



TIMBER NOTICE OF SALE

SALE NAME: TAILINGS

AGREEMENT NO: 30-095702

AUCTION: January 28, 2020 starting at 10:00 a.m., **COUNTY:** Kitsap
South Puget Sound Region Office, Enumclaw, WA

SALE LOCATION: Sale located approximately 13 miles north of Belfair.

**PRODUCTS SOLD
AND SALE AREA:**

All timber, except 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 and property line in Unit #1; white timber sale boundary tags, and property line in Units #3, and #4; white timber sale boundary tags, and timber type change marked with pink flagging in Unit #5;

All timber, except trees marked with blue paint or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white timber sale boundary tags, and property line in Unit #2; white timber sale boundary tags, timber type change marked with pink flagging, and the GM-45 Road in Unit #7; white timber sale boundary tags, timber type change marked with pink flagging and the GM-4 and GM-42 roads in Unit #8;

All timber, except trees marked with blue paint, 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 GM-4 Road in Unit #6;

All timber bounded by orange right of way tags, except that title to the timber within the right of way tags is not conveyed to the Purchaser unless the road segment is actually constructed in Units #9, #10, #11, and #12;

All forest products above located on part(s) of Sections 3, 10, 15 and 22 all in Township 24 North, Range 1 West, W.M., containing 119 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: PwC-SFIFM-513) and FSC 100% raw materials under the Forest Stewardship Council® Standard (cert no: BV-FM/COC-080501).

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	16.5	8	2,457				173		1,204	679	387	14
Hemlock	14	10	912						290	366	190	66
Red alder	13.4		102						7	38	45	12
Maple	11.7		82						11	36	19	16
Red cedar	15.7		43							25	18	
White pine	31		7						7			
Sale Total			3,603									

MINIMUM BID: \$863,000.00 **BID METHOD:** Sealed Bids

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



TIMBER NOTICE OF SALE

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

BID DEPOSIT: \$86,300.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Harvest activities are estimated to be 28 percent uphill cable and 72 percent ground based harvest. Cable or ground based equipment, with cable-tethered equipment limited to sustained slopes 75 percent or less, self-leveling equipment limited to sustained slopes 65 percent or less, and ground based equipment limited to sustained slopes 45 percent or less. Yarding may be restricted during wet weather if rutting becomes excessive, per clause H-017.

Falling, yarding, and timber haul, except on the 5000 and 5400 roads, will not be permitted from November 1 to April 30, 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, preventative measures may be required to protect water, soil, roads and other forest assets. Timber haul on the 5000 and 5400 roads will not be permitted from October 15 to April 15, unless authority to do so is granted in writing by the State.

In addition to the above restriction, falling, yarding, and timber haul in Unit #8 will not be permitted weekdays from 7:00 pm to 7:00 am, weekends or State recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator.

ROADS: 71.92 stations of optional construction. 472.38 stations of required prehaul maintenance. 344.47 stations of required post-haul maintenance. 28.56 stations of required abandonment, if constructed. Purchaser maintenance on all roads used.

Rock for this proposal may be obtained from the State owned Horse Camp Pit, Golden Pit or 452 Pit at no cost to the Purchaser or any commercial rock source at the Purchaser's expense. If Purchaser elects to use the Horse Camp Pit, rock source development work is required per Road Plan clauses 6-10, 6-12 and 6-14.

Road construction in all units will not be permitted from November 1 to April 30, unless approved 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.

Rock haul on the 5000 and 5400 roads will not be permitted from October 15 to April 15, unless approved in writing by the State. See Road Use Permit No. 55-099016 for additional details.

In addition to the above restrictions, road construction and rock haul in Unit #8 only will not be permitted weekdays from 7:00 pm to 7:00 am, weekends or State recognized holidays, unless approved in writing by the Contract Administrator.

ACREAGE DETERMINATION

CRUISE METHOD: Acreage was determined by traversing boundaries by GPS. See cruise narrative for cruise method.

FEES: \$61,251.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This sale contains Douglas fir high quality logs.



TIMBER NOTICE OF SALE

Trees marked with a pink "X" within Units #2, #3, and #4 are the last take trees near the property boundary. These are marked for visual aid only. It is the Purchaser's responsibility to verify location of the sale boundary as defined by the Products Sold and Sale Area description.

