WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

TIMBER NOTICE OF SALE

***SALE NAME**: BOLLARD* ***AGREEMENT NO**: 30-98885*

AUCTION: April 29, 2020 starting at 10:00 a.m., Northwest Region Office, Sedro Woolley, WA **COUNTY:** Whatcom

SALE LOCATION: Sale located approximately 19 miles northeast of Sedro-Woolley, WA

PRODUCTS SOLD AND SALE AREA: All timber bounded by white timber sale boundary tags, property line and ED-ML road, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #1.

All timber bounded by white timber sale boundary tags, adjacent young stands and the ED-ML Road, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #2.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning areas (beyond the blue special management tags up to the white timber sale boundary tags) within Units #1 and #2.

The above described products on part(s) of Sections 25 and 36 all in Township 37 North, Range 5 East, W.M., containing 45 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade 1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	26	8	1,351				68		1,113	143	10	17
Hemlock	15	8	560						219	253	56	32
Red cedar	15		183							141	42	
Cottonwood	22		79						66		12	1
Red alder	18		55						23	15	8	9
Maple	18		32						15	6	6	5
Sale Total			2,260									

MINIMUM BID: $806,000.00 **BID METHOD:** Sealed Bids

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

EXPIRATION DATE: March 30, 2022 **ALLOCATION:** Export Restricted

BID DEPOSIT: $80,600.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

TIMBER NOTICE OF SALE

HARVEST METHOD: Cable; shovel, forwarder, or tracked skidder on sustained slopes 40% or less; a feller-buncher may be utilized on sustained slopes 40% or less; a rubber-tired skidder may be used in Unit 2 of Bollard during dry weather (See H-141 for restrictions). Falling and Yarding will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator (THIS PERTAINS TO GROUND-BASED EQUIPMENT ONLY) to reduce soil damage and erosion.

ROADS: Road work and the hauling of rock will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator to reduce soil damage and siltation. The hauling of forest products will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administratorto reduce soil damage and siltation. A seasonal (closed-season) hauling plan will be required and must address sediment delivery from 0+00 to 25+00 on the ED-ML in order for hauling to be considered for approval.

ACREAGE DETERMINATION

CRUISE METHOD: Acres determined by GPS traverse. Cruise was conducted via variable plot sample type for VRH area and fixed-plot for thinning area. See Cruise Narrative for further details. Shapefiles of units are available upon request after the BNR meeting in which the sale is presented.

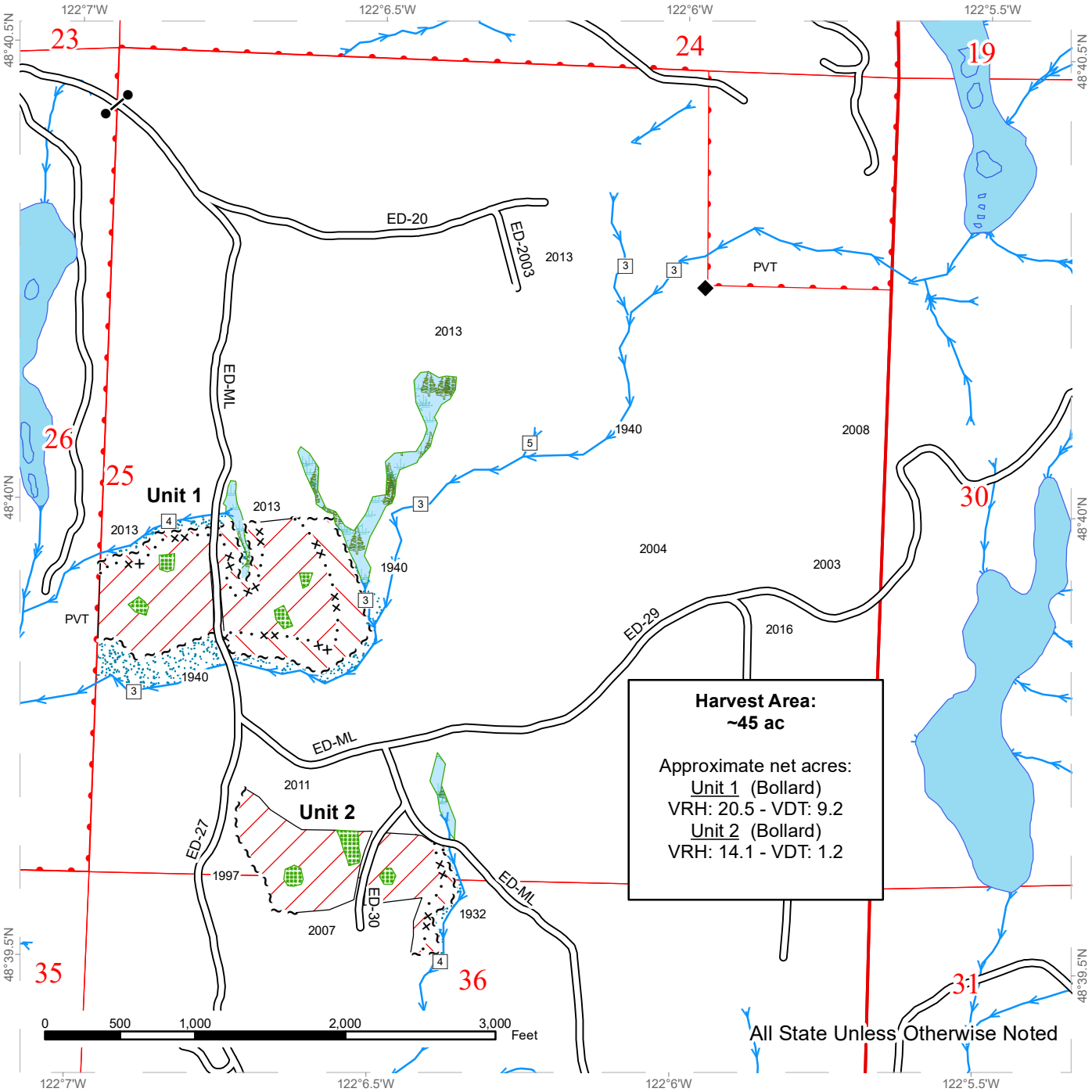
FEES: $45,220.00 is due on day of sale. $9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS:
1. Trees marked with pink paint represent the last take tree along property line boundaries.
2. Outer boundary of harvest area in thinning areas is demarcated with blue special management tags within the sale area.
3. HQ DF noted within the sale area. See cruise for further details (approximately 209 mbf of the above listed DF 2S is deemed high quality by the Department).
4. Also, redcedar and Douglas-fir poles were noted within the sale area. No formal cruise was conducted for poles. See cruise for further details.
5. Hauling restricted season plan required prior to any operations during the restricted season.

TIMBER SALE MAP

SALE NAME: BOLLARD
AGREEMENT #: 30-098885
TOWNSHIP(S): T37R5E
TRUST(S): State Forest Transfer (1), Common School and Indemnity (3)

REGION: Northwest Region
COUNTY(S): Whatcom
ELEVATION RGE: 1240-1560



Variable Retention Harvest
Variable Density Thinning
Leave Tree Area
Riparian Mgt Zone
Forested Wetland
DNR Managed Lands
Sale Boundary Tags
Special Mgmt Area
Existing Roads
Optional Construction
Required Pre-Haul Maintenance
Streams
Stream Type
Stream Type Break
Survey Monument

N

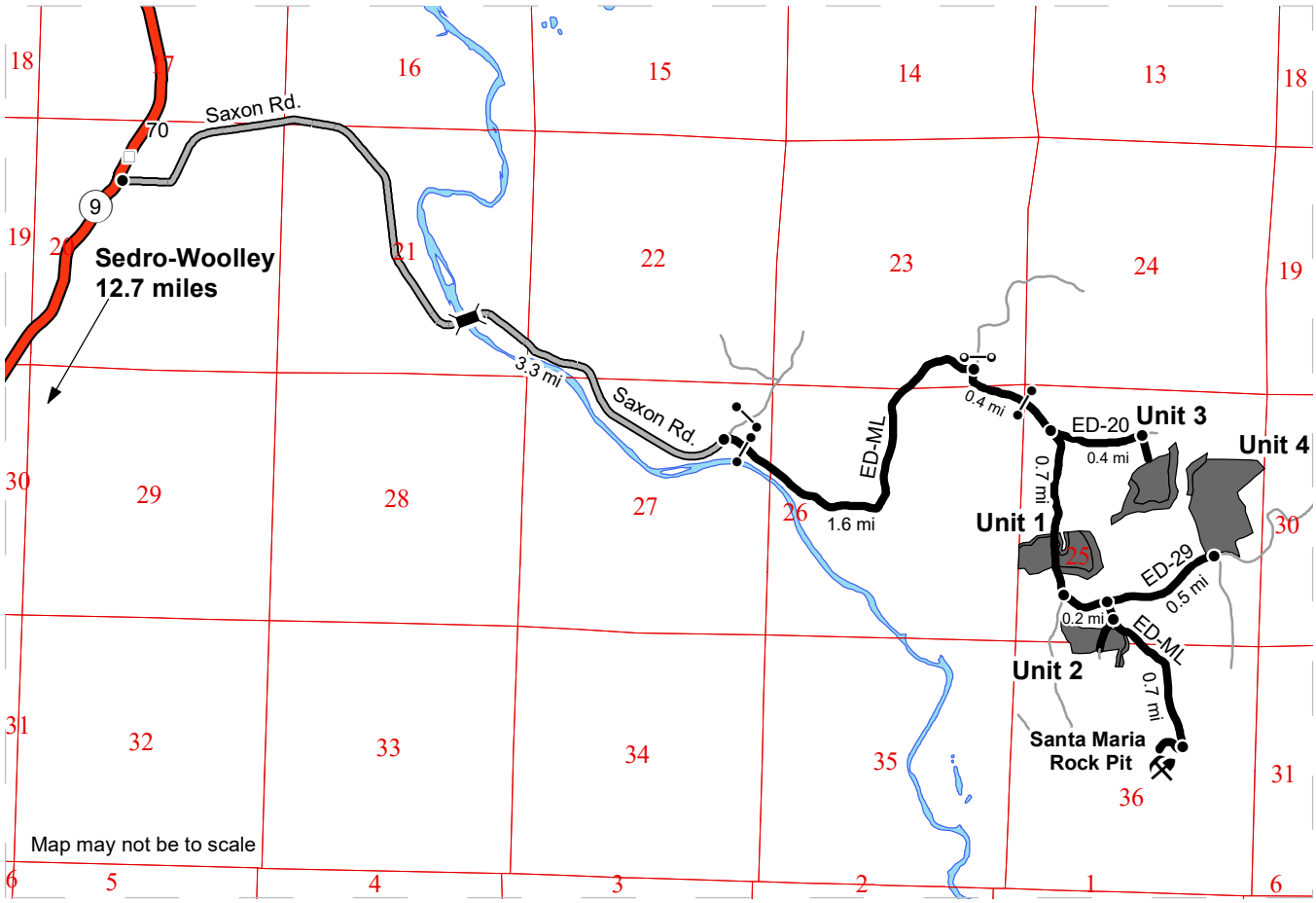
Prepared By: kgal490

Modification Date: tkle490 12/16/2019

DRIVING MAP

SALE NAME: ARGOSY
AGREEMENT#: 30-098884
TOWNSHIP(S): T37R5E
TRUST(S): State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Whatcom
ELEVATION RGE: 1240-1560



- Timber Sale Unit
- Haul Route
- Other Road
- County Road
- Highway
- Milepost Markers
- Bridge
- Distance Indicator
- Gate (F1)
- Private Gate
- Rock Pit

DRIVING DIRECTIONS:

From the intersection of SR 9 and Saxon Rd., proceed east on Saxon Rd. for 3.3 miles and reach the beginning of the ED-ML at the bridge over Skookum Creek. Proceed through the gate (accessible with an F1-3) and continue on the ED-ML for 1.6 miles. Stay to the right to stay on the ED-ML and continue for another 0.3 miles and proceed through another gate (accessible with an F1-3) at the State property line. Continue for another 0.1 miles to reach the intersection with the ED-20.

