WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

TIMBER NOTICE OF SALE

***SALE NAME**: YOUBETCHA* ***AGREEMENT NO**: 30-097291*

AUCTION: February 25, 2020 starting at 10:00 a.m., South Puget Sound Region Office, Enumclaw, WA **COUNTY:** Grays Harbor, Thurston

SALE LOCATION: Sale located approximately 8 miles west of Olympia.

PRODUCTS SOLD AND SALE AREA: All timber, except leave trees bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white Timber Sale Boundary tags, timber type change marked with pink flagging, and the B-Line, B-2700, and B-2800 roads in Unit #1; white Timber Sale Boundary tags, timber type change marked with pink flagging, timber type change at Too Thin Quarry, and the B-Line and B-3000 Road in Unit #2; white Timber Sale Boundary tags, timber type change marked with pink flagging, and the B-Line and B-3600 Road in Unit #3; white Timber Sale Boundary tags and the B-4010 Road in Unit #4;

All forest products above located on part(s) of Sections 4 and 5 all in Township 17 North, Range 4 West, Sections 33 and 34 all in Township 18 North, Range 4 West, W.M., containing 206 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	20.2	8	4,370						3,029	1,063	232	46
Hemlock	18.4	8	2,789						1,735	818	130	106
Red alder	13.2		720						162	226	223	109
Red cedar	15.2		31							21	10	
Spruce	16.4		21						12	6		3
Sale Total			7,931									

MINIMUM BID: $2,180,000.00 **BID METHOD:** Sealed Bids

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

EXPIRATION DATE: October 31, 2021 **ALLOCATION:** Export Restricted

BID DEPOSIT: $218,000.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Harvesting activities are estimated to be 36 percent cable and 64 percent ground based harvest. Cable and cable-tethered equipment allowed on all slopes. Ground based equipment is limited to tracked equipment, with non-tethered self-leveling equipment limited to sustained slopes of 55 percent or less, all other tracked equipment limited to sustained slopes that are 45 percent or less. Rubber tired skidders not allowed, except 6-wheeled rubber tired skidders with over-the-tire tracks spanning both sets of rear tires are

allowed in all units on sustained slopes that are 45 percent or less. Yarding may be restricted during wet weather if rutting becomes excessive, per clause H-017.

ROADS: 43.49 stations of optional construction. 17.50 stations of optional reconstruction. 975.49 stations of required prehaul maintenance. 14.10 stations of optional prehaul maintenance. Purchaser maintenance on the B-Line within Unit #1, Unit #2, and Unit #3, and the B-2700, B-2800, B-3000, B-3000B, B-3020, B-3300, B-3310, B-3550, B-3600, and B-4010 roads. Designated maintenance on all other roads used.

Rock for this proposal may be obtained from the State owned Too Thin Quarry, and the existing stockpile at Too Thin Quarry, at no cost to the Purchaser or any commercial rock source at the Purchaser's expense.

Purchaser is required to provide a stockpile of 3,000 cy of 2 inch minus in the Too Thin Quarry per Road Plan 6-65.

The construction and/or reconstruction of any roads will not be permitted from November 1 to April 30, nor on weekends or State recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate from November 1 to April 30, a maintenance plan is required per Road Plan clause 1-26.

The hauling of forest products will not be permitted from November 1 to April 30, nor on weekends or State recognized holidays, unless authorized in writing by the Contract Administrator. If permission is granted to operate from November 1 to April 30, preventative measures may be required to protect water, soil, roads and other forest assets.

ACREAGE DETERMINATION

CRUISE METHOD: Acreage was determined by traversing boundaries by GPS in all units, and length times width for existing roads in Units #1 and #2. GPS data files are available at DNR's website for Timber Sale Auction Packets. See cruise narrative for cruise method.

FEES: $134,827.00 is due on day of sale. $9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: Within all units, Purchaser shall cut all hardwood stems 2 inches DBH or greater, or 6 feet tall or greater, leaving a stump no more than 12 inches in height.

There are residual blue painted trees from a previous sale in Units #1, #2, and #3. Blue painted trees are take trees, unless located within tagged leave tree area clumps.

A portion of Unit #3 was salvage harvested for windthrow in 2007.

The Purchaser may need to obtain a Hauling Permit for hauling on Porter Creek Road, per clause G-396.

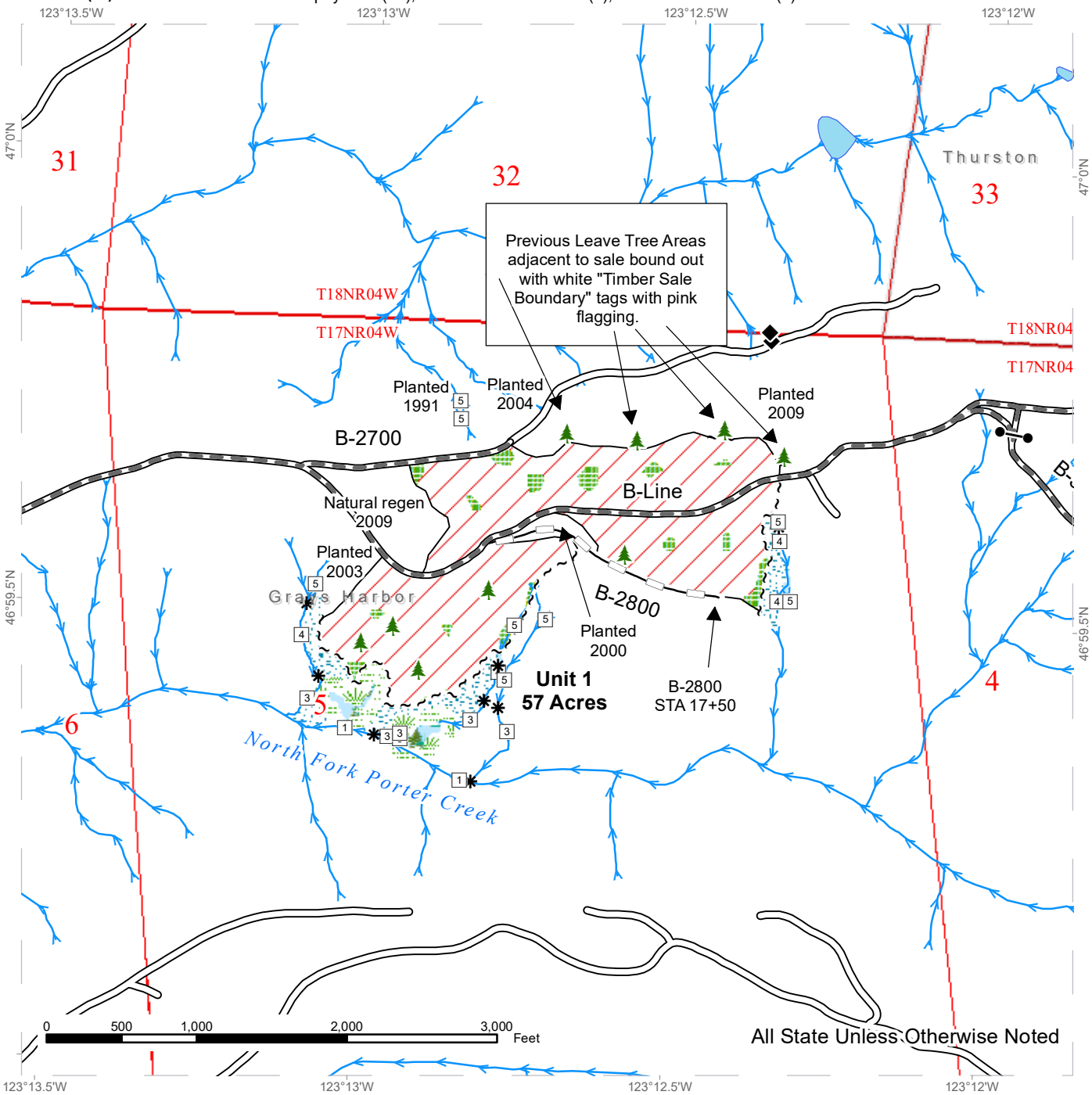
This sale contains high quality Douglas-fir and red alder with good form is present in all units. See cruise for more information.

Dust abatement is required on a portion of the B-Line per clause C-130.

TIMBER SALE MAP

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



Variable Retention Harvest	~ ~ ~	Sale Boundary Tags	→	Streams	
Leave Tree Area	——	Timber Type Change	□	Stream Type	
Riparian Mgt Zone	▭	Existing Roads	✱	Stream Type Break	
Forested Wetland	▭	Required Pre-Haul Maintenance	◆	Survey Monument	
Wetland Mgt Zone	—▭—	Optional Reconstruction	●—●	Gate (5H957 Master)	
				Leave Tree Area <1/4-acre	

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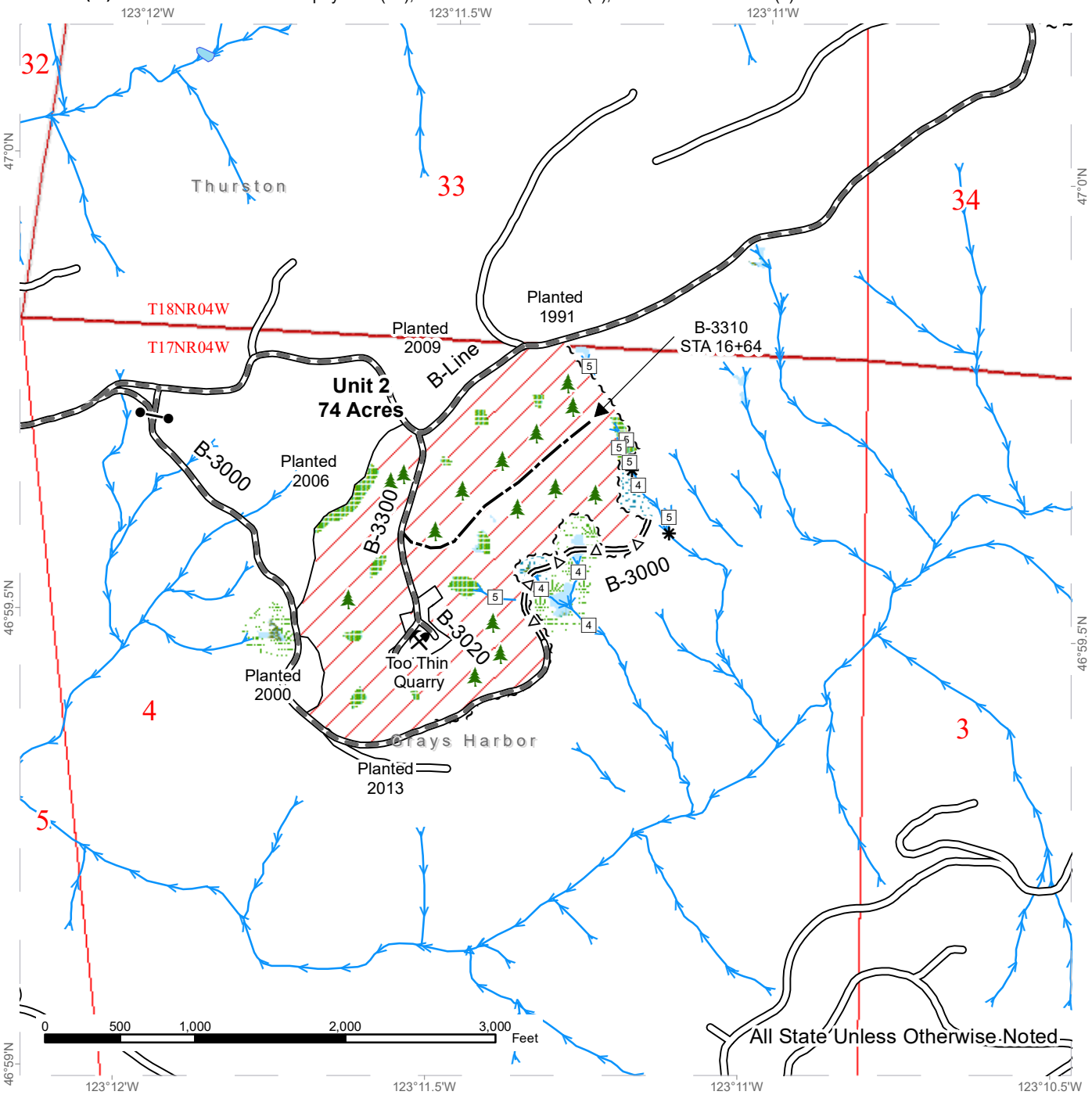

	Variable Retention Harvest	~ ~ ~	Sale Boundary Tags		Streams
	Leave Tree Area		Timber Type Change	□	Stream Type
	Riparian Mgt Zone		Existing Roads	✱	Stream Type Break
	Forested Wetland		Required Pre-Haul Maintenance	●—●	Gate (5H957 Master)
	Wetland Mgt Zone	=△=	Optional Pre-Haul Maintenance		Leave Tree Area <1/4-acre
			Optional Construction		Rock Pit

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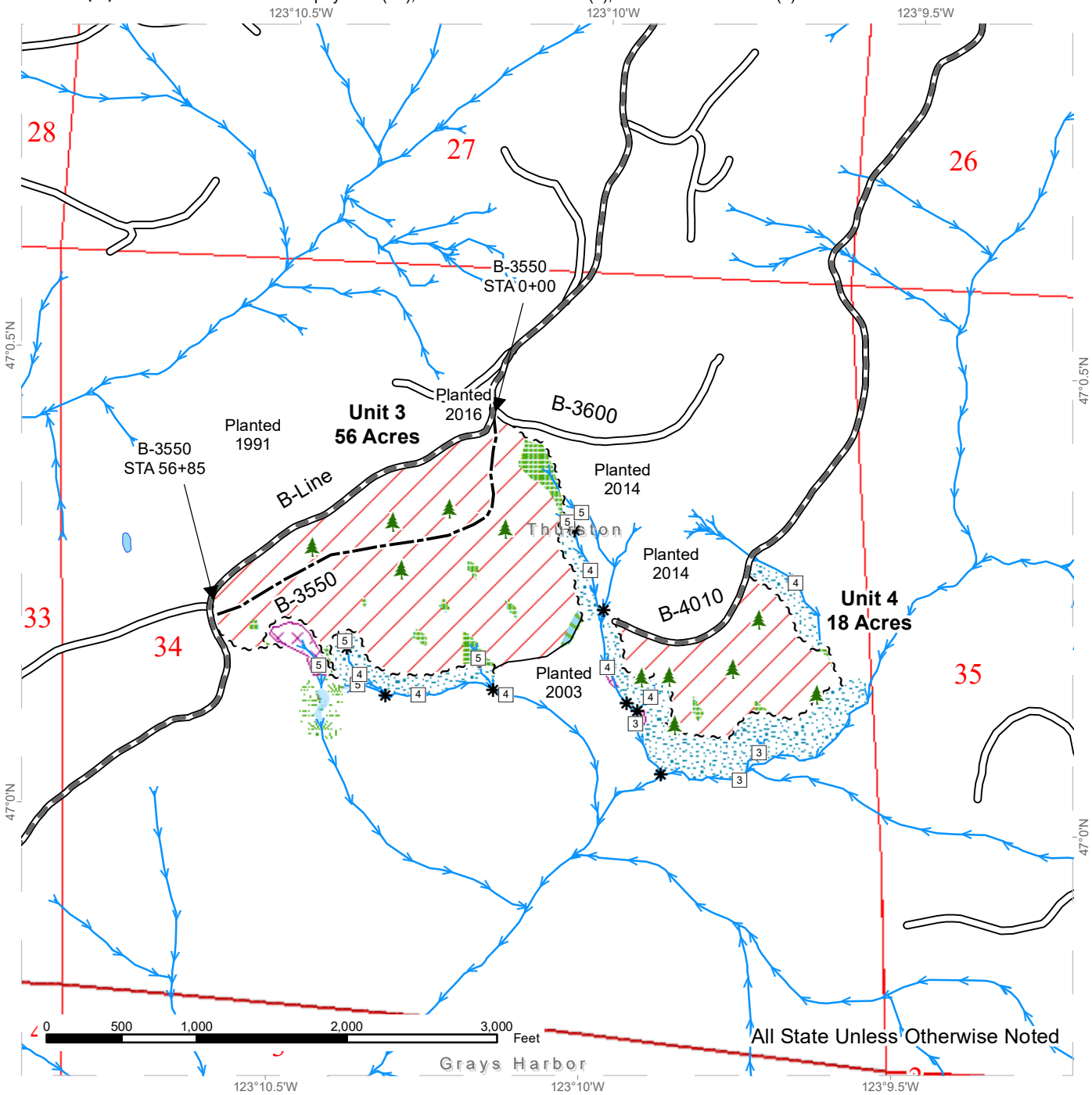

Variable Retention Harvest	Sale Boundary Tags	Streams
Leave Tree Area	Timber Type Change	Stream Type
Riparian Mgt Zone	Existing Roads	Stream Type Break
Forested Wetland	Required Pre-Haul Maintenance	Leave Tree Area <1/4-acre
Wetland Mgt Zone	Optional Construction	
Tailhold Restriction Area		
Non-Tradeable Leave Tree Area		

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DRIVING MAP

SALE NAME: YOUBETCHA
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Timber Sale Unit
Haul Route
Other Road
Milepost Markers
County Boundaries

DRIVING DIRECTIONS:

See attached Driving Directions

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Youbetcha Driving Directions

From State Route 8 (milepost 16.1): turn south onto the B-Line (Rock Candy Mountain Rd SW)

Unit 4: Continue on the B-Line for 4.5 miles, and turn left (south) onto the B-4010. Continue

on the B-4010 for 1.6 miles to access **Unit 4**.

Unit 3: From the B-4010/B-Line junction, continue on the B-Line for 1.0 miles to **Unit 3**.

Unit 2 and Too Thin Quarry: From the Unit 3 eastern boundary edge along the B-Line, continue on the B-Line for 1.5 miles to the B-3300 road and **Unit 2**. Turn left (south) on the B-3300 road and continue for 0.2 miles to **Too Thin Quarry**.

Unit 1: From the Unit 2 boundary edge along the B-Line, continue on the B-Line for 0.7 miles to **Unit 1**.

From Highway 12 in Porter: Turn east onto Porter Creek Rd.

Unit 1: After 2.7 miles Porter Creek Rd turns into the B-0150. Continue on the B-0150 for 0.4 miles. Turn right (east) onto the B-Line and continue for 1.0 miles to **Unit 1**.

Unit 2 and Too Thin Quarry: From the western Unit 1 boundary, continue on the B-Line for 1.4 miles to **Unit 2.** Turn right onto the B-3300 and continue for 0.2 miles to **Too Thin Quarry.**

Unit 3: From the western Unit 2 boundary, continue on the B-Line for 1.0 miles to **Unit 3.**

Unit 4: From the western Unit 3 boundary, continue on the B-Line for 1.9 miles, then turn right (South) onto the B-4010. Continue on the B-4010 for 1.6 miles to **Unit 4.**

From Highway 12 near Malone: Turn east onto Mox Chehalis Rd, and continue for 1.3 miles. Turn right (east) onto Ray Rd, and continue for 0.6 miles to the A-Line. Continue on A-Line for 1.4 miles, then turn right (east) onto the B-Line.

Unit 1: From the A-Line/B-Line junction, continue on the B-Line for 1.8 miles to **Unit 1.**

Unit 2 and Too Thin Quarry: From the western Unit 1 boundary, continue on the B-Line for 1.4 miles to **Unit 2.** Turn right onto the B-3300 and continue for 0.2 miles to **Too Thin Quarry.**

Unit 3: From the western Unit 2 boundary, continue on the B-Line for 1.0 miles to **Unit 3.**

Unit 4: From the western Unit 3 boundary, continue on the B-Line for 1.9 miles, then turn right (South) onto the B-4010. Continue on the B-4010 for 1.6 miles to **Unit 4.**

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-097291

SALE NAME: YOUBETCHA

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 February 25, 2020 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white Timber Sale Boundary tags, timber type change marked with pink flagging, and the B-Line, B-2700, and B-2800 roads in Unit #1; white Timber Sale Boundary tags, timber type change marked with pink flagging, timber type change at Too Thin Quarry, and the B-Line and B-3000 Road in Unit #2; white Timber Sale Boundary tags, timber type change marked with pink flagging, and the B-Line and B-3600 Road in Unit #3; white Timber Sale Boundary tags and the B-4010 Road in Unit #4;

All forest products above located, located on approximately 206 acres on part(s) of Sections 4, and 5 all in Township 17 North, Range 4 West, Sections 33, and 34 all in Township 18 North, Range 4 West W.M. in Grays Harbor, and Thurston County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

Purchaser hereby warrants to the State that they have had an opportunity to fully inspect the sale area and the forest products being sold. Purchaser further warrants to the State that they enter this contract based solely upon their own judgment of the value of the forest products, formed after their own examination and inspection of both the

timber sale area and the forest products being sold. Purchaser also warrants to the State that they enter this contract without any reliance upon the volume estimates, acreage estimates, appraisals, pre-bid documentation, or any other representations by the State Department of Natural Resources.

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2021.

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 $997.00 per acre per annum for the acres on which an operating release has not been issued in the harvest area.

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

g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

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

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

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

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

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

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

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

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

G-062 Habitat Conservation Plan

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

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

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

G-063 Incidental Take Permit Notification Requirements

a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts,

or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.

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

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

d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

Purchaser shall be responsible for any increased operational costs arising from any applicable foreign or domestic governmental regulation or order that does

not cause contract performance to become commercially impracticable or that does not substantially frustrate the purpose of the contract. If impracticability or frustration results from Purchaser's failure to comply with this contract, Purchaser shall remain responsible for payment of the total contract price notwithstanding the impracticability or frustration.

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-106 Adding Naturally Damaged Forest Products

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

G-111 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative program Standard under certificate number: 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 Enumclaw, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager has sole authority to waive, modify, or amend the terms of this contract in the manner prescribed in clause G-180. No agent, employee, or representative of the State has any authority to bind the State to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract.

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

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

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

G-210 Violation of Contract

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

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

c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to

remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.

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

G-220 State Suspends Operation

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

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

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

G-280 Operating Release

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; A-Line (from B-Line junction to Ray Road junction), B-Line, B-0150, B-0200, B-2700 (to edge of unit), B-2800, B-3000, B-3000B, B-3020, B-3300, B-3310, B-3550, B-3600, and B-4010 roads. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

Purchaser shall arrange with the Contract Administrator to review this contract and to examine the sale area before beginning any operations. A plan of operations shall be developed and agreed upon by the Contract Administrator and Purchaser before beginning any operations. To the extent that the plan of operations is inconsistent with the contract, the terms of the contract shall prevail. State's acceptance and approval of Purchaser's plan of operations shall not be construed as any statement or warranty that the plan of operations is adequate for Purchaser's purposes or complies with applicable laws.

G-340 Preservation of Markers

Any legal land subdivision survey corners and witness objects are to be preserved. If such are destroyed or disturbed, the Purchaser shall, at the Purchaser's own expense, re-establish them through a licensed land surveyor in accordance with U.S. General Land Office standards. Corners and/or witness objects that must be disturbed or destroyed in the process of road construction or logging shall be adequately referenced and/or replaced in accordance with RCW 58.24.040(8). Such references must be approved by the Contract Administrator prior to removal of said corners and/or witness objects.

G-360 Road Use Reservation

The State shall have the right to use, without charge, all existing roads and any road constructed or reconstructed on State lands by Purchaser under this contract. The State may extend such rights to others. If the State grants such rights to others, the State shall require performance or payment, as directed by the State, for their proportionate share of maintenance based on their use.

G-380 Road Easement and Road Use Permit Requirements

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

Easement #55-000215 entered into between the State of Washington Department of Natural Resources and Al and Lois A. Parks, dated August 9, 1967.

Warranty Deed #55-000501 entered into between the State of Washington Department of Natural Resources and Emory and Agnes Brewer, dated October 16, 1961.

G-396 Public Hauling Permit

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

G-430 Open Fires

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

G-450 Encumbrances

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

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

Lease, including the terms and provisions thereof,
For: Land Use License
In Favor of: Washington Department of Fish & Wildlife
Disclosed by Application No.: 60-096820
Granted: 4/23/2018
Expires: 6/30/2022

Region Encumbrances

Lease, including the terms and provisions thereof,
For: Minor Forest Products
In Favor of: Washington State Department of Natural Resources (DNR) – South Puget Sound Region
Disclosed by Application No.: 35-SPSGH02
Granted: 1/1/2015
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 $206,206.00. The total contract price consists of a $0.00 contract bid price plus $206,206.00 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-013 Reserve Tree Damage Definition

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

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

a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 144 square inches.

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

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

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

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 12 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for all harvest units. The plan shall address the harvest operations and logging debris cleanup, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using cable, cable-tethered, and ground based equipment. Cable and cable-tethered equipment allowed on all slopes. Ground based equipment is limited to tracked equipment, with non-tethered self-leveling equipment limited to sustained slopes of 55 percent or less, all other tracked equipment limited to sustained slopes that are 45 percent or less. Rubber tired skidders not allowed, except 6-wheeled rubber tired skidders with over-the-tire tracks spanning both sets of rear tires are allowed in all units on sustained slopes that are 45 percent or less. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

If Purchaser tailholds on State land, methods to minimize damage to live trees outside the sale area shall be employed and must be approved in writing by the Contract Administrator.

H-130 Hauling Schedule

The hauling of forest products will not be permitted from November 1 to April 30, nor on weekends or State recognized holidays, unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

a. Equipment limitation zones are required within 30 feet of Type 5 streams.

b. Crossings of Type 5 streams may be allowed at locations approved in writing by the Contract Administrator. Purchaser shall place a culvert or log puncheon at crossing locations (when water is present) to protect the stream bank and

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

c. Any and all operations associated with this sale may be temporarily suspended when, in the opinion of the Contract Administrator, there is the potential for delivery to typed water.

d. No equipment shall operate, or trees felled or damaged, outside the timber sale boundary.

e. The Purchaser shall notify all employees and contractors working on this sale that any danger tree marked or unmarked may be felled. Any marked danger tree will be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.

f. At the end of each day, the B-Line is to be left open. Blocking may be permitted during normal business hours with CA approval.

g. Purchaser shall take measures throughout operations to control soil erosion, water channelization, and prevent sediment delivery to streams or wetlands. Methods may include construction of water bars, “sweeping” with logs, silt traps, or other measures on skid trails, yarding corridors and haul roads.

h. To facilitate proper reforestation in areas of high slash concentrations, purchaser shall, in concurrence with ground based yarding, clear plantable spots at a 11 foot by 11 foot spacing.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

a. Purchaser shall leave 2 down logs per acre. A log is defined as having a minimum diameter of 12 inches on the small end of the log and a minimum length of 20 feet or at least 100 board feet.

b. Some tailhold locations outside the timber sale boundary are restricted due to protection of potentially unstable slopes. Locations where trees shall not be used as tailholds due to potentially unstable slopes are identified in the Logging Plan and Timber Sale Maps. Tailhold locations must be identified in a harvest plan by the Purchaser and approved by the Contract Administrator prior to operations.

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

H-190 Completion of Settings

Operations begun on any setting of the sale area shall be completed before any operation begins on subsequent settings unless authorized in writing by the Contract Administrator.

H-220 Protection of Residual or Adjacent Trees

Unless otherwise specified by this contract, the Contract Administrator shall identify damaged adjacent or leave trees that shall be paid for according to clause G-230.

H-230 Tops and Limbs Outside the Sale Boundary

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

H-250 Additional Falling Requirements

Within the harvest units, all hardwood stems 2 inches DBH or greater, or 6 feet tall or greater, shall be felled. The remaining stump shall be no more than 12 inches in height. Areas of young or immature timber may be excluded from this requirement by the Contract Administrator.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 6/10/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on B-Line within Unit #1, Unit #2, and Unit #3, and the B-2700, B-2800, B-3000, B-3000B, B-3020, B-3300, B-3310, B-3550, B-3600, and B-4010 roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on all other roads used not covered in clause C-050. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-080 Landing Locations Approved Prior to Construction

Landings shall be marked by Purchaser and approved by the Contract Administrator prior to construction.

C-090 Landing Location

Landings shall be built 50 feet off the B-Line road(s).

C-130 Dust Abatement

Purchaser shall abate dust on the B-Line from station 638+35 to 647+00 located on private property.

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-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

Slash or debris which enters Type 5 streams as a result of operations under this contract and which is identified by the Contract Administrator shall be removed and deposited

in a stable position. Removal of slash or debris shall be accomplished in a manner that avoids damage to the natural stream bed and bank vegetation.

S-110 Resource Protection

No yarding equipment may operate within Riparian or Wetland Management Zones unless authority is granted in writing by the Contract Administrator.

S-120 Stream Protection

No timber shall be felled into, across, or yarded through Type 1, 3, or 4 streams.

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-041 Reserve Tree Excessive Damage

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

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

	STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES
_____ Purchaser	_____ Scott Sargent South Puget Sound Region Manager
_____ Print Name	
Date: _____ Address:	Date: _____

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 _____

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: South Puget Sound

Timber Sale Name: Youbetcha

Application Number: 30- 097291

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 4,349 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 1750 **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: 98,959 **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: **Youbetcha**	Region: **South Puget Sound**
Agreement #: **30-097291**	District: **Black Hills**
Contact Forester: **Dee Dee Korsikas-Fogg**	Phone/ Location: **(425)-681-0448** Ext: /
Alternate Contact: **Andy Ritter**	Phone/ Location: **(360)-791-5980** Ext: /

Type of Sale (lump sum, mbf scale, tonnage scale or contract harvest): Lump Sum
Required or Optional removal of utility as pulp:
Evaluated for RFRS Implementation?: Yes
Percentage cable (specify downhill vs uphill): 36% uphill
Percentage ground based: 64%
Species Onsite: ☒RC, ☒DF, ☒WH, ☒RA, ☐BC, ☒BLM, ☐NF, ☐SF, ☒SS, ☐ Other:(Please List)

UNIT ACREAGES* AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description Sec/Twp/Rng	Grant	Gross Traversed Acres	Deductions from Gross Acres (No harvest acres) RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)	Net Harvest Acres	Acreage Determination (List method, dimensions and error of closure if applicable)
1	Sec 05/ T 17N/ R 04 W Sec 33/ T 18N/ R 04 W	02, 42	63.2	0	3.5	2.5		57.2	GPS for boundary and leave tree areas. B-Line (2143' x 50')
2	Sec 04/ T 17N/ R 04 W	02, 42	81.1	0	4.2	2.6		74.3	GPS for boundary and leave tree areas. B-3000 (1862' x 30'); B-3300 (1142' x 50')
3	Sec 34/ T 18N/ R 04 W	01, 02, 42	59.7	0	3.4	0		56.3	GPS for boundary and leave tree areas.
4	Sec 34/ T 18N/ R 04 W	01, 02, 42	18.4	0	0.7	0		17.7	GPS for boundary and leave tree areas.
TOTAL ACRES			222.4	0	11.8	5.1		205.5	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Mark leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Variable Retention Harvest: Boundaries are marked with white "Timber Sale Boundary" tags, and pink flagging. Clumped leave trees are marked with yellow "Leave Tree Area" tags, and pink flagging.	N/A	8 leave trees per acre.

2	Variable Retention Harvest: Boundaries are marked with white “Timber Sale Boundary” tags, and pink flagging. Clumped leave trees are marked with yellow “Leave Tree Area” tags, and pink flagging.	N/A	8 leave trees per acre.
3	Variable Retention Harvest: Boundaries are marked with white “Timber Sale Boundary” tags, and pink flagging. Clumped leave trees are marked with yellow “Leave Tree Area” tags, and pink flagging.	N/A	8 leave trees per acre.
4	Variable Retention Harvest: Boundaries are marked with white “Timber Sale Boundary” tags, and pink flagging. Clumped leave trees are marked with yellow “Leave Tree Area” tags, and pink flagging.	N/A	8 leave trees per acre.

OTHER PRE-CRUISE INFORMATION:

Unit #	Estimated Volume	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	See Cruise	N/A	Traverse map with contours, roads, and leave trees. Photo (Scale 1” to 400’).
2	See Cruise	N/A	Traverse map with contours, roads, and leave trees. Photo (Scale 1” to 400’).
3	See Cruise	N/A	Traverse map with contours, roads, and leave trees. Photo (Scale 1” to 400’).
4	See Cruise	N/A	Traverse map with contours, roads, and leave trees. Photo (Scale 1” to 400’).

REMARKS:

Units 1 through 4 are VRH harvests and are 64% ground based. Portions of Unit 1, 2, and 3 were previously thinned, and blue paint is present throughout those units. A portion of Unit 1 and all of Unit 4 have a large amount of red alder.

The timber consists of western hemlock, Douglas-fir, western redcedar, red alder, and bigleaf maple.

Prepared By: Dee Dee Korsikas-Fogg **Date: 04/22/2019**	**Title: Forester 2**	**CC:**

CRUISE NARRATIVE

Sale Name: **Youbetcha**	**Region:** **South Puget Sound**
Agree. #: **30-097291**	**District:** **Black Hills**
Lead cruiser: **Matt Llobet**	**Completion date:** **5-15-19**
Other cruisers **on sale: PK,AH**	

Unit acreage specifications:

Unit #	**Cruised acres**	**Cruised acres agree with sale acres? Yes/No**	**If acres do not agree explain why.**
1	57.2	Yes	
2	74.3	Yes	
3	56.3	Yes	
4	17.7	Yes	
Total	205.5	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	54.4 BAF 40.0 BAF	4.5’	245’ x 245’	1:1	43
2	VP	46.9 BAF 40.0 BAF	4.5’	245’ x 245’	1:1	54
3	VP	46.9 BAF 40.0 BAF	4.5’	245’ x 245’	1:1	42
4	VP	46.9 BAF 40.0 BAF	4.5’	245’ x 245’	1:1	11

Sale/Cruise Description:

Minor species cruise intensity:	A 40 BAF was used to capture a better sample on minors throughout the sale.					
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:	**Variable Retention Harvest:** Boundaries are marked with white “Timber Sale Boundary” tags, and pink flagging. Clumped leave trees are marked with yellow “Leave Tree Area” tags and pink flagging.					
Other conditions:						

Sort Description:	**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 of the log. (Min dia 8".)

Field observations:

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. Youbetcha timber sale was cruised using the Variable plot sample method. Youbetcha consists of 64% ground base harvesting, 36% cable harvesting, and ranges in elevation from 526'- 1555'. The terrain throughout Youbetcha is moderate to gentle, making for great operator ground. Unit 1 has a dominate Douglas fir and Western Hemlock component, with a Red Alder component south of the road that bisects the unit. On the north side of the road there appears to be less Red Alder, but the Western Hemlock component increases. The Red Alder observed throughout the unit occurs in large homogeneous clumps, with great form in the first segment. Unit 2 is characterized by a dominant Douglas fir over story with a co-dominant Western Hemlock component. There is a small scattered component of mature Red Alder throughout the unit. Unit 3 consists of a uniform Western Hemlock and Douglas fir component. The north portion of the unit consists of a previously thinned timber type, with heavy Western Hemlock understory. Unit 4 has a variable Red Alder component, with scattered Douglas fir and Western Hemlock. The Red Alder observed throughout the unit had excellent form in the first segment, with little defect. The Species composition throughout the sale is Douglas fir at 55%, Western Hemlock at 35%, and Red Alder at 9%. Observed throughout the sale was 763mbf of B sort High Quality Douglas fir and 720mbf of Red Alder. Defect observed includes: forked or multiple tops, heart rot, frost checking, spike knots, Schweinitzii, Fomies Pini, and sweep.