This proposal includes the replacement of 2 culverts and the installation of one culvert on the GM-4 Road and four replacement culverts on the GM-3 Road.

The temporary culvert on the GM-461 Road has a work window between July 15 to September 30, which includes the construction of the crossing, as well as abandonment and removal of the culvert. Culvert is a contingency and Purchaser is allowed to use the existing structure or install the culvert. Mitigation is required at this temporary Type 3 crossing as stated in Road Plan clauses 3-6 and 3-11. Abandonment of this crossing is required regardless of which structure is used.

Tailhold restriction areas apply outside the sale boundary per contract clause H-141.

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

Units #1 - #7 can be inaccessible due to snow from approximately November through April. Contact Nick Chicano at 360-509-1079 for current road conditions.

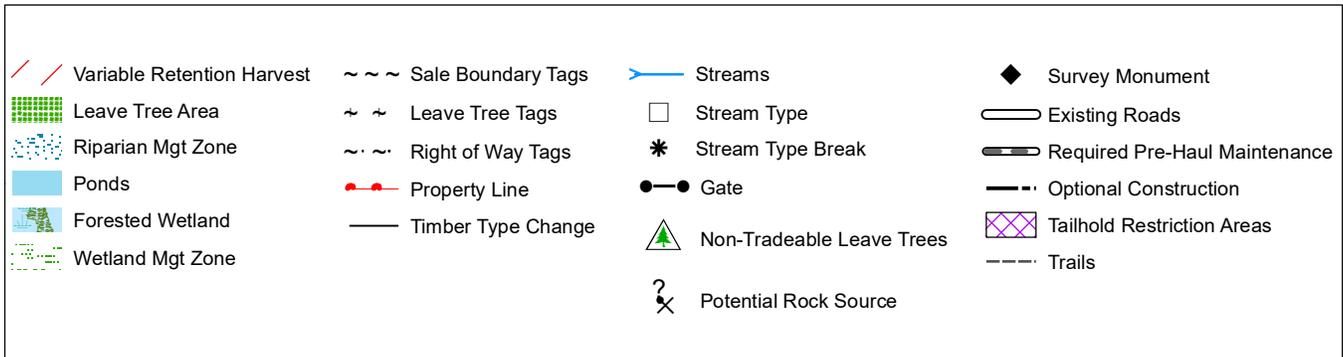
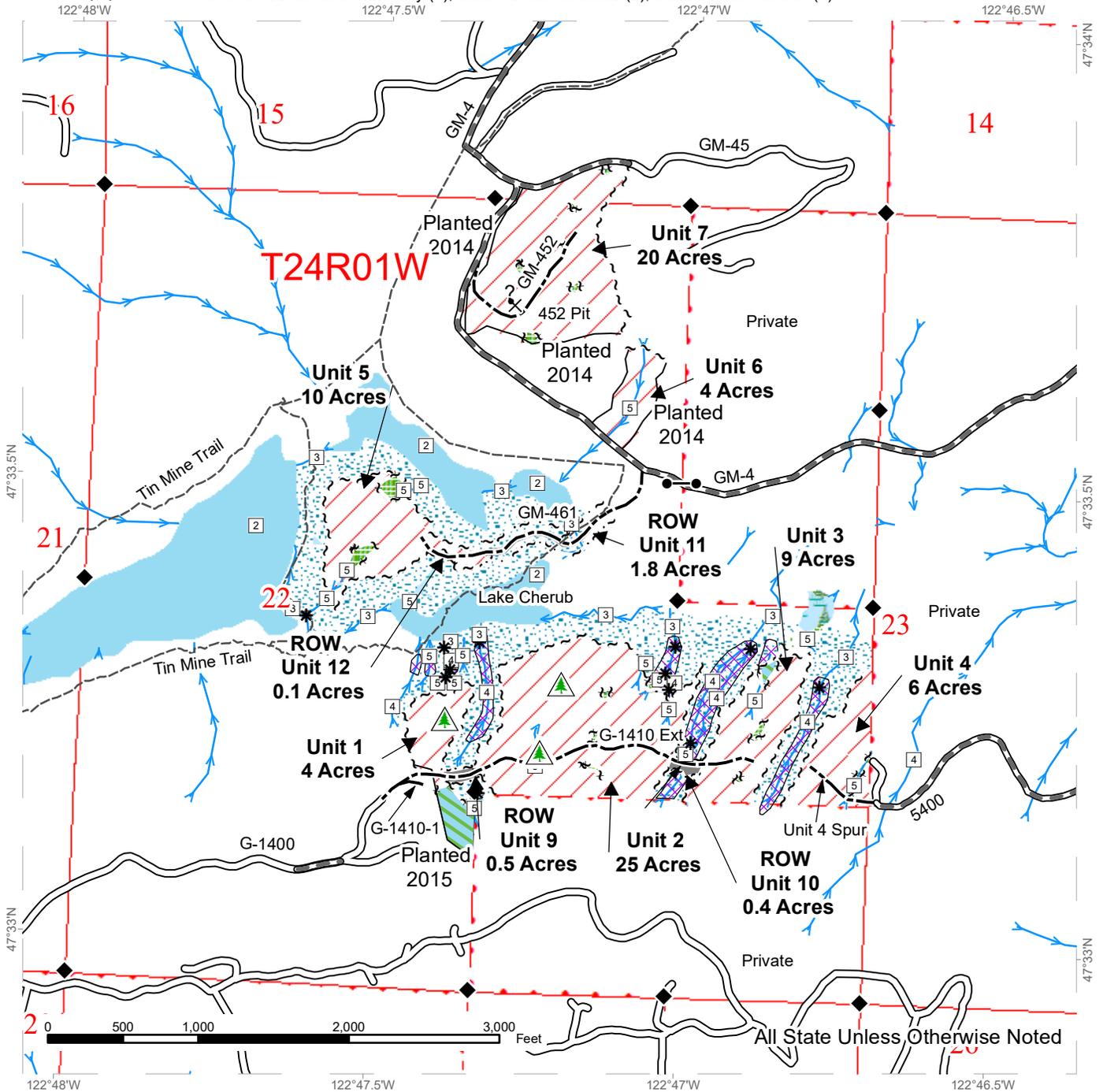
Road Use Permit (RUP) No. 55-099016 with City of Bremerton, Public Works and Utilities has been obtained for the use of the 5000 and 5400 roads within Sections 22 and 23-24N-01W. See the RUP for additional details, including extra requirements the Grantor may impose for Fire Prevention and Control.