Unit 1: From the intersection of the ED-ML and ED-20, proceed on the ED-ML for 0.4 miles. The unit will be on both sides of the road.

Unit 2: From the intersection of the ED-ML and ED-20, continue on the ED-ML for 0.7 miles and turn left to remain on the ED-ML. Proceed for 0.2 miles before reaching the intersection of the ED-ML and ED-29. Turn right to remain on the ED-ML and proceed for 400 feet and turn right onto the ED-30. Proceed for another 100' before reaching the harvest unit on both sides of the road.

Unit 3: From the intersection of the ED-ML and the ED-20, proceed on the ED-20 for 0.4 miles and turn right onto the ED-2003. Proceed on the ED-2003 until reaching the harvest unit and beginning of new road construction.

Unit 4: From the intersection of the ED-ML and the ED-29, proceed on the ED-29 for 0.5 miles. The harvest unit will be on your left.

Santa Maria Pit: From the intersection of the ED-ML and the ED-29, continue on the ED-ML for 0.2 miles and turn right onto the ED-36. Continue for 0.1 miles before reaching the Santa Maria Pit.

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Prepared By: kgal490

Modification Date: kgal490 9/9/2019

TIMBER SALE MAP

SALE NAME: ARGOSY
AGREEMENT #: 30-098884
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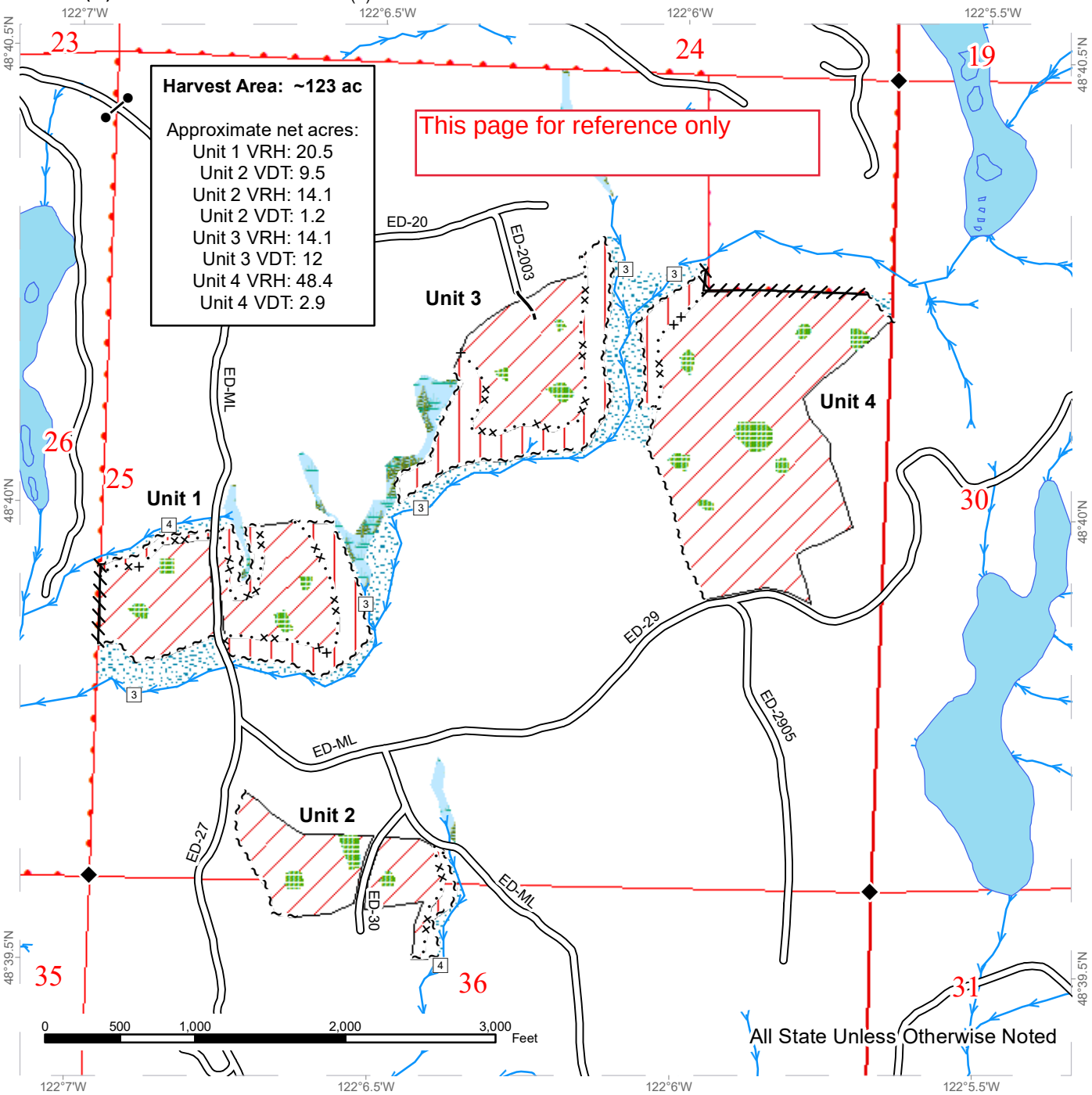
TRUST(S): State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Whatcom
ELEVATION RGE: 1240-1560



Variable Retention Harvest	~ ~ ~ Sale Boundary Tags	Streams
Riparian Restoration	· · · ×× Special Mgmt Area	Stream Type
Leave Tree Area	Flag Line	Stream Type Break
Riparian Mgt Zone	Existing Roads	Survey Monument
Forested Wetland	Optional Construction	

N

Prepared By: kgal490

Modification Date: kgal490 9/9/2019

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-098885

SALE NAME: BOLLARD

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on April 29, 2020 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber bounded by white timber sale boundary tags, property line and ED-ML road, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #1.

All timber bounded by white timber sale boundary tags, adjacent young stands and the ED-ML Road, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #2.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning areas (beyond the blue special management tags up to the white timber sale boundary tags) within Units #1 and #2.

The above described products, located on approximately 45 acres on part(s) of Sections 25, and 36 all in Township 37 North, Range 5 East W.M. in Whatcom County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
B	Thinning Prescription

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to March 30, 2022.

G-040 Contract Term Adjustment - No Payment

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

a. Road and bridge failures which deny access.

b. Access road closures imposed by road owner.

c. Excessive suspensions as provided in clause G-220.

d. Regulatory actions not arising from Purchaser's failure to comply with this contract which will prevent timber harvest for a period less than 6 months.

G-051 Contract Term Extension - Payment

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

a. A written request for extension of the contract term must be received prior to the expiration date of the contract.

b. Completion of all required roads and compliance with all contract and regulatory requirements.

c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the total contract price.

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

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

d. Payment of an amount based on 12 percent interest per annum on the unpaid portion of the total contract price.

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

e. Payment of $109.00 per acre per annum for the acres on which an operating release has not been issued in Variable Density Thinning (VDT) RMZ Thinning areas. Payment of $761.00 per acre per annum for the acres on which an operating release has not been issued in Variable Retention Harvest (VRH) area.

f. In no event will the extension charge be less than $200.00.

g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.

b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."

c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.

d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.

e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.

f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.

g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.

h. Items contained in any other documents prepared for or by the State.

G-062 Habitat Conservation Plan

The State has entered into a Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) to address state trust land management issues relating to compliance with the Federal Endangered Species Act. The activities to be carried out under this contract are located within the State's HCP area and are subject to the terms and conditions of the HCP, and the Services' Incidental Take Permit Nos. TE812521-1 and 1168 (collectively referred to as ITP), or as amended hereafter by the Services. The ITP authorizes the incidental take of certain federally listed threatened and endangered species, as specified in the ITP conditions. All HCP materials, including the ITP, are available for review at the State's Regional Offices and the administrative headquarters in Olympia, Washington.

By signing this contract, Purchaser agrees to comply with the terms and conditions of the ITP, and the HCP, which shall become terms of this contract. The State agrees to

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

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

G-063 Incidental Take Permit Notification Requirements

a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.

b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.

c. Purchaser shall refer to a specific ITP number, ITP TE812521-1 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.

d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting

authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

Purchaser's rights to purchase and remove the timber and all other interest in the affected sale area.

G-070 Limitation on Damage

In the event of a breach of any provision of this contract by the State, the exclusive remedy available to Purchaser will be limited to a return of the initial deposit, unapplied payments, and credit for unamortized improvements made by Purchaser. The State shall not be liable for any damages, whether direct, incidental or consequential.

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

Contract Item	Appraised Price	Overbid Factor	Price	Fees	Contract Payment Rate
Cottonwood	$97.45	0	$0.00	$9.00	$9.00
Douglas fir	$387.36	0	$0.00	$9.00	$9.00
Hemlock	$285.39	0	$0.00	$9.00	$9.00
Maple	$191.14	0	$0.00	$9.00	$9.00
Red alder	$310.59	0	$0.00	$9.00	$9.00
Red cedar	$502.52	0	$0.00	$9.00	$9.00
Other	$373.25	0	$0.00	$9.00	$9.00

G-106 Adding Naturally Damaged Forest Products

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

G-111 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative program Standard under certificate number: 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 via endorsement on all general liability, excess, umbrella, and property insurance policies.

All insurance provided in compliance with this contract shall be primary as to any other insurance or self-insurance programs afforded to or maintained by State. Purchaser

waives all rights against State for recovery of damages to the extent these damages are covered by general liability or umbrella insurance maintained pursuant to this contract.

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

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

Commercial General Liability (CGL) Insurance. Purchaser shall maintain general liability (CGL) insurance, and, if necessary, commercial umbrella insurance with a limit of not less than $1,000,000.00 per each occurrence. If such CGL insurance contains aggregate limits, the General Aggregate limit shall be at least twice the "each occurrence" limit. CGL insurance shall have products-completed operations aggregate limit of at least two times the "each occurrence" limit. CGL coverage shall include a Logging and Lumbering Endorsement (i.e. Logger's Broad-Form) to cover the events that include, but are not limited to, fire suppression expenses, accidental timber trespasses, and wildfire property damage with limits of not less than $2,000,000.00 each occurrence.

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

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

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

If Purchaser, subcontractor or sub-subcontractor fails to comply with all State of Washington workers' compensation statutes and regulations and State incurs fines or is required by law to provide benefits to or obtain coverage for such employees, Purchaser

shall indemnify State. Indemnity shall include all fines, payment of benefits to Purchaser or subcontractor employees, or their heirs or legal representatives, and the cost of effecting coverage on behalf of such employees.