Prepared By: Matt Llobet

Title: Forest Check Cruiser

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T17N R04W S05 Ty00U1
THRU
T18N R04W S34 Ty0004

Project: YOUBETC

Acres 205.50

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Date 5/20/2019
Time 2:41:52PM

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
WH	D	2S	62	2.5	8,653	8,441	1,735			59	41		2	1	98	39	14	307	1.78	27.5
WH	D	3S	29	1.1	4,025	3,982	818	20	80			0	4	3	93	37	8	98	0.72	40.5
WH	D	4S	5	1.4	641	633	130	96	4			30	30	17	23	24	6	28	0.36	22.6
WH	D	UT	4		514	514	106	30		25	45	41	48		11	20	8	62	0.65	8.3
WH	**Totals**		35	1.9	13,834	13,570	2,789	11	24	38	27	3	5	2	90	33	9	137	1.00	98.9
DF	HB	2S	11	.9	2,499	2,477	509			54	46		3	2	96	38	15	318	1.87	7.8
DF	HB	3S	6	1.9	1,261	1,237	254		100					5	95	38	10	130	0.89	9.5
DF	D	2S	58	3.2	12,663	12,262	2,520			35	65	0	2	1	97	39	16	409	2.34	30.0
DF	D	3S	18	2.4	4,031	3,936	809	28	72			1	4	6	90	37	8	91	0.71	43.3
DF	D	4S	5	3.2	1,167	1,129	232	87	13			18	39	16	28	26	6	31	0.35	36.9
DF	D	UT	2		224	224	46	28	32		40	39	4	12	45	21	7	54	0.65	4.2
DF	**Totals**		55	2.7	21,845	21,265	4,370	10	20	26	43	1	4	3	91	34	10	162	1.15	131.6
RA	D	2S	22	1.1	797	788	162			95	5	13	61		26	30	13	173	1.39	4.6
RA	D	3S	31	2.0	1,126	1,103	227	8	92			14	75		11	29	9	85	0.81	13.0
RA	D	4S	31	3.2	1,120	1,084	223	81	19			4	90	0	6	29	6	39	0.42	27.9
RA	D	UT	16		529	529	109	86	3	4	6	41	41	11	8	20	5	23	0.32	22.8
RA	**Totals**		9	1.9	3,572	3,505	720	41	35	22	2	15	71	2	12	26	7	51	0.55	68.3
RC	D	3S	67	2.1	104	102	21	16	84						100	36	9	108	1.54	.9
RC	D	4S	33		49	49	10	100				39	45	16		24	5	26	0.41	1.9
RC	**Totals**		0	1.4	153	151	31	43	57			13	14	5	68	28	6	53	0.90	2.8
SS	D	2S	58	11.0	67	59	12			38	62				100	40	15	339	2.69	.2
SS	D	3S	28		28	28	6	78	22				22	78		32	7	55	0.69	.5
SS	D	UT	14		13	13	3	100						100		33	5	40	0.60	.3
SS	**Totals**		0	6.8	108	101	21	35	6	22	37		6	35	59	34	8	99	1.07	1.0
Totals				2.3	39,512	38,591	7,931	14	23	30	34	3	11	3	83	32	9	128	0.99	302.7

TC PSTATS

PROJECT STATISTICS

PROJECT YOUBETC

DATE 5/20/2019

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
17N	04	05	YOUBETCH	00U1	THR	205.50	150	802	S	W
18N	04W	34	YOUBETCH	0004						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	150	802	5.3		
CRUISE	78	400	5.1	29,325	1.4
DBH COUNT					
REFOREST COUNT	71	397	5.6		
BLANKS	1				
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	207	57.8	20.2	85	28.6	128.3	21,845	21,265	5,159	5,160
WHEMLOCK	122	44.4	18.4	81	19.2	82.2	13,834	13,570	3,312	3,313
R ALDER	61	37.3	13.2	55	9.8	35.6	3,572	3,505	982	982
WR CEDAR	6	2.4	15.2	38	0.8	3.0	153	151	71	71
S SPRUCE	4	.8	16.4	45	0.3	1.2	108	101	36	36
TOTAL	*400*	*142.7*	*17.9*	*75*	*59.1*	*250.4*	*39,512*	*38,591*	*9,560*	*9,561*

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	86.1	6.0	562	598	635			
WHEMLOCK	61.1	5.5	400	423	447			
R ALDER	61.0	7.9	121	131	142			
WR CEDAR	76.0	33.8	62	93	125			
S SPRUCE	112.6	64.4	87	245	403			
TOTAL	*93.6*	*4.7*	*441*	*463*	*485*	*350*	*179*	*87*

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	98.5	8.0	53	58	62			
WHEMLOCK	140.1	11.4	39	44	50			
R ALDER	189.8	15.5	31	37	43			
WR CEDAR	443.5	36.2	2	2	3			
S SPRUCE	705.4	57.5	0	1	1			
TOTAL	*48.5*	*4.0*	*137*	*143*	*148*	*94*	*48*	*23*

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	74.8	6.1	120	128	136			
WHEMLOCK	131.1	10.7	73	82	91			
R ALDER	187.6	15.3	30	36	41			
WR CEDAR	418.0	34.1	2	3	4			
S SPRUCE	606.2	49.5	1	1	2			
TOTAL	*38.6*	*3.1*	*242*	*250*	*258*	*60*	*30*	*15*

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	78.9	6.4	19,895	21,265	22,634			
WHEMLOCK	142.2	11.6	11,996	13,570	15,144			
R ALDER	195.1	15.9	2,947	3,505	4,062			
WR CEDAR	430.6	35.1	98	151	204			
S SPRUCE	669.7	54.6	46	101	156			
TOTAL	*52.0*	*4.2*	*36,953*	*38,591*	*40,229*	*108*	*55*	*27*

TC PSTATS

PROJECT STATISTICS

PROJECT YOUBETC

DATE 5/20/2019

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
17N	04	05	YOUBETCH	00U1	THR	205.50	150	802	S	W
18N	04W	34	YOUBETCH	0004						

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: YOUBETC

Date 5/20/2019

Time 2:41:53PM

T17N R04W S05 T00U1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
17N	04W	05	YOUBETCH	00U1	57.20	43	95	S	W

T17N R04W S05 T00U1

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	8	1.8	2,134	2,096	120			28	72				100	39	16	380	2.20	5.5
DF		HB	3S	7	2.4	1,778	1,735	99		100					14	86	37	9	120	0.84	14.5
DF		DM	2S	66	4.2	16,697	15,991	915			25	75		1		99	39	17	462	2.51	34.6
DF		DM	3S	12	3.2	2,967	2,872	164	32	68			1	13	14	72	36	8	86	0.66	33.3
DF		DM	4S	6	1.6	1,425	1,402	80	77	23			15	36	16	32	27	6	35	0.36	40.1
DF		DM	UT	1		155	155	9	13			87	100				12	9	55	0.81	2.8
DF	**Totals**			72	3.6	25,155	24,251	1,387	8	17	19	56	2	4	4	91	34	10	185	1.25	130.9
RA		DM	2S	7		262	262	15			100		44	56			24	12	133	1.27	2.0
RA		DM	3S	48	4.5	1,783	1,702	97	19	81			11	85		4	29	8	63	0.70	27.0
RA		DM	4S	33	1.7	1,227	1,207	69	100				2	98			28	5	32	0.35	38.3
RA		DM	UT	12		397	397	23	65	15	20		52	48			18	6	24	0.30	16.3
RA	**Totals**			11	2.8	3,670	3,569	204	50	40	10		15	83		2	26	7	43	0.49	83.6
WH		DM	2S	55	1.8	3,234	3,176	182			60	40				100	38	14	293	1.74	10.8
WH		DM	3S	30	2.1	1,777	1,739	99	8	92				8		92	37	9	114	0.93	15.2
WH		DM	4S	5	5.6	315	298	17	92	8			33	33	18	17	26	5	28	0.41	10.7
WH		DM	UT	10		530	530	30	8			92	100				14	11	106	1.31	5.0
WH	**Totals**			17	1.9	5,857	5,743	329	8	28	33	31	11	4	1	84	31	10	138	1.10	41.7
Type Totals					3.2	34,681	33,563	1,920	13	21	20	46	5	13	3	80	31	9	131	1.01	256.2

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: YOUBETC

Date 5/20/2019

Time 2:41:53PM

T17N R04W S05 T00U2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
17N	04W	05	YOUBETCH	00U2	74.30	54	148	S	W

T17N R04W S05 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	12	.3	2,633	2,624	195			91	9			5	95	38	14	260	1.61	10.1
DF		HB	3S	9	1.7	1,911	1,878	140		100						100	39	10	137	0.93	13.7
DF		DM	2S	36	4.5	8,093	7,731	574			65	35				100	39	14	295	2.04	26.2
DF		DM	3S	32	2.5	6,963	6,790	505	32	68				0	2	98	39	8	92	0.72	73.6
DF		DM	4S	9	4.8	1,797	1,710	127	95	5			15	36	18	31	27	5	29	0.33	59.8
DF		DM	UT	2		422	422	31	19	47		34	29	5		66	20	7	57	0.80	7.4
DF	**Totals**			72	3.0	21,818	21,155	1,572	18	32	35	15	2	3	3	92	34	8	111	0.90	190.7
WH		DM	2S	69	1.9	3,536	3,469	258			49	51				100	39	15	349	2.09	9.9
WH		DM	3S	23	4.5	1,170	1,117	83	34	66				6	3	91	38	8	88	0.81	12.8
WH		DM	4S	4	.0	201	201	15	91	9			9		63	28	32	5	33	0.42	6.1
WH		DM	UT	4		170	170	13	6			94	6			94	21	8	121	1.44	1.4
WH	**Totals**			17	2.4	5,078	4,957	368	12	15	34	39	1	1	3	95	36	10	164	1.21	30.2
RA		DM	2S	23	1.8	686	674	50			100			65		35	33	12	172	1.36	3.9
RA		DM	3S	24		699	699	52		100				62		38	33	11	137	1.03	5.1
RA		DM	4S	35	1.7	1,030	1,012	75	100					82		18	31	6	40	0.39	25.1
RA		DM	UT	18		504	504	37	100				35	41	9	15	19	5	20	0.32	25.4
RA	**Totals**			10	1.0	2,919	2,889	215	52	24	23		6	66	2	26	26	6	49	0.52	59.5
RC		DM	3S	61	2.8	220	213	16	21	79						100	36	9	111	1.50	1.9
RC		DM	4S	39		135	135	10	100				39	45	16		24	5	26	0.41	5.2
RC	**Totals**			1	1.7	355	349	26	52	48			15	17	6	61	27	6	49	0.80	7.1
SS		DM	2S	85	10.0	114	102	8				100				100	40	19	540	3.28	.2
SS		DM	3S	15		17	17	1		100				100			26	10	90	1.26	.2
SS	**Totals**			0	8.7	131	119	9		14		86		14		86	33	15	315	2.48	.4
Type Totals					2.7	30,301	29,469	2,190	21	29	33	17	2	9	3	86	33	8	102	0.88	287.9

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: YOUBETC

Date 5/20/2019

Time 2:41:53PM

T18N R04W S34 T0003

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
18N	04W	34	YOUBETCH	0003	56.30	42	131	S	W

T18N R04W S34 T0003

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	2S	61	2.6	23,250	22,640	1,275			62	38		2	1	97	39	14	300	1.73	75.4
WH		DM	3S	31	.4	11,342	11,294	636	20	80			0	3	3	94	37	8	98	0.68	115.5
WH		DM	4S	4	.8	1,730	1,717	97	97	3			33	34	10	23	23	6	27	0.33	62.8
WH		DM	UT	4		1,114	1,114	63	46		42	13	20	80			22	7	48	0.50	23.3
WH	**Totals**			62	1.8	37,435	36,764	2,070	12	25	40	24	2	6	2	89	33	9	133	0.95	277.1
DF		HB	2S	15	.9	3,479	3,447	194			33	67		7		93	38	15	362	2.02	9.5
DF		HB	3S	2		276	276	16		100						100	36	10	140	0.89	2.0
DF		DM	2S	69	1.7	15,480	15,213	856			29	71	0	3	0	96	39	17	461	2.43	33.0
DF		DM	3S	11	1.0	2,477	2,451	138	13	87			1	8	11	81	36	8	93	0.74	26.3
DF		DM	4S	2		377	377	21	81	19			38	62			21	6	28	0.40	13.3
DF		DM	UT	1		102	102	6	100						100		34	5	40	0.24	2.5
DF	**Totals**			37	1.5	22,190	21,866	1,231	3	11	25	60	1	5	2	92	35	12	252	1.57	86.7
RA		DM	2S	84	2.7	592	576	32			75	25	19	81			27	15	218	1.69	2.6
RA		DM	4S	9	12.8	71	62	3	26	74				74	26		31	7	43	0.69	1.4
RA		DM	UT	7		48	48	3	100							100	36	5	40	0.68	1.2
RA	**Totals**			1	3.6	710	685	39	9	7	63	21	16	75	2	7	30	10	130	1.13	5.3
SS		DM	2S	38	12.5	93	81	5			100					100	40	13	210	2.30	.4
SS		DM	3S	38		80	80	5	100						100		32	6	50	0.61	1.6
SS		DM	UT	24		48	48	3	100						100		33	5	40	0.60	1.2
SS	**Totals**			0	5.2	221	210	12	61		39				61	39	34	6	66	0.85	3.2
Type Totals					1.7	60,557	59,525	3,351	9	20	35	37	2	7	2	89	34	10	160	1.10	372.2

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: YOUBETC

Date 5/20/2019

Time 2:41:53PM

T18N R04W S34 T0004

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
18N	04W	34	YOUBETCH	0004	17.70	11	26	S	W

T18N R04W S34 T0004

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
RA		DM	2S	24		3,646	3,646	65			100		13	50		37	30	13	167	1.33	21.8
RA		DM	3S	30		4,377	4,377	77		100			28	72			26	10	103	0.93	42.7
RA		DM	4S	28	5.6	4,486	4,236	75	48	52			10	90			29	7	47	0.53	90.3
RA		DM	UT	18		2,591	2,591	46	85			15	42	39	19		21	5	26	0.31	101.5
RA	**Totals**			56	1.7	15,100	14,851	263	29	44	25	3	22	66	3	9	26	7	58	0.61	256.3
DF		DM	2S	96		9,845	9,845	174			16	84			18	82	38	17	459	2.55	21.5
DF		DM	3S	2		112	112	2		100			100				17	10	60	0.89	1.9
DF		DM	4S	2		202	202	4	100				38	62			23	7	36	0.53	5.7
DF	**Totals**			38		10,159	10,159	180	2	1	16	81	2	1	17	80	34	14	350	2.22	29.0
WH		DM	2S	93	4.3	1,215	1,162	21				100				100	40	17	440	2.63	2.6
WH		DM	4S	7		79	79	1	100					100			28	5	30	0.86	2.6
WH	**Totals**			5	4.1	1,294	1,241	22	6			94		6		94	34	11	235	1.90	5.3
RC		DM	3S	100		291	291	5		100						100	36	9	100	1.66	2.9
RC	**Totals**			1		291	291	5		100						100	36	9	100	1.66	2.9
Type Totals					1.1	26,844	26,542	470	17	26	20	37	13	38	8	41	27	8	90	0.85	293.5

TC TSTATS

STATISTICS

PROJECT YOUBETC

DATE 5/20/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
17N	04W	05	YOUBETCH	00U1	57.20	43	178	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	43	178	4.1		
CRUISE	22	95	4.3	6,824	1.4
DBH COUNT					
REFOREST COUNT	20	82	4.1		
BLANKS	1				
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	53	55.3	20.7	90	28.4	129.1	25,155	24,251	5,541	5,541
R ALDER	26	46.3	12.9	54	11.7	41.9	3,670	3,569	1,072	1,072
WHEMLOCK	16	17.8	20.1	78	8.7	39.2	5,857	5,743	1,436	1,436
TOTAL	*95*	*119.3*	*18.0*	*74*	*49.6*	*210.2*	*34,681*	*33,563*	*8,049*	*8,049*

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	61.2	8.6	757	828	899			
R ALDER	50.7	10.1	78	87	96			
WHEMLOCK	76.3	19.7	337	419	502			
TOTAL	*93.2*	*9.7*	*498*	*551*	*604*	*347*	*177*	*87*

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	91.9	14.0	48	55	63			
R ALDER	175.5	26.7	34	46	59			
WHEMLOCK	127.2	19.4	14	18	21			
TOTAL	*64.2*	*9.8*	*108*	*119*	*131*	*165*	*84*	*41*

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	61.7	9.4	117	129	141			
R ALDER	169.3	25.8	31	42	53			
WHEMLOCK	126.0	19.2	32	39	47			
TOTAL	*34.8*	*5.3*	*199*	*210*	*221*	*48*	*25*	*12*

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	63.6	9.7	21,900	24,251	26,603			
R ALDER	174.1	26.5	2,622	3,569	4,516			
WHEMLOCK	127.6	19.4	4,627	5,743	6,860			
TOTAL	*41.8*	*6.4*	*31,426*	*33,563*	*35,701*	*70*	*36*	*17*

TC TSTATS

STATISTICS

PROJECT YOUBETC

DATE 5/20/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
17N	04W	05	YOUBETCH	00U2	74.30	54	281	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	54	281	5.2		
CRUISE	30	148	4.9	11,188	1.3
DBH COUNT					
REFOREST COUNT	24	129	5.4		
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	106	90.6	18.2	78	38.3	163.4	21,818	21,155	5,884	5,886
WHEMLOCK	24	17.1	19.8	71	8.2	36.5	5,078	4,957	1,328	1,329
R ALDER	12	36.7	12.2	50	8.5	29.6	2,919	2,889	806	806
WR CEDAR	5	6.0	14.3	37	1.8	6.7	355	349	154	154
S SPRUCE	1	.2	29.0	68	0.2	.9	131	119	31	31
TOTAL	*148*	*150.6*	*17.0*	*69*	*57.5*	*237.1*	*30,301*	*29,469*	*8,204*	*8,206*

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	58.4	5.7	296	314	332			
WHEMLOCK	58.6	12.2	362	412	462			
R ALDER	68.0	20.5	95	119	144			
WR CEDAR	86.1	42.8	53	92	131			
S SPRUCE								
TOTAL	*65.5*	*5.4*	*292*	*309*	*326*	*171*	*87*	*43*

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	71.4	9.7	82	91	99			
WHEMLOCK	176.9	24.1	13	17	21			
R ALDER	191.1	26.0	27	37	46			
WR CEDAR	282.8	38.4	4	6	8			
S SPRUCE	734.8	99.9	0	0	0			
TOTAL	*44.3*	*6.0*	*142*	*151*	*160*	*78*	*40*	*20*

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	58.2	7.9	150	163	176			
WHEMLOCK	168.8	22.9	28	37	45			
R ALDER	187.6	25.5	22	30	37			
WR CEDAR	279.5	38.0	4	7	9			
S SPRUCE	734.8	99.9	0	1	2			
TOTAL	*32.5*	*4.4*	*227*	*237*	*248*	*42*	*22*	*11*

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	60.4	8.2	19,416	21,155	22,894			
WHEMLOCK	181.1	24.6	3,737	4,957	6,177			
R ALDER	191.7	26.1	2,136	2,889	3,642			
WR CEDAR	285.1	38.8	214	349	484			
S SPRUCE	734.8	99.9	0	119	239			
TOTAL	*40.7*	*5.5*	*27,839*	*29,469*	*31,099*	*66*	*34*	*17*

TC TSTATS

STATISTICS

PROJECT YOUBETC

DATE 5/20/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
18N	04W	34	YOUBETCH	0003	56.30	42	288	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	42	288	6.9		
CRUISE	20	131	6.6	8,866	1.5
DBH COUNT					
REFOREST COUNT	22	157	7.1		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	81	120.8	17.8	83	49.3	207.9	37,435	36,764	8,771	8,772
DOUG FIR	43	31.2	24.7	102	20.9	103.9	22,190	21,866	4,754	4,754
R ALDER	4	2.6	19.9	67	1.3	5.7	710	685	178	178
S SPRUCE	3	2.8	14.8	43	0.9	3.4	221	210	92	92
TOTAL	*131*	*157.5*	*19.3*	*86*	*73.0*	*320.9*	*60,557*	*59,525*	*13,795*	*13,796*

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	59.7	6.6	398	427	455			
DOUG FIR	68.2	10.4	882	984	1,087			
R ALDER			363	363	363			
S SPRUCE	106.5	73.7	31	117	203			
TOTAL	*84.9*	*7.4*	*558*	*603*	*647*	*288*	*147*	*72*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	57.4	8.9	110	121	131			
DOUG FIR	102.5	15.8	26	31	36			
R ALDER	452.6	69.8	1	3	4			
S SPRUCE	397.3	61.3	1	3	5			
TOTAL	*41.0*	*6.3*	*148*	*157*	*167*	*67*	*34*	*17*

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	57.5	8.9	189	208	226			
DOUG FIR	99.0	15.3	88	104	120			
R ALDER	452.6	69.8	2	6	10			
S SPRUCE	364.9	56.3	1	3	5			
TOTAL	*35.4*	*5.5*	*303*	*321*	*338*	*50*	*26*	*13*

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	60.7	9.4	33,323	36,764	40,205			
DOUG FIR	102.8	15.9	18,400	21,866	25,332			
R ALDER	452.6	69.8	207	685	1,162			
S SPRUCE	384.4	59.3	85	210	334			
TOTAL	*37.5*	*5.8*	*56,083*	*59,525*	*62,966*	*56*	*29*	*14*

TC TSTATS

STATISTICS

PROJECT YOUBETC

DATE 5/20/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
18N	04W	34	YOUBETCH	0004	17.70	11	55	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	11	55	5.0		
CRUISE	6	26	4.3	2,447	1.1
DBH COUNT					
REFOREST COUNT	5	29	5.8		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
R ALDER	19	120.5	14.4	61	35.8	135.8	15,100	14,851	3,983	3,983
DOUG FIR	5	12.1	28.9	84	10.3	55.4	10,159	10,159	2,168	2,168
WHEMLOCK	1	2.6	29.8	77	2.3	12.8	1,294	1,241	341	341
WR CEDAR	1	2.9	21.4	47	1.6	7.3	291	291	174	174
TOTAL	*26*	*138.2*	*16.7*	*63*	*51.6*	*211.3*	*26,844*	*26,542*	*6,666*	*6,666*

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
R ALDER	46.8	11.3	146	164	183			
DOUG FIR	42.7	21.2	712	904	1,096			
WHEMLOCK								
WR CEDAR								
TOTAL	*108.1*	*22.1*	*251*	*322*	*393*	*486*	*248*	*122*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
R ALDER	45.9	14.5	103	121	138			
DOUG FIR	133.4	42.2	7	12	17			
WHEMLOCK	171.3	54.1	1	3	4			
WR CEDAR	222.5	70.3	1	3	5			
TOTAL	*36.6*	*11.6*	*122*	*138*	*154*	*59*	*30*	*15*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
R ALDER	50.8	16.0	114	136	158			
DOUG FIR	135.5	42.8	32	55	79			
WHEMLOCK	171.3	54.1	6	13	20			
WR CEDAR	222.5	70.3	2	7	12			
TOTAL	*37.3*	*11.8*	*186*	*211*	*236*	*61*	*31*	*15*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
R ALDER	55.2	17.4	12,263	14,851	17,438			
DOUG FIR	140.3	44.3	5,656	10,159	14,662			
WHEMLOCK	171.3	54.1	570	1,241	1,913			
WR CEDAR	222.5	70.3	87	291	496			
TOTAL	*48.5*	*15.3*	*22,479*	*26,542*	*30,605*	*103*	*53*	*26*

TC PSPCTLTCM

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

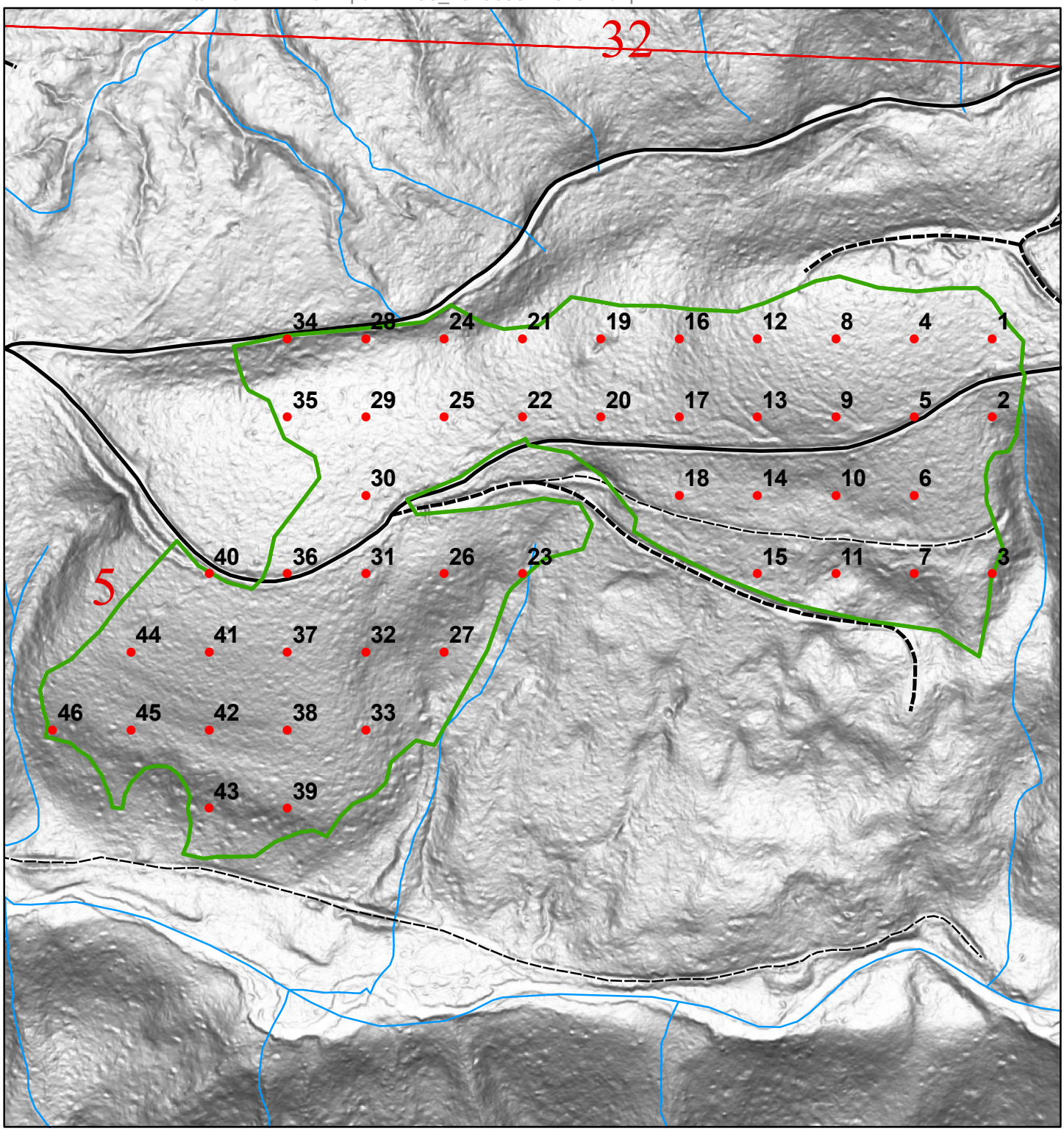
T17N R04W S05 Ty00U	57.2
T17N R04W S05 Ty00U	74.3
T18N R04W S34 Ty000	17.7

Project YOUBETC
Acres 205.50

Page No 1
Date: 5/20/2019
Time 2:41:53PM

Species	S T	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		11,869	27,052	30,215	89.33	39.19	1.14	10,602	10,603	4,489	4,370
WHEMLOCK		9,133	20,321	21,783	74.54	33.50	1.01	6,807	6,808	2,843	2,789
R ALDER		7,656	14,036	5,547	26.35	14.37	0.56	2,017	2,017	734	720
WR CEDAR		494	581	342	29.45	25.06	0.90	146	146	32	31
S SPRUCE		172	208	194	43.33	35.87	1.09	75	75	22	21
Totals		29,325	62,198	58,081	67.00	31.59	0.99	19,646	19,648	8,120	7,930

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	21,669	48,162	52,534	81.36	36.61	1.08	17,629	17,631	7,386	7,210
H	7,656	14,036	5,547	26.35	14.37	0.56	2,017	2,017	734	720
Totals	29,325	62,198	58,081	67.00	31.59	0.99	19,646	19,648	8,120	7,930



Cruiser Sample Point Locations

1_final_boundary_shape		Township:	T17R04W
POLY ID:	1	Total Sample Points:	46
Acres:	63	Spacing Between Points:	Width: 245 Height: 245
		Point Rotation Degrees:	0

N

0 155 310 620 930 1,240 Feet

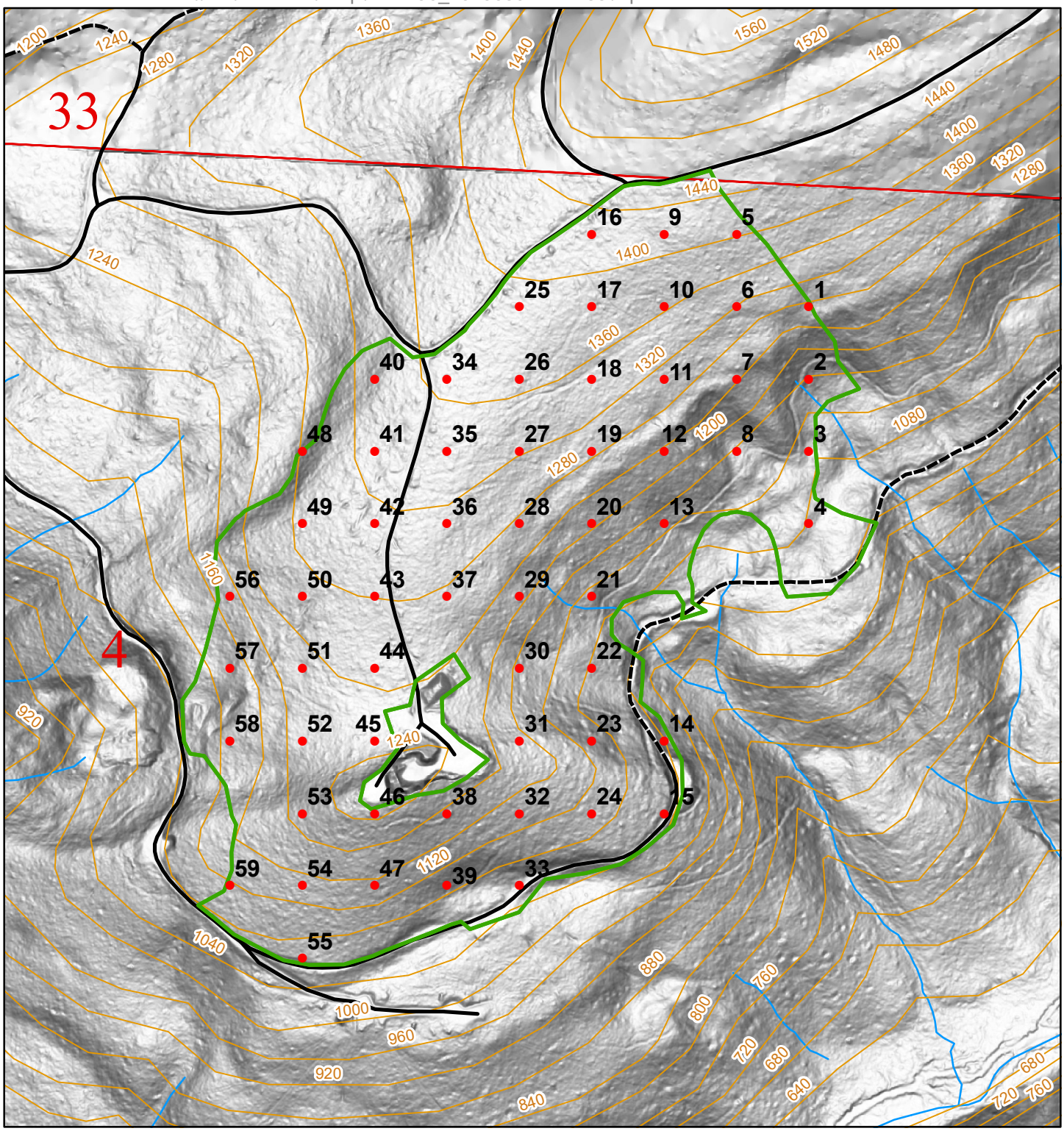
Scale 1:5,300

Legend

- Sample Points
- Unit
- Public Land Survey Sections

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

May 01, 2019 01:46 PM



Cruiser Sample Point Locations

2_final_boundary_shape		Township:	T17R04W
POLY ID:	1	Total Sample Points:	59
Acres:	81	Spacing Between Points:	Width: 245 Height: 245
		Point Rotation Degrees:	0