See map for gate locations. Gate keys may be obtained by contacting the South Puget Sound Region Office at 360-825-1631 or by contacting Nick Chicano at 360-509-1079.

TIMBER SALE MAP

SALE NAME: TAILINGS
AGREEMENT #: 30-095702
TOWNSHIP(S): T24R1W
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

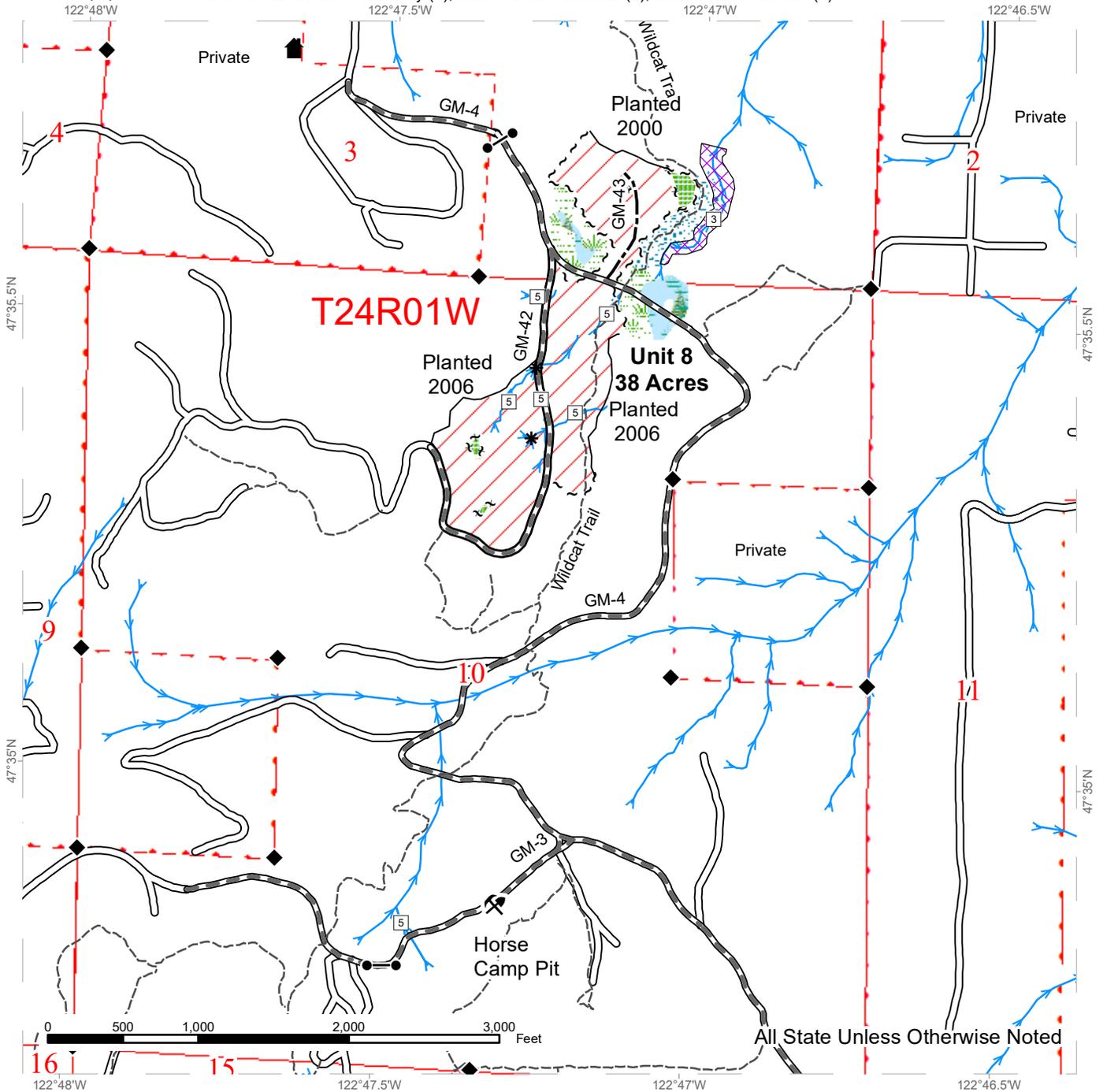
REGION: South Puget Sound Region
COUNTY(S): Kitsap
ELEVATION RGE: 640-1360



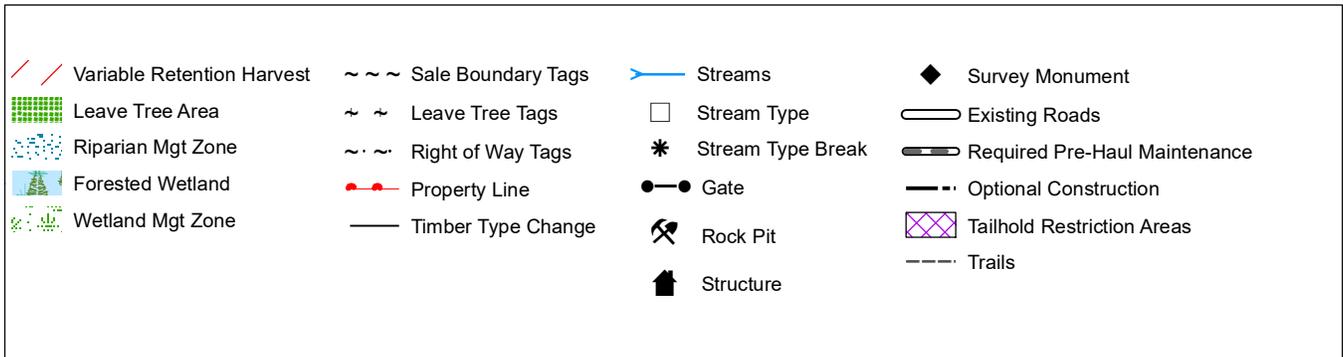
TIMBER SALE MAP

SALE NAME: TAILINGS
AGREEMENT #: 30-095702
TOWNSHIP(S): T24R1W
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Kitsap
ELEVATION RGE: 640-1360