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

G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Sedro Woolley, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager has sole authority to waive, modify, or amend the terms of this contract in the manner prescribed in clause G-180. No agent, employee, or representative of the State has any authority to bind the State to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract.

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

G-210 Violation of Contract
G-220 State Suspends Operations

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

G-210 Violation of Contract

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

b. If the contract expires pursuant to clause G-030 or G-031 without Purchaser having performed all its duties under this contract, Purchaser's right to operate is terminated and Purchaser shall not have the right to remedy the breach. This provision shall not relieve Purchaser of any payment obligations.

c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.

d. If Purchaser's violation is a result of a failure to make a payment when due, in addition to a. and b. above, interest shall accrue on the unpaid balance at 12 percent per annum, beginning the date payment was due.

G-220 State Suspends Operation

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

a. In the event of a dispute, Purchaser must make a written request to the Region Manager for resolution prior to seeking other relief.

b. The Region Manager will issue a written decision on Purchaser's request within ten business days.

c. Within ten business days of receipt of the Region Manager's decision, Purchaser may make a written request for resolution to the Deputy Supervisor - Uplands of the Department of Natural Resources.

d. Unless otherwise agreed, a conference will be held by the Deputy Supervisor - Uplands within 30 calendar days of the receipt of Purchaser's request for review of the Region Manager's written decision. Purchaser and the Region Manager will have an opportunity to present their positions. The Deputy Supervisor - Uplands will issue a decision within a reasonable time of being presented with both Parties' positions.

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

G-280 Operating Release

An operating release is a written document, signed by the State and Purchaser, indicating that Purchaser has been relieved of certain rights or responsibilities with regard to the entire or a portion of the timber sales contract. Purchaser and State may agree to an operating release for this sale, or portion of this sale, prior to the contract expiration, when all contract requirements pertaining to the release area have been satisfactorily completed. Upon issuance of a release, Purchaser's right to cut and remove forest products on the released area will terminate.

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; ED-ML, ED-26, and ED-30. 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 the ED-ML, ED-29, ED-27, ED-36, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easements with:
Anacortes Veneer, Inc.; #55-002463; dated December 13, 1965.
John Hancock Mutual Life Insurance Company; #55-002606; dated November 20, 1995.
Bloedel Timberlands Development, Inc.; #55-073451; dated October 31, 1997.

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:

Lease, including the terms and provisions thereof,
For: Land Use License
In Favor of: Washington Department of Fish & Wildlife
Disclosed by Application No.: 60-095576
Granted: 5/2/2017
Expires: 6/30/2022

Assessment, including the terms and provisions thereof,
For: Flood
In Favor of: Flood District – Whatcom County
Disclosed by Application No.: 79-000275
Granted: 4/14/1992
Expires: Indefinite

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 $65,560.00. The total contract price consists of a $0.00 contract bid price plus $65,560.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of $100,000.00. The Security provided shall

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Falling and Yarding will not be permitted from November 1 to March 31 BY GROUND-BASED EQUIPMENT unless authorized in writing by the Contract Administrator.

H-011 Certification of Fallers and Yarder Operators

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

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

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

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

H-012 Leave Tree Damage Definition

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

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

a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 500 square inches.

b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.

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

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

H-013 Reserve Tree Damage Definition

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

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

a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 288 square inches.

b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.

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

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

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

H-015 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

a. Skid trails will not exceed 15 feet in width, including rub trees.

b. Skid trails shall not cover more than 15 percent of the total acreage on one unit.

c. Skid trail location will be pre-approved by the Contract Administrator.

d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.

e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.

f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.

g. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 8 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 any type 5 stream.

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 DATA MISSING 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-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-090 Designated Trees Felled

All All black cottonwood in the harvest area shall be felled concurrently with the falling operation and must be yarded to a landing or girdled and left standing (upon approval of the Contract Administrator). shall be felled DATA MISSING.

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using cable; cable, shovel, forwarder, or tracked skidder on sustained slopes 40% or less; a feller-buncher may be utilized on sustained slopes 40% or less; a rubber-tired skidder may be used in Unit 2 of Bollard during dry weather (See H-141 for restrictions),. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-130 Hauling Schedule

The hauling of forest products will not be permitted from November 1 to March 31 without a closed-season plan (in particular, a comprehensive closed-season plan of operations is required to specifically address watershed analysis prescription RE-1 sediment delivery from 0+00 to 25+00 on the ED-ML) unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

A. The following types of equipment are considered ground-based equipment:

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

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

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

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

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

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

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

C. When yarding and loading operations are occurring simultaneously, an additional shovel shall be required for loading to avoid extra trips to the landing. Shovel yarding shall not be allowed to create ruts or soil puddling. Shovel routes should be dispersed to prevent creation of definable trails.

D. Exposed mineral soils created by falling or yarding operations with the potential to deliver sediment to any watercourse must be mulched, water-barred and/or grass seeded prior to October 1 or concurrent with operations between October 1 and March 31.

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. A copy of the timber sale map and contract, and copy of the FPA, shall be present on site during active operations.

B. Purchaser must obtain prior written approval from the Contract Administrator for areas as to where, in Unit 2 only of Bollard, to utilize rubber-tired skidder equipment prior to use. Permission will be granted during dry weather conditions only, as determined by the Contract Administrator. If ground disturbance is causing excessive damage, as determined by the Contract Administrator, skidders will no longer be authorized.

C. A closed-season hauling plan specific to the requirements of the Watershed Analysis (must address sediment delivery from 0+00 to 25+00 on the ED-ML) shall be prepared and reviewed by the Contract Administrator and engineer prior to authorization of haul during the closed season.

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 8/8/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on ED-26 and ED-30. 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 ED-ML. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

An Emergency Response Plan (ERP) shall be provided to the Contract Administrator containing but not limited to, valid contact numbers and procedures for medical emergencies, fire, hazardous spills, forest practice violations and any unauthorized or

unlawful activity on or in the vicinity of the sale area. The Contract Administrator and the State shall be promptly notified whenever an incident occurs requiring an emergency response.

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

S-010 Fire Hazardous Conditions

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

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

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

S-030 Landing Debris Clean Up

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

S-035 Logging Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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-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 10 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain & recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

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

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

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

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

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

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

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of $250.00 per tree for all damaged trees in the Variable Density Thinning area.

D-041 Reserve Tree Excessive Damage

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

the State as liquidated damages at the rate of $1,000.00 per tree for all damaged reserve trees that are not replaced in the Variable Retention Harvest area.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

_____	_____
Purchaser	Tim Stapleton Northwest Region Manager
_____ Print Name	
Date: _____	Date: _____
Address:	

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

STATE OF _____)
)
COUNTY OF _____)

On this _____ day of _____, 20___, before me personally appeared _____
_____ to me known to be the _____ of the corporation that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of the corporation, for the uses and purposes therein mentioned, and on oath stated that (he/she was) (they were) authorized to execute said instrument.

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

Schedule B
Thinning Prescription

No cedar salvage: this includes cedar snags, preexisting dead and down cedar trees and cedar logs.

Harvest timber that meets the following description:

1. Harvest all hardwood that can be felled and yarded without causing damage to the stream or associated no-cut inner zone RMZ area.
2. Harvest all conifer between 8" and 15" at dbh that can be felled and yarded without causing damage to the stream or associated no-cut inner zone RMZ area.

Additional requirements:

1. Downed wood recruitment is required along streams as indicated on the "Schedule B Map". Wetlands do not have a downed wood recruitment requirement. The specific downed wood recruitment trees are to be selected by the operator but must meet the following requirements (unless approved in writing by the contract administrator):
   - Shall be from the largest diameter class of the eligible conifer take trees.
   - Shall be within 25' of the timber sale boundary tags
   - Shall be felled towards/into the creek where safely possible.
   - There may not be more than 100' between the selected trees.
2. Cottonwood may be girdled and left standing. If felled, cottonwood must be removed from the RMZ and yarded to a landing. Cottonwood may not be selected for downed wood recruitment.

“DATA Missing” insert PDF Map here in hardcopy of contract.

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Northwest

Timber Sale Name: BOLLARD

Application Number: 30- 098885

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 0 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 0 **linear feet**
Road to be reconstructed (optional and required) but not abandoned

Abandonment: 0 **linear feet**
Abandonment of existing roads not reconstructed under the contract

Decommission: 0 **linear feet**
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 0 **linear feet**
Existing road to receive maintenance work (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Construction: 0 **linear feet**
Roads to be constructed (optional and required) and then abandoned

Temporary Reconstruction: 0 **linear feet**
Roads to be reconstructed (optional and required) and then abandoned

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contact. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.
(Revised 9/18)

PRE-CRUISE NARRATIVE

Sale Name: ~~Argosy,~~ Bollard, ~~Carrack~~	Region: **Northwest**
Agreement #: 30-098884, 30-098885, 30-098886	District: Baker
Contact Forester: Kyle Galloway Phone / Location: (360) 319-6720 / cell	County(s): Whatcom, Choose a county
Alternate Contact: Stephen Morgan Phone / Location: (360) 815-7133 / cell	Other information: Click here to enter text.

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

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # **Harvest R/W or RMZ WMZ**	**Legal Description** (Enter only one legal for each unit) **Sec/Twp/Rng**	**Grant or Trust**	**Gross Proposal Acres**	**Deductions from Gross Acres (No harvest acres)**				**Net Harvest Acres**	**Acreage Determination** (List method and error of closure if applicable)
				RMZ/ WMZ Acres	**Leave Tree Acres**	**Existing Road Acres**	**Other Acres**		
1 VRH	Sec 25 T37N R05E	01	21.3	-	0.8	See remarks	-	20.5	GPS
1 RMZ	Sec 25 T37N R05E	01	9.2	-	-	-	-	9.2	GPS
2 VRH	Sec 25 T37N R05E	01 / 03	15.1	-	1	See remarks	-	14.1	GPS
2 RMZ	Sec 25 T37N R05E	01 / 03	1.2	-	-	-	-	1.2	GPS
~~3 VRH~~	~~Sec 25 T37N R05E~~	~~01~~	~~14.7~~	~~-~~	~~0.6~~	~~-~~	~~-~~	~~14.1~~	~~GPS~~
~~3 RMZ~~	~~Sec 25 T37N R05E~~	~~01~~	~~12~~	~~-~~	~~-~~	~~-~~	~~-~~	~~12~~	~~GPS~~
~~4 VRH~~	~~Sec 25 T37N R05E~~	~~01~~	~~50.8~~	~~-~~	~~2.4~~	~~-~~	~~-~~	~~48.4~~	~~GPS~~
~~4 RMZ~~	~~Sec 25 T37N R05E~~	~~01~~	~~2.9~~	~~-~~	~~-~~	~~-~~	~~-~~	~~2.9~~	~~GPS~~
TOTAL ACRES			~~127.2~~	~~-~~	~~4.8~~	~~-~~	~~-~~	~~122.4~~	

Revised 03/15/2010 (FRCD)

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1 VRH	Harvest all timber bounded by Timber Sale Boundary (TSB) tags, Special Management (SM) tags, property line, and plantation edge; except for forest products bounded by Leave Tree Area tags or trees marked with blue paint on the bole.	Contains RMZ/WMZ thinning area (1 RMZ).	This unit contains four Leave Tree Areas (LTA) with a total of 159 trees retained. 11 individual trees have also been marked for retention with blue paint.
1 RMZ	Harvest take trees as described in the attached Schedule B on or beyond the Special Management Area tag line and bounded by white timber sale tags and property line.		
2 VRH	Harvest all timber bounded by TSB tags, SM tags, and plantation edge; except for forest products bounded by Leave Tree Area tags or trees marked with blue paint on the bole.	Contains RMZ thinning area (2 RMZ).	This unit contains three LTAs with a total of 119 trees retained. Two individual trees have also been marked for retention with blue paint.
2 RMZ	Harvest take trees as described in the attached Schedule B on or beyond the Special Management Area tag line and bounded by white timber sale tags.		
3 VRH	Harvest all timber bounded by TSB tags, SM tags, and plantation edge; except for forest products bounded by Leave Tree Area tags or trees marked with blue paint on the bole.	Contains RMZ/WMZ thinning area (3 RMZ).	This unit contains three LTAs with a total of 115 trees retained. Two individual trees have also been marked for retention with blue paint.
3 RMZ	Harvest take trees as described in the attached Schedule B on or beyond the Special Management Area tag line and bounded by white timber sale tags.		
4 VRH	Harvest all timber bounded by TSB tags, SM tags, property line, the ED-29 and plantation edge; except for forest products bounded by Leave Tree Area tags or trees marked with blue paint on the bole.	Contains RMZ thinning area (4 RMZ).	This unit contains seven LTAs with a total of 406 trees retained. Seven individual trees have also been marked for retention with blue paint.
4 RMZ	Harvest take trees as described in the attached Schedule B on or beyond the Special Management Area tag line and bounded by white timber sale tags and property line.		