N

0 165 330 660 990 1,320 Feet

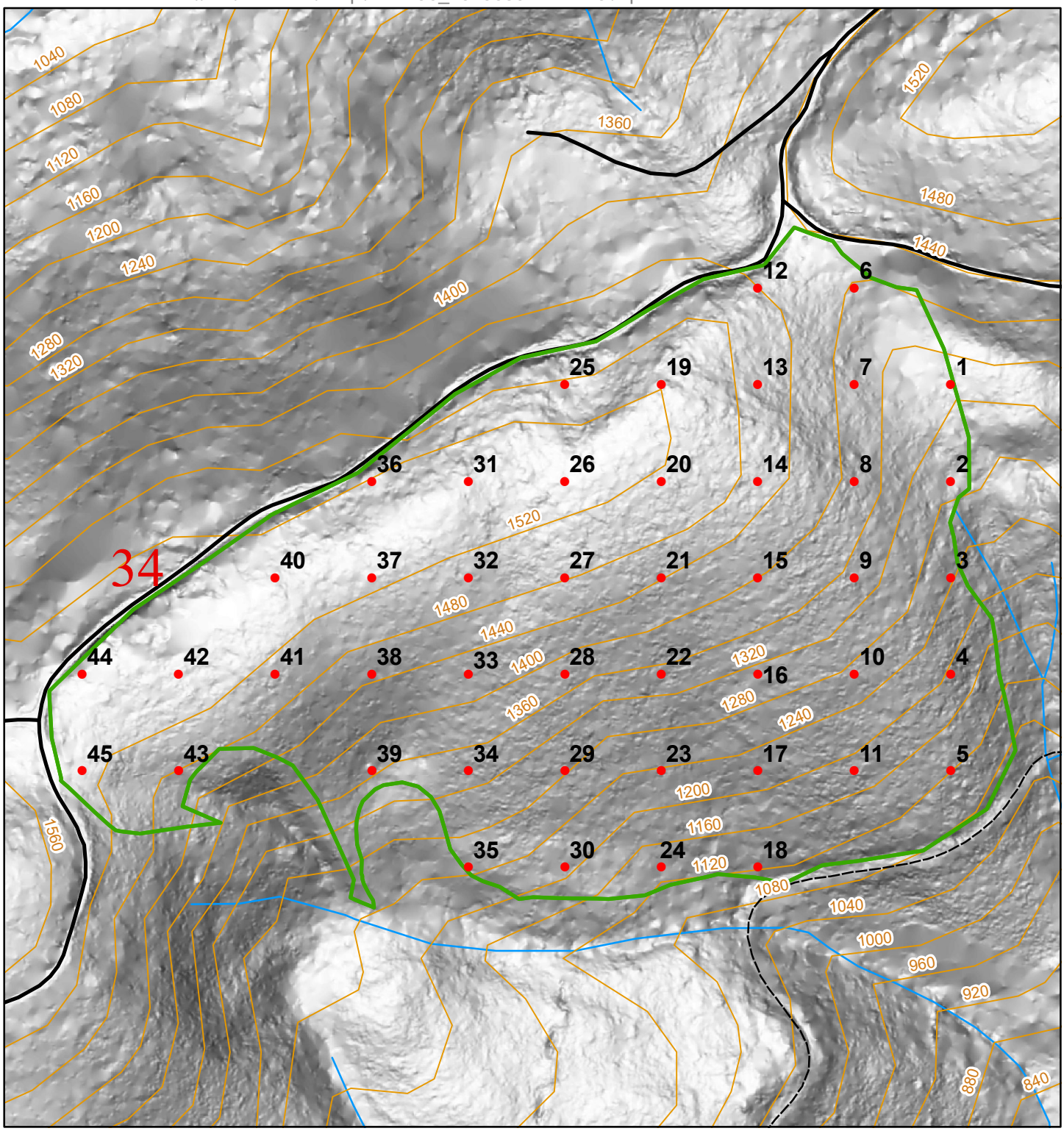
Scale 1:4,400

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

May 01, 2019 02:18 PM



Cruiser Sample Point Locations

3_final_boundary_shape		Township:	T18R04W
POLY ID:	1	Total Sample Points:	45
Acres:	60	Spacing Between Points:	Width: 245 Height: 245
		Point Rotation Degrees:	0

N

0 125 250 500 750 1,000 Feet

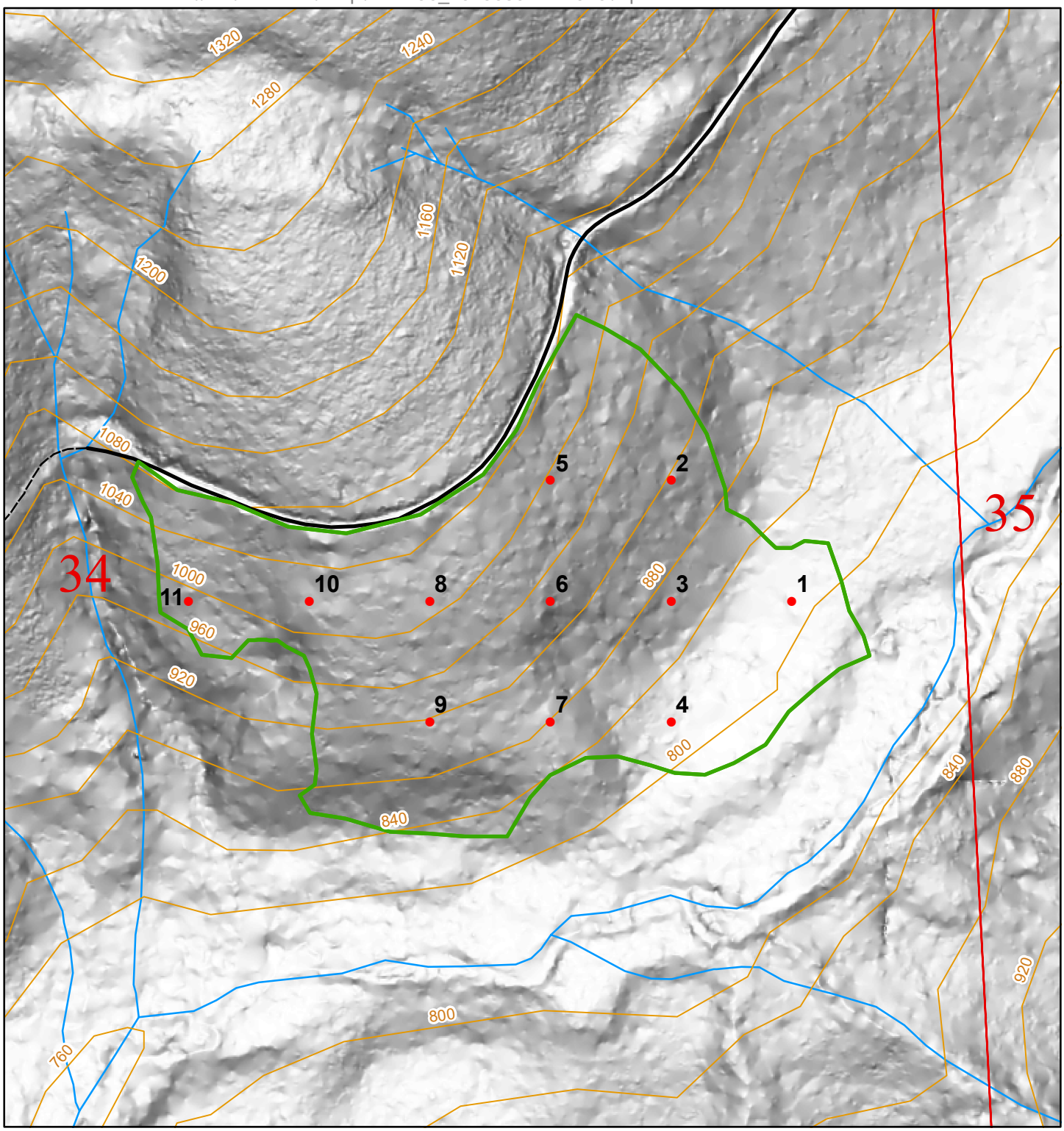
Scale 1:4,300

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

May 01, 2019 02:25 PM



Cruiser Sample Point Locations

4_final_boundary_shape		Township:	T18R04W
POLY ID:	1	Total Sample Points:	11
Acres:	18	Spacing Between Points:	Width: 245 Height: 245
		Point Rotation Degrees:	0

N

0 100 200 400 600 800 Feet

Scale 1:2,600

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

May 01, 2019 02:30 PM

FPA/N No: 2421339
Effective Date: 12/6/2019
Expiration Date: 12/6/2022
Shut Down Zone: 651 N
EARR Tax Credit: ☒ Eligible ☐ Non-eligible
Reference: Youbetcha #30-097291

Forest Practices Application/Notification
Notice of Decision

Decision

☐ **Notification** Operations shall not begin before the effective date.

☒ **Approved** This Forest Practices Application is subject to the conditions listed below.

☐ **Disapproved** This Forest Practices Application is disapproved for the reasons listed below.

☐ **Closed** Applicant has withdrawn FPA/N.

FPA/N Classification

☐ Class II ☒ Class III ☐ Class IVG ☐ Class IVS

Number of Years Granted on Multi-Year Request

☐ 4 years ☐ 5 years

Conditions on Approval / Reasons for Disapproval

Issued By: Matt Brady **Region:** South Puget Sound

Title: Resource Protection Forester **Date:** 12/6/2019

Copies to: ☒ Landowner, Timber Owner and Operator.

Issued in person: ☒ Landowner ☒ Timber Owner ☒ Operator By: [signature]

AEM 12-6-19

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 South Puget Sound Region 950 Farman Ave N Enumclaw, WA 98022

Other Applicable Laws

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

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

Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices website: **http://www.dnr.wa.gov/businesspermits/forestpractices**. Notify DNR of new Operators within 48 hours.

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

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

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

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

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

DNR affidavit of mailing:

hand delivered

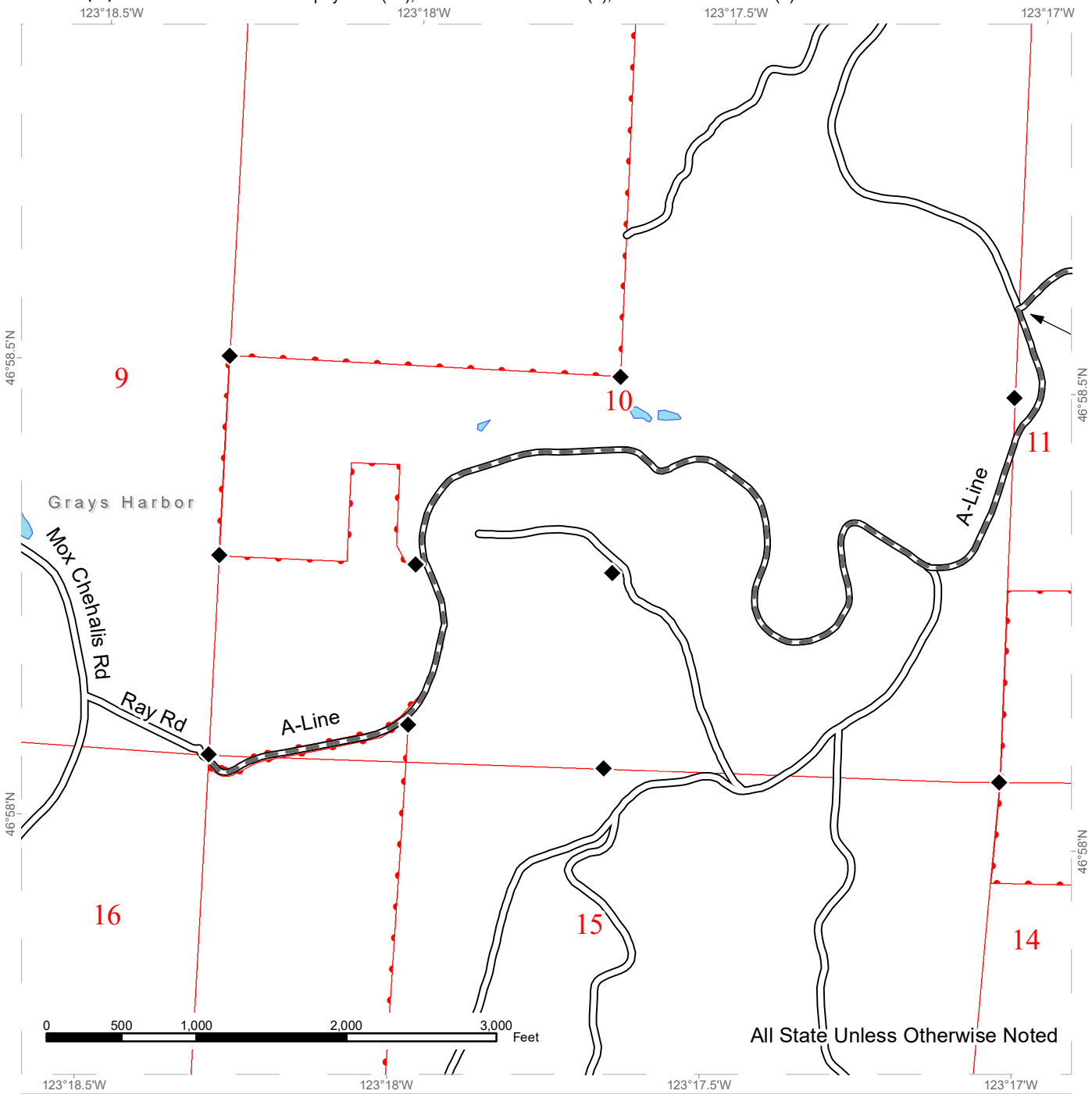
On this day 12/6/2019, I ~~placed in the United States mail~~ at Enumclaw, WA,
(date) (post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA #2421339

Betty Burton — Betty Burton
(Printed name) (Signature)

ROAD WORK MAP 1 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



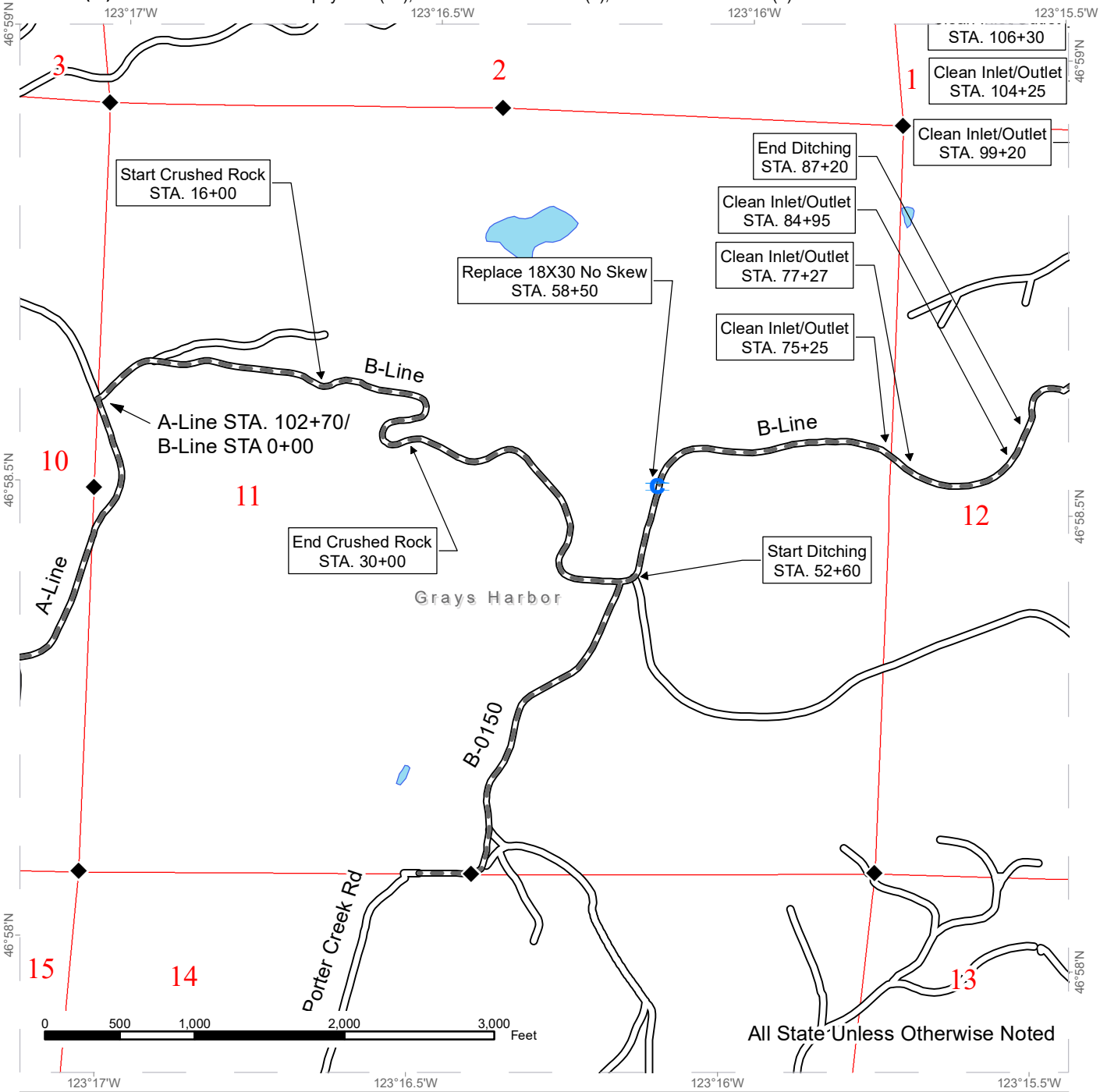
Existing Roads
Required Pre-Haul Maintenance
Survey Monument
Open Water
Public Land Survey Townships
Public Land Survey Sections

N

ROAD WORK MAP 2 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



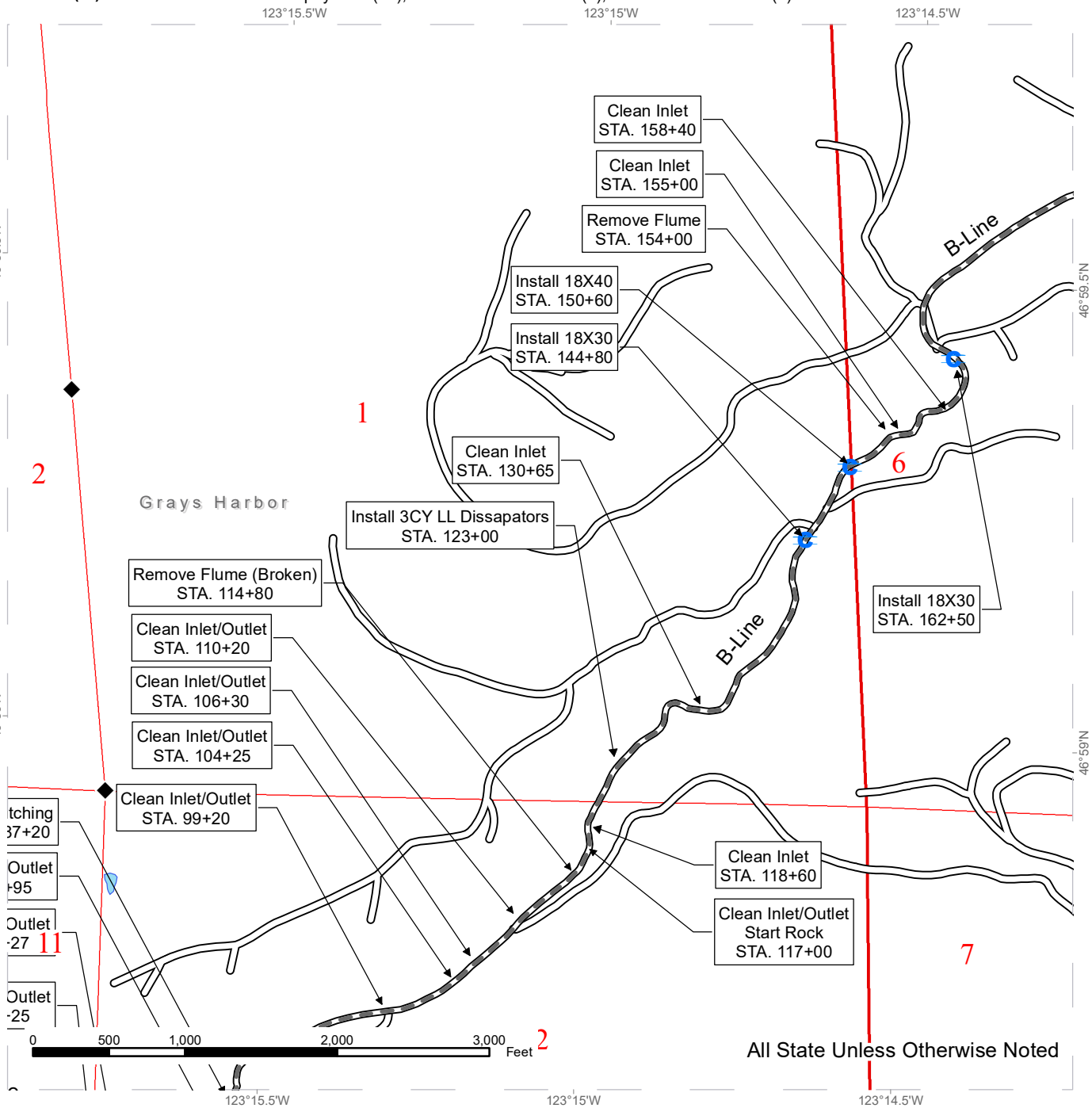
Existing Roads
Required Pre-Haul Maintenance
Culverts
Survey Monument
Open Water
Public Land Survey Townships
Public Land Survey Sections

N

ROAD WORK MAP 3 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



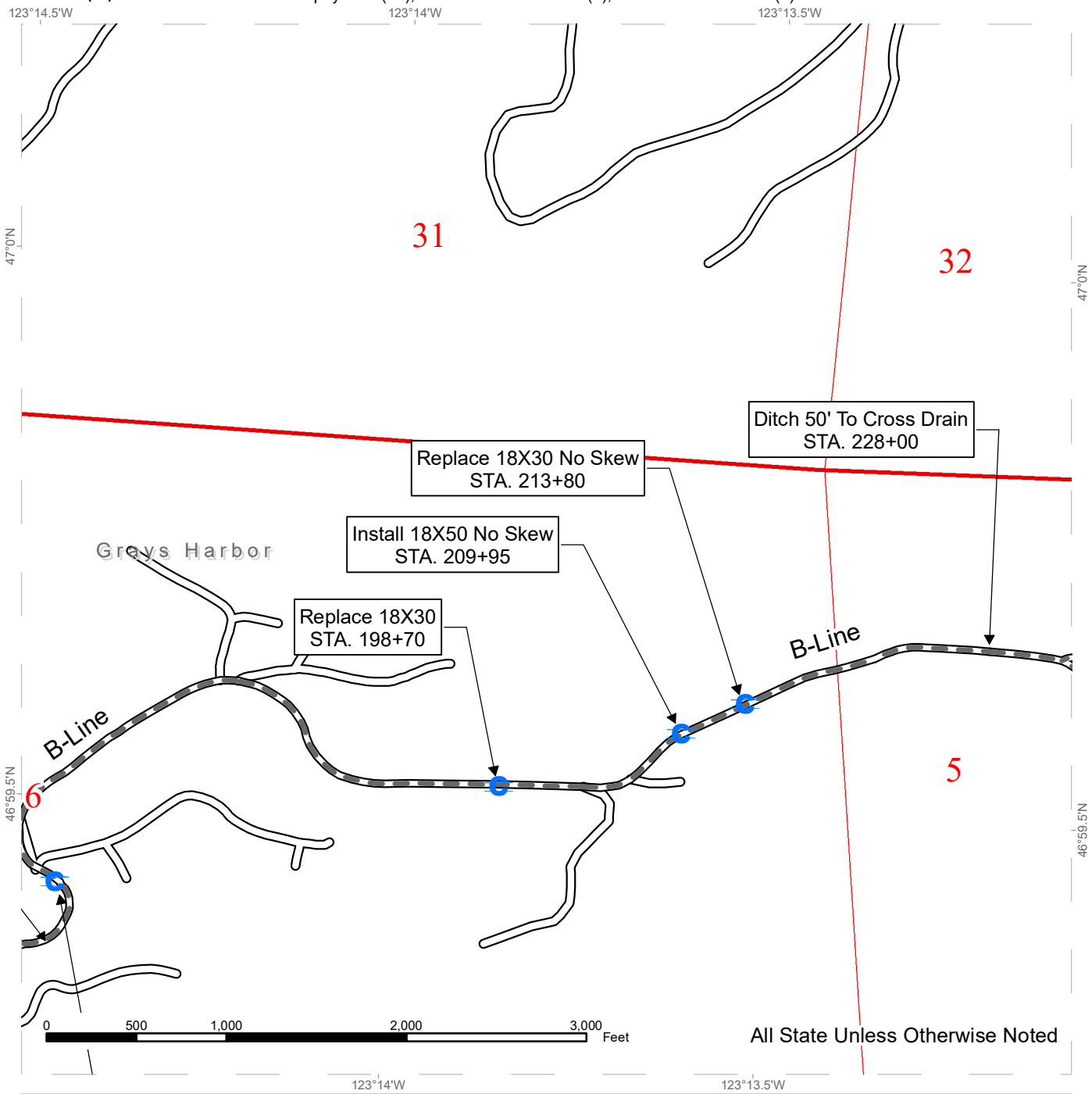
Existing Roads
Required Pre-Haul Maintenance
Culverts
Survey Monument
Open Water
Public Land Survey Townships
Public Land Survey Sections

N

ROAD WORK MAP 4 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



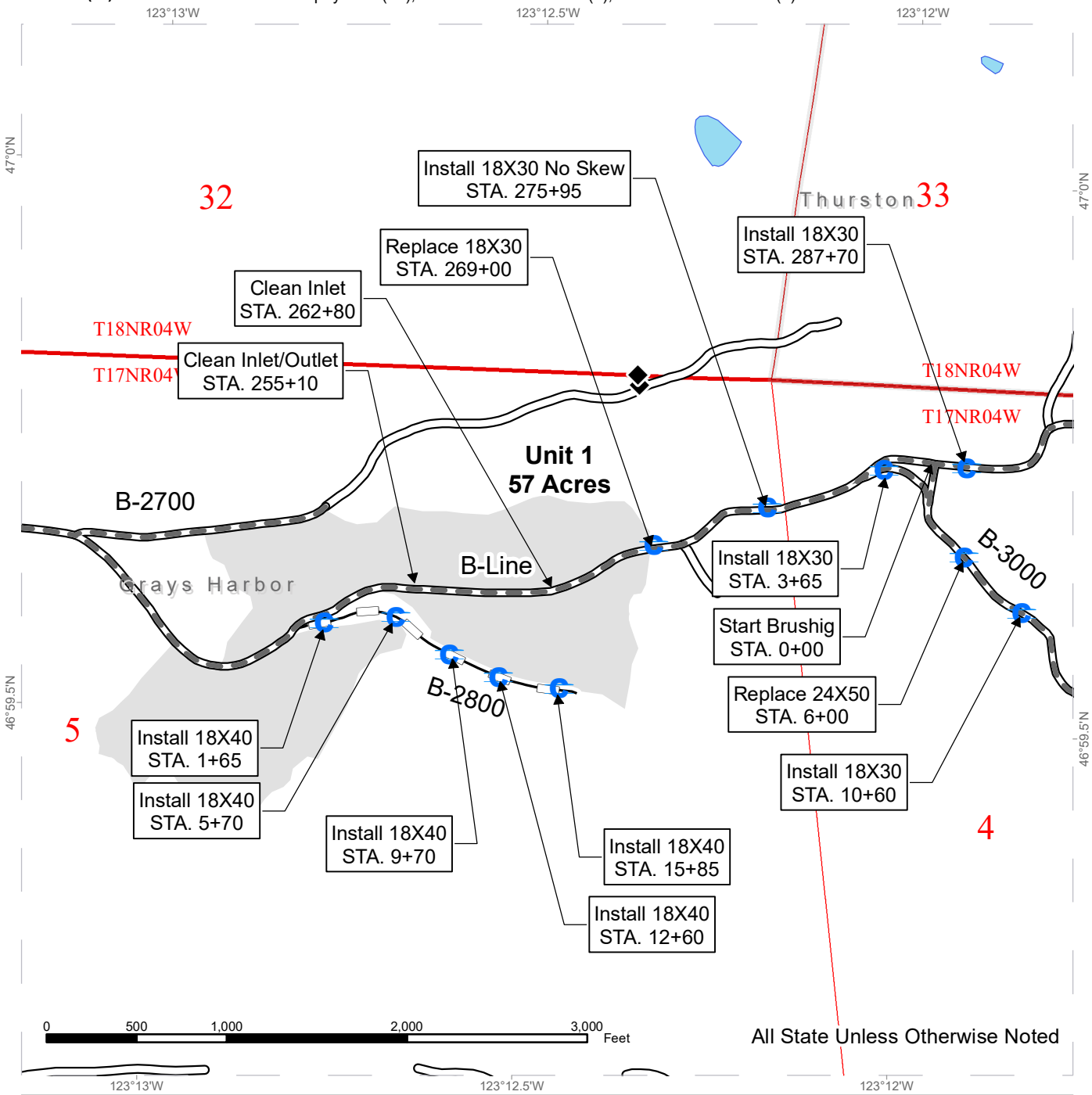
Existing Roads
Required Pre-Haul Maintenance
Culverts
Public Land Survey Townships
Public Land Survey Sections

N

ROAD WORK MAP 5 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



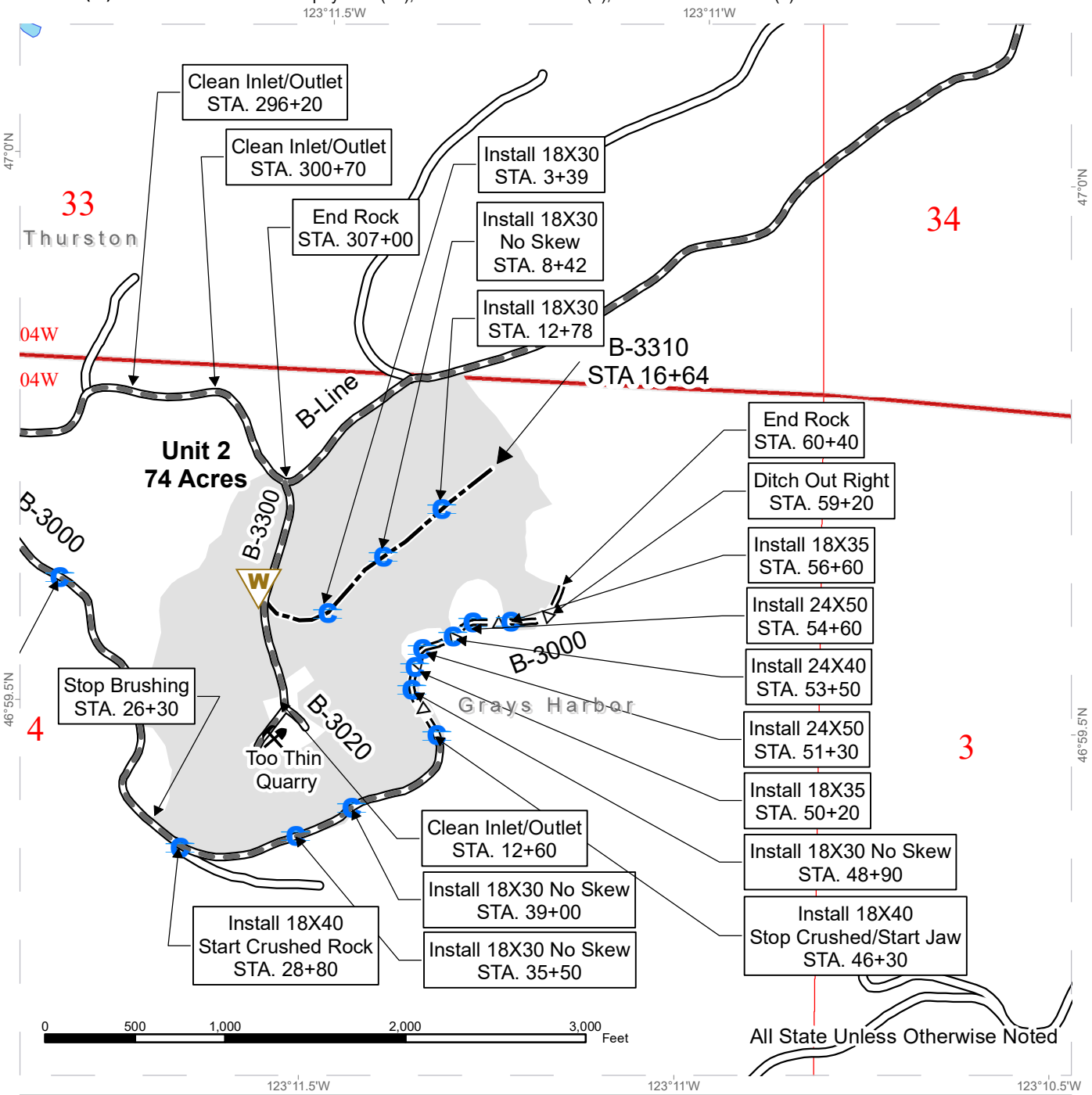
- Existing Roads
- Required Pre-Haul Maintenance
- Optional Reconstruction
- Timber Sale Unit
- Culverts
- Survey Monument
- Open Water
- Public Land Survey Townships
- Public Land Survey Sections

N

ROAD WORK MAP 6 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



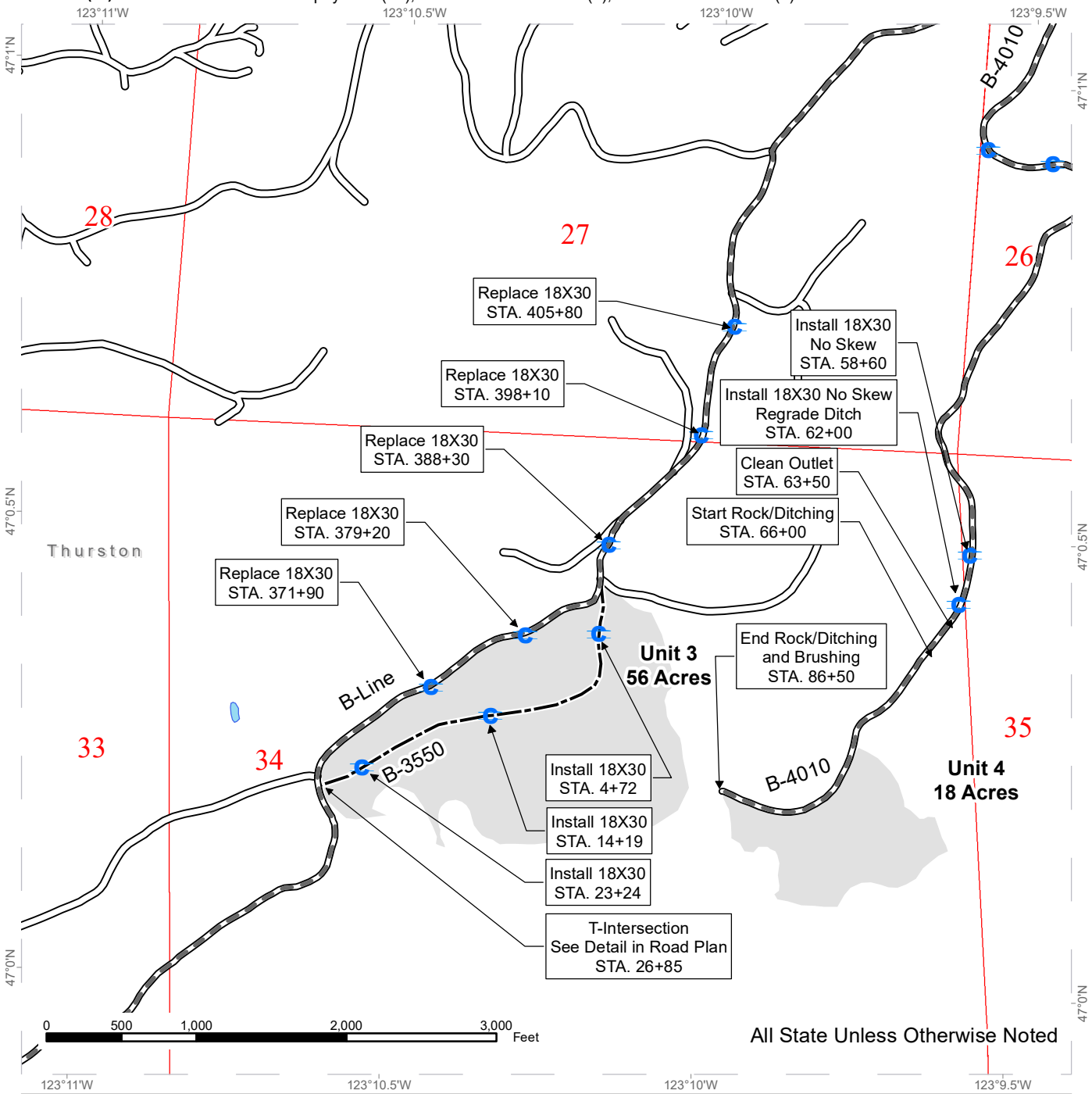
Existing Roads
Required Pre-Haul Maintenance
Optional Pre-Haul Maintenance
Optional Construction
Timber Sale Unit
Rock Pit
Waste Areas
Culverts
Open Water
Public Land Survey Townships
Public Land Survey Sections

