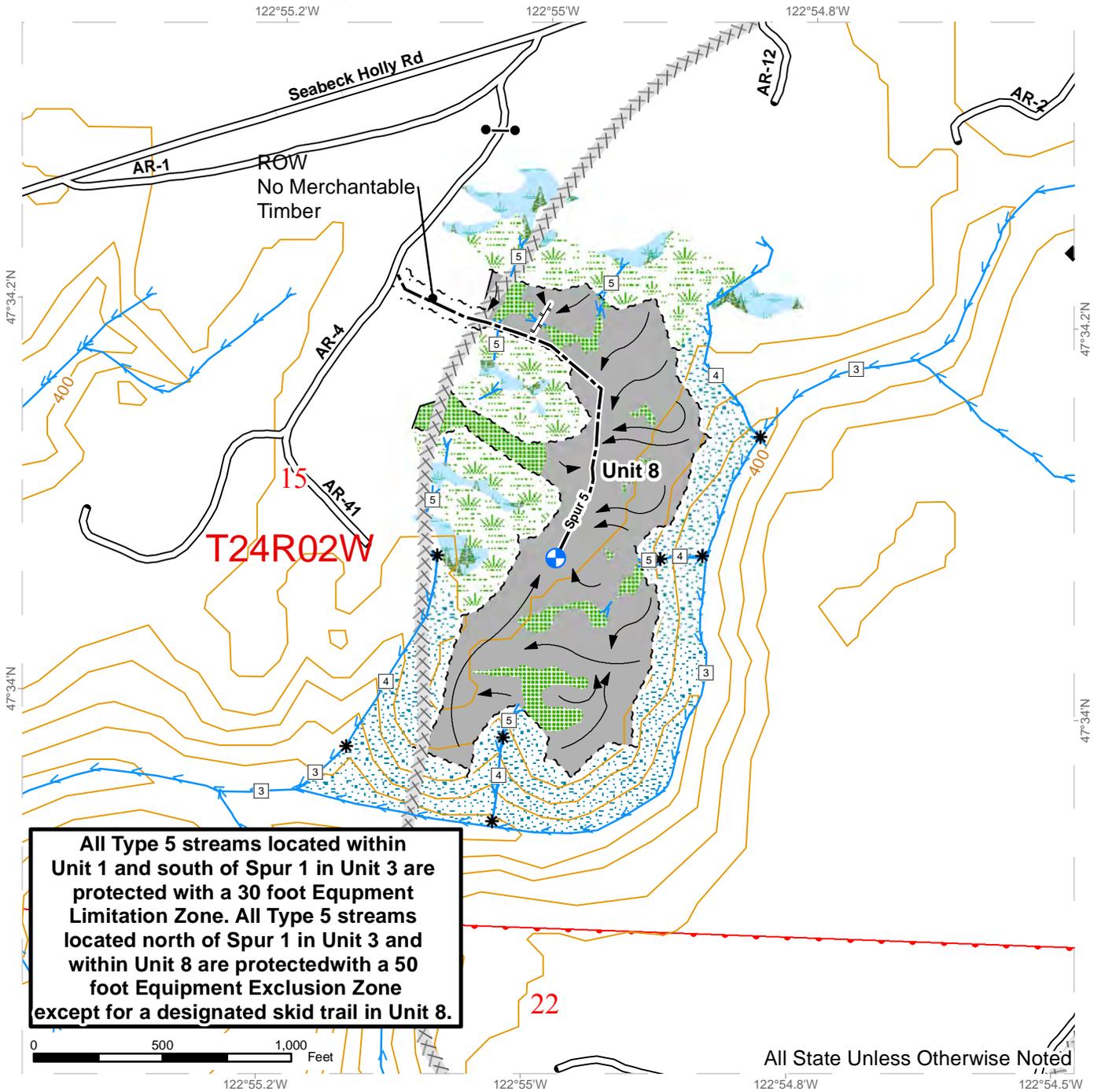
~ ~ ~ White "Timber Sale Boundary" Tags	Blue Painted Leave Trees	Extreme Hazard Abatement
— Timber Type Change	Structure	Riparian Mgt Zone
Wildlife Timing Restrictions	Landing - Proposed	Monumented Corners
Ground Based	Streams	Contours 40ft
Existing Roads	Stream Type	DNR Managed Lands
Optional Construction	Stream Type Break	



# LOGGING PLAN MAP

SALE NAME: MUFFET  
 AGREEMENT#: 92037  
 TOWNSHIP(S): T24R01W, T24R02W  
 TRUST(S): State Forest Transfer (1)

REGION: South Puget Sound Region  
 COUNTY(S): KITSAP  
 ELEVATION RGE: 428-941



**All Type 5 streams located within Unit 1 and south of Spur 1 in Unit 3 are protected with a 30 foot Equipment Limitation Zone. All Type 5 streams located north of Spur 1 in Unit 3 and within Unit 8 are protected with a 50 foot Equipment Exclusion Zone except for a designated skid trail in Unit 8.**

All State Unless Otherwise Noted

~ ~ ~ White "Timber Sale Boundary" Tags	⊕ Landing - Proposed	🌲 Forested Wetland
~ ~ ~ Right of Way Tags	● Gate (A786)	🌳 Leave Tree Area marked with yellow "Leave Tree Area" tags
— Timber Type Change	🌊 Streams	🌿 Riparian Mgt Zone
⊗ Wildlife Timing Restrictions	□ Stream Type	🌿 Wetland Mgt Zone
📏 Ground Based	* Stream Type Break	◆ Monumented Corners
🛣 Existing Roads		🟡 Contours 40ft
— Optional Construction		🔴 DNR Managed Lands
🛤 Designated Skid Trail		