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1 VRH	DF, WH / 825 mbf	An F1-3 key is required to access the sale area. See Driving Map for instructions	
1 RMZ	WH, RC / 55 mbf		
2 VRH	DF, WH / 650 mbf		
2 RMZ	WH, RC / 5 mbf		
3 VRH	DF, WH / 550 mbf		
3 RMZ	WH, RC / 80 mbf		
4 VRH	DF, WH / 2200 mbf		
4 RMZ	WH, RC / 20 mbf		
TOTAL MBF	4385 mbf		

REMARKS:

Approximate property lines are marked with pink ribbon. The last take tree on DNR property is marked with a pink painted X facing towards the unit

Units 1 and 2 are planned to auction as the ***Bollard*** timber sale. Unit 3 is planned to auction as the ***Carrack*** timber sale. Unit 4 is planned to auction as the ***Argosy*** timber sale.

In Units 1 and 2, existing R/W acreage was removed in GIS using LiDAR and ortho photo.

See attached Schedule B for RMZ and WMZ thinning prescriptions.

Traverse points are marked with red and blue ribbon and an aluminum tag labeling the point. New road construction is marked with orange ribbon and wooden stakes. All harvest boundaries are marked with pink ribbon. Special management areas are marked with blue & pink ribbon and leave tree areas are marked with yellow & pink ribbon.

The entire harvest area is dominated by large (24"-36" dbh), clean Douglas fir with an understory of western hemlock and red cedar. Scattered big leaf maple and cottonwood is present - primarily in Units 1 and 3.

Windthrow has had a significant impact on exposed edges of Units 2 and 4. Isolated root rot pockets are scattered throughout Unit 4.

Prepared By: Kyle Galloway Date: 9/4/2019	Title: Deming Unit Forester	CC:

CRUISE NARRATIVE

Sale Name: **Bollard**	**Region:** **Northwest**
Agree. #: **30-098885**	**District:** **Baker**
Lead cruiser: **Matt Llobet**	**Completion date:** **9-26-19**
Other cruisers on sale: AH	

Unit acreage specifications:

Unit #	**Cruised acres**	**Cruised acres agree with sale acres? Yes/No**	**If acres do not agree explain why.**
1	20.5	Yes	
2	14.1	Yes	
1 RMZ	9.2	Yes	
2 RMZ	1.2	Yes	
Total	45.0	Yes	

Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS, 100%)	Expansion factor (BAF, full/ half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (cruise: count)	Total number of plots
1	VP	62.5 BAF 40.0 BAF	4.5’	200’ x 200’	Cruise All	20
2	VP	62.5 BAF 40.0 BAF	4.5’	200’ x 200’	Cruise All	19
1 RMZ	FP	.05		1plot/ac	Cruise All	9
2 RMZ	FP	.05		1plot/ac	Cruise All	2
Total						50

Sale/Cruise Description:

Minor species cruise intensity:	A 40 BAF was used to capture a better sample on minors.					
Minimum cruise spec:	**Minimum DBH 7 inches,** 10 Net Board feet, Minimum Top Diameter 5 inches or 40% of 16-foot form point					
Avg ring count by sp:	**DF=**	8	**WH** =	8	**RA** =	
Leave/take tree description:	**VRH-** Harvest all timber bounded by timber sale boundary tags, except for forest products bounded by yellow leave tree tags or trees marked with blue paint on the bole and collar. **RMZ**- See schedule B					
Other conditions:	All timber cruised in the RMZ units, fell within the schedule B prescription					

Sort Description:	**HA**– Logs meeting the following criteria: Surface characteristics for a high Quality A sort will have sound tight knots not to exceed 1 ½" in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators ½" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. **HB** – Logs meeting the following criteria: Surface characteristics for a B sort will have sound tight knots not to exceed 1 ½" in diameter. May include logs with not more than two larger knots up to 2 ½" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (Min dia 8".) **PO**- Logs meeting pole specifications.

Field Observation:

All timber was graded in variable log lengths with the Scaling Bureaus Westside/Northwest log rules. The utility wood was given a board ft. volume. Bollard timber sale was cruised using the Variable plot and Fix plot sample method. Bollard is 100% ground base harvesting, with great road access, and excellent opporator ground. The terrain throughout Bollard is gentle to rolling, with a small component of blowdown throughout the sale. Bollard timber sale has a uniform timber type component, and ranges is elevation from 1240'-1560'. The Species composition throughout the sale is Douglas fir at 60%, Western Hemlock at 25%, and Western Red Cedar at 8%. Observed throughout the sale was 36mbf of pole quality Douglas fir, 27mbf of pole quality Western Red Cedar and 277mbf of A/B sort High Quality Douglas fir. The pole volume was a combination of distribution and transmission sizes, with a scattered component of naturals. Defect observed includes: forked or multiple tops, heart rot, frost checking, spike knots, and sweep. All timber cruised in the RMZ units, fell within the schedule B thinning prescription.

Prepared By: Matt Llobet

Title: Forest Check Cruiser

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T37N R05E S25 Ty00U1
THRU
T37N R05E S25 Ty2VDT

Project: **BOLLARD**

Acres **45.00**

Page **1**
Date **10/3/2019**
Time **9:22:56AM**

Spp	S T	So Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
RC		D 3S	73	4.0	2,691	2,584	116	27	24	28	21	0	22	1	77	36	9	115	1.07	22.5
RC		D 4S	27		922	922	41	91	9			16	67	6	11	24	6	28	0.39	33.2
RC	**Totals**		7	3.0	3,613	3,506	158	44	20	20	15	5	34	2	60	29	7	63	0.74	55.7
RC	P	D 3S	94	.7	570	566	25	12	31	58			18		82	36	11	159	1.36	3.6
RC	P	D 4S	6		33	33	1	100				22	28		50	28	5	31	0.42	1.1
RC	**Totals**		1	.7	603	599	27	17	29	54		1	18		80	34	9	129	1.18	4.6
DF		HB2S	10	1.0	3,050	3,019	136			14	86				100	40	18	592	2.98	5.1
DF		D 2S	67	2.1	20,053	19,632	883			19	81			1	99	39	17	503	2.52	39.0
DF		D 3S	10	.8	2,889	2,865	129	14	86			1	13	12	74	35	9	96	0.73	30.0
DF		D 4S		3.5	200	193	9	62	38			48	52			21	7	28	0.40	6.9
DF		D UT	2		382	382	17		28	18	54	18	82			20	13	144	1.46	2.7
DF		HASM	5	1.5	1,525	1,502	68				100		7		93	38	21	745	3.62	2.0
DF		HA2S	6	1.4	1,651	1,629	73			56	44		5	6	88	37	15	333	1.98	4.9
DF	**Totals**		58	1.8	29,749	29,221	1,315	2	9	17	72	1	3	2	94	36	13	323	1.85	90.6
DF	P	HB2S	16	2.8	139	135	6			100					100	40	15	350	1.93	.4
DF	P	D 2S	25		197	197	9			100					100	40	13	222	1.25	.9
DF	P	D 3S	39		316	316	14	26	74						100	40	8	101	0.60	3.1
DF	P	D 4S	4		32	32	1	100				46	54			20	7	35	0.38	.9
DF	P	HA2S	16		127	127	6			100					100	40	14	290	1.63	.4
DF	**Totals**		2	.5	811	807	36	14	29	57		2	2		96	37	9	140	0.87	5.8
WH		D 2S	39	2.9	5,003	4,857	219			82	18		2		98	39	14	262	1.54	18.6
WH		D 3S	45	2.8	5,778	5,616	253	25	75				2	3	95	37	8	92	0.64	60.9
WH		D 4S	10	.5	1,241	1,235	56	98	2			17	33	18	32	28	5	30	0.27	40.8
WH		D UT	6		691	691	31	36	34		30	53	39	7		23	8	48	0.48	14.3
WH	**Totals**		25	2.5	12,712	12,399	558	23	36	32	9	5	7	4	85	33	8	92	0.68	134.6
BM		D 2S	47	15.3	405	343	15			80	20	15	85			28	13	156	1.87	2.2
BM		D 3S	18	7.6	140	129	6		100			65	35			23	10	78	0.94	1.7
BM		D 4S	19	6.8	141	131	6	26	74			10	90			27	8	50	0.75	2.6
BM		D UT	16		114	114	5	82	18			24	22		55	27	5	32	0.39	3.6
BM	**Totals**		1	10.3	800	717	32	18	34	38	10	24	67		9	26	9	71	0.90	10.1
CW		D 2S	83	5.1	1,554	1,474	66			43	57		23		77	36	15	344	2.08	4.3
CW		D 4S	16	.8	277	275	12	30	70				40		60	34	8	82	0.68	3.3
CW		D UT	1		9	9	0	100				100				16	5	20	0.20	.5
CW	**Totals**		4	4.5	1,841	1,759	79	5	11	36	48	1	25		74	34	12	217	1.45	8.1
RA		D 2S	42	10.3	568	509	23			85	15		100			30	13	174	1.44	2.9
RA		D 3S	27	7.5	349	323	15		100				100			30	11	111	0.90	2.9
RA		D 4S	14	3.4	182	175	8	37	63			7	93			28	7	46	0.50	3.8
RA		D UT	17		196	196	9	40		60		67	20	13		22	7	54	0.61	3.6
RA	**Totals**		2	7.0	1,294	1,204	54	12	36	46	7	12	86	2		27	9	91	0.85	13.2

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T37N R05E S25 Ty00U1
THRU
T37N R05E S25 Ty2VDT

Project: **BOLLARD**

Acres **45.00**

Page **2**
Date **10/3/2019**
Time **9:22:56AM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
Totals					2.4	51,423	50,212	2,260	11	18	24	47	3	10	2	85	33	10	156	1.09	322.8