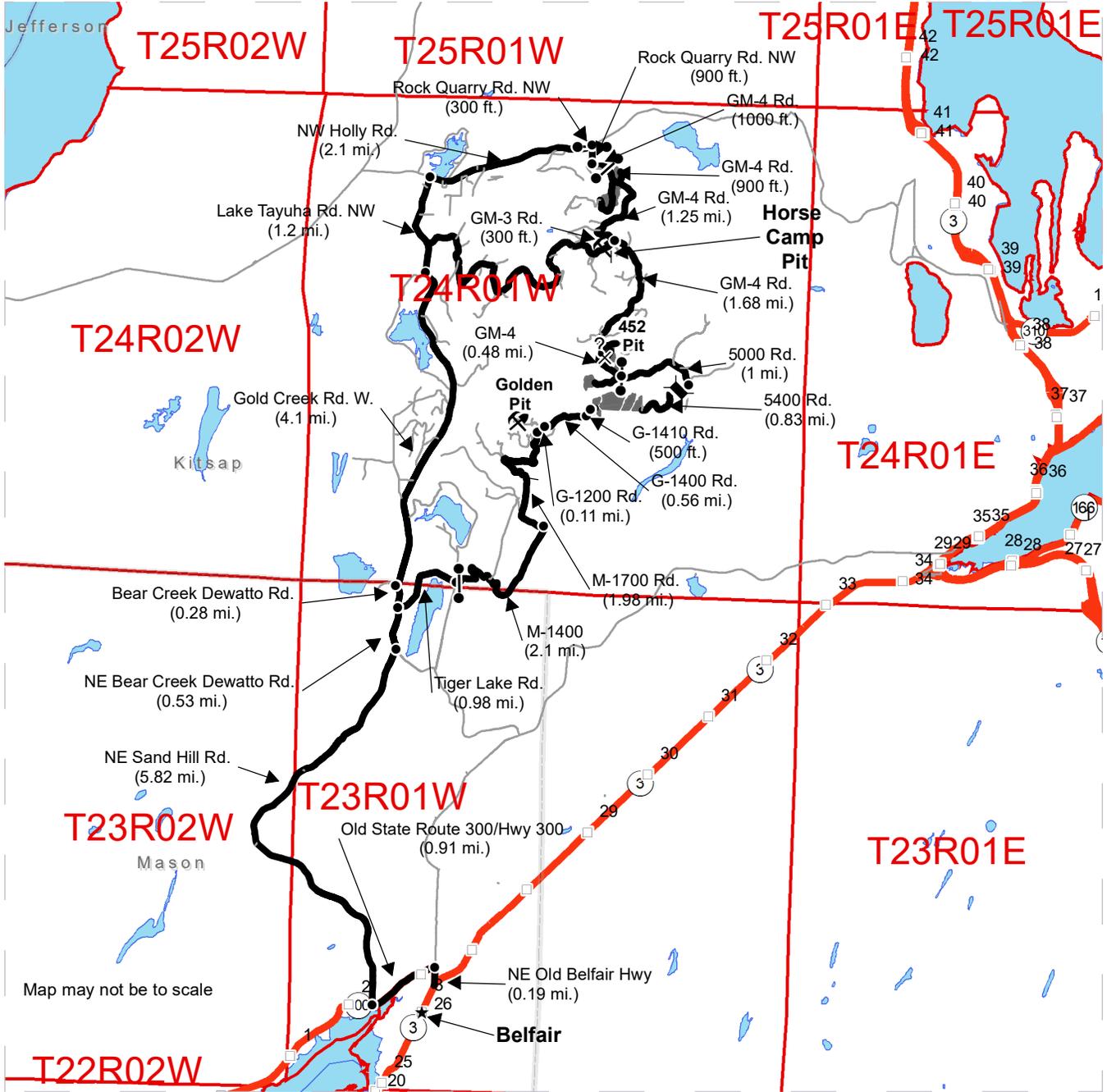
All State Unless Otherwise Noted



DRIVING MAP

SALE NAME: TAILINGS
AGREEMENT#: 30-095702
TOWNSHIP(S): T24R1W
TRUST(S): Common School and Indemnity (3), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Kitsap
ELEVATION RGE: 816-1756