N

ROAD WORK MAP 7 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



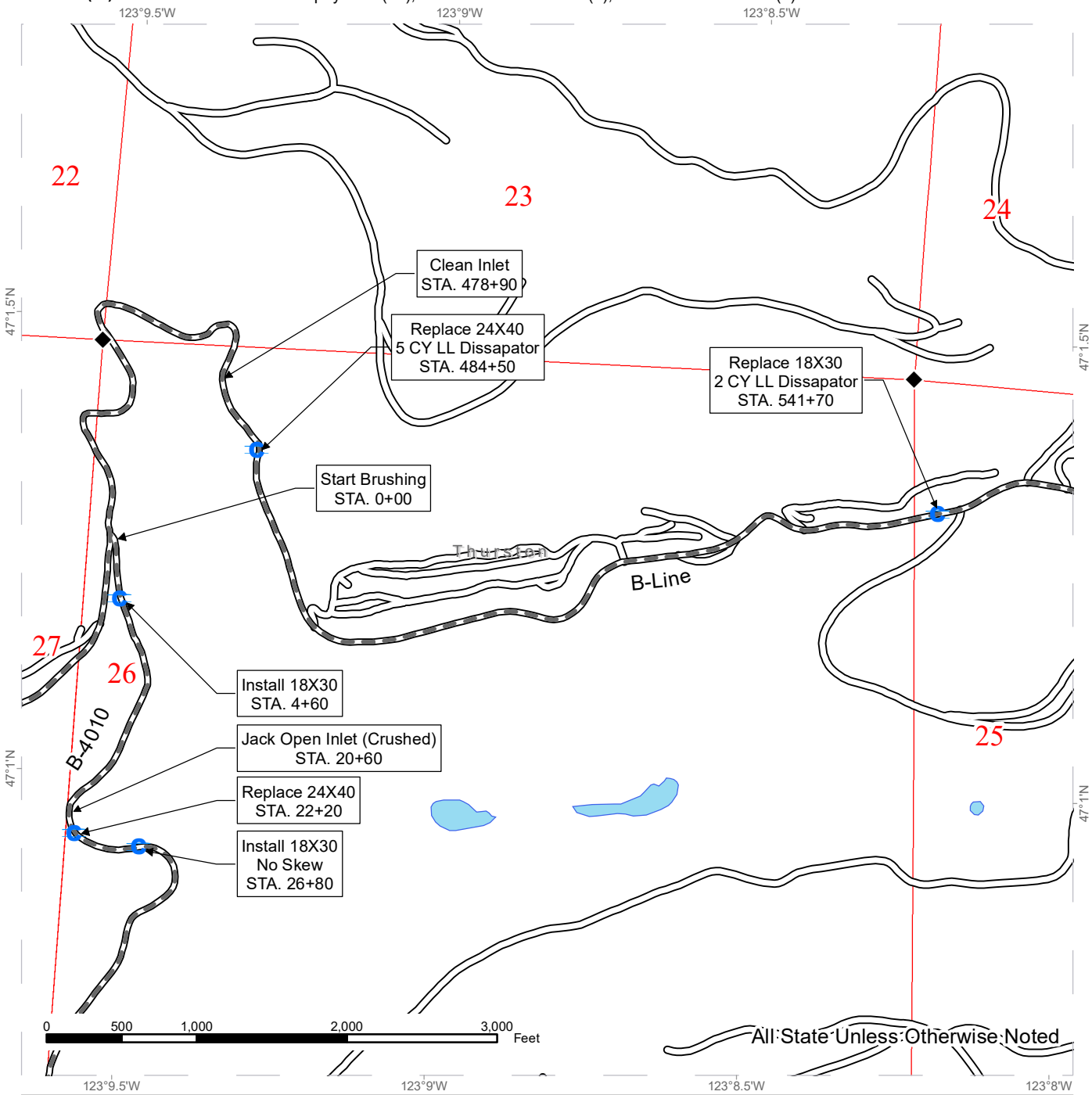
Existing Roads
Required Pre-Haul Maintenance
Optional Construction
Timber Sale Unit
Culverts
Open Water
Public Land Survey Townships
Public Land Survey Sections

N

ROAD WORK MAP 8 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



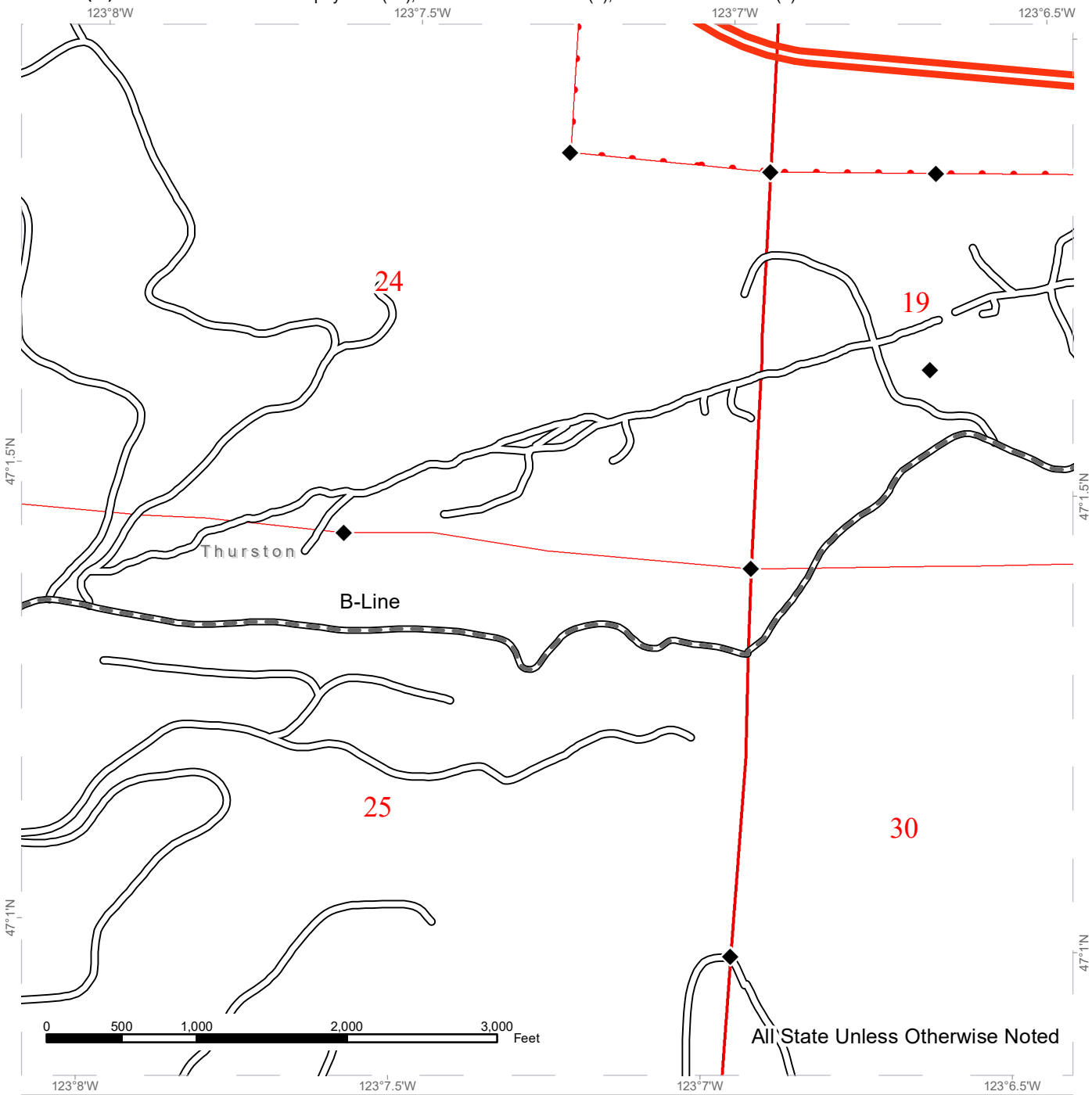
Existing Roads
Required Pre-Haul Maintenance
Culverts
Survey Monument
Open Water
Public Land Survey Townships
Public Land Survey Sections

N

ROAD WORK MAP 9 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



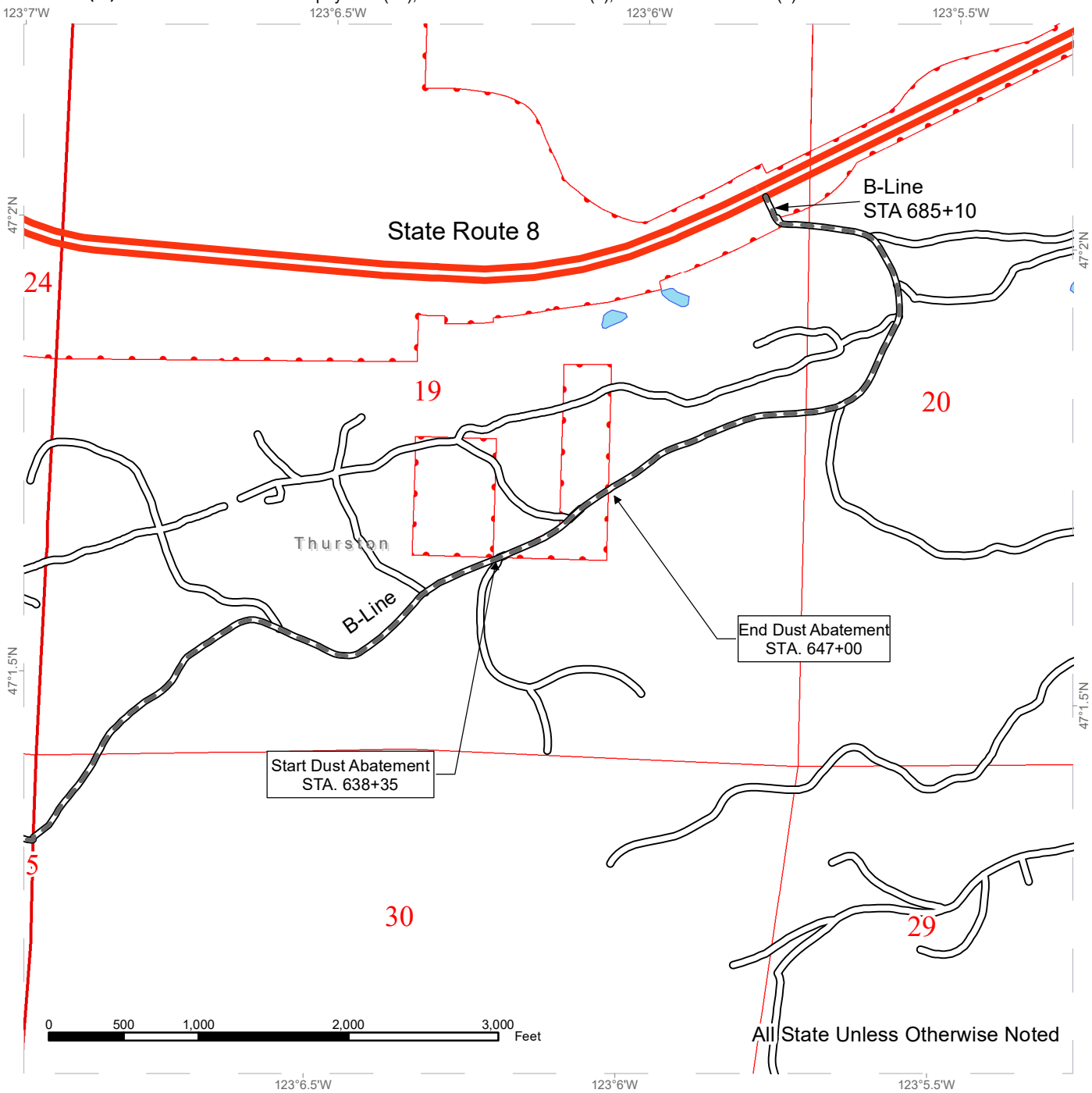
Existing Roads
Required Pre-Haul Maintenance
Survey Monument
Public Land Survey Townships
Public Land Survey Sections

N

ROAD WORK MAP 10 OF 10

SALE NAME: YOUBETCHA
AGREEMENT #: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



Existing Roads
Required Pre-Haul Maintenance
Open Water
Public Land Survey Townships
Public Land Survey Sections

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STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

YOUBETCHA TIMBER SALE ROAD PLAN
THURSTON AND GRAYS HARBOR COUNTIES
DELPHI UNIT
BLACK HILLS DISTRICT

AGREEMENT NO.: 30-097291 STAFF ENGINEER: JACOB GROSS

DATE: JUNE 10, 2019 DRAWN & COMPILED BY: JACOB GROSS

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

Clauses in this road plan apply to all road related work, including landings and rock source development, unless otherwise noted.

0-2 REQUIRED ROADS

The specified work on the following roads is required.

Road	Stations	Type
A-Line	0+00 to 102+70	Pre-Haul Maintenance
B-Line	0+00 to 685+10	Pre-Haul Maintenance
B-0150	0+00 to 22+57	Pre-Haul Maintenance
B-2700	0+00 to 14+25	Pre-Haul Maintenance
B-3000	0+00 to 46+30	Pre-Haul Maintenance
B-3000B	0+00 to 5+09	Pre-Haul Maintenance
B-3300	0+00 to 12+98	Pre-Haul Maintenance
B-4010	0+00 to 86+50	Pre-Haul Maintenance

0-3 OPTIONAL ROADS

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

Road	Stations	Type
B-2800	0+00 to 17+50	Reconstruction
B-3000	46+30 to 60+40	Pre-Haul Maintenance
B-3310	0+00 to 16+64	Construction
B-3550	0+00 to 26+85	Construction

0-4 CONSTRUCTION

Construction includes, but is not limited to:

- Clearing
- Grubbing

- Right-of-way debris disposal
- Excavation and/or embankment to subgrade
- Turnout and turnaround construction
- Landing construction
- Acquisition and installation of drainage structures
- Acquisition, manufacture, and application of rock

0-5 RECONSTRUCTION

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

- Clearing
- Grubbing
- Right-of-way debris disposal
- Excavation and/or embankment to subgrade
- Ditch construction
- Acquisition and installation of drainage structures
- Acquisition, manufacture, and application of rock

0-6 PRE-HAUL MAINTENANCE

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

- Cleaning ditches
- Cleaning culverts, and catchbasins
- Ditch reconstruction
- Reconstructing headwalls
- Constructing catchbasin and headwall
- Acquisition, manufacture and application of rock
- Cross drain culvert replacement
- Grading and shaping existing road surface and turnouts
- Live stream culvert replacement

0-7 POST-HAUL MAINTENANCE

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

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source. Rock source development will involve endhaul of a minimum of 2500 cubic yards of overburden to waste area. Rock source development also involves reducing oversize material, Clearing, Stripping, Drilling, Blasting, and Crushing. The manufacture of a 3000 cubic yard stockpile is required. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

Purchaser shall perform road work in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan, unless controlled by construction stakes or design data (plan, profile, and cross-sections).

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

SUBSECTION ROAD MARKING

1-15 ROAD MARKING

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

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

1-16 CONSTRUCTION STAKES SET BY STATE

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

1-18 REFERENCE POINT DAMAGE

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

SUBSECTION TIMING

1-20 COMPLETE BY DATE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

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

Road	Comments
Too Thin Quarry	Drilling and Blasting

1-23 ROAD WORK PHASE APPROVAL

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

- Drainage installation
- Subgrade compaction
- Rock compaction

SUBSECTION RESTRICTIONS

1-25 ACTIVITY TIMING RESTRICTION

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

Activity	Closure Periods
The construction and/or reconstruction of any roads	November 1 to April 30
	Weekends or state recognized holidays

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a seasonal closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION and Contract Clause H-130 Special Harvest Requirements, the Purchaser shall comply with a maintenance plan to include further protection of water, soil, roads, and other forest assets at the Purchaser's expense. Preventative measures shall be in place prior to operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these roads, a joint operating plan must be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Surface or base stability problems persist.

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

1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION

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

Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surface(s) and have surface(s) evaluated for any damage caused by transporting equipment. Any

damage to the surface(s) will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

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

SUBSECTION OTHER INFRASTRUCTURE

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-5 MAINTENANCE GRADING – EXISTING ROAD

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

Road	Stations
A-Line	0+00 to 102+70
B-Line	0+00 to 685+10
B-0150	0+00 to 22+57

B-2700	0+00 to 14+25
B-3000	0+00 to 60+40
B-3000B	0+00 to 5+09
B-3300	0+00 to 12+98
B-4010	0+00 to 86+50

2-6 CLEANING CULVERTS

On the following roads, Purchaser shall clean the inlets and outlets of all culverts **:**

Road	Stations	Comments
B-Line	75+25	Clean Inlet/Outlet
B-Line	77+27	Clean Inlet/Outlet
B-Line	84+95	Clean Inlet/Outlet
B-Line	99+20	Clean Inlet/Outlet
B-Line	104+25	Clean Inlet/Outlet
B-Line	106+30	Clean Inlet/Outlet
B-Line	110+20	Clean Inlet/Outlet
B-Line	114+80	Remove Broken Flume
B-Line	117+00	Clean Inlet/Outlet
B-Line	118+60	Clean Inlet
B-Line	130+65	Clean Inlet
B-Line	154+00	Remove Flume
B-Line	155+00	Clean Inlet
B-Line	158+40	Clean Inlet
B-Line	255+10	Clean Inlet/Outlet
B-Line	262+80	Clean Inlet
B-Line	296+20	Clean Inlet/Outlet
B-Line	300+70	Clean Inlet/Outlet
B-Line	478+90	Clean Inlet
B-3300	12+60	Clean Inlet/Outlet
B-4010	63+50	Clean Outlet

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

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

Road	Stations
B-Line	52+60 to 87+20
B-3000	46+30 to 60+40
B-4010	66+00 to 86+50

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL
SUBSECTION BRUSHING

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 5 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

Road	Stations
B-3000	0+00 to 26+30
B-3000B	0+00 to 5+09
B-4010	0+00 to 86+50

SUBSECTION CLEARING

3-5 CLEARING

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

3-8 PROHIBITED DECKING AREAS

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

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

SUBSECTION GRUBBING

3-10 GRUBBING

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

SUBSECTION ORGANIC DEBRIS

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

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

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 55%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against State owned standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the clearing limits in natural openings. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

SECTION 4 – EXCAVATION

4-2 PIONEERING

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

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

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

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

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

Road	Curve Widening (ft)	Comments
B-3310	4	See attached design pages, minimum of 4 feet widening.

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-20 SUBGRADE DIMENSIONS FOR INTERSECTIONS

On the following road(s), Purchaser shall construct the subgrade to the dimensions shown on the T-INTERSECTION DETAIL.

Road	Stations
B-3550	26+85

4-21 TURNOUTS

Purchaser shall construct turnouts as designated on the TURNOUTS AND TURNAROUND LIST. Locations may be adjusted to fit the final subgrade alignment and sight distances. Locations are subject to written approval by the Contract Administrator. Minimum dimensions are shown on the TURNOUTS AND TURNAROUND LIST.

4-22 TURNAROUNDS

Purchaser shall construct turnouts as designated on the TURNOUTS AND TURNAROUND LIST. Locations may be adjusted to fit the final subgrade alignment and sight distances. Locations are subject to written approval by the Contract Administrator. Minimum dimensions are shown on the TURNOUTS AND TURNAROUND LIST.

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-28 DITCH DRAINAGE

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

4-29 DITCHOUTS

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

SUBSECTION WASTE MATERIAL (DIRT)

4-35 WASTE MATERIAL DEFINITION

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

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 45% if the waste material is compacted and free of organic debris.

4-37 WASTE AREA LOCATION

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

Road	Waste Area Location	Comments	Volume
B-3300	STA. 4+50	West of B-3300 Expand turnout	3000 cy

4-38 PROHIBITED WASTE DISPOSAL AREAS

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

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

SUBSECTION SHAPING

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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

SUBSECTION COMPACTION

4-60 FILL COMPACTION

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

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width except ditch. On fills deeper than 5 feet at the road shoulder Purchaser shall compact fill material in lifts no greater than 18 inches. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rock application.

4-62 DRY WEATHER COMPACTION

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

4-63 EXISTING SURFACE COMPACTION

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

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

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

SUBSECTION CULVERTS

5-5 CULVERTS

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

5-12 UNUSED MATERIALS STATE PROPERTY

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

5-13 CONTINGENCY CULVERTS

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

Road	Size
On any portion of road used for timber or rock haul.	18”X30’ Culvert 18”X30’ Culvert 18” Culvert band 18” Culvert band

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Culvert, downspout, flume and energy dissipater installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings".

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

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

SUBSECTION ENERGY DISSIPATERS

5-20 ENERGY DISSIPATERS

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

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

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CULVERTS

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

5-27 ARMORING FOR STREAM CROSSING CULVERTS

Purchaser shall place inlet and outlet protection in conjunction with or immediately following construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on CULVERT LIST. Rock may not restrict the flow of water into culvert inlets or catch basins. Rock must be set in place by machine. Placement must be by zero-drop-height method only.

5-33 NATIVE SURFACE ROADS

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

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

6-2 ROCK SOURCE ON STATE LAND

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

Source	Location	Rock Type
Too Thin Quarry	T17N R04W Section 04	2 Inch Minus, 4 Inch Jaw, Select Pit Run, Quarry Spalls, Light Loose Rip Rap

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following existing stockpile(s) on state land at no charge to the Purchaser. Purchaser shall not remove additional yardage without prior written approval from the Contract Administrator.

Source	Location	Rock Type	Quantity
Too Thin Quarry	Pit Floor	3 Inch Minus	450 Yards

6-5 ROCK FROM COMMERCIAL SOURCE

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

SUBSECTION ROCK SOURCE DEVELOPMENT

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

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

notify the Contract Administrator a minimum of 3 calendar days before starting any operations in the rock source.

Source	Location
Too Thin Quarry	T17N R04W Section 04

6-12 ROCK SOURCE SPECIFICATIONS

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

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

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

- Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches must be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches must be uniform and free-draining at a minimum 2% outslope gradient.
- All operations must be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- All vehicle access to the top of the pit faces must be blocked at the end of operations.

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale may not exceed 600 cubic yards.
- Oversize material is defined as rock fragments larger than two feet in any dimension.
- Oversized rock that exceeds the maximum allowable amount must be reduced to a smaller size within the rock source.
- Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 3 working days before any drilling. The drilling and shooting plan must include, at a minimum,

the mapped location and spacing of all holes to be loaded, the type of blasting agent used, the powder factor calculated and the units of same, stem amount held per hole. After drilling, the type of rock encountered while drilling e.g. hard black, soft brown, etc shall be amended to submitted plan.

- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- Purchaser shall block access roads before blasting operations.

SUBSECTION ROCK MANUFACTURE

6-20 ROCK GRADATION TYPES

Purchaser shall manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles**.** Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

6-23 ROCK CRUSHING OPERATIONS

Rock crushing operations must conform to the following specifications:

- Operations and placement of oversize material must be conducted in or near the rock source site, as approved in writing by the Contract Administrator.
- The crushing operation must be concluded within 30 working days from the time it begins.

SUBSECTION ROCK GRADATIONS

6-30 2-INCH MINUS CRUSHED ROCK

% Passing 2” square sieve	100%
% Passing 1” square sieve	50 - 85%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	16% maximum
% Passing U.S. #200 sieve	5% maximum

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

6-37 4-INCH JAW RUN ROCK

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

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

6-41 SELECT PIT RUN ROCK

No more than 50 percent of the rock may be larger than 6 inches in any dimension and no rock may be larger than 10 inches in any dimension. Pit Run rock may not contain more than 5 percent by weight of organic debris, and trash. Rock may require processing to meet this specification.

6-43 QUARRY SPALLS

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

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

6-50 LIGHT LOOSE RIP RAP

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

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

SUBSECTION ROCK MEASUREMENT

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

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

SUBSECTION ROCK STOCKPILE

6-65 ROCK STOCKPILE LOCATION

Purchaser shall stockpile rock as listed below. Rock stockpiles must be in accordance Clause 6-67 ROCK STOCKPILE SPECIFICATIONS.

Rock Source	Rock Type	Quantity (c.y.)	Stockpile Location
Too Thin Quarry	2 Inch Minus	3000	Too Thin Quarry

6-67 ROCK STOCKPILE SPECIFICATIONS

Rock stockpiles listed in Clause 6-65 ROCK STOCKPILE LOCATION must meet the following specifications:

Before placing aggregates upon the stockpile site, the site must be cleared of vegetation, trees, stumps, brush, rocks, or other debris and the ground leveled to a smooth, firm, uniform surface.

When completed, the stockpile must be neat and regular in shape. The stockpile height is limited to a maximum of 30 feet. Stockpiles in excess of 200 cubic yards must be built up in layers of not more than 5 feet deep. Stockpile layers must be constructed by trucks, clamshells, or other methods approved in writing by the Contract Administrator. Each layer must be completed over the entire area of the pile before depositing aggregates in the next layer. The aggregates may not be dumped so that they run down and over the lower layers in the stockpile.

Stockpiles of different types or sizes of aggregate must be spaced far enough apart, or separated by suitable walls or partitions, to prevent the mixing of the aggregates.

SUBSECTION ROCK APPLICATION

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade including: ditches, headwalls, catch basins, culverts, energy dissipaters, ditch-outs, subgrade shaping and compacting before rock application.

6-71 ROCK APPLICATION

Purchaser shall apply rock in accordance with the specifications and quantities shown on the ROCK LIST. Rock must be spread, shaped, and compacted full width concurrent with rock hauling operations. The Contract Administrator will direct locations for rock that is to be applied as spot patching. Road surfaces must be compacted in accordance with the COMPACTION LIST by routing equipment over the entire width.

6-73 ROCK FOR WIDENED PORTIONS

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

6-75 OPTIONAL ROCK EXCEPTION

On the following roads, if hauling takes place from May 1 to October 31 the Purchaser may place less rock than shown on the ROCK LIST, as approved in writing by the Contract Administrator. If less rock is applied, the Purchaser shall submit a written plan, for approval, describing how these roads shall be constructed, used, maintained, and treated post-haul. The Purchaser shall meet post-haul specifications in Section 9 POST-HAUL ROAD WORK, or other conditions of the approved plan as required by the Contract Administrator.

Road	Stations
B-4010	66+00 to 86+50

SUBSECTION DUST ABATEMENT

6-80 WATERING FOR DUST ABATEMENT

Purchaser shall use water for dust abatement on the following roads as directed by the Contract Administrator.

Road	Stations
B-Line	638+35 to 647+00

SECTION 7 – STRUCTURES

SUBSECTION STREAM CROSSING STRUCTURES GENERAL

7-5 STRUCTURE DEBRIS

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

7-6 STREAM CROSSING INSTALLATION

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

7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES

Bank protection must be designed and constructed to prevent the undermining of the structure. Bank protection must be approved by Contract Administrator.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

Sediment control shall be accomplished using sediment traps, silt fences, rock berms, settling ponds or other methods as approved, in writing, by the Contract Administrator.

8-2 PROTECTION FOR EXPOSED SOIL

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

8-15 REVEGETATION

On the following road(s), Purchaser shall spread grass seed on all exposed soils resulting from road work activities.

Road	Location	Qty (lbs)	Comments
B-3000	50+00 to 60+00	50 lbs/ac	Revegetate within 50 feet of streams or wetlands.

8-17 REVEGETATION TIMING

On the following roads, Purchaser shall revegetate immediately following the completion of the activity listed below. Soils may not be allowed to sit exposed for longer than one week without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

Road	Revegetation Type
B-3000	Grass Seed

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for seed on all exposed soils within 50 feet of streams or wetlands. The protective cover may consist of an even 2 inch layer straw. Seed must be covered before the first anticipated storm event.

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soil at stream culvert removals at a rate of 50 pounds per acre of exposed soil. Grass seed must meet the following specifications:

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

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

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-5 POST-HAUL MAINTENANCE

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

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

SECTION 10 MATERIALS

SUBSECTION CULVERTS

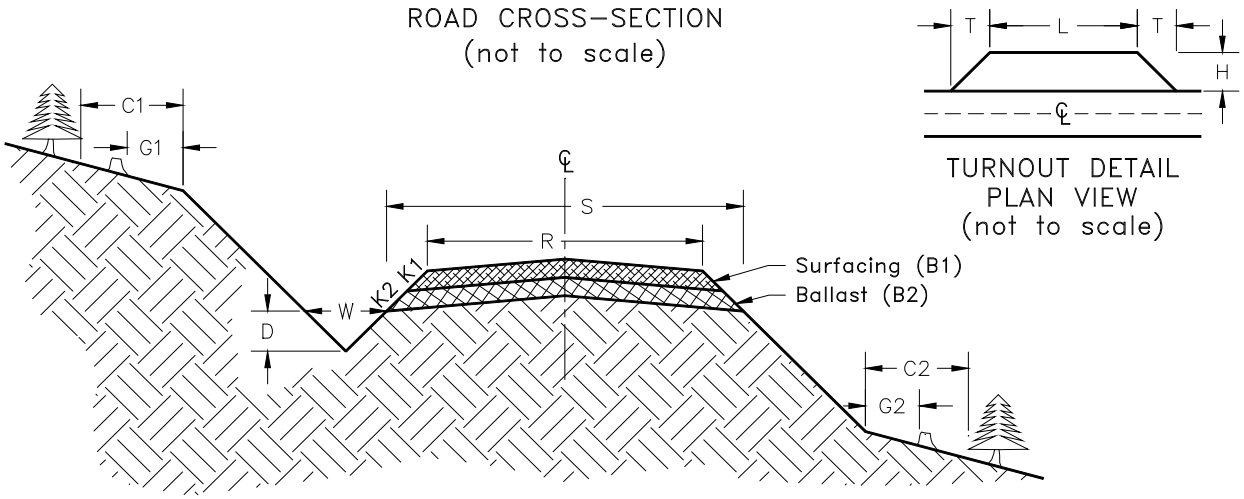
10-17 CORRUGATED PLASTIC CULVERT

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

10-22 PLASTIC BAND

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

TYPICAL SECTION SHEET (pg 1 of 1)



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch Width (feet)	Ditch Depth (feet)	Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
				S	R	W	D		G1	G2	C1	C2	Clause	Clause
A-Line	0+00	102+70	A		16	3	1	4	-	-	-	-	4-5	4-6
B-Line	0+00	685+10	A		16	3	1	4	-	-	-	-	4-5	4-6
B-0150	0+00	22+57	C		12	3	1	4	-	-	-	-	4-5	4-6
B-2700	0+00	14+25	C		12	3	1	4	-	-	-	-	4-5	4-6
B-2800	0+00	17+50	C	16	12	3	1	4	2	2	5	5	4-5	4-6
B-3000	0+00	60+40	C	16	12	3	1	4	2	2	5	5	4-5	4-6
B-3000B	0+00	5+09	C		12	3	1	4	-	-	-	-	4-5	4-6
B-3300	0+00	12+98	C		12	3	1	4	-	-	-	-	4-5	4-6
B-3310	0+00	16+64	C	16	12	3	1	4	2	2	5	5	4-5	4-6
B-3550	0+00	26+85	C	16	12	3	1	4	2	2	5	5	4-5	4-6
B-4010	0+00	86+50	C		12	3	1	4	-	-	-	-	4-5	4-6

TURNOUT AND TURNAROUND LIST

Road Number	Begin L-Station	END L-STATION	TURNOUT WIDTH (H)	FULL WIDTH LENGTH (L)	TAPER LEGNTH (T)	COMMENTS
B-3310	11+61	12+11	12	50	25	TURNOUT RIGHT
B-3310	14+64	14+94	30	30	20	TURNAROUND

COMPACTION LIST

Road	From Station	To Station	Type	Max Depth of Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
All crushed rock backfill culvert installations/ replacements			Culvert Backfill	-	Mechanical Hand Tamper, Vibratory Plate Compactor, or Walk Behind Vibratory Roller	-	3 passes	-
All new rock for pre-haul maintenance			Pre-haul rock	6	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
All new construction and reconstruction			Subgrade, rock	12, 6	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
All pre-haul maintenance roads			After pre-haul grading	6	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5

ROCK LIST

BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Comments		
			K2	B2	**4 Inch Jaw Run**				CW	TO	TA
B-2800	0+00	17+50	1 ½ :1	12	54	17.50	945	Too Thin Quarry			
B-3000	46+30	52+60	1 ½ :1	12	54	6.30	340				
	52+60	56+60	1 ½ :1	24	104	4.00	416				
	56+60	60+40	1 ½ :1	12	54	3.80	205				
B-3310	0+00	16+64	1 ½ :1	12	54	16.64	999		40	20	40
B-3550	0+00	26+85	1 ½ :1	12	54	26.85	1450				
B-4010*	66+00	86+50	1 ½ :1	8	34	20.50	697				
Landing Rock							500		Landings may use select pit run in place of 4 inch Jaw.		
					Quarry Spalls						
Culvert Headwalls and Dissipaters							124		See CULVERT AND DRAINAGE LIST		
					Light Loose Riprap						
Culvert Headwalls and Dissipaters							15		See CULVERT AND DRAINAGE LIST		

4 Inch Jaw Total__5,552__Cubic Yards
Quarry Spalls Total__124__Cubic Yards
Light Loose Riprap Total__15__Cubic Yards
Ballast Total__5,691__Cubic Yards

Included in C.Y. Subtotal
CW – Curve Widening
TO – Turn Out
TA – Turn Around

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

SURFACE

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y. Station	# of Stations	C.Y. Subtotal	Rock Source	Comments		
			K1	B1	**2 Inch Crushed**				CW	TO	TA
B-Line	16+00	30+00	1 ½ :1	6	26	14.00	364	Too Thin Quarry			
	117+00	307+00	1 ½ :1	6	26	190.00	4940				
Culvert Backfill see CULVERT AND DRAINAGE LIST							220				
Stockpile							3000				
					3 Inch Minus						
B-3000	28+80	46+30	1 ½ :1	6	24	17.50	420	Too Thin Quarry or Existing Stockpile			