TC PSTATS

PROJECT STATISTICS

PROJECT BOLLARD

DATE 10/3/2019

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
37N	05E	25	BOLLARD	00U1	THR	45.00	50	283	S	W
37N	05E	25	BOLLARD	2VDT						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	50	283	5.7		
CRUISE	50	283	5.7	6,566	4.3
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	107	32.7	26.4	106	24.2	124.1	29,749	29,221	6,026	6,026
DOUG FIR-P	4	2.2	18.4	100	1.0	4.1	811	807	184	184
WHEMLOCK	76	62.5	15.0	77	19.7	76.4	12,712	12,399	3,029	3,029
WR CEDAR	60	33.3	15.3	55	10.8	42.4	3,613	3,506	1,168	1,168
WR CEDAR-P	6	2.1	21.6	81	1.2	5.5	603	599	188	188
R ALDER	11	5.0	17.8	78	2.1	8.7	1,294	1,204	307	307
BL MAPLE	9	4.5	18.3	63	1.9	8.2	800	717	240	240
COTWOOD	10	3.5	22.1	85	2.0	9.4	1,841	1,759	400	400
TOTAL	*283*	*145.9*	*18.7*	*78*	*64.4*	*278.7*	*51,423*	*50,212*	*11,543*	*11,544*

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	45.8	4.5	1,156	1,210	1,265			
DOUG FIR-P	44.2	25.2	312	418	523			
WHEMLOCK	88.4	10.1	221	246	271			
WR CEDAR	109.9	14.2	146	170	194			
WR CEDAR-P	28.1	12.5	255	292	328			
R ALDER	36.1	11.4	218	246	274			
BL MAPLE	66.5	23.5	146	191	236			
COTWOOD	60.0	21.2	681	864	1,047			
TOTAL	*99.6*	*5.9*	*577*	*613*	*650*	*396*	*202*	*99*

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	117.6	16.6	27	33	38			
DOUG FIR-P	367.4	51.9	1	2	3			
WHEMLOCK	125.3	17.7	51	62	74			
WR CEDAR	113.5	16.0	28	33	39			
WR CEDAR-P	311.1	44.0	1	2	3			
R ALDER	326.3	46.1	3	5	7			
BL MAPLE	257.4	36.4	3	4	6			
COTWOOD	309.2	43.7	2	4	5			
TOTAL	*70.0*	*9.9*	*131*	*146*	*160*	*196*	*100*	*49*

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	95.7	13.5	107	124	141			
DOUG FIR-P	342.6	48.4	2	4	6			
WHEMLOCK	123.8	17.5	63	76	90			
WR CEDAR	114.5	16.2	36	42	49			
WR CEDAR-P	321.2	45.4	3	5	8			
R ALDER	316.0	44.7	5	9	13			

TC PSTATS

PROJECT STATISTICS

PROJECT BOLLARD

DATE 10/3/2019

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
37N	05E	25	BOLLARD	00U1	THR	45.00	50	283	S	W
37N	05E	25	BOLLARD	2VDT						

CL 68.1	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: .00	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
BL MAPLE	269.9	38.1	5	8	11			
COTWOOD	248.2	35.1	6	9	13			
TOTAL	*58.7*	*8.3*	*256*	*279*	*302*	*138*	*70*	*34*

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	94.8	13.4	25,309	29,221	33,134			
DOUG FIR-P	346.0	48.9	413	807	1,202			
WHEMLOCK	134.3	19.0	10,046	12,399	14,751			
WR CEDAR	123.1	17.4	2,896	3,506	4,116			
WR CEDAR-P	322.4	45.6	326	599	872			
R ALDER	311.1	44.0	675	1,204	1,733			
BL MAPLE	286.7	40.5	427	717	1,008			
COTWOOD	247.0	34.9	1,145	1,759	2,373			
TOTAL	*64.5*	*9.1*	*45,636*	*50,212*	*54,788*	*166*	*85*	*42*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: BOLLARD

Date 10/3/2019

Time 9:22:56AM

T37N R05E S25 T00U1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt	T37N R05E S25 T00U1
37N	05E	25	BOLLARD	00U1	20.50	20	127	S	W	

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		HB	2S	9	1.9	2,726	2,674	55			15	85				100	40	19	662	3.35	4.0
DF		DM	2S	68	1.7	19,431	19,093	391			15	85				100	39	18	542	2.70	35.2
DF		DM	3S	10	.6	2,850	2,833	58	17	83				11	17	72	35	9	98	0.73	29.0
DF		DM	4S	1		162	162	3	36	64			100				17	7	28	0.46	5.8
DF		DM	UT	1		186	186	4		20	80		80	20			14	11	58	0.89	3.2
DF		HA	SM	3	2.7	978	951	20				100				100	40	21	783	3.74	1.2
DF		HA	2S	8	.6	2,081	2,068	42			38	62				100	40	17	464	2.50	4.5
DF		**Totals**		48	1.6	28,413	27,968	573	2	9	15	74	1	1	2	96	35	14	337	1.95	83.0
WH		DM	2S	44	3.4	8,220	7,938	163			80	20		3		97	38	14	257	1.55	30.9
WH		DM	3S	43	4.0	7,940	7,622	156	21	79				1	1	98	38	8	97	0.67	78.3
WH		DM	4S	9	.8	1,599	1,586	33	98	2			22	41	16	20	26	5	28	0.27	55.8
WH		DM	UT	4		583	583	12	26	40		34	74	26			19	9	52	0.63	11.3
WH		**Totals**		30	3.3	18,342	17,729	363	19	35	36	10	4	6	2	88	33	8	101	0.75	176.3
RC		DM	3S	75	3.3	3,915	3,786	78	24	25	26	24	0	25		75	36	9	117	1.04	32.3
RC		DM	4S	25		1,226	1,226	25	91	9			20	58	9	13	24	5	28	0.40	44.2
RC		**Totals**		9	2.5	5,141	5,011	103	41	21	19	18	5	33	2	59	29	7	65	0.73	76.5
RC	P	DM	3S	94	.7	1,251	1,241	25	12	31	58			18		82	36	11	159	1.36	7.8
RC	P	DM	4S	6		73	73	1	100				22	28		50	28	5	31	0.42	2.4
RC	**P**	**Totals**		2	.7	1,324	1,314	27	17	29	54		1	18		80	34	9	129	1.18	10.2
CW		DM	2S	90	5.1	3,412	3,237	66			43	57		23		77	36	15	344	2.08	9.4
CW		DM	4S	10	1.3	359	355	7	31	69				69		31	32	8	66	0.62	5.3
CW		**Totals**		6	4.8	3,771	3,591	74	3	7	39	52		27		73	35	13	243	1.59	14.8
BM		DM	2S	51	17.1	679	563	12			73	27	20	80			27	13	147	1.84	3.8
BM		DM	3S	10		104	104	2		100			100				20	11	80	1.21	1.3
BM		DM	4S	23	4.1	269	258	5	29	71				100			28	8	54	0.60	4.8
BM		DM	UT	16		164	164	3	73	27			20	21		59	29	6	36	0.45	4.6
BM		**Totals**		2	10.5	1,216	1,089	22	18	31	38	14	23	68		9	27	9	75	0.91	14.5
RA		DM	2S	59	10.6	1,159	1,036	21			83	17		100			30	13	178	1.47	5.8
RA		DM	3S	22	6.5	418	390	8		100				100			30	11	115	0.94	3.4
RA		DM	4S	11	6.5	208	194	4	31	69			14	86			26	7	41	0.47	4.8
RA		DM	UT	8		130	130	3	100				15	44	41		25	6	33	0.41	4.0
RA		**Totals**		3	8.5	1,914	1,751	36	11	30	49	10	3	94	3		28	9	98	0.91	17.9
Type Totals					2.8	60,120	58,454	1,198	11	19	25	44	3	11	2	84	32	9	149	1.08	393.2

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: BOLLARD

Date 10/3/2019

Time 9:22:56AM

T37N R05E S25 T00U2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
37N	05E	25	BOLLARD	00U2	14.10	19	111	S	W

T37N R05E S25 T00U2

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		HB	2S	11	.4	5,770	5,747	81			13	87				100	40	18	552	2.76	10.4
DF		DM	2S	66	2.4	35,748	34,895	492			22	78			2	98	40	17	476	2.39	73.3
DF		DM	3S	9	1.1	4,699	4,648	66	12	88			1	15	10	74	35	9	95	0.74	49.1
DF		DM	4S	1	6.2	358	335	5	76	24			18	82			22	6	27	0.39	12.2
DF		DM	UT	2		949	949	13		31		69		100			28	15	249	1.82	3.8
DF		HA	SM	6	1.0	3,445	3,410	48				100		10		90	38	21	731	3.57	4.7
DF		HA	2S	5	2.4	2,245	2,192	31			81	19		13	14	73	35	14	240	1.56	9.1
DF		**Totals**		76	2.0	53,214	52,176	736	2	9	19	70	0	5	3	92	36	14	321	1.82	162.7
DF	P	HB	2S	16	2.8	445	432	6			100					100	40	15	350	1.93	1.2
DF	P	DM	2S	25		628	628	9			100					100	40	13	222	1.25	2.8
DF	P	DM	3S	39		1,009	1,009	14	26	74						100	40	8	101	0.60	10.0
DF	P	DM	4S	4		103	103	1	100				46	54			20	7	35	0.38	3.0
DF	P	HA	2S	16		404	404	6			100					100	40	14	290	1.63	1.4
DF	**P**	**Totals**		4	.5	2,589	2,577	36	14	29	57		2	2		96	37	9	140	0.87	18.5
WH		DM	2S	35	1.4	4,015	3,961	56			87	13				100	39	14	277	1.52	14.3
WH		DM	3S	44	.8	5,026	4,985	70	32	68				4	8	88	37	8	83	0.59	59.9
WH		DM	4S	9		942	942	13	96	4			8	20	26	47	32	5	34	0.28	27.6
WH		DM	UT	12		1,299	1,299	18	39	32		29	40	48	12		25	7	49	0.42	26.4
WH		**Totals**		16	.8	11,282	11,187	158	27	34	31	8	5	9	7	79	34	8	87	0.62	128.2
RC		DM	3S	72	7.0	2,187	2,034	29	10	29	42	19		11	4	85	36	11	165	1.57	12.3
RC		DM	4S	28		767	767	11	91	9			10	86		4	23	6	29	0.45	26.3
RC		**Totals**		4	5.2	2,955	2,801	39	32	23	31	14	3	32	3	63	27	7	72	0.92	38.6
BM		DM	3S	75	14.3	136	116	2		100			100				20	10	60	0.81	1.9
BM		DM	UT	25		39	39	1	100				100				18	5	20	0.34	1.9
BM		**Totals**		0	11.1	175	155	2	25	75			100				19	8	40	0.59	3.9
Type Totals					1.9	70,215	68,897	971	7	14	23	55	1	7	3	89	34	10	196	1.25	351.9

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: BOLLARD

Date 10/3/2019

Time 9:22:56AM

T37N R05E S25 T1VDT

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
37N	05E	25	BOLLARD	1VDT	9.20	9	37	S	W