- Timber Sale Unit
- Haul Route
- Other Road
- Milepost Markers
- Bridge
- Distance Indicator
- Gate (Master 786)
- Potential Rock Source
- Rock Pit
- Town

See next page for driving directions



Units 1, 2 and 3: From Belfair travel onto NE Old Belfair Hwy (0.19 mi). Turn left onto NE Old State Route 300/Hwy 300 (0.91 mi). Take 2nd right onto NE Sand Hill Rd. (5.82 mi). Turn left onto NE Bear Creek Dewatto Rd. (0.53 mi). Turn right onto Tiger Lake Rd. (0.98 mi). Go straight through gate #237 (lock #786) onto M-1400 Rd. (2.1 mi). Turn left onto M-1700 Rd. (1.98 mi). Turn right onto G-1200 Rd. (0.11 mi). Turn left at the G-1400 Rd. (0.56 mi). Turn left onto G-1410 Rd. (500'). At the end road walk 420' through a young plantation to Unit 1. Continue walking 320' through ROW to reach Unit 2. Walk another 900' through ROW to reach Unit 3.

Unit 8: From NE Bear Creek Dewatto Rd/Tiger Lake Rd. junction, continue down Bear Creek Dewatto Rd. (0.28 mi). Turn right onto Gold Creek Rd. W (4.1 mi). Turn right onto Lake Tahuya Rd. NW (1.2 mi). Turn right onto NW Holly Rd. (2.1 mi.). Turn right onto Rock Quarry Rd. NW (300'). Go through gate #214 (lock #786). Continue down Rock Quarry Rd. (900'). Turn left onto GM-4 Rd. (1000'). Go through gate #215 (lock #786). Continue down GM-4 Rd. (900') and arrive at unit 8.

Unit 7: From unit 8 continue down GM-4 Rd. (1.25 mi.). Stay right on GM-4 (1.68 mi.) and arrive at unit 7.

Unit 6: From unit 7 continue to the right down the GM-4 Rd. (0.48 mi) and arrive at unit 6.

Unit 5: From unit 6 continue down the GM-4 Rd. (400'). To reach unit 5 walk (0.24 mi) down trail and arrive at unit 5

Unit 4: From unit 6 continue down the GM-4 Rd. (700') to gate #255 (lock #786) where the GM-4 Rd. becomes the 5000 Rd. Continue down the 5000 Rd. (1 mi). Turn right at the 5400 Rd. (0.83 mi) and arrive at unit 4.

Horse Camp Pit: From unit 8 go down the GM-4 Rd. (1.25 mi). Turn right at the GM-3 Rd. (300') and arrive at the pit.

Golden Pit: From the intersection of the M-1700, G-1200, and G-1000 roads turn left down the G-1000 road (0.3 mi) and arrive at the Golden Pit.

**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-095702

SALE NAME: TAILINGS

**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 January 28, 2020 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except trees 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 and property line in Unit #1; white timber sale boundary tags, and property line in Units #3, and #4; white timber sale boundary tags, and timber type change marked with pink flagging in Unit #5;

All timber, except trees marked with blue paint or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white timber sale boundary tags, and property line in Unit #2; white timber sale boundary tags, timber type change marked with pink flagging, and the GM-45 Road in Unit #7; white timber sale boundary tags, timber type change marked with pink flagging and the GM-4 and GM-42 roads in Unit #8;

All timber, except trees marked with blue paint, 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 GM-4 Road in Unit #6;

All timber bounded by orange right of way tags, except that title to the timber within the right of way tags is not conveyed to the Purchaser unless the road segment is actually constructed in Units #9, #10, #11, and #12;

All forest products above located, located on approximately 119 acres on part(s) of Sections 3, 10, 15, and 22 all in Township 24 North, Range 1 West W.M. in Kitsap County(s) as designated on the sale area and as shown on the attached timber sale map.

All forest products described above from the bole of the tree that meet or exceed 2 inches diameter inside bark on the small end are eligible for removal. Above ground components of a tree that remain as by-products after the manufacture of logs,

including but not limited to tree tops, branches, limbs, needles, leaves, stumps, are not eligible for removal under the terms of this contract.