2 - Inch Minus Crushed Total ____8,524____ Cubic Yards
3 - Inch Minus Crushed Total_____420____ Cubic Yards
Surface Total___8,944____ Cubic Yards

Included in C.Y. Total
CW – Curve Widening
TO – Turn Out
TA – Turn Around

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

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

CULVERT AND DRAINAGE LIST, pg 1 of 2

Road Number	Location	Culvert Dia. (in)	Culvert Type	Length (ft) Culvert	Length (ft) Downspt	Length (ft) Flume	Riprap (C.Y.) Inlet	Riprap (C.Y.) Outlet	Riprap (C.Y.) Type	Backfill Material*	Placement Method*	Const. Staked *	Remarks
B-Line	58+50	18	PD	30	-	-	1	1.5	QS	CR			Replace Cross Drain, No Skew
	123+00	-	-	-	-	-		3	LL	-			Install Dissipaters
	144+80	18	PD	30	-	-	1	1.5	QS	CR			Install Cross Drain
	150+60	18	PD	40	-	-	1	1.5	QS	CR			Install Cross Drain
	162+50	18	PD	30	-	-	1	1.5	QS	CR			Install Cross Drain
	198+70	18	PD	30	-	-	1	1.5	QS	CR			Replace Cross Drain
	209+95	18	PD	50	-	-	1	1.5	QS	CR			Install Cross Drain, No Skew
	213+80	18	PD	30	-	-	1	1.5	QS	CR			Replace Cross Drain, No Skew
	269+00	18	PD	35	-	-	1	1.5	QS	CR			Replace Cross Drain
	275+95	18	PD	30	-	-	1	1.5	QS	CR			Install Cross Drain, No Skew
	287+70	18	PD	30	-	-	1	1.5	QS	CR			Install Cross Drain
	371+90	18	PD	30	-	-	1	1.5	QS	CR			Replace Cross Drain
	379+20	18	PD	30	-	-	1	1.5	QS	CR			Replace Cross Drain
	388+30	18	PD	30	-	-	1	1.5	QS	CR			Replace Cross Drain
	398+10	18	PD	30	-	-	1	1.5	QS	CR			Replace Cross Drain
	405+80	18	PD	30	-	-	1	1.5	QS	CR			Replace Cross Drain
	484+20	24	PD	40	-	-		5	LL	CR			Replace Live Stream
	541+70	18	PD	30	-	-		2	LL	CR			Replace Cross Drain
B-2800	1+65	18	PD	40	-	-	1	1.5	QS	NT			Install Cross Drain
	5+70	18	PD	35	-	-	1	1.5	QS	NT			Install Cross Drain
	9+70	18	PD	40	-	-	1	1.5	QS	NT			Install Cross Drain
	12+60	18	PD	35	-	-	1	1.5	QS	NT			Install Cross Drain
	15+85	18	PD	40	-	-	1	1.5	QS	NT			Install Cross Drain
B-3000	6+00	24	PD	50	-	-	2	3	QS	CR			Replace Live Stream
	10+60	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
	28+80	18	PD	40	-	-	1	1.5	QS	NT			Install Cross Drain
	35+50	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
	39+00	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
	46+30	18	PD	40	-	-	1	1.5	QS	NT			Install Cross Drain
	48+90	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain, No Skew
	50+20	18	PD	35	-	-	1	1.5	QS	NT			Install Cross Drain
	51+30	24	PD	50	-	-	2	3	QS	CR			Install Live Stream
	53+50	24	PD	40	-	-	2	3	QS	CR			Install Live Stream
	54+60	24	PD	50	-	-	2	3	QS	CR			Install Live Stream
	56+60	18	PD	35	-	-	1	1.5	QS	NT			Install Cross Drain
	59+20	-	-	-	-	-	-	1.5	QS				Ditch Out Right

CULVERT AND DRAINAGE LIST, pg 2 of 2

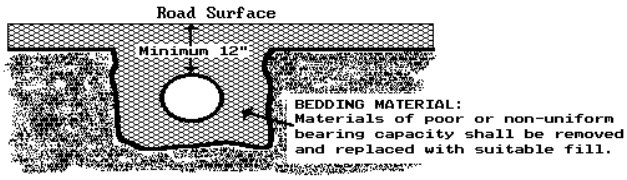
Road Number	Location	Culvert Dia. (in)	Culvert Type	Length (ft) Culvert	Length (ft) Downspt	Length (ft) Flume	Riprap (C.Y.) Inlet	Riprap (C.Y.) Outlet	Riprap (C.Y.) Type	Backfill Material*	Placement Method*	Const. Staked *	Remarks
B-3000B	3+65	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
B-3310	3+39	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
	8+42	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain, No Skew
	12+78	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
B-3550	4+72	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
	14+19	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
	23+24	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
B-4010	4+60	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
	20+60	-	-	-	-	-	-	-	-	-			Jack Open Crushed Inlet
	22+20	24	PD	40	-	-		5	LL	CR			Replace Live Stream
	26+80	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain, No Skew
	58+60	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain, No Skew
	62+00	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain, No Skew
As Directed By C.A.		18	PD	30	-	-	1	1.5	QS	NT			Contingency
		18	PD	30	-	-	1	1.5	QS	NT			Contingency
		18	PD	Band	-	-	-	-	-	-			Contingency
		18	PD	Band	-	-	-	-	-	-			Contingency

* SEE CULVERT AND DRAINAGE SPECIFICATION DETAIL

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

TEMP = Temporary Culvert

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

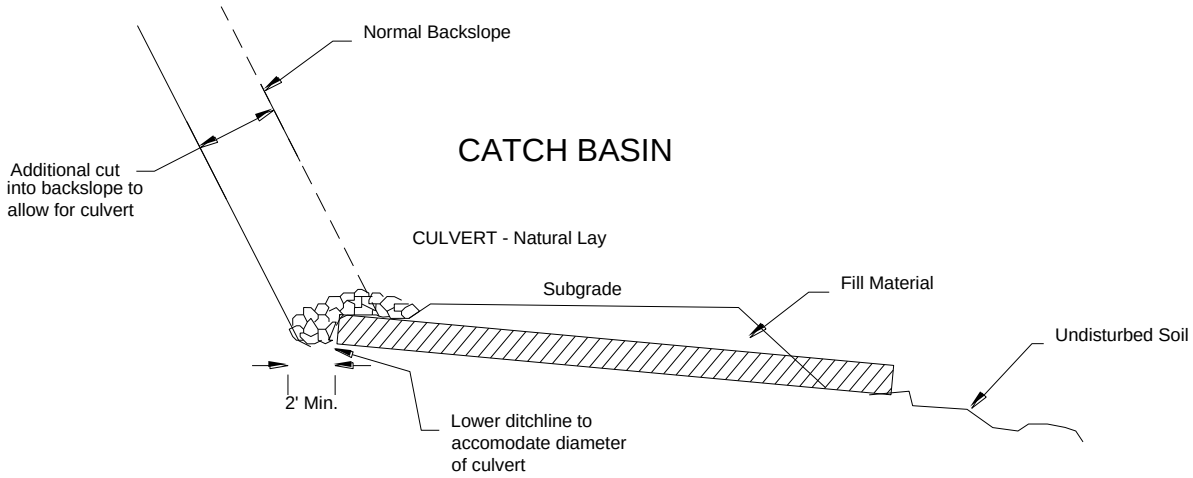


Key:

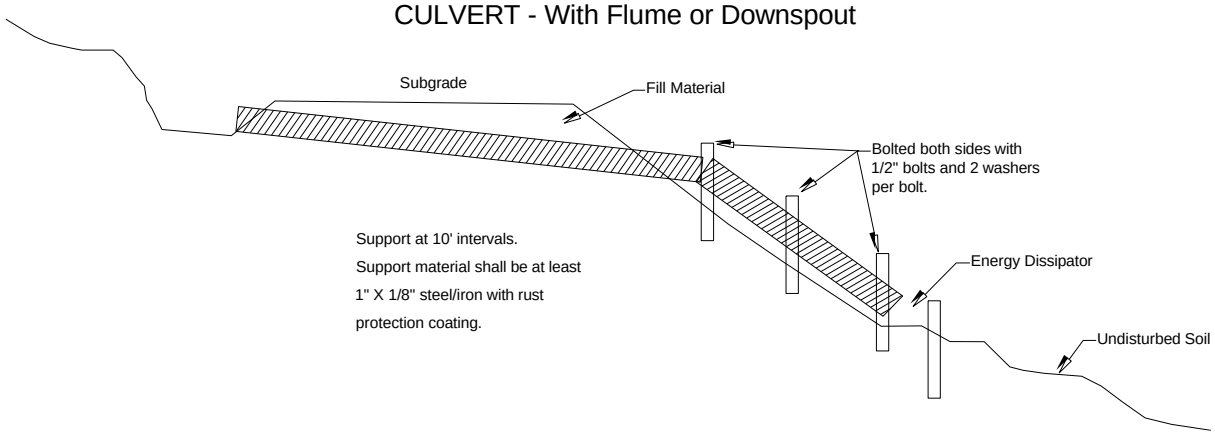
QS - Quarry Spalls
CR - Crushed Rock
LL - Light Loose Riprap
SR - Shot Rock
NT - Native (bank run)
SL - Select Fill
Flume - Half round pipe
Downspout - Full round pipe

CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 1 of 3)



CULVERT - With Flume or Downspout

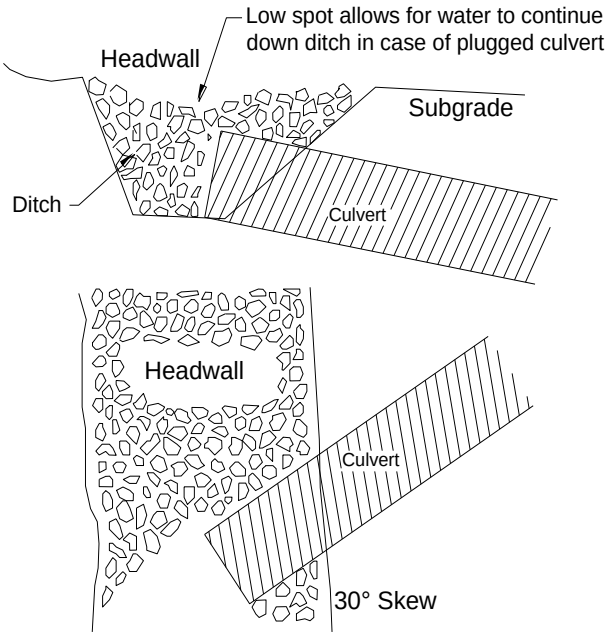


CULVERT AND DRAINAGE SPECIFICATION DETAIL

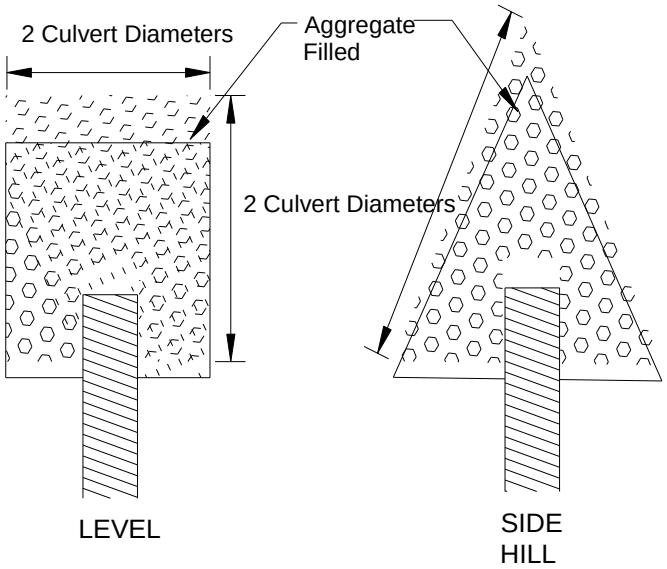
(Page 2 of 3)

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

HEADWALLS



ENERGY DISSIPATORS



Headwalls to be constructed of material that will resist erosion.

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

CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 3 of 3)

POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.

2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.

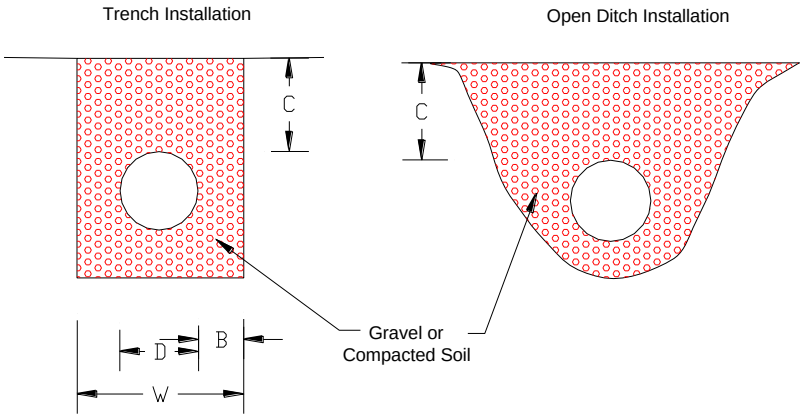
3. Either crushed aggregate or flexible (asphalt) pavement may be laid as part of the minimum cover requirements.

4. Site conditions and availability of bedding materials often dictate the type of installation method used.

5. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.

MINIMUM DIMENSIONS

Trench or Open Ditch Installation



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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

(Sheet 1 of 2)

Cuts and Fills

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

Surface

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

Drainage

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

Preventative Maintenance

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

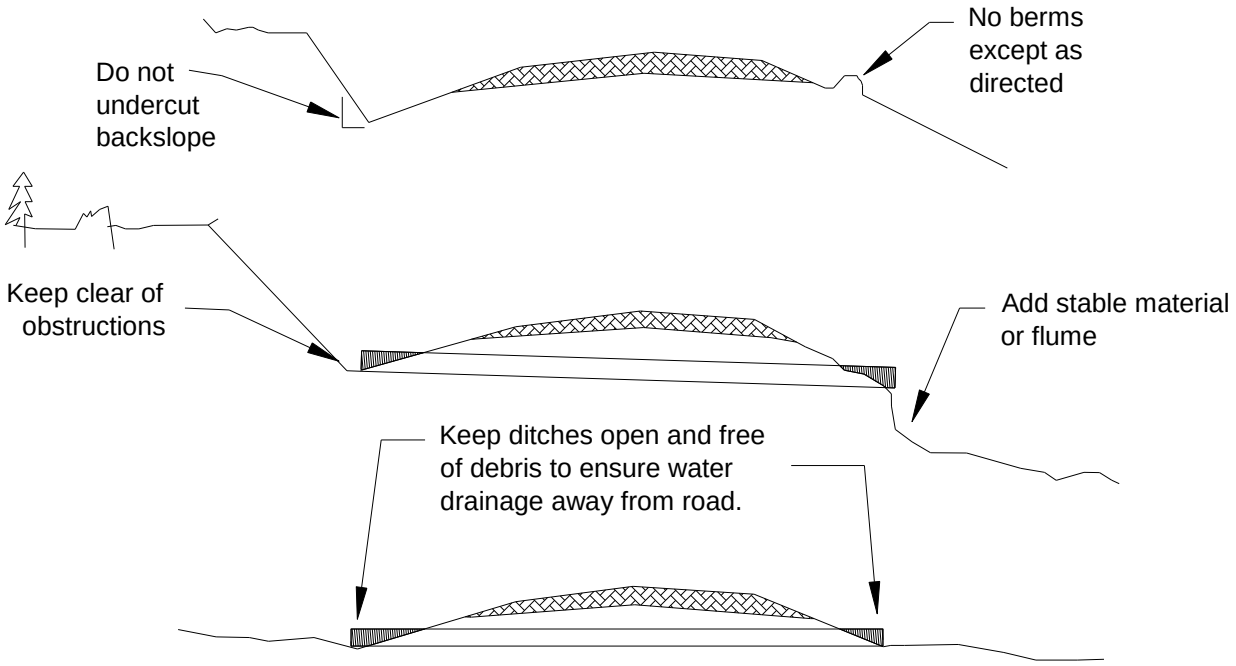
FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS
(Sheet 2 of 2)

Termination of Use or End of Season

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

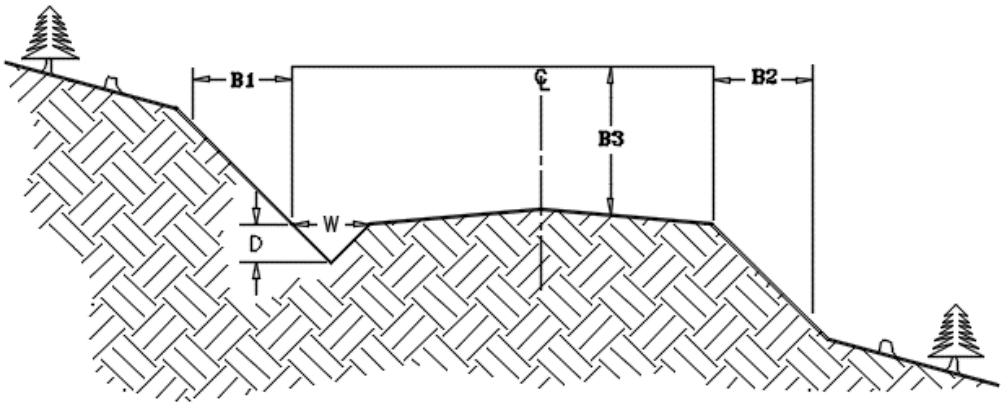
Debris

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



BRUSHING DETAIL

(not to scale)



BRUSHING LIST

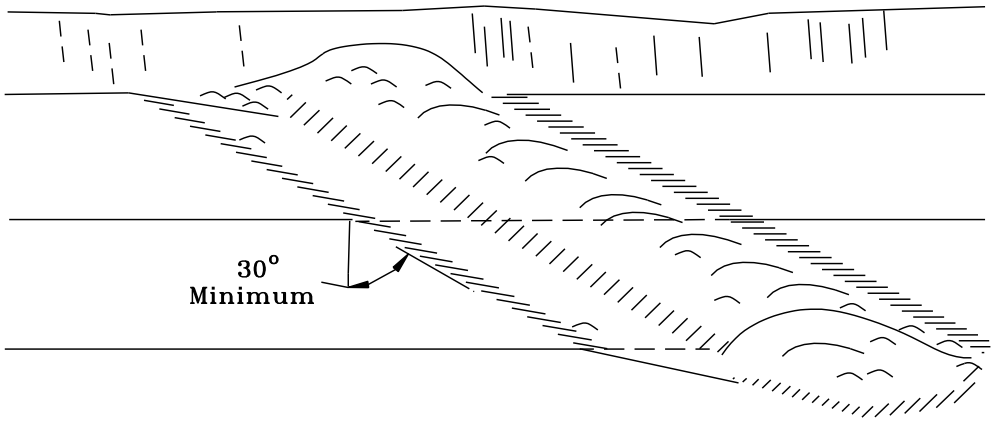
Road Number	From station	To station	Road Width (feet)	Ditch** Width (feet)	Ditch** Depth (feet)	Brushing Limits (feet)			Remarks In addition to brushing…
				W	D	B1	B2	B3	
B-3000	0+00	26+30	Variable	3	1	8	8	14	Cut brush an extra 16 feet on the inside of a curve to provide extra visibility on switchbacks and curves
B-3000B	0+00	5+09	Variable	3	1	8	8	14	
B-4010	0+00	86+50	Variable	3	1	8	8	14	

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

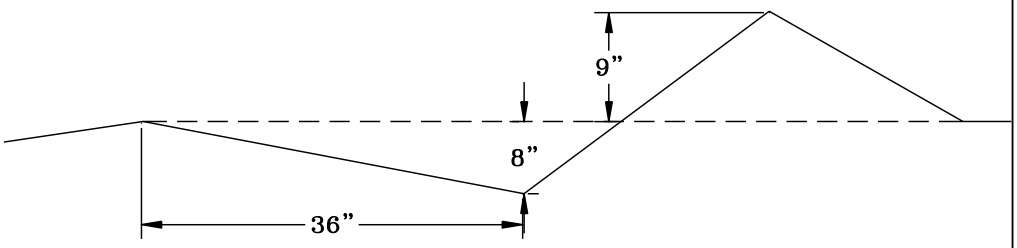
**Ditch Width and Ditch Depth are estimated, some existing roads may have slightly larger or smaller widths and depths. The Brushing Limits shall extend from the edge of ditch as seen in detail above.

Drivable Water Bar Detail

Cross Ditch



Cross Section at Centerline



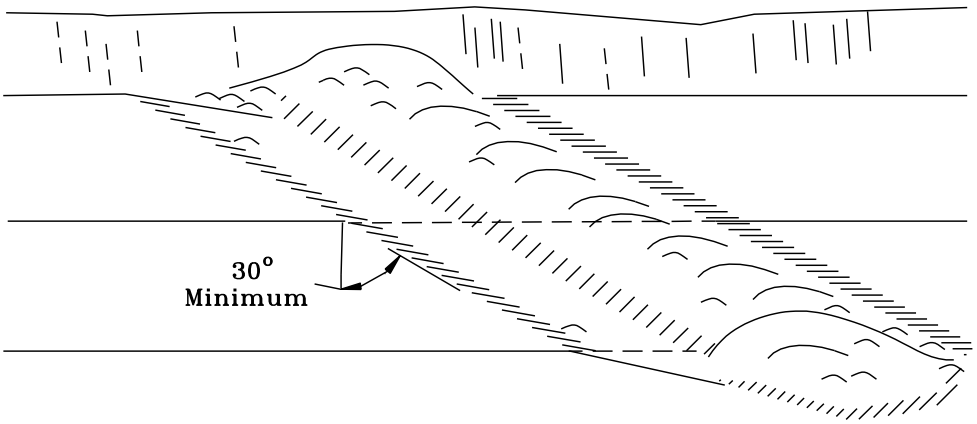
Date:
Scale : None
App#
Drawn by: M.A.D.

Water Bar Detail

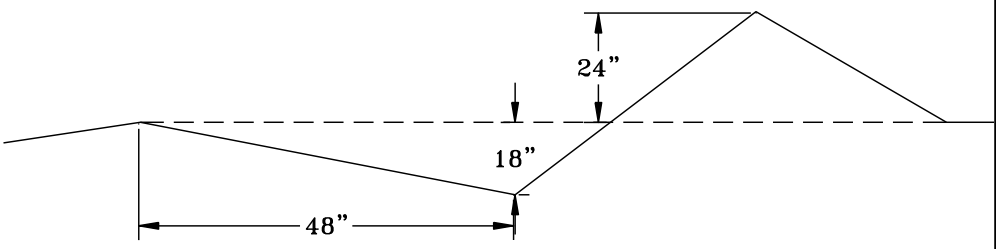
WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

Non-Drivable Water Bar Detail

Cross Ditch



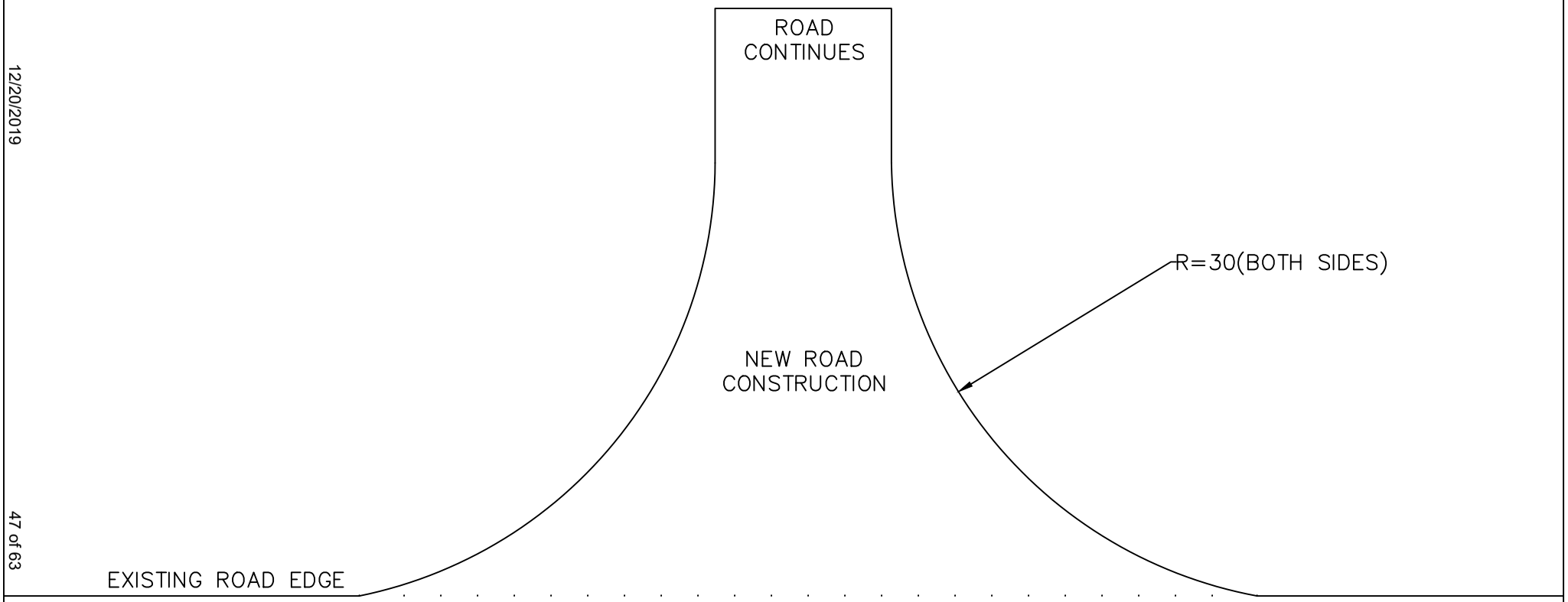
Cross Section at Centerline



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

Water Bar Detail

WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES



NOTES:

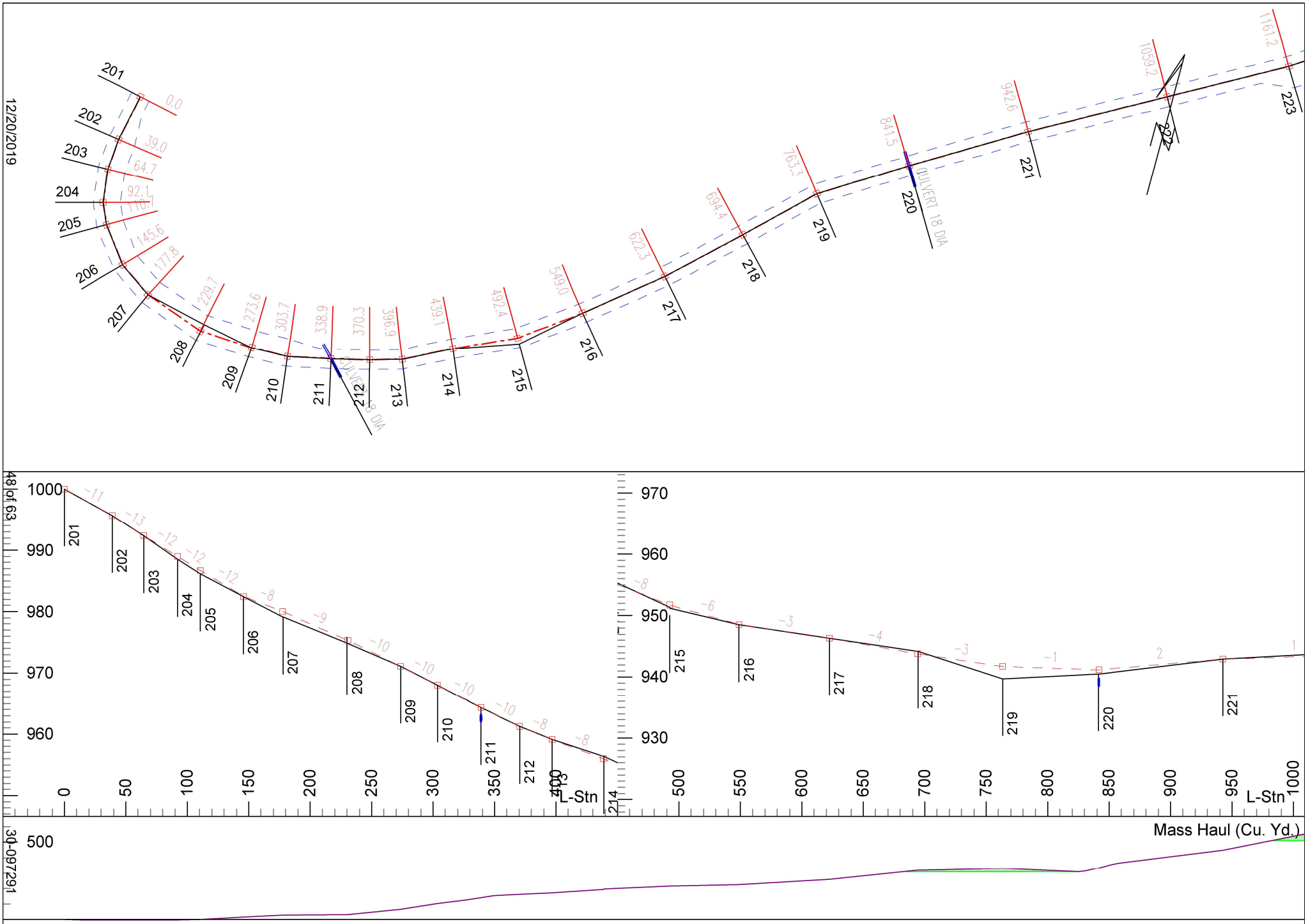
Approach flared to accommodate tractor–trailer traffic in and out.