T37N R05E S25 T1VDT

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		DM	3S	73	.8	2,644	2,622	24	30	70					4	96	37	8	91	0.63	28.9
WH		DM	4S	24		867	867	8	100				10	21	18	51	31	5	33	0.28	26.7
WH		DM	UT	3		89	89	1	100				50	50			20	5	20	0.25	4.4
WH		**Totals**		40	.6	3,600	3,578	33	48	52			4	6	7	83	33	6	60	0.47	60.0
RC		DM	3S	63		1,022	1,022	9	100					22		78	35	7	58	0.70	17.8
RC		DM	4S	37		578	578	5	96	4			12	73		15	24	5	26	0.28	22.2
RC		**Totals**		18		1,600	1,600	15	99	1			4	40		56	29	6	40	0.51	40.0
RA		DM	3S	41	8.6	778	711	7		100				100			30	10	107	0.86	6.7
RA		DM	4S	20		333	333	3	53	47				100			30	7	50	0.52	6.7
RA		DM	UT	39		667	667	6	13		87		90	10			20	9	75	0.86	8.9
RA		**Totals**		19	3.8	1,778	1,711	16	16	51	34		35	65			26	9	77	0.74	22.2
BM		DM	2S	50	9.5	467	422	4			100			100			30	14	190	1.98	2.2
BM		DM	3S	26	9.1	244	222	2		100				100			30	10	100	0.81	2.2
BM		DM	4S	8	25.0	89	67	1		100			100				20	8	30	1.75	2.2
BM		DM	UT	16		133	133	1	100					33		67	29	5	30	0.28	4.4
BM		**Totals**		9	9.5	933	844	8	16	34	50		8	82		11	28	8	76	0.98	11.1
DF		DM	3S	89		578	578	5	23	77						100	37	8	87	0.58	6.7
DF		DM	4S	11		67	67	1	100					100			30	5	30	0.24	2.2
DF		**Totals**		7		644	644	6	31	69				10		90	36	7	73	0.51	8.9
CW		DM	4S	92		556	556	5	28	72						100	40	9	125	0.79	4.4
CW		DM	UT	8		44	44	0	100				100				16	5	20	0.20	2.2
CW		**Totals**		7		600	600	6	33	67			7			93	32	8	90	0.69	6.7
Type Totals					1.9	9,156	8,978	83	46	43	11		10	30	3	56	31	7	60	0.56	148.9

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: BOLLARD

Date 10/3/2019

Time 9:22:56AM

T37N R05E S25 T2VDT

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
37N	05E	25	BOLLARD	2VDT	1.20	2	8	S	W

T37N R05E S25 T2VDT

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		DM	3S	53		1,700	1,700	2		100						100	38	8	85	0.61	20.0
WH		DM	4S	47		1,500	1,500	2	100				13	33		53	27	5	30	0.31	50.0
WH		**Totals**		53		3,200	3,200	4	47	53			6	16		78	30	6	46	0.42	70.0
RA		DM	2S	66	6.7	1,500	1,400	2			100			100			30	12	140	1.18	10.0
RA		DM	4S	34		700	700	1		100				100			30	9	70	0.61	10.0
RA		**Totals**		35	4.5	2,200	2,100	3		33	67			100			30	11	105	0.90	20.0
RC		DM	3S	71		500	500	1	100					100			30	7	50	0.53	10.0
RC		DM	4S	29		200	200	0	100					100			22	5	20	0.29	10.0
RC		**Totals**		12		700	700	1	100					100			26	6	35	0.43	20.0
Type Totals					1.6	6,100	6,000	7	37	40	23		3	55		42	29	7	55	0.51	110.0

TC TSTATS

STATISTICS

PROJECT **BOLLARD**

DATE 10/3/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
37N	05E	25	BOLLARD	00U1	20.50	20	127	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	20	127	6.3		
CRUISE	20	127	6.3	3,511	3.6
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	38	31.1	26.4	101	23.1	118.8	28,413	27,968	5,728	5,728
WHEMLOCK	33	72.2	16.2	85	25.6	103.1	18,342	17,729	4,325	4,325
WR CEDAR	29	43.6	15.6	58	14.7	58.0	5,141	5,011	1,627	1,627
WR CEDAR-P	6	4.7	21.6	81	2.6	12.0	1,324	1,314	413	413
COTWOOD	9	6.8	22.7	83	4.0	19.1	3,771	3,591	813	813
BL MAPLE	6	6.5	18.5	65	2.8	12.0	1,216	1,089	363	363
R ALDER	6	6.4	18.5	81	2.8	12.0	1,914	1,751	452	452
TOTAL	*127*	*171.3*	*18.9*	*80*	*77.0*	*335.0*	*60,120*	*58,454*	*13,721*	*13,722*

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	41.5	6.8	1,217	1,306	1,395			
WHEMLOCK	71.7	12.5	294	336	378			
WR CEDAR	105.6	19.9	170	212	254			
WR CEDAR-P	28.1	12.5	255	292	328			
COTWOOD	53.3	20.1	750	939	1,127			
BL MAPLE	62.4	27.8	152	210	268			
R ALDER	32.7	14.6	246	288	330			
TOTAL	*95.4*	*8.5*	*569*	*623*	*676*	*364*	*186*	*91*

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	131.9	30.2	22	31	41			
WHEMLOCK	118.5	27.2	53	72	92			
WR CEDAR	98.0	22.5	34	44	53			
WR CEDAR-P	183.4	42.0	3	5	7			
COTWOOD	205.8	47.2	4	7	10			
BL MAPLE	207.2	47.5	3	6	10			
R ALDER	218.4	50.1	3	6	10			
TOTAL	*64.8*	*14.8*	*146*	*171*	*197*	*176*	*90*	*44*

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	88.6	20.3	95	119	143			
WHEMLOCK	108.2	24.8	78	103	129			
WR CEDAR	96.2	22.0	45	58	71			
WR CEDAR-P	190.4	43.7	7	12	17			
COTWOOD	150.7	34.6	13	19	26			
BL MAPLE	219.0	50.2	6	12	18			
R ALDER	219.0	50.2	6	12	18			
TOTAL	*40.3*	*9.2*	*304*	*335*	*366*	*68*	*35*	*17*

TC TSTATS

STATISTICS

PROJECT **BOLLARD**

DATE 10/3/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
37N	05E	25	BOLLARD	00U1	20.50	20	127	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

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	86.7	19.9	22,412	27,968	33,524			
WHEMLOCK	113.3	26.0	13,122	17,729	22,335			
WR CEDAR	100.1	22.9	3,861	5,011	6,161			
WR CEDAR-P	191.3	43.8	738	1,314	1,891			
COTWOOD	149.2	34.2	2,363	3,591	4,819			
BL MAPLE	222.2	50.9	534	1,089	1,643			
R ALDER	220.1	50.5	868	1,751	2,635			
TOTAL	*41.8*	*9.6*	*52,849*	*58,454*	*64,058*	*74*	*38*	*18*

TC TSTATS

STATISTICS

PROJECT BOLLARD

DATE 10/3/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
37N	05E	25	BOLLARD	00U2	14.10	19	111	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	19	111	5.8		
CRUISE	19	111	5.8	2,203	5.0
DBH COUNT					
REFOREST COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	67	56.3	26.8	111	42.6	220.4	53,214	52,176	10,798	10,798
DOUG FIR-P	4	7.1	18.4	100	3.1	13.2	2,589	2,577	589	589
WHEMLOCK	22	67.0	14.1	71	19.3	72.4	11,282	11,187	2,699	2,699
WR CEDAR	17	23.9	16.6	50	8.8	35.8	2,955	2,801	961	961
BL MAPLE	1	1.9	14.1	40	0.6	2.1	175	155	43	43
TOTAL	*111*	*156.2*	*20.1*	*83*	*76.7*	*343.8*	*70,215*	*68,897*	*15,090*	*15,090*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	SAMPLE TREES - BF LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
DOUG FIR	45.2	5.6	1,123	1,189	1,255			
DOUG FIR-P	44.2	25.2	312	418	523			
WHEMLOCK	78.7	17.2	215	259	304			
WR CEDAR	83.4	20.8	152	192	232			
BL MAPLE								
TOTAL	*78.3*	*7.5*	*751*	*811*	*871*	*245*	*125*	*61*

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	67.1	15.8	47	56	65			
DOUG FIR-P	215.7	50.8	4	7	11			
WHEMLOCK	126.4	29.8	47	67	87			
WR CEDAR	114.2	26.9	17	24	30			
BL MAPLE	435.9	102.7		2	4			
TOTAL	*51.1*	*12.0*	*137*	*156*	*175*	*110*	*56*	*28*

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	BASAL AREA/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	57.0	13.4	191	220	250			
DOUG FIR-P	199.0	46.9	7	13	19			
WHEMLOCK	96.6	22.8	56	72	89			
WR CEDAR	90.5	21.3	28	36	43			
BL MAPLE	435.9	102.7		2	4			
TOTAL	*34.9*	*8.2*	*316*	*344*	*372*	*51*	*26*	*13*

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	55.6	13.1	45,340	52,176	59,013			
DOUG FIR-P	201.3	47.4	1,355	2,577	3,799			
WHEMLOCK	90.5	21.3	8,801	11,187	13,574			
WR CEDAR	92.5	21.8	2,190	2,801	3,412			
BL MAPLE	435.9	102.7		155	315			
TOTAL	*43.7*	*10.3*	*61,800*	*68,897*	*75,994*	*81*	*41*	*20*

TC TSTATS

STATISTICS

PROJECT BOLLARD

DATE 10/3/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
37N	05E	25	BOLLARD	1VDT	9.20	9	37	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	9	37	4.1		
CRUISE	9	37	4.1	756	4.9
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	16	35.6	12.1	60	8.1	28.3	3,600	3,578	928	928
WR CEDAR	12	26.7	12.2	49	6.2	21.7	1,600	1,600	586	586
R ALDER	4	8.9	16.7	72	3.3	13.6	1,778	1,711	426	426
BL MAPLE	2	4.4	20.3	73	2.2	10.0	933	844	299	299
DOUG FIR	2	4.4	13.7	80	1.2	4.6	644	644	160	160
COTWOOD	1	2.2	16.9	104	0.8	3.5	600	600	148	148
TOTAL	*37*	*82.2*	*13.5*	*61*	*22.2*	*81.6*	*9,156*	*8,978*	*2,547*	*2,547*

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
WHEMLOCK	54.4	14.0	87	101	115			
WR CEDAR	38.9	11.7	53	60	67			
R ALDER	31.6	18.0	158	193	227			
BL MAPLE	89.3	83.6	31	190	349			
DOUG FIR	34.1	32.0	99	145	191			
COTWOOD								
TOTAL	*67.0*	*11.0*	*97*	*109*	*121*	*179*	*91*	*45*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	108.1	38.2	22	36	49			
WR CEDAR	91.9	32.4	18	27	35			
R ALDER	300.0	105.9		9	18			
BL MAPLE	198.4	70.0	1	4	8			
DOUG FIR	198.4	70.0	1	4	8			
COTWOOD	300.0	105.9		2	5			
TOTAL	*68.2*	*24.1*	*62*	*82*	*102*	*209*	*106*	*52*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	97.9	34.6	19	28	38			
WR CEDAR	112.1	39.6	13	22	30			
R ALDER	300.0	105.9		14	28			
BL MAPLE	201.0	70.9	3	10	17			
DOUG FIR	200.2	70.6	1	5	8			
COTWOOD	300.0	105.9		3	7			
TOTAL	*85.1*	*30.1*	*57*	*82*	*106*	*325*	*166*	*81*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	95.3	33.6	2,374	3,578	4,782			
WR CEDAR	126.2	44.6	887	1,600	2,313			
R ALDER	300.0	105.9		1,711	3,523			
BL MAPLE	244.1	86.1	117	844	1,572			
DOUG FIR	205.7	72.6	177	644	1,112			