Drawing not to scale

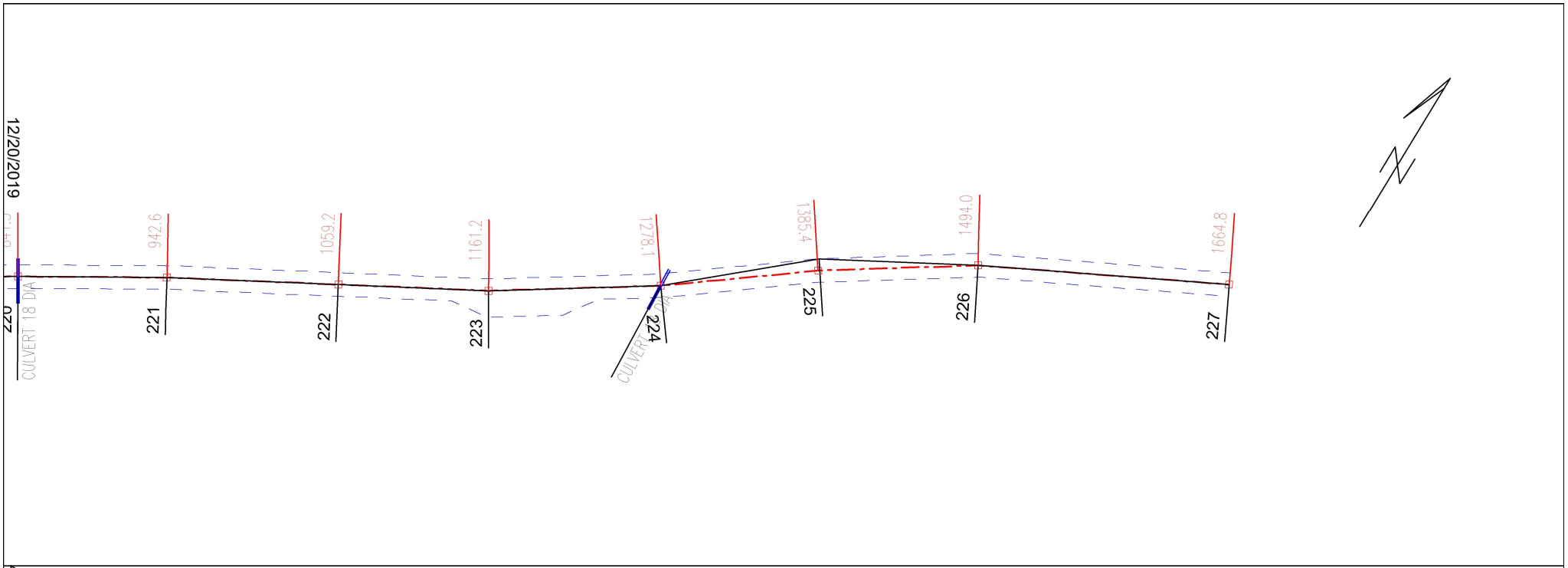
Drawn by C.Vandehey
Reviewed by J. Gross
23 MAY 2019

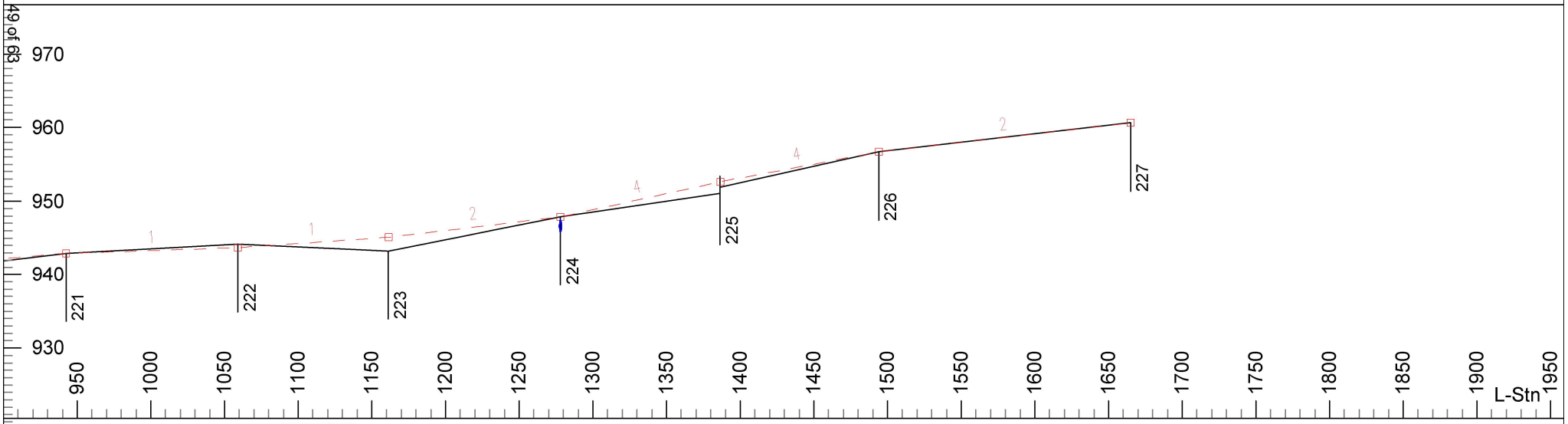
T–INTERSECTION DETAIL

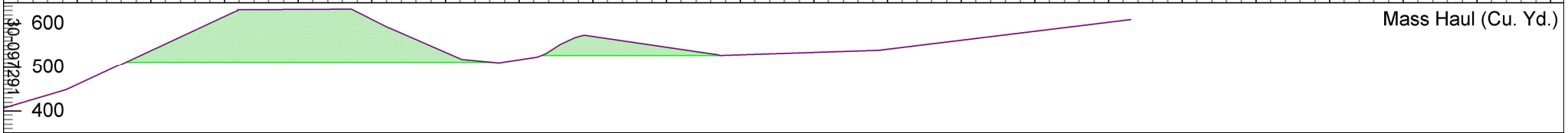
WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES



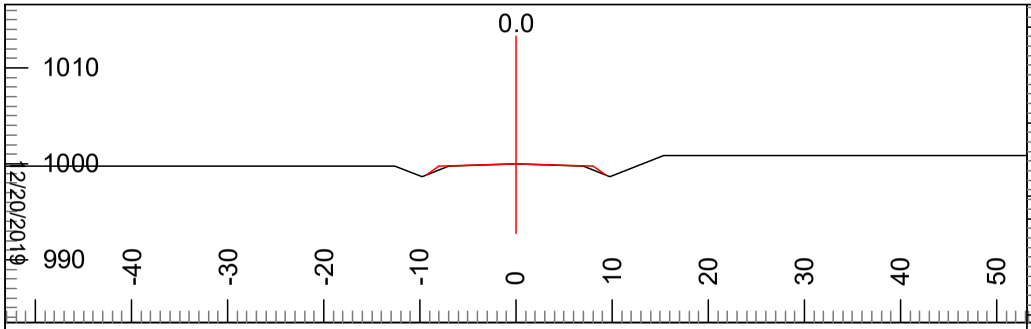
Youbetcha Timber Sale B-3310 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region		Plan Scale 1:1200 Profile Vert Scale 1:240 Profile Horz Scale 1:1200	Engineer: J. Gross 19/06/11







Youbetcha Timber Sale B-3310 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region	Plan Scale 1:1200 Profile Vert Scale 1:240 Profile Horz Scale 1:1200	Engineer: J. Gross 19/06/11	Page 2 of 6



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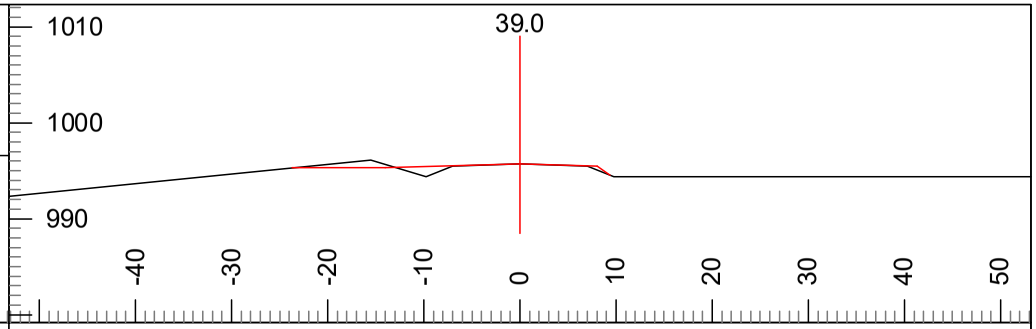

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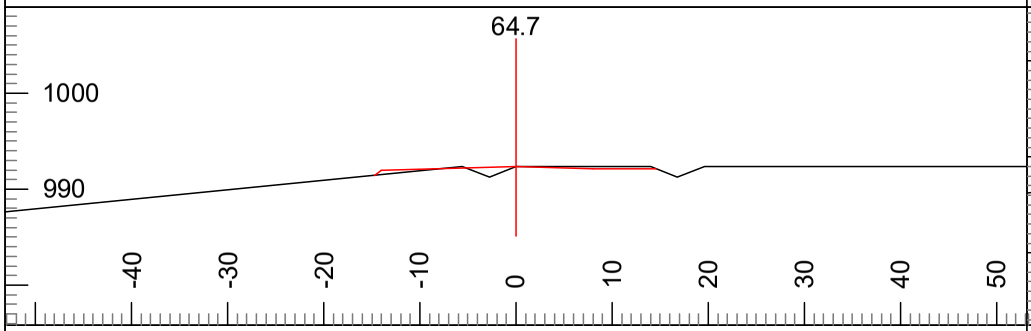

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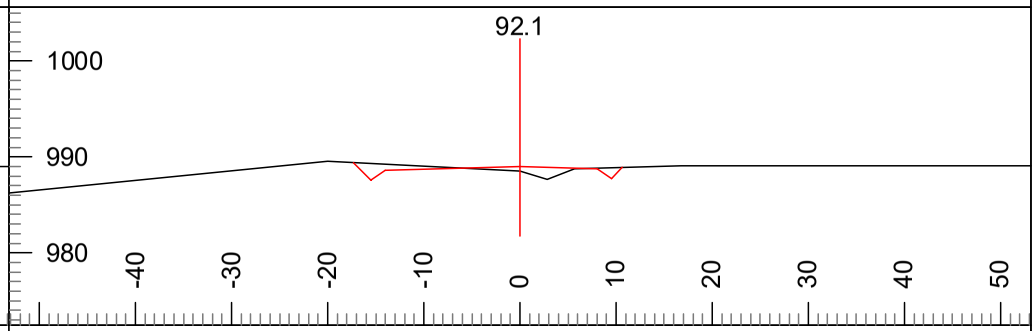

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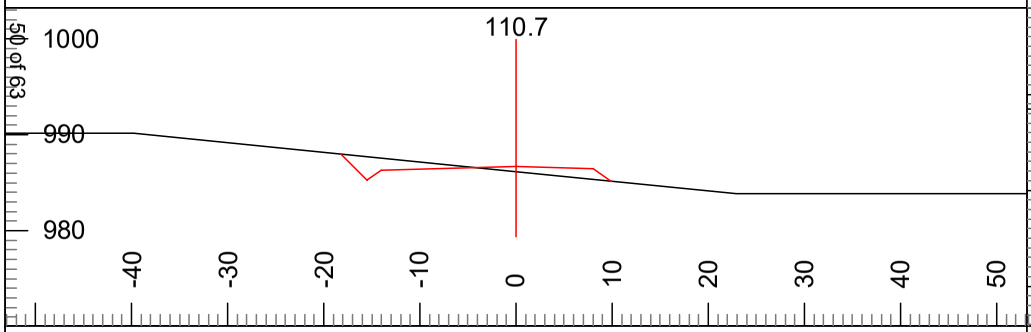

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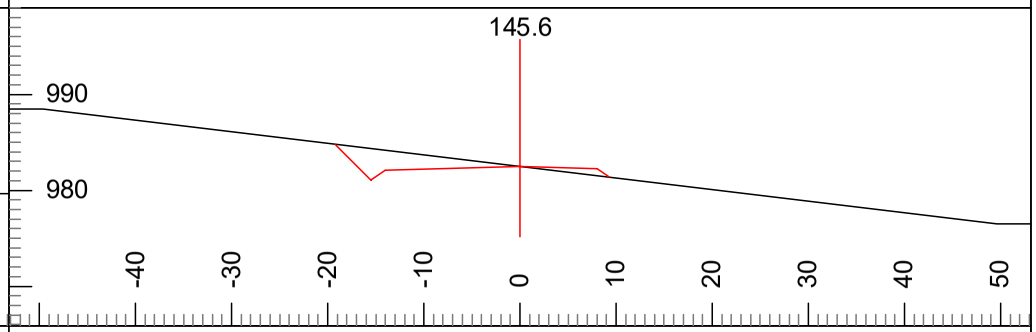

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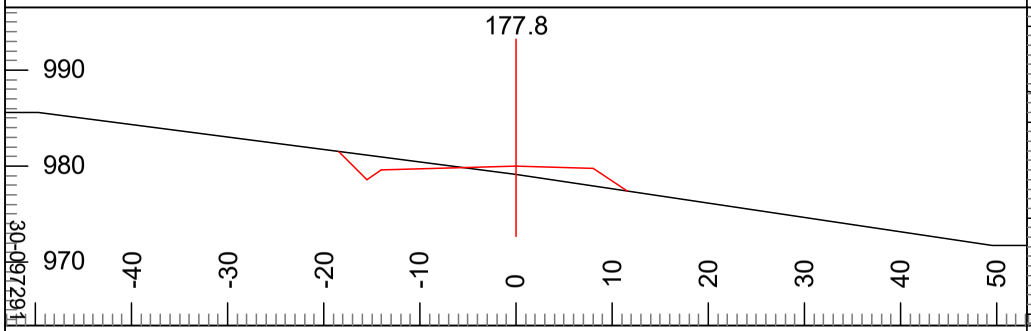

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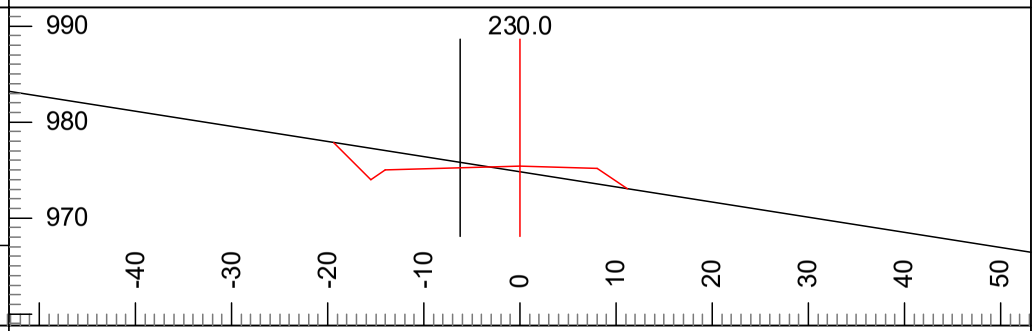
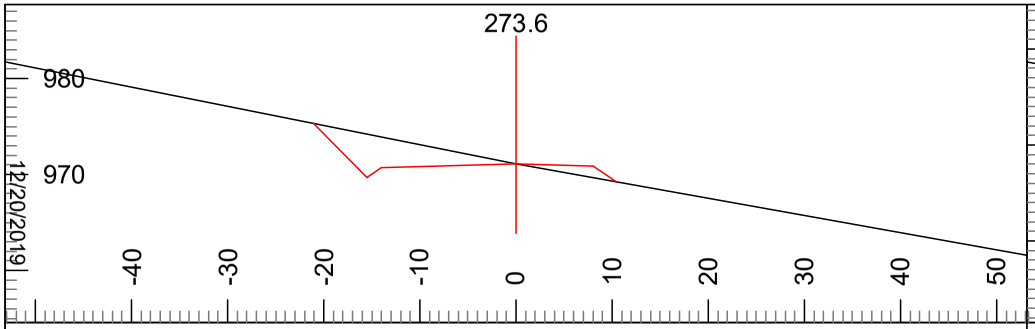


P-Stn : 229.6 L-Stn : 230.0 V.Offset: -0.4 H. Offset: 6.2 Cut Dp: -0.6 Index: 208

Youbetcha Timber Sale B-3310 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: J. Gross 19/06/11 Page 3 of 6



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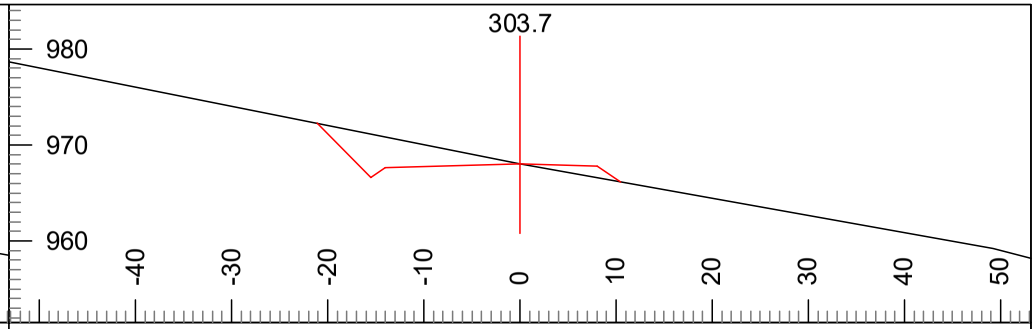

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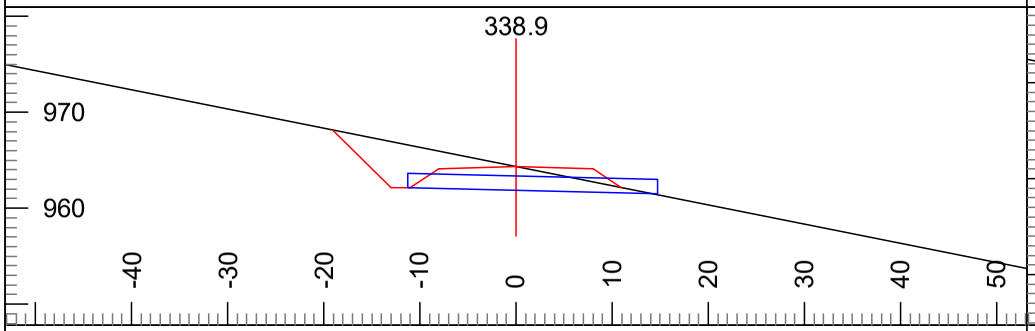

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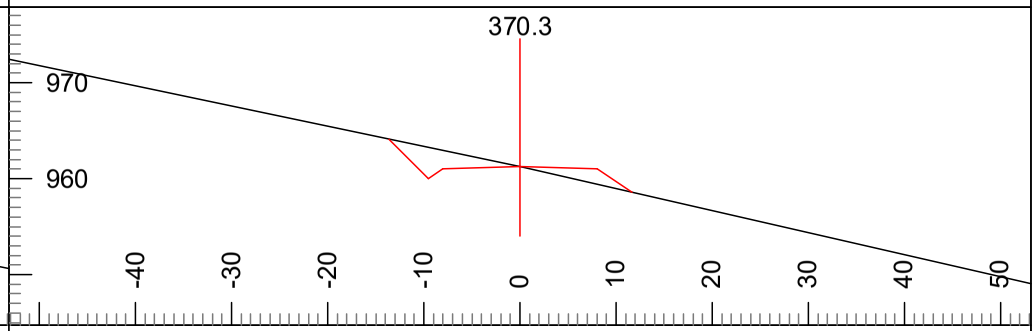

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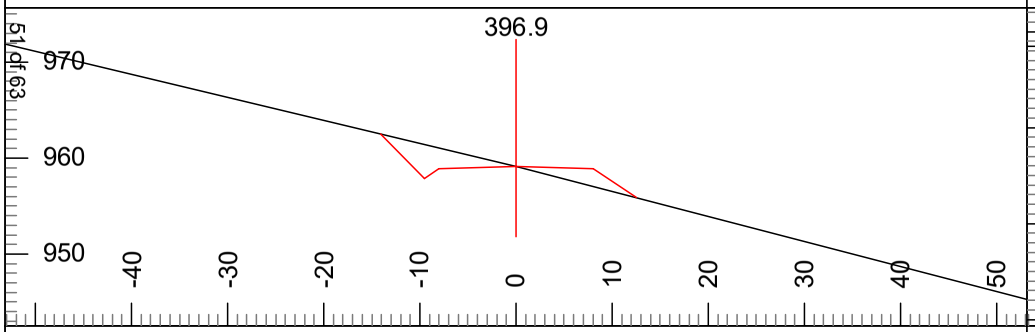

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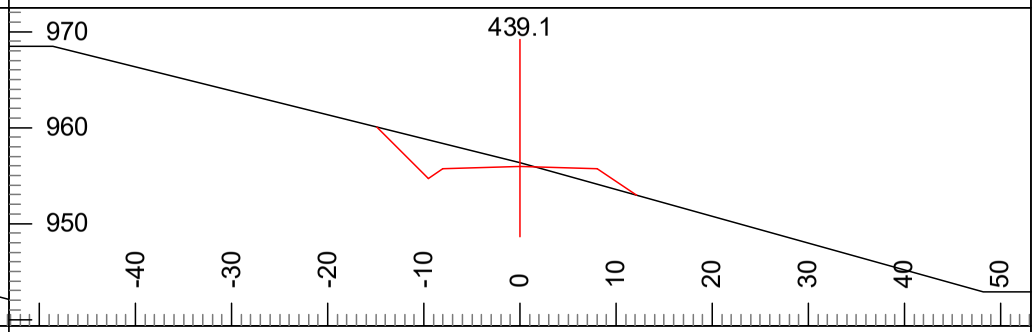
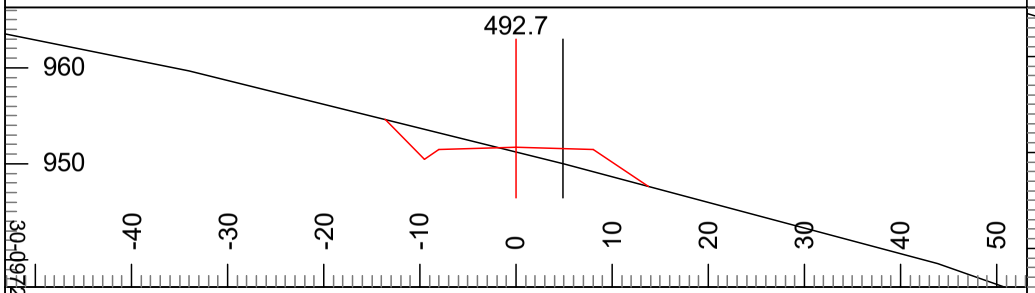
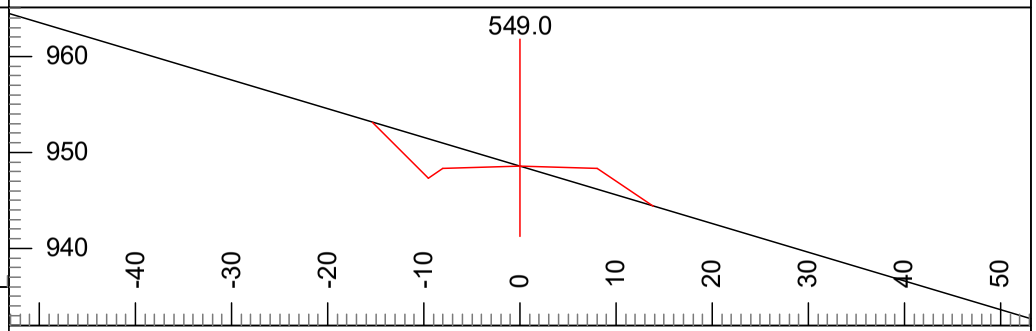


P-Stn : 438.0 L-Stn : 439.1 V.Offset: -0.4 H. Offset: 0.0 Cut Dp: 0.4 Index: 214

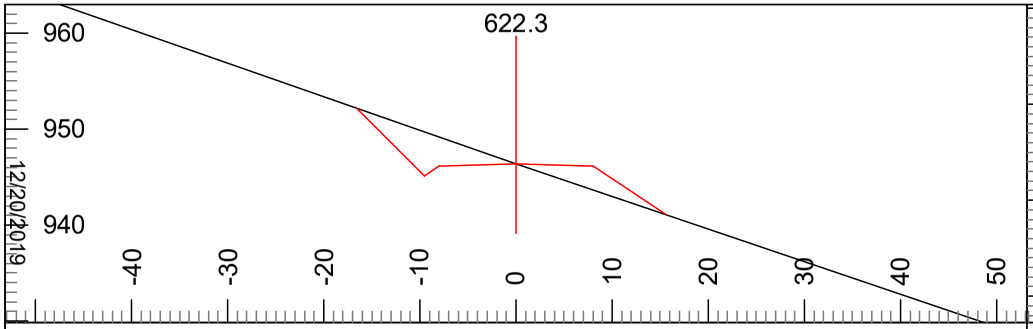


P-Stn : 492.4 V.Offset: 1.7 Cut Dp: -0.5
L-Stn : 492.7 H. Offset: -5.0 Index: 215



P-Stn : 549.4 L-Stn : 549.0 V.Offset: 0.0 H. Offset: 0.0 Cut Dp: 0.0 Index: 216

Youbetcha Timber Sale B-3310 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: J. Gross 19/06/11 Page 4 of 6



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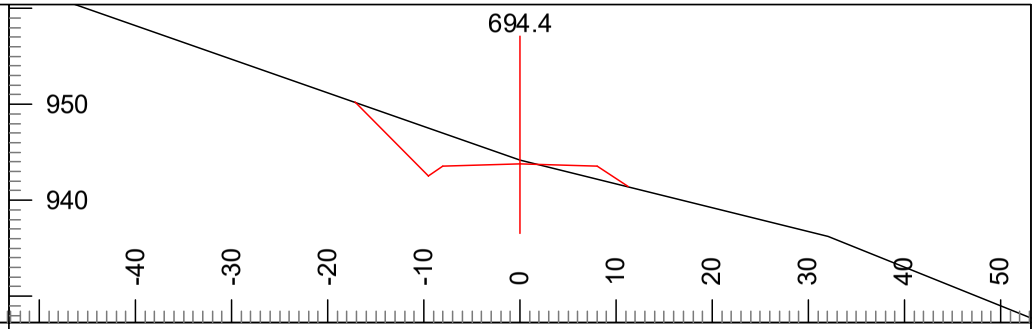
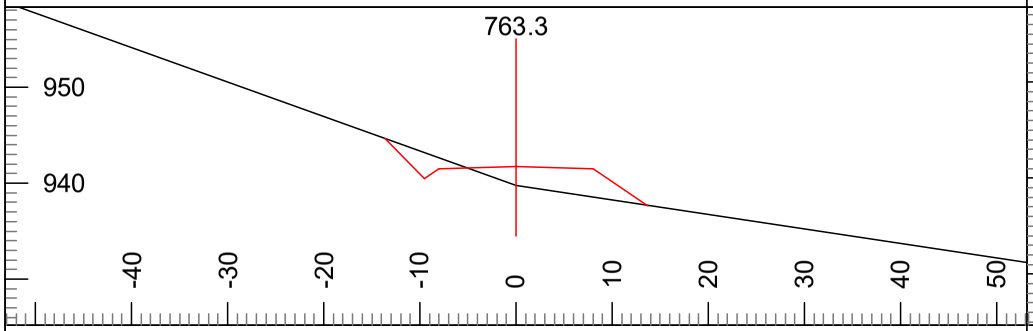
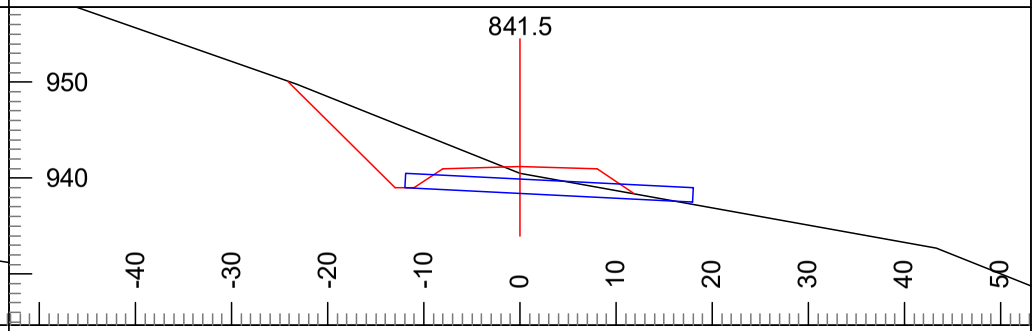


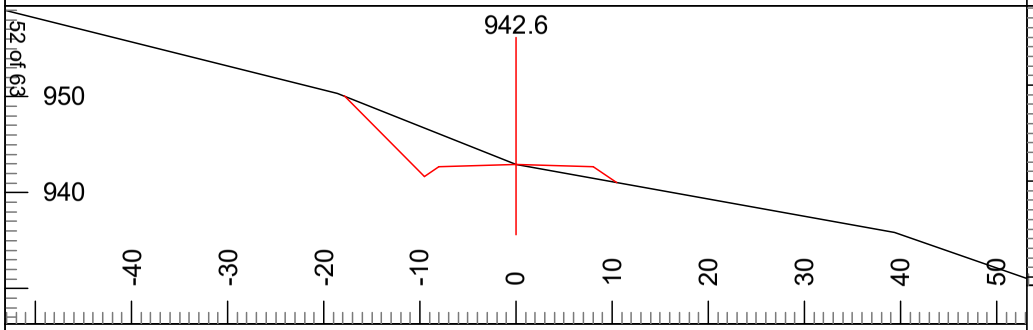
P-Stn : 694.9 L-Stn : 694.4 V.Offset: -0.4 H. Offset: 0.0 Cut Dp: 0.4 Index: 218



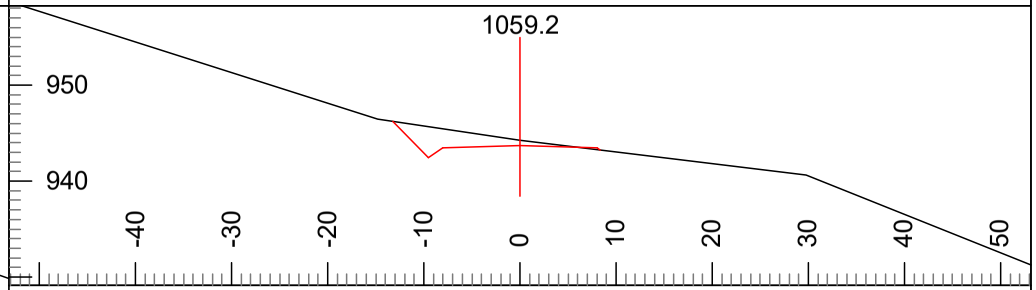
P-Stn : 763.7 L-Stn : 763.3 V.Offset: 2.0 H. Offset: 0.0 Cut Dp: -2.0 Index: 219



P-Stn : 841.9 L-Stn : 841.5 V.Offset: 0.7 H. Offset: 0.0 Cut Dp: -0.7 Index: 220



P-Stn : 943.0 L-Stn : 942.6 V.Offset: 0.0 H. Offset: 0.0 Cut Dp: 0.0 Index: 221



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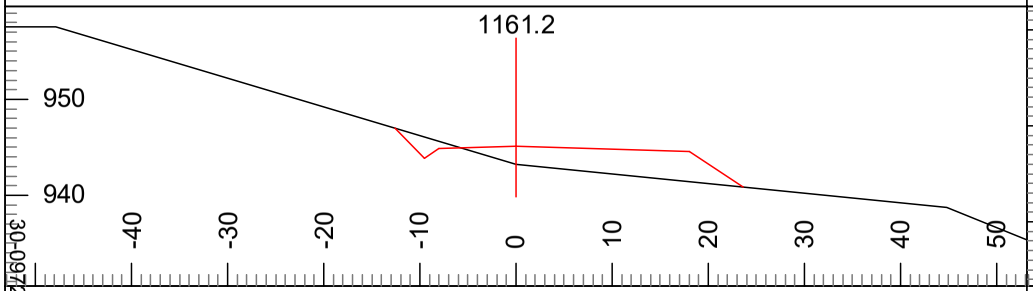
L-Stn : 1059.2 H. Offset: 0.0 Index: 222



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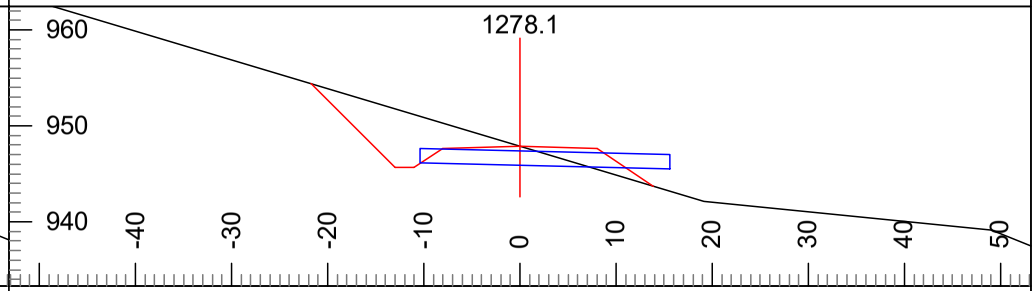
L-Stn : 1161.2 H. Offset: 0.0 Index: 223



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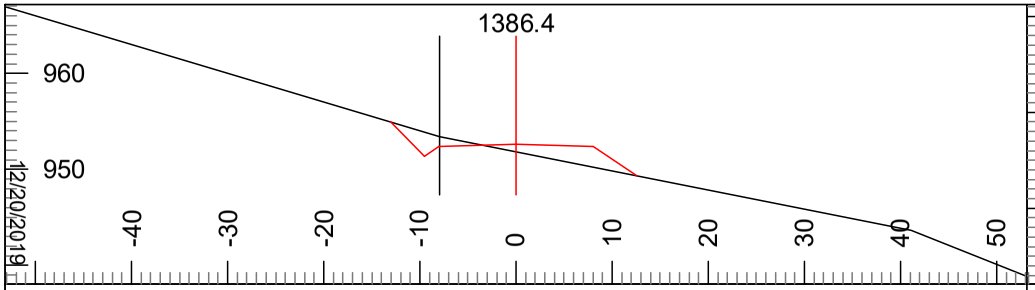
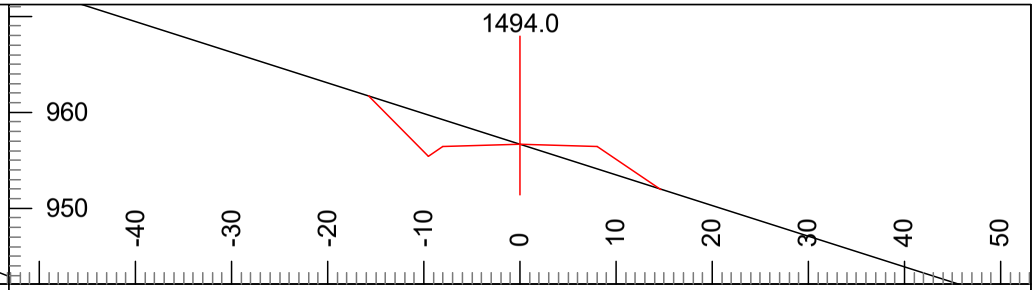


P-Stn : 1387.3 V.Offset: -0.8 Cut Dp: -0.8
L-Stn : 1386.4 H. Offset: 8.0 Index: 225

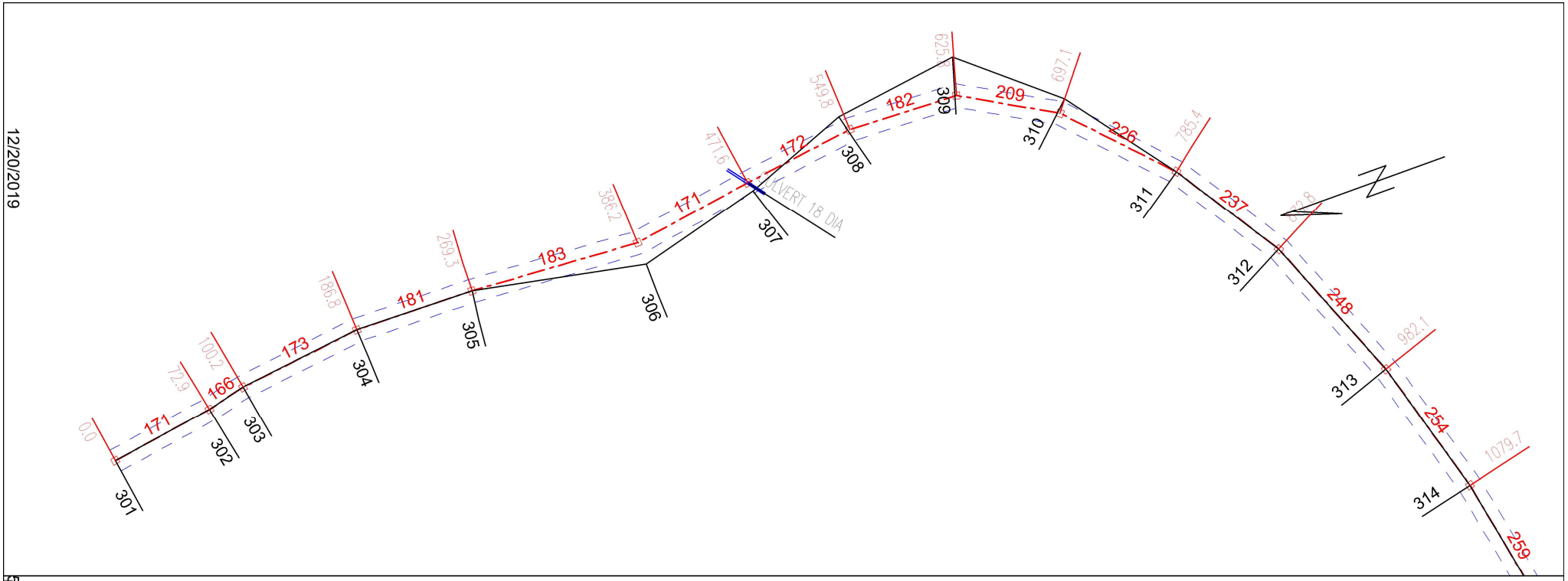


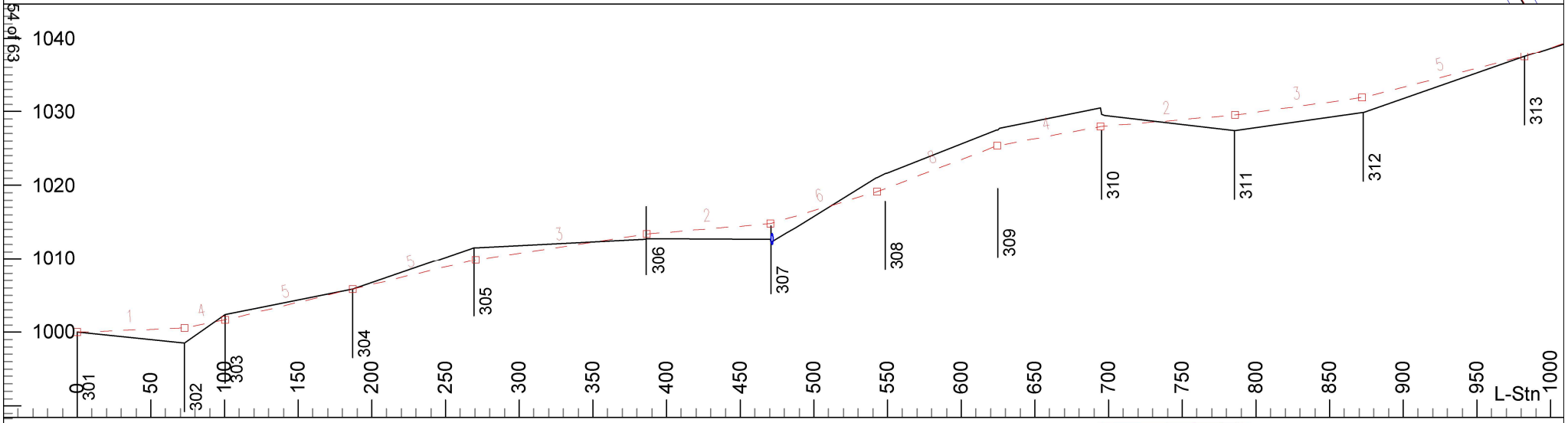
P-Stn : 1495.5 V.Offset: 0.0 Cut Dp: 0.0
L-Stn : 1494.0 H. Offset: 0.0 Index: 226