TC TSTATS

STATISTICS

PROJECT **BOLLARD**

DATE 10/3/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
37N	**05E**	**25**	**BOLLARD**	**1VDT**	9.20	9	37	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
COTWOOD	300.0	105.9		600	1,235			
TOTAL	*91.1*	*32.1*	*6,092*	*8,978*	*11,864*	*372*	*190*	*93*

TC TSTATS

STATISTICS

PROJECT **BOLLARD**

DATE 10/3/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
37N	05E	25	BOLLARD	2VDT	1.20	2	8	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	8	4.0		
CRUISE	2	8	4.0	96	8.3
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	5	50.0	11.4	56	10.5	35.5	3,200	3,200	881	881
R ALDER	1	10.0	17.0	87	3.8	15.8	2,200	2,100	538	538
WR CEDAR	2	20.0	10.0	37	3.4	10.9	700	700	221	221
TOTAL	*8*	*80.0*	*11.9*	*55*	*18.0*	*62.2*	*6,100*	*6,000*	*1,641*	*1,641*

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
WHEMLOCK	59.1	29.4	45	64	83			
R ALDER								
WR CEDAR	60.6	56.8	15	35	55			
TOTAL	*84.6*	*31.9*	*51*	*75*	*99*	*326*	*166*	*81*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	141.4	132.4		50	116			
R ALDER	141.4	132.4		10	23			
WR CEDAR			20	20	20			
TOTAL	*70.7*	*66.2*	*27*	*80*	*133*	*351*	*179*	*88*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	141.4	132.4		36	83			
R ALDER	141.4	132.4		16	37			
WR CEDAR	46.1	43.2	6	11	16			
TOTAL	*53.0*	*49.7*	*31*	*62*	*93*	*197*	*101*	*49*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	141.4	132.4		3,200	7,438			
R ALDER	141.4	132.4		2,100	4,881			
WR CEDAR	60.6	56.8	303	700	1,097			
TOTAL	*33.0*	*30.9*	*4,146*	*6,000*	*7,854*	*76*	*39*	*19*

TC PSPCTLTCM

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

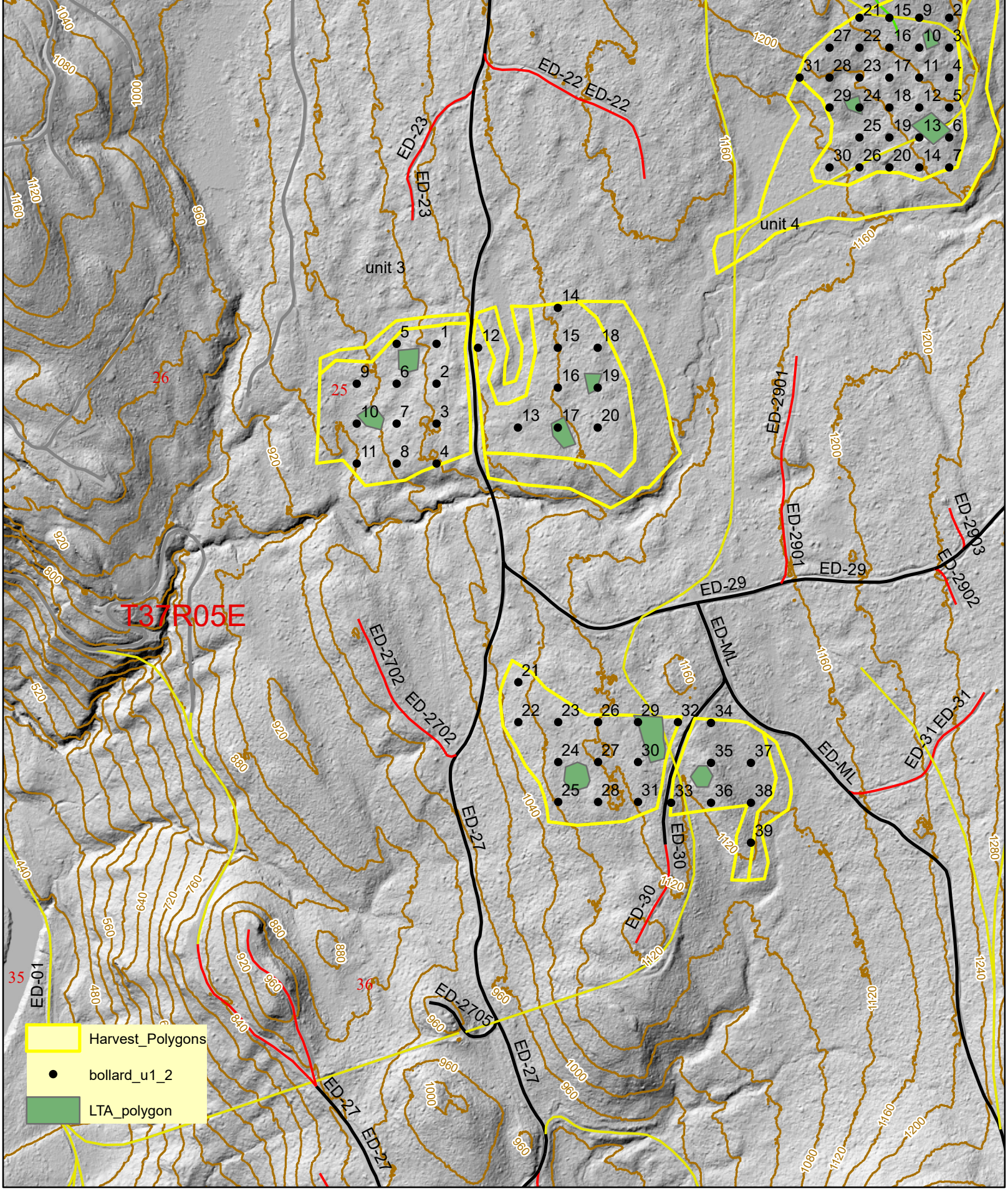
T37N R05E S25 Ty00U1	20.5
T37N R05E S25 Ty00U2	14.1
T37N R05E S25 Ty2VD	1.2

Project BOLLARD
Acres 45.00

Page No 1
Date: 10/3/2019
Time 9:22:56AM

Species	ST	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
DOUG FIR		1,474	4,077	7,728	184.02	66.51	1.87	2,712	2,712	1,339	1,315
WHEMLOCK		2,811	6,057	4,362	48.50	22.51	0.69	1,363	1,363	572	558
WR CEDAR		1,499	2,506	1,235	35.06	20.97	0.75	526	526	163	158
COTWOOD		160	364	442	112.99	49.51	1.44	180	180	83	79
R ALDER		226	596	380	61.32	23.20	0.85	138	138	58	54
DOUG FIR	P	100	260	237	82.65	31.89	0.86	83	83	37	36
BL MAPLE		201	455	286	53.82	23.74	0.90	108	108	36	32
WR CEDAR	P	96	209	199	87.99	40.57	1.19	85	85	27	27
Totals		6,566	14,525	14,869	79.11	35.76	1.10	5,195	5,195	2,314	2,260

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
C	5,980	13,109	13,761	79.73	36.37	1.11	4,768	4,768	2,137	2,094
H	586	1,415	1,108	72.82	30.14	1.04	427	427	177	166
Totals	6,566	14,525	14,869	79.11	35.76	1.10	5,195	5,195	2,314	2,260


T37R05E
unit 3
unit 4
ED-22
ED-23
ED-29
ED-2901
ED-2902
ED-2903
ED-ML
ED-31
ED-30
ED-27
ED-2702
ED-2705
ED-01
Harvest_Polygons
bollard_u1_2
LTA_polygon

FPA/N No:	2817285
Effective Date:	12/19/2019
Expiration Date:	12/19/2022
Shut Down Zone:	656, 658
EARR Tax Credit:	[x] Eligible [ ] Non-eligible
Reference:	Argosy Bollard Carrak

Forest Practices Application/Notification
Notice of Decision

Decision

[ ] Notification	Operations shall not begin before the effective date.
[x] 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

[ ] Class II [x] Class III [ ] Class IVG [ ] Class IVS

Number of Years Granted on Multi-Year Request

[ ] 4 years [ ] 5 years

Conditions on Approval / Reasons for Disapproval

Issued By: Megan Pike **Region:** Northwest

Title: Nooksack Forest Practice Forester **Date:** 12/19/2019

Copies to: **[x] Landowner, Timber Owner and Operator.**

Issued in person: **[x] Landowner [ ]Timber Owner [ ] Operator By:**

Appeal Information

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:
Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501
Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903
Information regarding the Pollution Control Hearings Board can be found at: http://www.eluho.wa.gov/
At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

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

And

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

Other Applicable Laws

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

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.

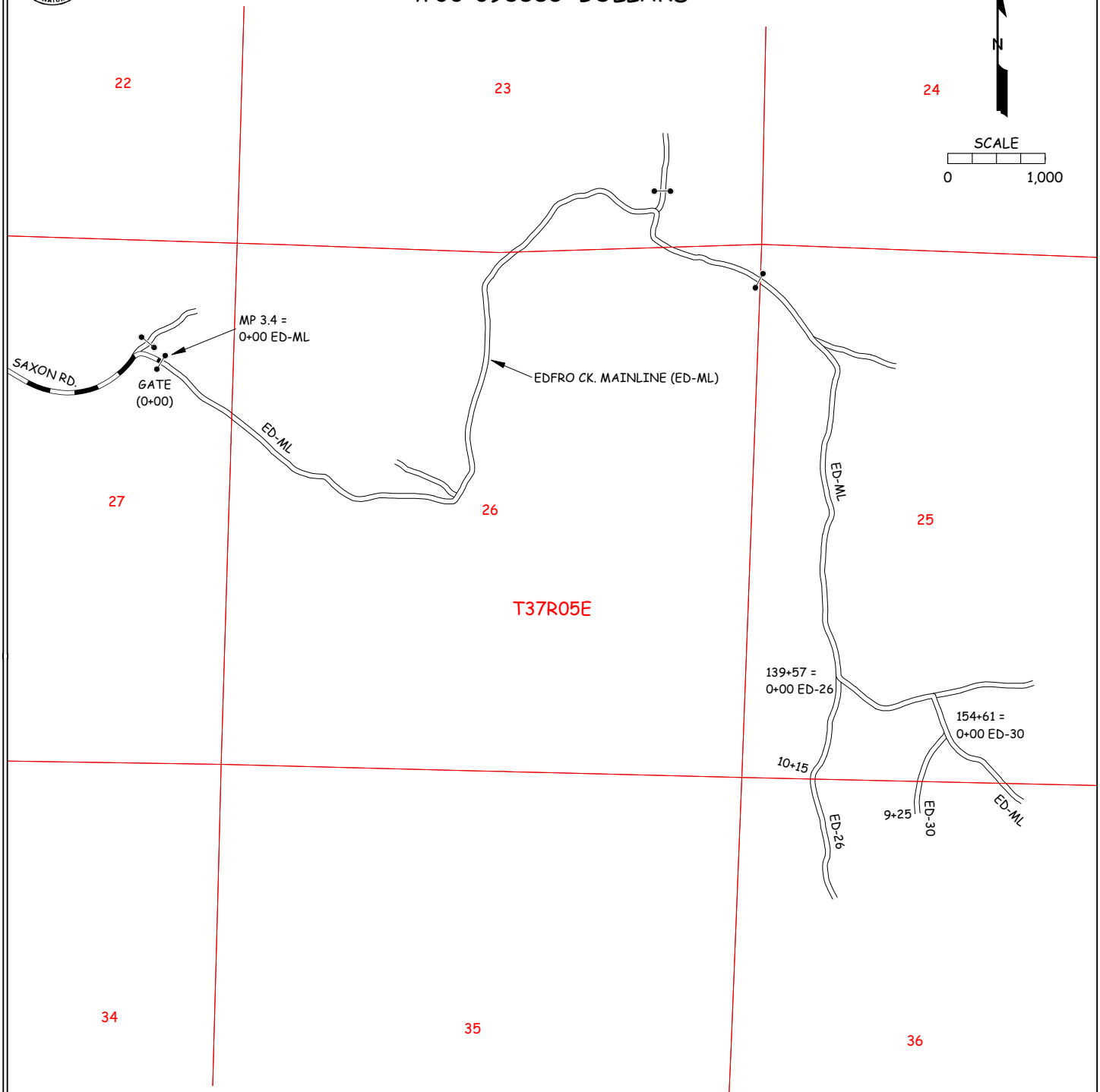
Failure by the seller to send the required notice to the DNR at the time of sale will be prima facie evidence in an action by the buyer against the seller for costs related to the continuing forest land obligation prior to sale.