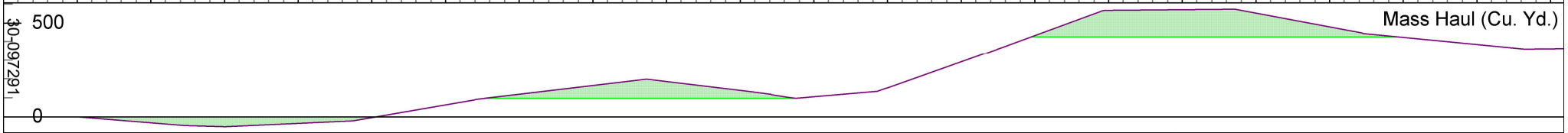
12/20/2019

30-097291

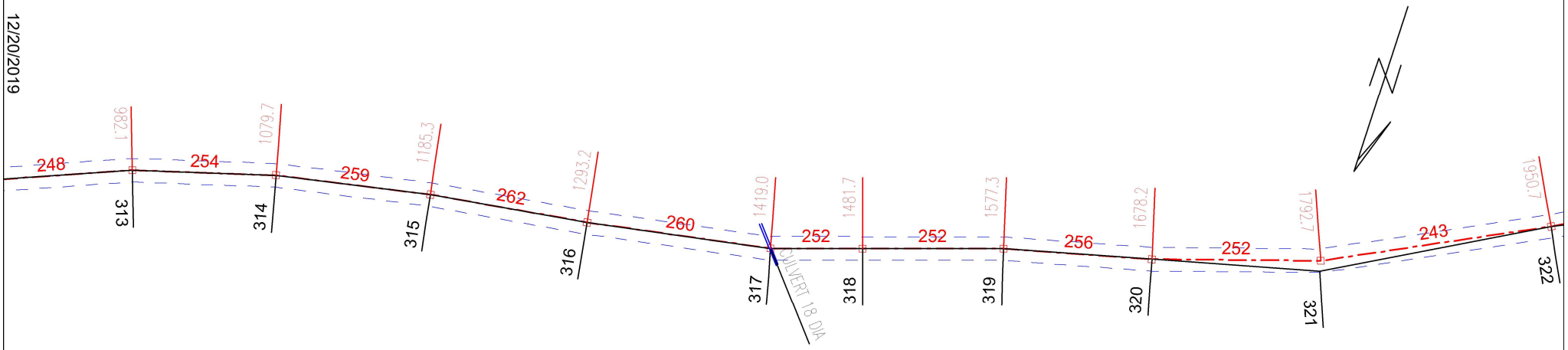
Youbetcha Timber Sale B-3310 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: J. Gross 19/06/11

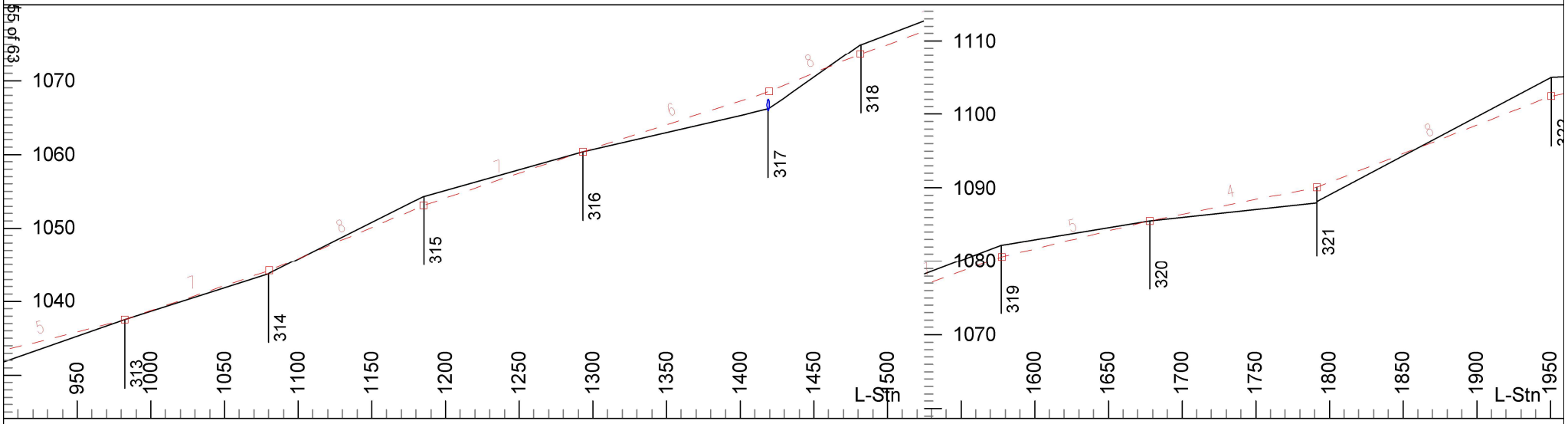


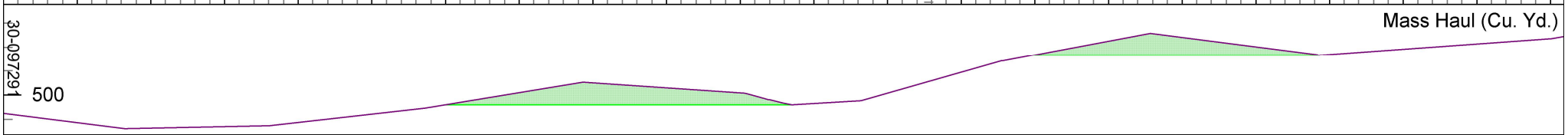




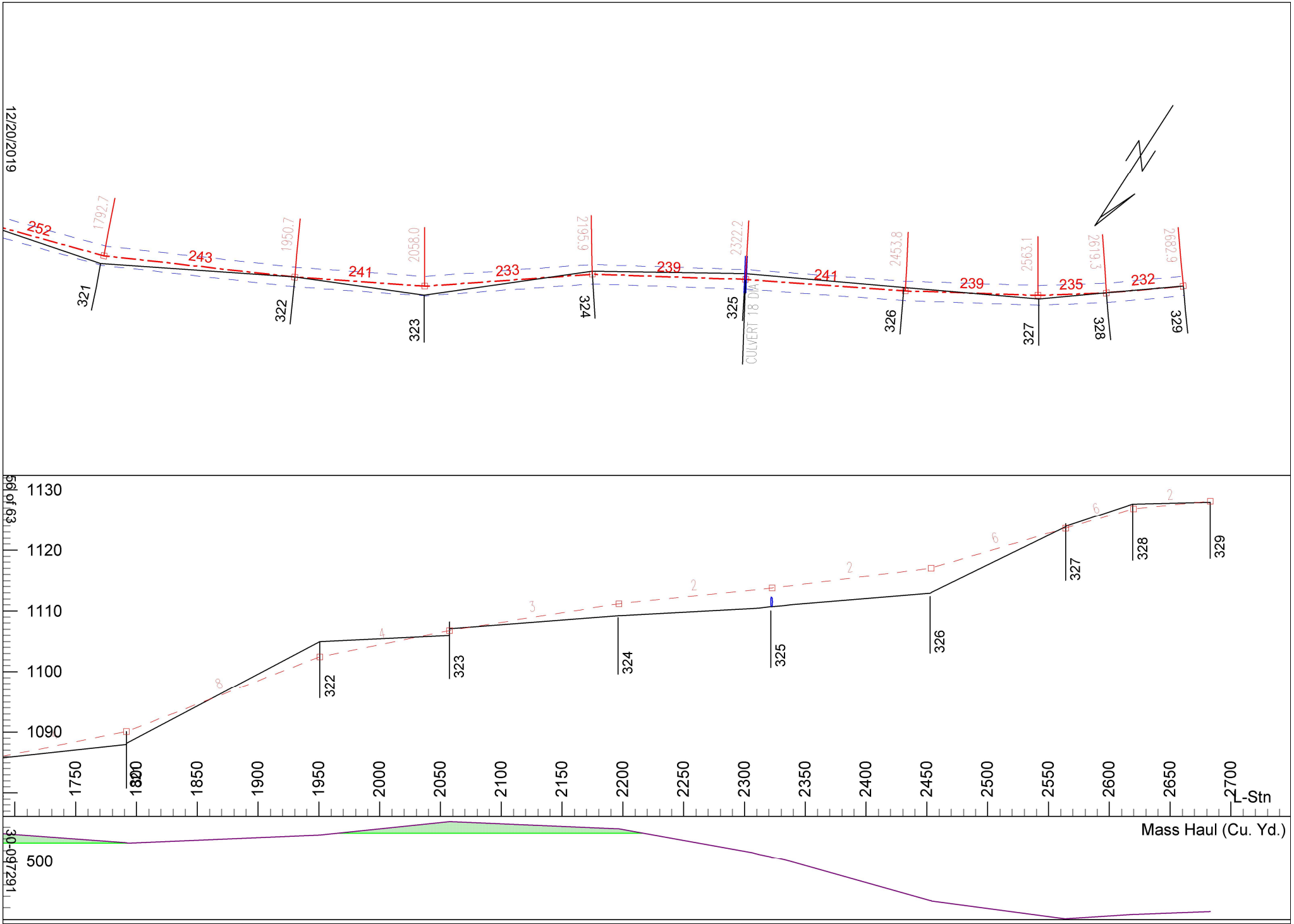
Youbetcha Timber Sale B-3550 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region	Plan Scale 1:1200 Profile Vert Scale 1:240 Profile Horz Scale 1:1200	Engineer: J. Gross 19/06/11	Page 1 of 7



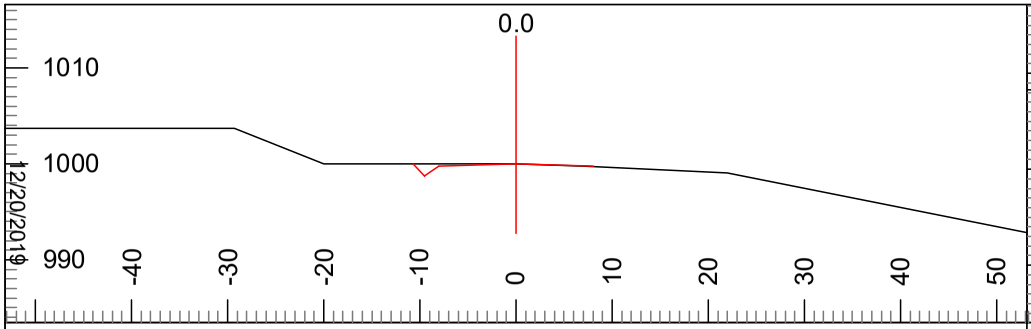




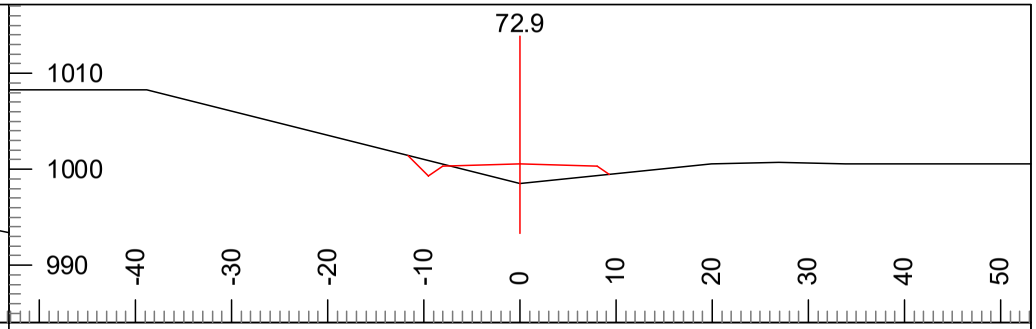
Youbetcha Timber Sale B-3550 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region	Plan Scale 1:1200 Profile Vert Scale 1:240 Profile Horz Scale 1:1200	Engineer: J. Gross 19/06/11	Page 2 of 7



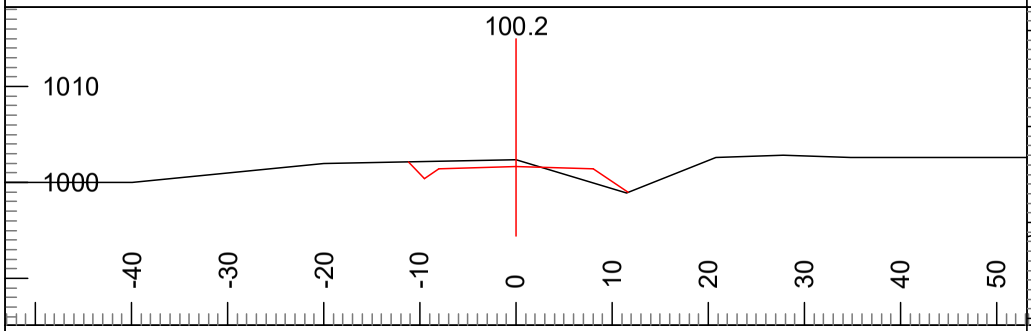
Youbetcha Timber Sale B-3550 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region	Plan Scale 1:1200 Profile Vert Scale 1:240 Profile Horz Scale 1:1200	Engineer: J. Gross 19/06/11	Page 3 of 7



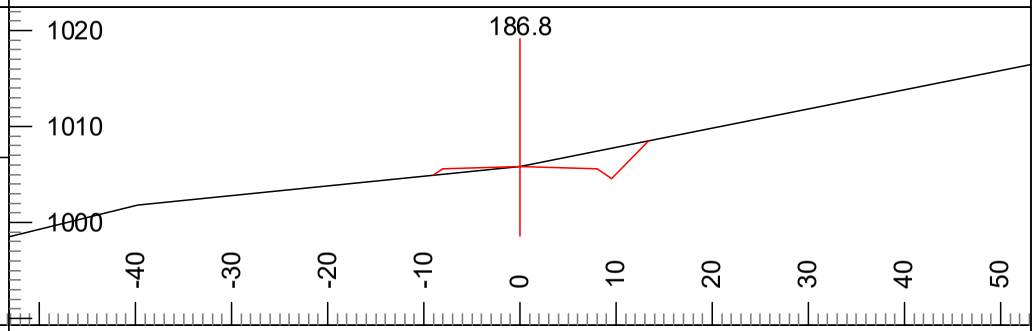
P-Stn : 0.0 L-Stn : 0.0 V.Offset: 0.0 H. Offset: 0.0 Cut Dp: 0.0 Index: 301



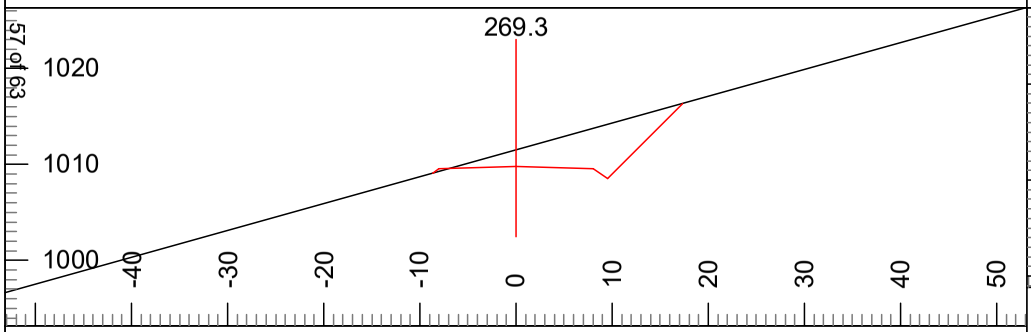
P-Stn : 72.9 L-Stn : 72.9 V.Offset: 2.0 H. Offset: 0.0 Cut Dp: -2.0 Index: 302



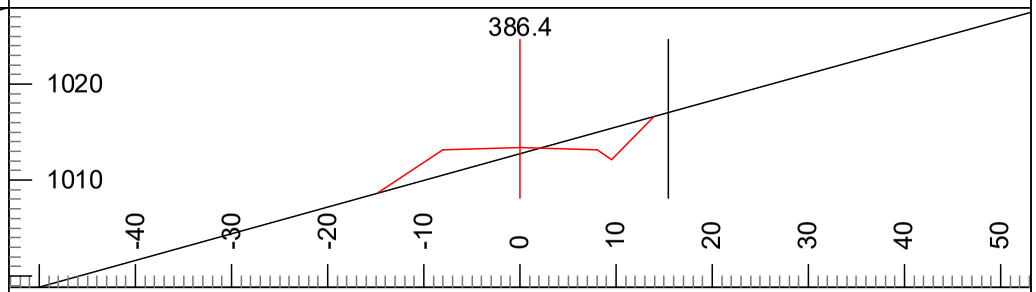
P-Stn : 100.2 L-Stn : 100.2 V.Offset: -0.7 H. Offset: 0.0 Cut Dp: 0.7 Index: 303



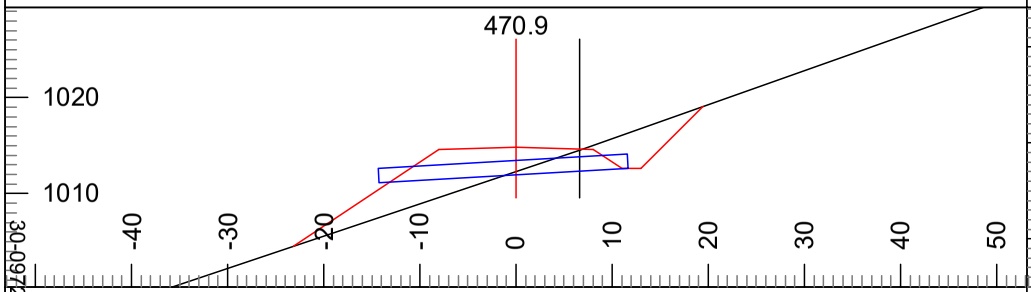
P-Stn : 186.8 L-Stn : 186.8 V.Offset: 0.0 H. Offset: 0.0 Cut Dp: 0.0 Index: 304



P-Stn : 269.3 L-Stn : 269.3 V.Offset: -1.7 H. Offset: 0.0 Cut Dp: 1.7 Index: 305



P-Stn : 388.9 V.Offset: -3.8 Cut Dp: -0.7
L-Stn : 386.4 H. Offset: -15.7 Index: 306



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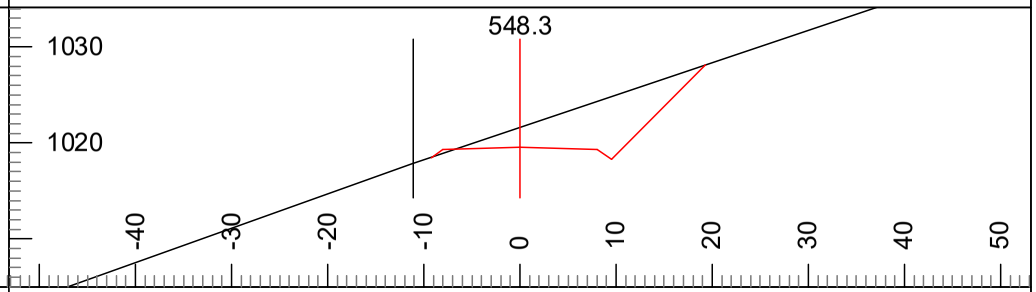
L-Stn : 470.9 H. Offset: -6.6 Index: 307



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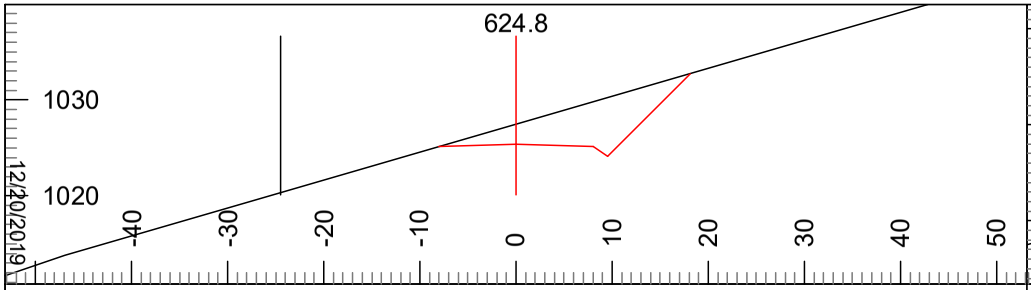

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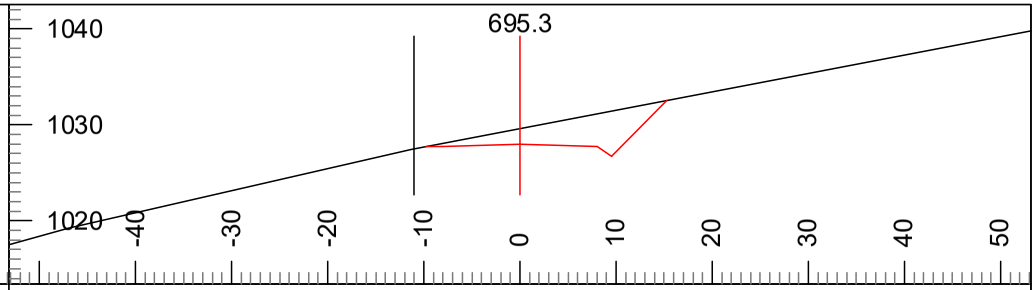

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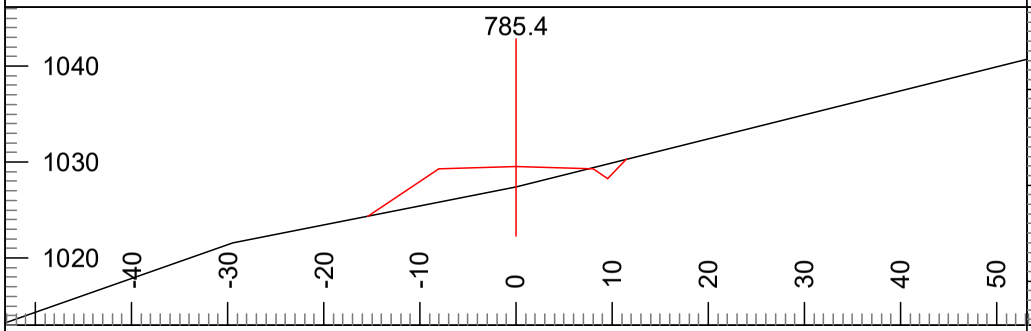

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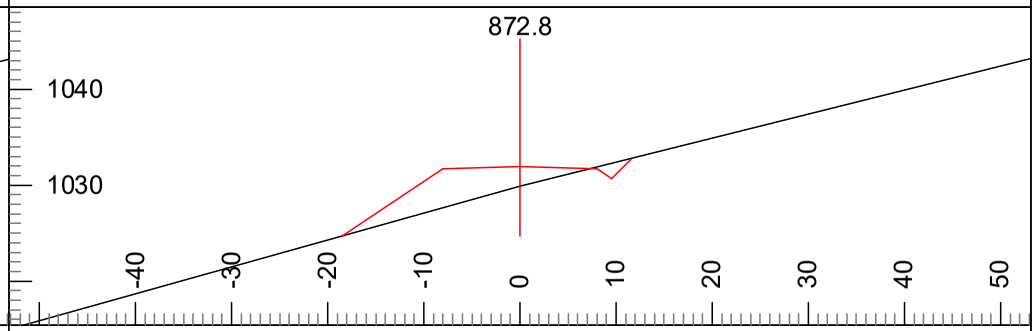

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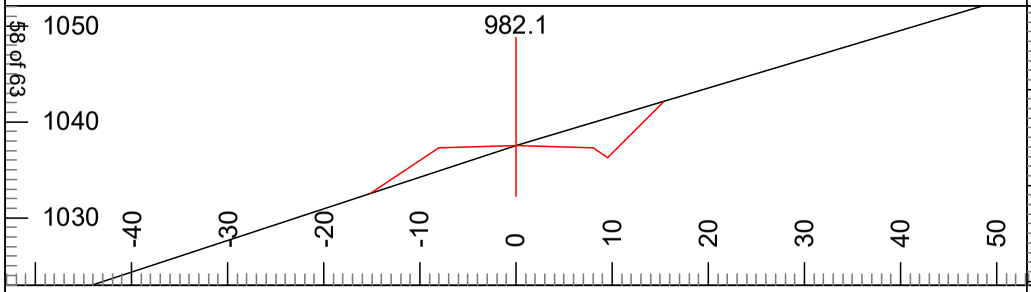

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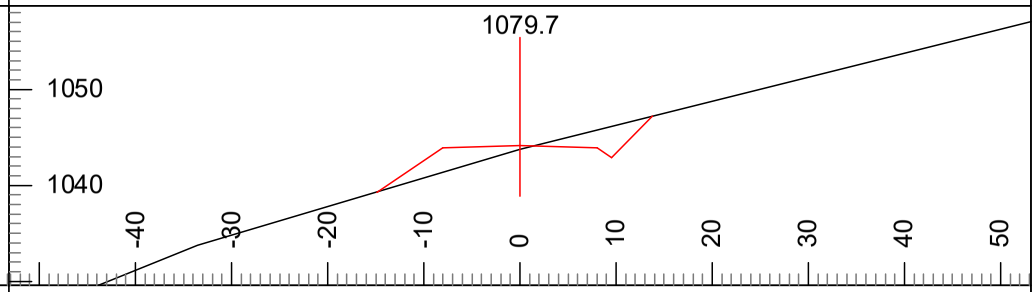

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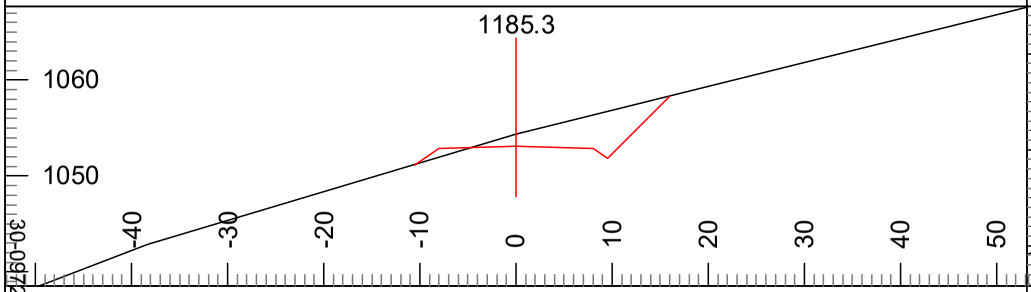

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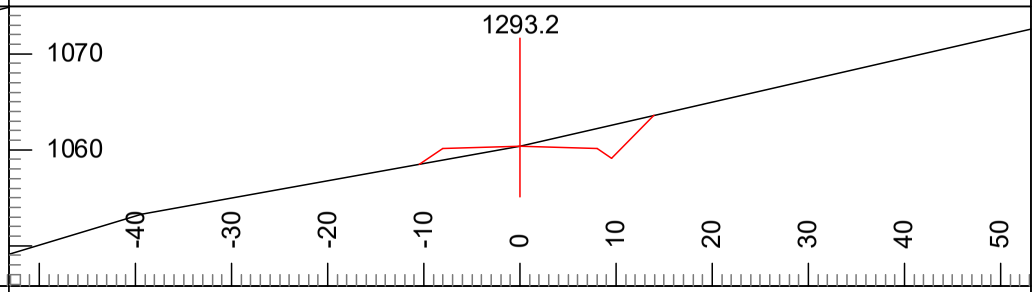

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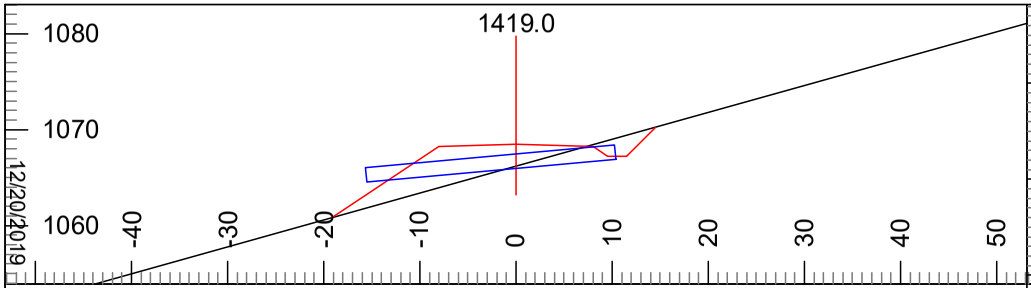

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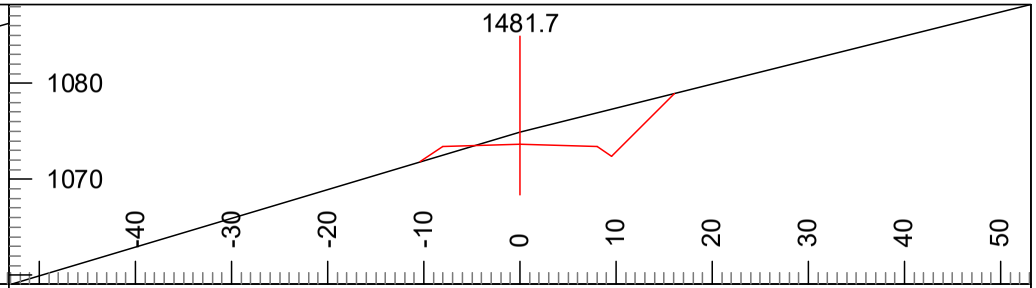

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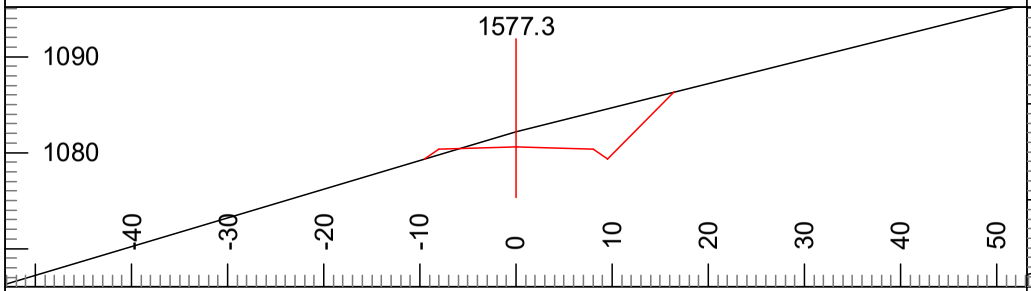

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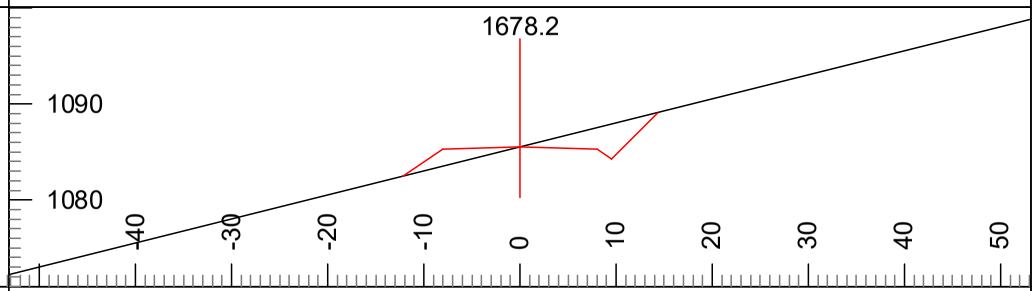

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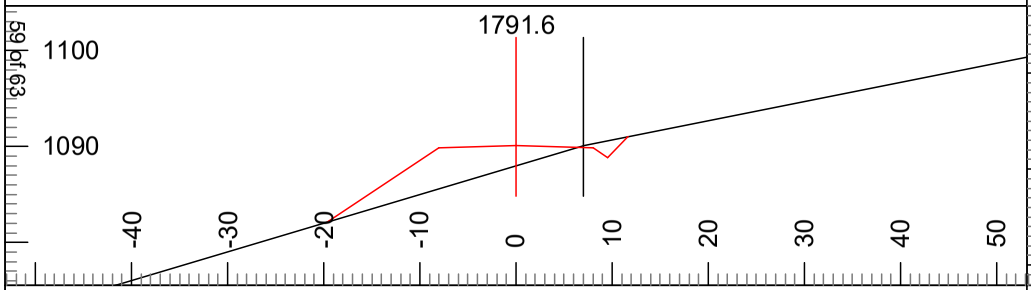

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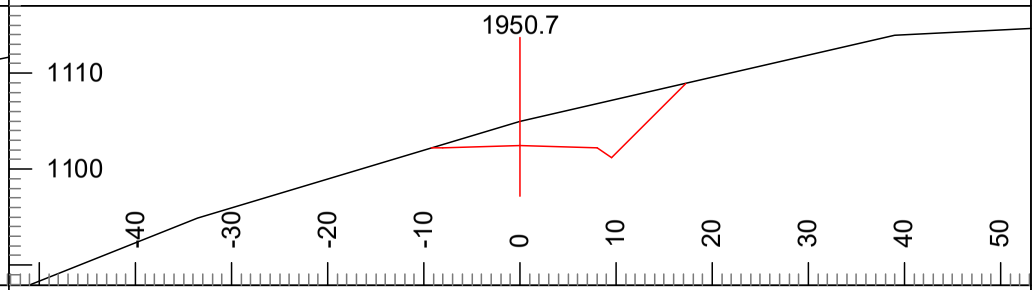

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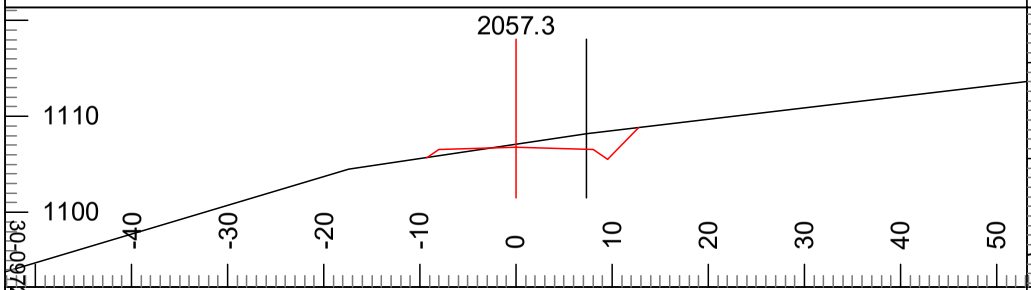