DNR affidavit of mailing:

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

WASHINGTON STATE
DEPT. OF NATURAL RESOURCES
NORTHWEST REGION

ROAD PLAN AND SPECIFICATIONS
#30-098885 BOLLARD



LEGEND

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

SHEET INDEX

PROJECT MAP..... 1
ROAD CLAUSES 2-5
FARMS..... 6-7

2

DESIGNED BY	REVIEWED BY	APPROVED BY	PLAN DATE	SHEET
CARLSON	ZYLSTRA 10/3/2019	ZYLSTRA 10/3/2019	08/08/2019	1 OF 7

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BOLLARD TIMBER SALE ROAD PLAN
WHATCOM COUNTY
BAKER DISTRICT
NORTHWEST REGION

AGREEMENT NO.: 30-098886 STAFF ENGINEER: CARLSON

DATE: AUGUST 8, 2019

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.

0-7 POST-HAUL MAINTENANCE

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

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-21 HAUL APPROVAL

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

1-25 ACTIVITY TIMING RESTRICTION

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

Road	Activity	Closure Period
All roads	All activities	November 1 through March 31

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

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

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

1-33 SNOW PLOWING RESTRICTION

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

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

SECTION 4 – EXCAVATION

4-6 EMBANKMENT SLOPE RATIO

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

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

SECTION 9 – POST-HAUL ROAD WORK

9-5 POST-HAUL MAINTENANCE

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

Road	Stations	Additional Requirements
ED-26	0+00 to 10+15	Post-Haul Grading
ED-30	0+00 to 9+25	Post-Haul Grading

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-12 LANDING EMBANKMENT REMOVAL

Purchaser shall reduce or relocate the landing embankment. Place excavated material in a waste area approved in writing by the Contract Administrator.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

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

Surface

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

Drainage

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

Preventative Maintenance

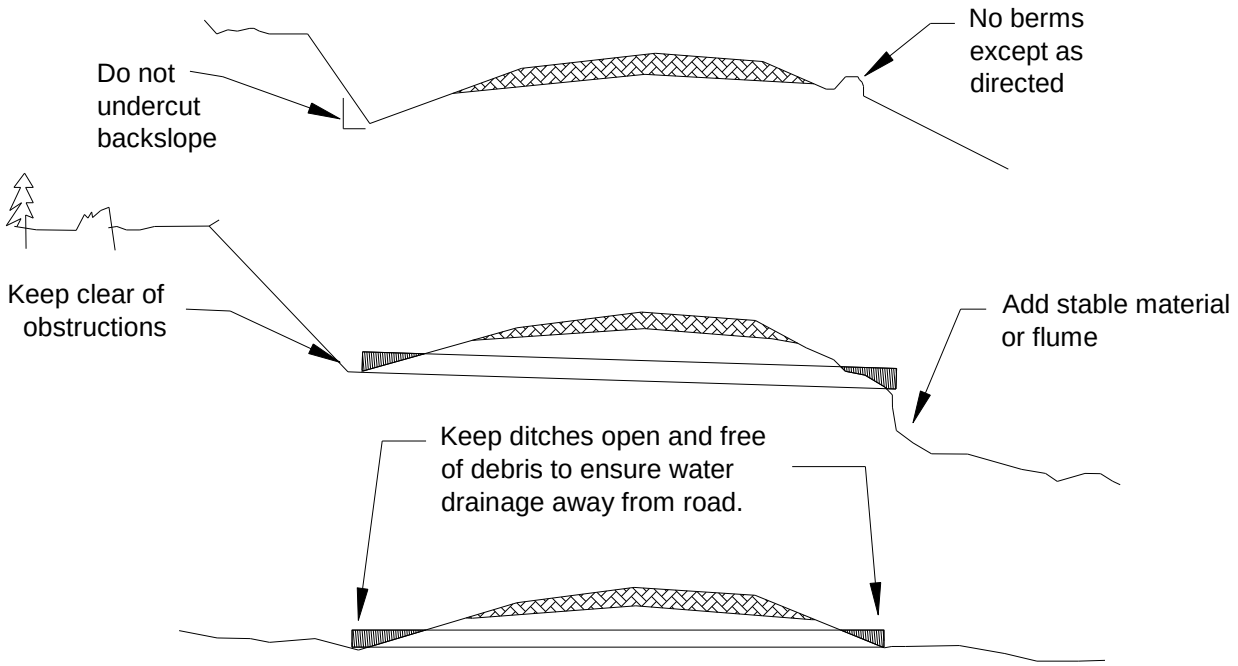
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

Debris

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



ROAD COST SUMMARY BOLLARD Timber Sale #30-098885

POST-HAUL MAINTENANCE SUMMARY

ROAD #	STATIONING	TOTAL STATIONS	POST-HAUL GRADING COST	OTHER COST	TOTAL COST	COST/STA
ED-26	0+00 to 10+15	10.15	$508	$0	$508	$50
ED-30	0+00 to 9+25	9.25	$463	$0	$463	$50
				TOTAL	**$970**	

OTHER COSTS include miscellaneous other requirements detailed in the road plan.

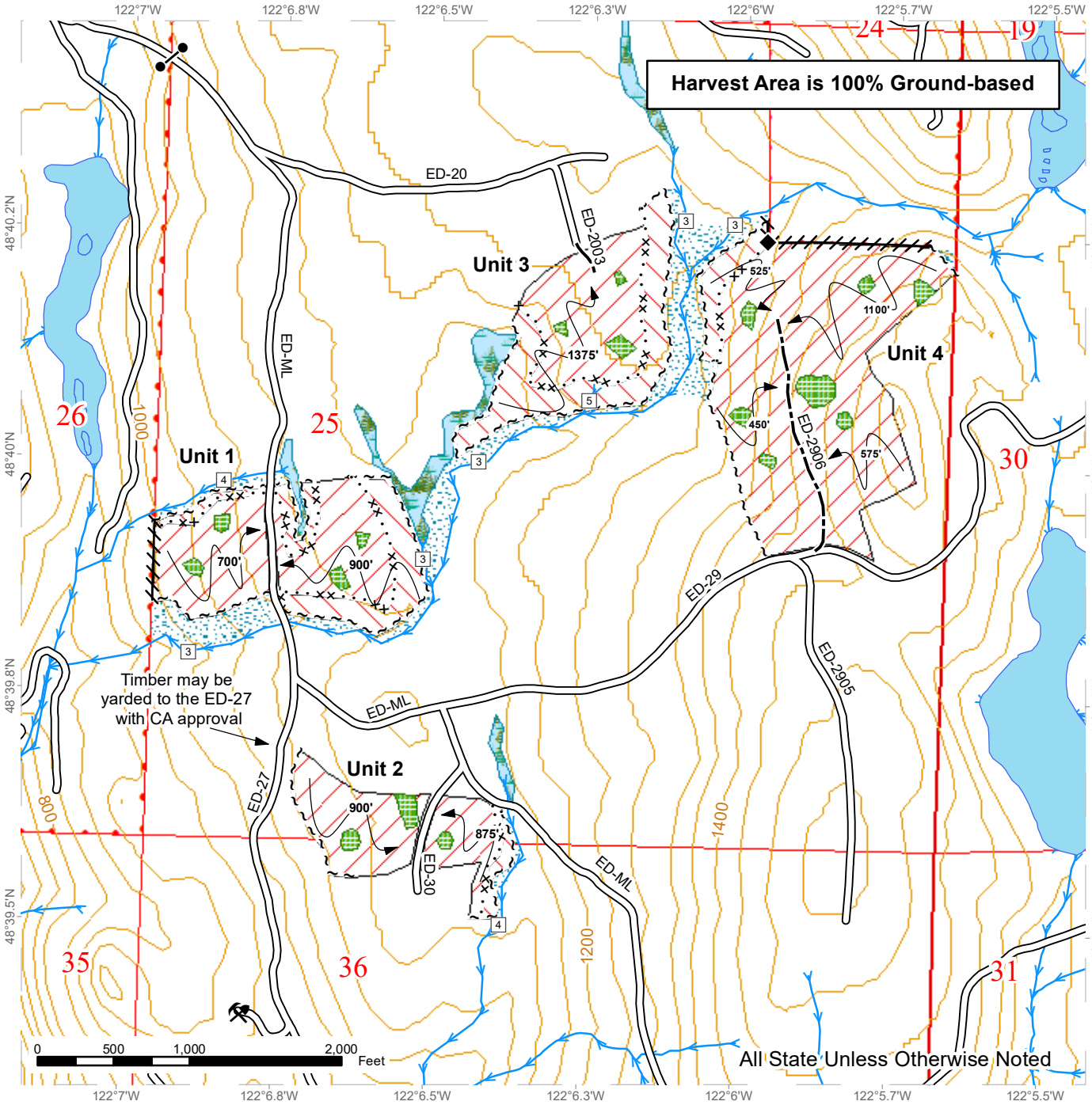
NOTE: ALL MOBILIZATION COSTS HAVE BEEN AMORTIZED IN WITH OTHER COSTS.

TOTAL ROAD COST	$970	
SALE VOLUME (MBF)	1250	PRE-CRUISE ESTIMATED VOLUME
ROAD COST/MBF	$1	

LOGGING PLAN MAP

SALE NAME: ARGOSY
AGREEMENT#: 30-098884
TOWNSHIP(S): T37R5E
TRUST(S): State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Whatcom
ELEVATION RGE: 1240-1560



Variable Retention Harvest	Sale Boundary Tags	Streams
Variable Density Thinning	Special Mgmt Area	Stream Type
Leave Tree Area	Marked Property Line	Stream Type Break
Riparian Mgt Zone	Existing Roads	Survey Monument
Forested Wetland	Optional Construction	

N

Prepared By: kgal490

Modification Date: kgal490 9/17/2019