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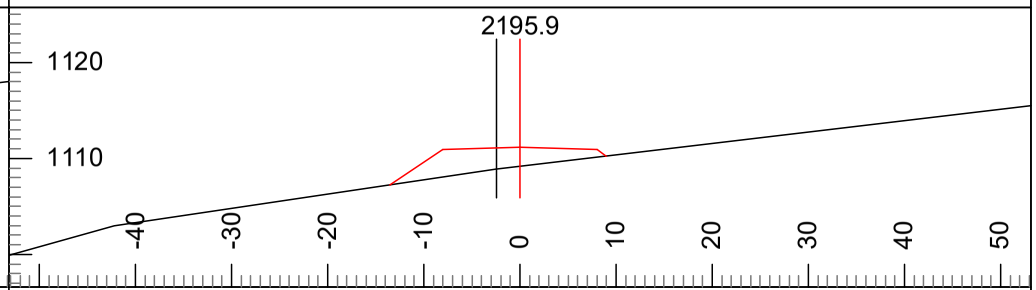

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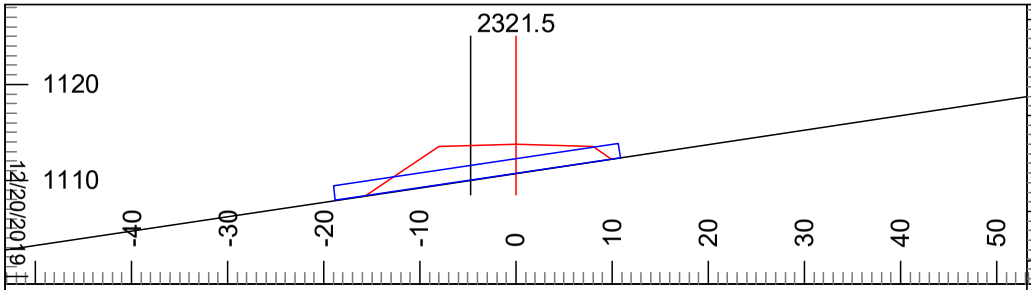
L-Stn : 2195.9 H. Offset: 2.5 Index: 324

Youbetcha Timber Sale B-3550 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: J. Gross 19/06/11 Page 6 of 7



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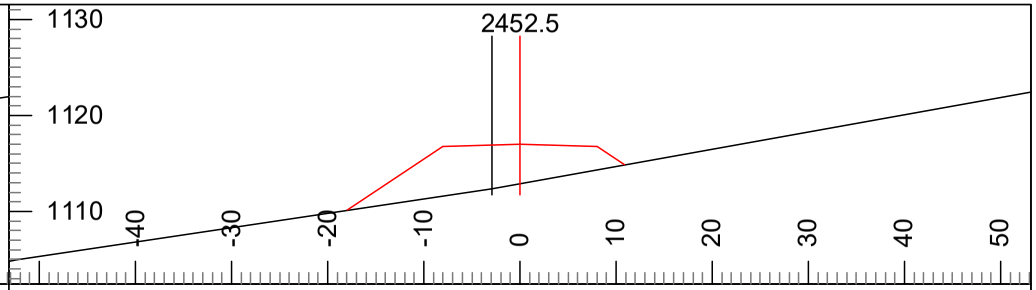

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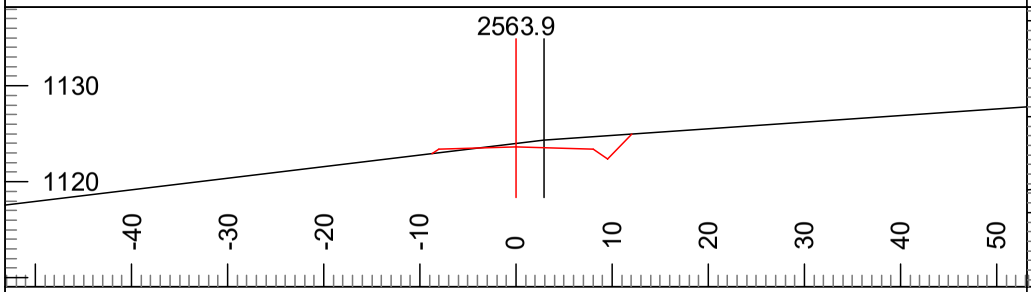

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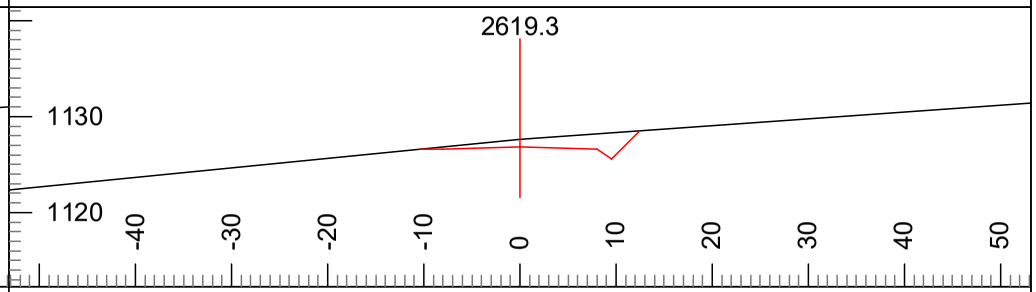

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12/20/2019

30-097291

Youbetcha Timber Sale B-3550 Road Contract#: 30-097291	Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: J. Gross 19/06/11

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
SOUTH PUGET SOUND REGION

TOO THIN QUARRY DEVELOPMENT PLAN

SE ¼, NW ¼, Section 4, Township 17 North, Range 04 West, W.M.

(Page 1 of 3)

1. Existing Shot Rock that has been left in place may be used from the source.

2. All vegetation including stumps shall be cleared a minimum of 20 feet beyond the top of all working faces.

3. Waste shall be deposited in areas designated by the Contract Administrator. Minimal acceptable compaction is achieved by placing waste material in 2 foot or shallower lifts and routing excavation equipment over the entire width of the lifts.

4. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in the designated waste area.

5. Quarry faces shall not exceed 35 feet in height and shall be sloped no steeper than 1/4:1.

6. Working bench width shall be a minimum of 30 feet.

7. The quarry floor shall have continuity of slope, providing drainage to the B-3300 road (south easterly direction) at a minimum of 2 percent.

8. The Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 3 days prior to any drilling (Form#M-126 PAC). Prior to blasting, the Purchaser shall ensure that the B-3000 road is clear of all human life, close the B-3000 to all traffic during blasting activities and maintain the B-3000 as closed to all traffic until the area has been determined safe from blasting activities.

9. Oversize material remaining in the rock source at the conclusion of use shall not exceed 2 percent of the total volume mined during that operation. Oversize material is defined as rock fragments larger than two feet in any direction. At the conclusion of operations, oversize material shall be placed as directed by the Contract Administrator.

10. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.

11. Upon completion of operations, the site shall be cleared of all temporary structures, equipment and rubbish, and shall be left in a neat and presentable condition.

TOO THIN QUARRY DEVELOPMENT PLAN

SE ¼, NW ¼, Section 4, Township 17 North, Range 04 West, W.M.

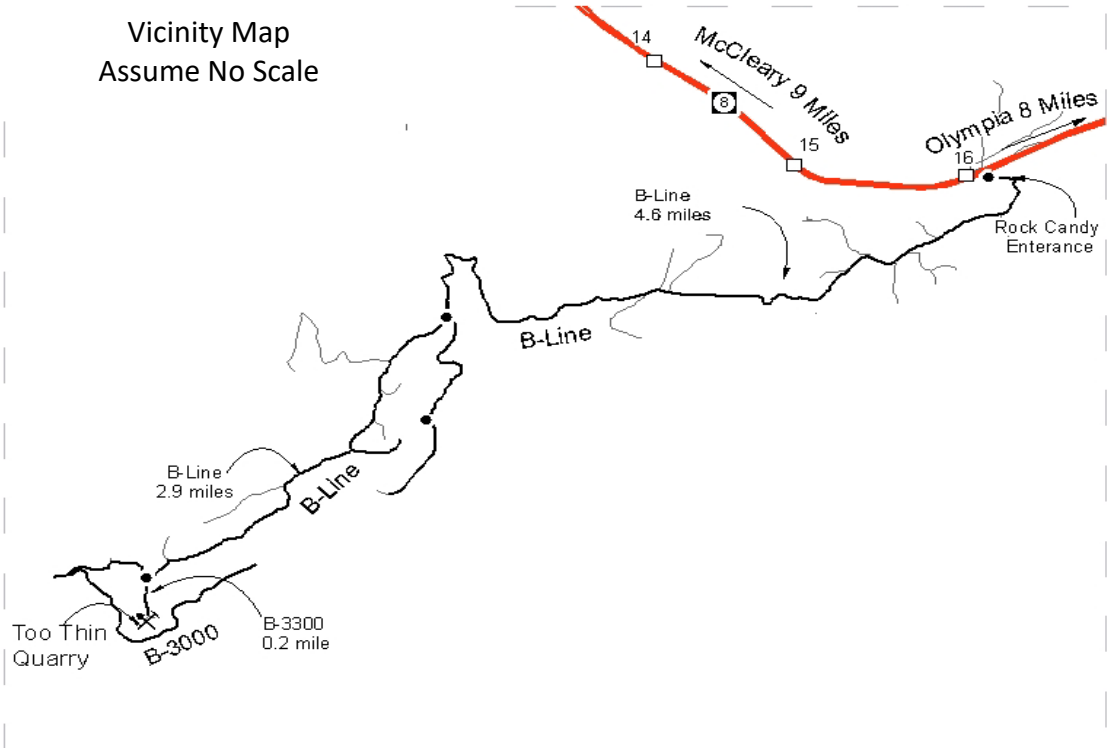
(Page 2 of 3)

12. At the end of operations, quarry faces and walls shall be scaled and cleared of loose and overhanging material. Benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life.

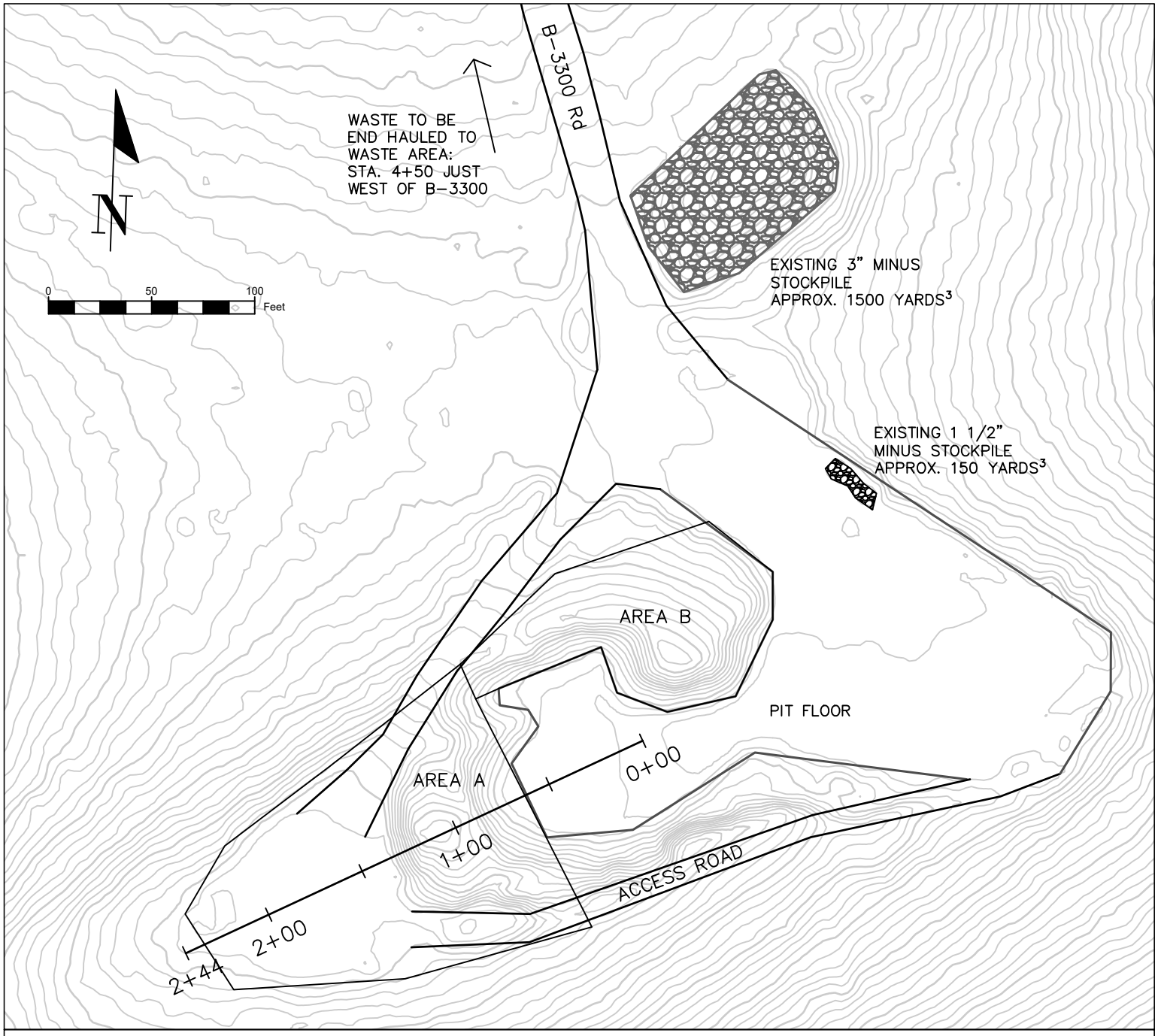
13. All operations shall be carried out in compliance with all regulations of:
    a. "Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations" (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
    b. "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.

14. At the completion of rock source operations, Purchaser shall ask Contract Administrator for written approval of final rock source condition and compliance with the terms of this plan.

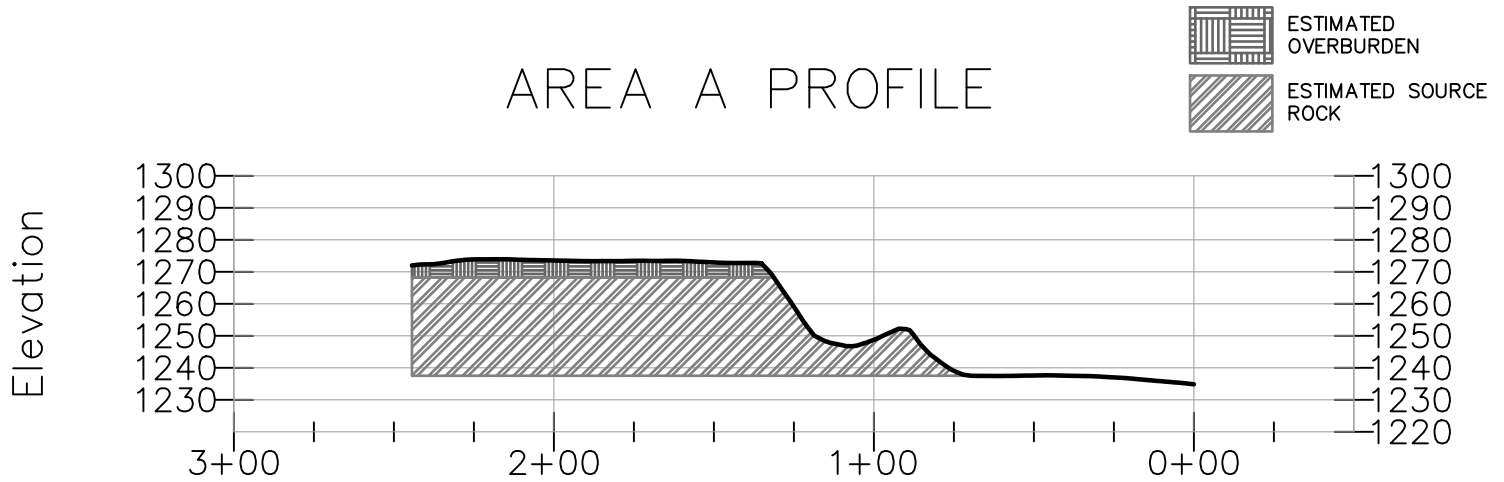
Vicinity Map
Assume No Scale



TOO THIN QUARRY PLAN



AREA A PROFILE



Drawn by: J. Gross

6/7/2019

DEPARTMENT OF NATURAL RESOURCES - SOUTH PUGET SOUND REGION

FORM 9-87(Rev. 01-09)

Road Development Cost Estimate

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

REGION: SPS UNIT: Delphi

SALE/PROJECT NAME: Youbetcha Timber Sale CONTRACT NUMBER: 30-097291

LEGAL DESCRIPTION:

ROAD NUMBER:		B-3310, B-3550	B-2800	A-Line, B-Line, B-0150, B-2700, B-3000, B-3000B, B-3300, B-4010
ROAD STANDARD:		Construction	Reconstruction	Pre-haul maintenance
NUMBER OF STATIONS:		43.49	17.50	989.59
SIDESLOPE:		20-40%	30%	0%
CLEARING AND GRUBBING:		$10,309	$1,050	
EXCAVATION AND FILL:		$10,873	$2,310	
MISC. MAINTENANCE:				$27,430
ROCK TOTALS (Cu. Yds.):				
Ballast/Quarry Spalls	5354	$59,504	$18,466	$0
Crushed Rock	10727	$0	$0	$170,415
CULVERTS AND FLUMES:		$3,593	$4,097	$31,721
STRUCTURES:		$0	$0	$0
GENERAL EXPENSES:		$6,742	$2,333	$18,365
MOBILIZATION:		$4,077	$4,077	$4,077
TOTAL COSTS:		$95,097	$32,332	$252,008
COST PER STATION:		$2,187	$1,848	$255

ROAD DEACTIVATION AND ABANDONMENT COSTS: $0

NOTE[1]: This appraisal has no allowance for profit and risk.

TOTAL (All Roads) = $379,437

SALE VOLUME MBF = 7,931

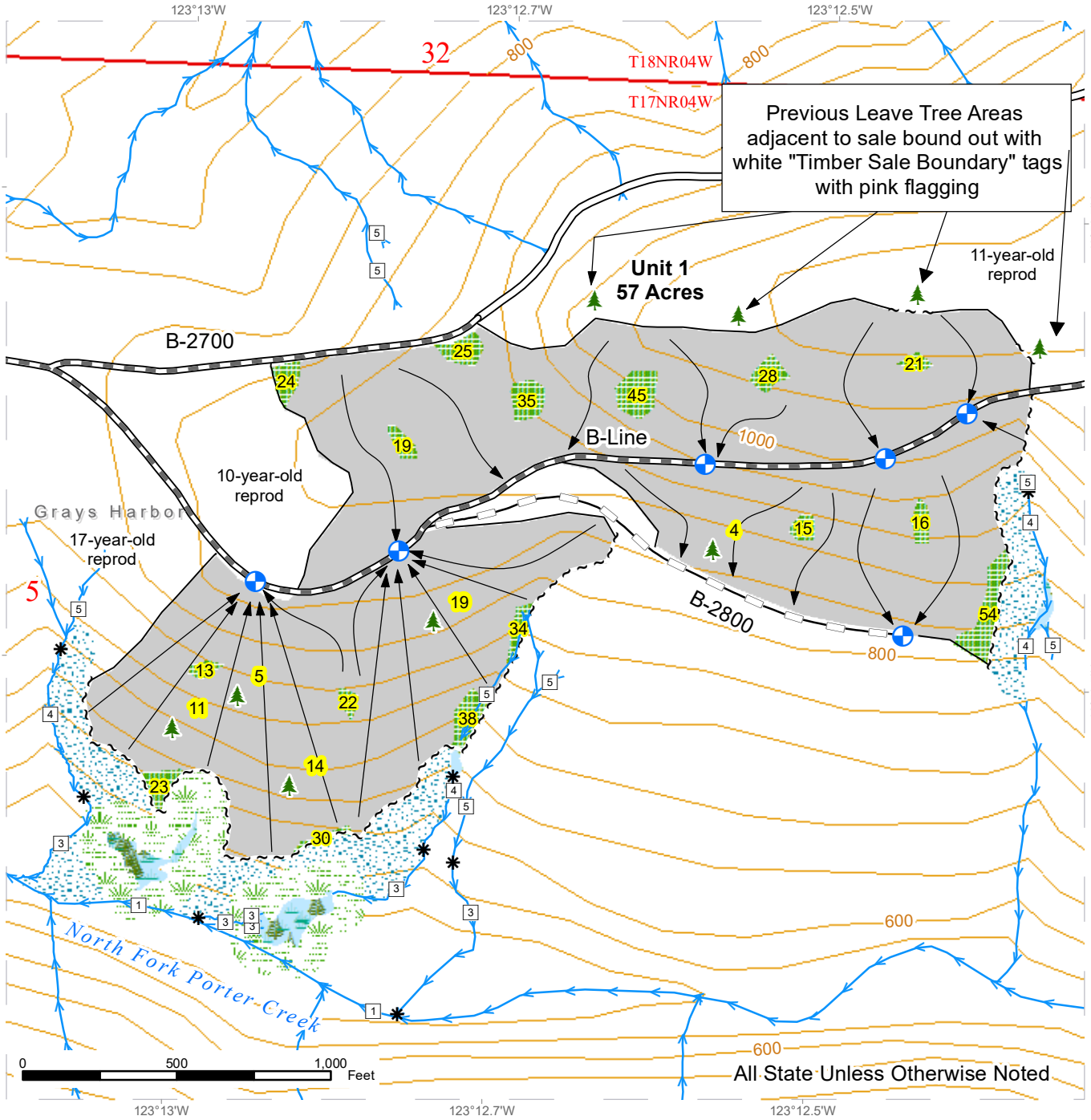
TOTAL COST PER MBF = $47.84

Date: 06/07/19

LOGGING PLAN MAP

SALE NAME: YOUBETCHA
AGREEMENT#: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



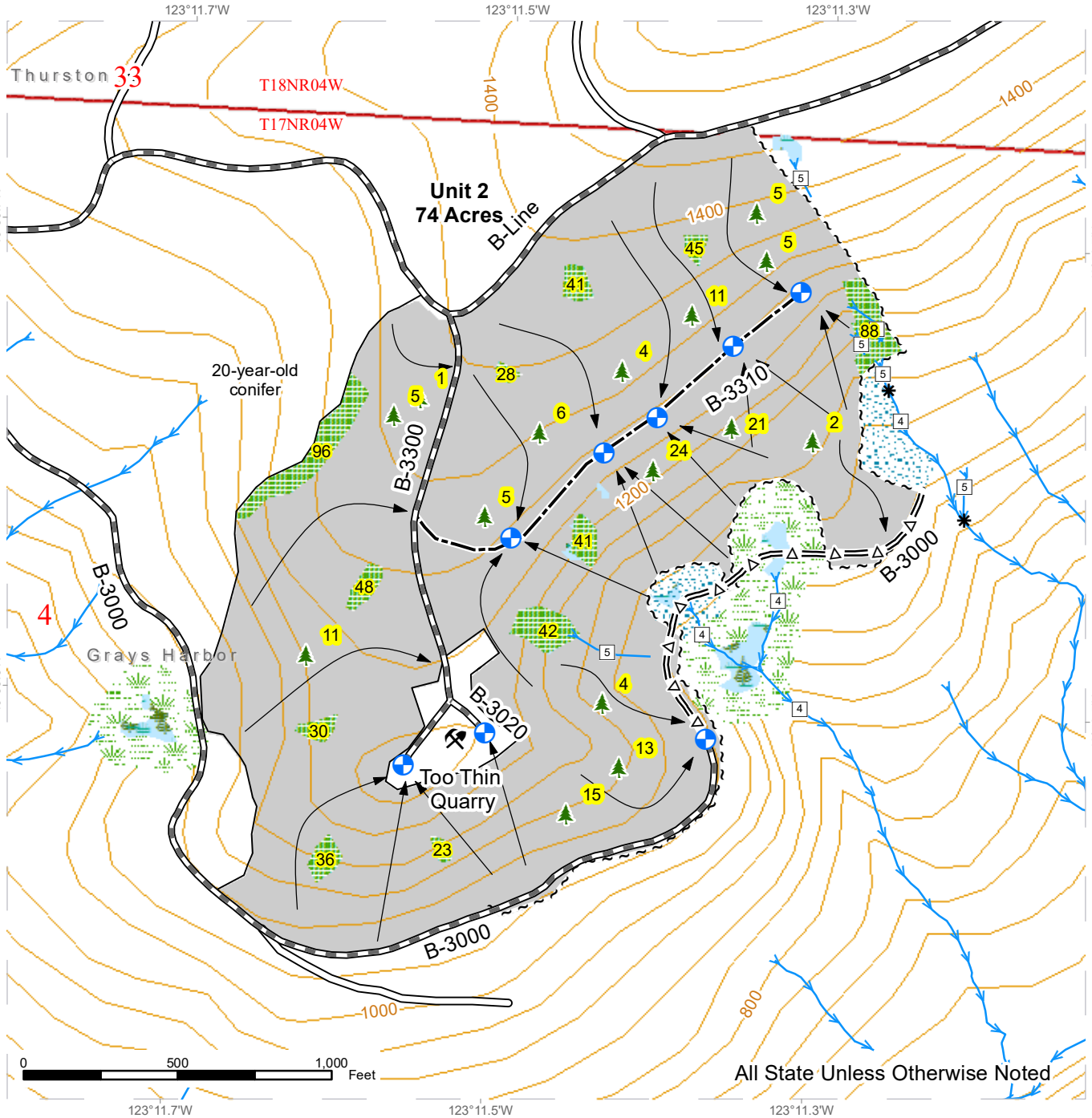
Sale Area	Sale Boundary Tags	Streams
Ground Harvest	Timber Type Change	Stream Type
Cable Harvest	Existing Roads	Stream Type Break
Leave Tree Area	Required Pre-Haul Maintenance	Landing - Proposed
Riparian Mgt Zone	Optional Reconstruction	Leave Tree Area <1/4-acre
Forested Wetland		Survey Monument
Wetland Mgt Zone		

N

LOGGING PLAN MAP

SALE NAME: YOUBETCHA
AGREEMENT#: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



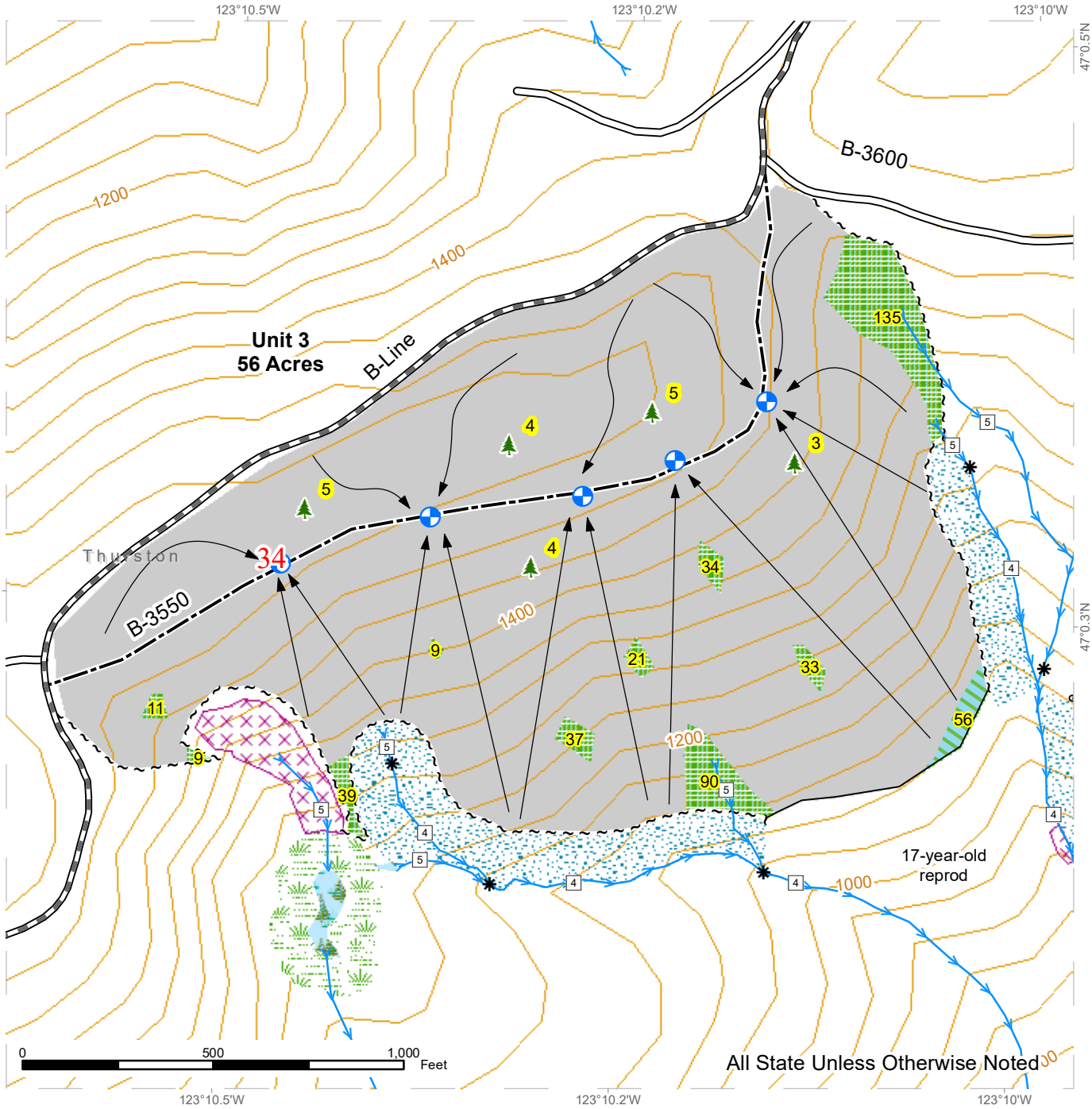
Sale Area	Sale Boundary Tags	Streams	
Ground Harvest	Timber Type Change	Stream Type	
Cable Harvest	Existing Roads	Stream Type Break	
Leave Tree Area	Required Pre-Haul Maintenance	Landing - Proposed	
Riparian Mgt Zone	Optional Pre-Haul Maintenance	Leave Tree Area <1/4-acre	
Forested Wetland	Optional Construction	Rock Pit	
Wetland Mgt Zone			

N

LOGGING PLAN MAP

SALE NAME: YOUBETCHA
AGREEMENT#: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 526-1555



Sale Area	Sale Boundary Tags	Streams
Ground Harvest	Timber Type Change	Stream Type
Cable Harvest	Existing Roads	Stream Type Break
Leave Tree Area	Required Pre-Haul Maintenance	Landing - Proposed
Riparian Mgt Zone	Optional Construction	Leave Tree Area <1/4-acre
Forested Wetland		
Wetland Mgt Zone		
Tailhold Restriction Area		
Non-Tradeable Leave Tree Area		

N

LOGGING PLAN MAP

SALE NAME: YOUBETCHA
AGREEMENT#: 30-097291
TOWNSHIP(S): T17R4W, T18R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
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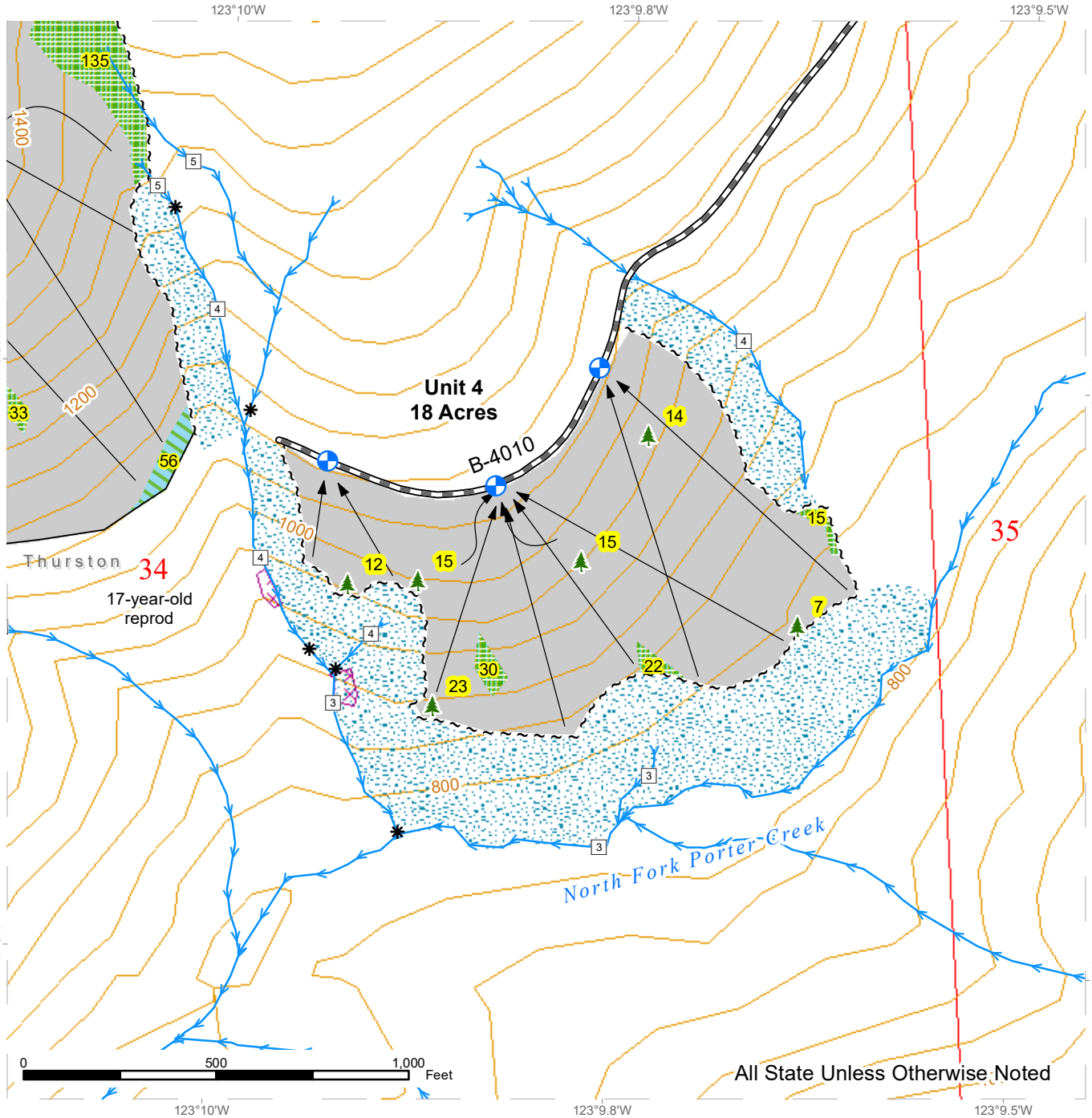

Sale Area
Ground Harvest
Cable Harvest
Leave Tree Area
Riparian Mgt Zone
Tailhold Restriction Area
Non-Tradeable Leave Tree Area
Sale Boundary Tags
Timber Type Change
Required Pre-Haul Maintenance
Streams
Stream Type
Stream Type Break
Landing - Proposed
Leave Tree Area <1/4-acre

N