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	Recreation Trail Clean Out and Repair

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 \$761.00 per acre per annum for the acres on which an operating release has not been issued in all units.
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

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

- b. The **CONDITION** of the forest products. The forest products will be conveyed "AS IS."
- c. The **ACREAGE** contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The **VOLUME, QUALITY, OR GRADE** of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.
- e. The **CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE.** These documents have been prepared for the State's appraisal purposes only.
- f. **THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES** or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.
- g. **THAT THE FORESTRY OPERATIONS** to be performed under this contract **WILL BE FREE FROM REGULATORY ACTIONS** by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.
- h. Items contained in any other documents prepared for or by the State.

G-062 Habitat Conservation Plan

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

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

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

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

G-063 Incidental Take Permit Notification Requirements

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

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

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-111 Title and Risk of Loss

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

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

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

The repair work identified by the State shall be promptly completed by Purchaser at an agreed price. The State may elect to accomplish repairs by means of State-provided

resources. The State will bear the cost to repair damages caused by a third party. In all other cases, the Purchaser shall bear responsibility for the costs as described below.

For each event, Purchaser shall be solely responsible for the initial \$5,000 in repairs. For repairs in excess of \$5,000, the parties shall share equally the portion of costs between \$5,000 and \$15,000. The State shall be solely responsible for the portion of the cost of repairs that exceed \$15,000.

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

G-140 Indemnity

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

G-150 Insurance

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

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

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

1. Insurers subject to Chapter 48.18 RCW (admitted and regulated by the Insurance Commissioner): The insurer shall give the State 45 days advance notice of cancellation or non-renewal. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.
2. Insurers subject to Chapter 48.15 RCW (surplus lines): The State shall be given 20 days advance notice of cancellation. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.

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

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

The State of Washington, Department of Natural Resources, its elected and appointed officials, agents and employees shall be named as an additional insured 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; Unit 4 Spur, Old GM-1, GM-1, GM-3, GM-4, GM-42, GM-43, GM-45, GM-452, GM-461, G-1000, G-1200, G-1400, G-1410, G-1410 Ext., G-1410-1, G-1420, 5000, 5400, M-1400, M-1700, an Rock Quarry roads. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

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

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-370 Blocking Roads

Purchaser shall not block the GM-4 Road, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easement No. 55-000724 entered into between State of Washington, Department of Natural Resources and Kitsap County Board of County Commissioners, dated September 27, 1971.

Easement No. 55-000786 entered into between State of Washington, Department of Natural Resources and Pope & Talbot, Inc., dated April 1, 1975.

Road Use Permit No. 55-099016 entered into between Department of Natural Resources and City of Bremerton, Public Works and Utilities, dated July 18, 2019.

G-430 Open Fires

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

G-450 Encumbrances

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

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

Section P: Payments and Securities

P-011 Initial Deposit

Purchaser paid DATA MISSING initial deposit, which will be maintained pursuant to RCW 79.15.100(3). If the operating authority on this contract expires without Purchaser's payment of the full amount specified in Clause P-020, the initial deposit will be immediately forfeited to the State, and will be offset against Purchaser's remaining balance due. Any excess initial deposit funds not needed to ensure full payment of the contract price, or not needed to complete any remaining obligations of the Purchaser existing after contract expiration, will be refunded to the Purchaser.

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$93,678.00. The total contract price consists of a \$0.00 contract bid price plus \$93,678.00 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 the timber sale area. The plan shall address the safety for hauling on and operating near roads used by recreationalists and operations near homes, and trees cut within right of way units, 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 or ground based equipment, with cable-tethered equipment limited to sustained slopes 75 percent or less, self-leveling equipment limited to sustained slopes 65 percent or less, and ground based equipment limited to sustained slopes 45 percent or less. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-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-127 Tailholds on Private Land

If Purchaser chooses to tailhold on private property, Purchaser shall obtain permit(s) and assumes responsibility for all costs and damages associated with the permit(s). Purchaser must provide the State with a copy of the executed permit(s) or a letter from the landowner indicating that a satisfactory tailhold permit(s) has been consummated between Purchaser and the landowner.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Falling, yarding, and timber haul, except on the 5000 and 5400 roads, will not be permitted from November 1 to April 30, 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, preventative measures may be required to protect water, soil, roads and other forest assets.
- b. Equipment limitation zones are required within 30 feet of Type 5 streams.
- c. Crossing of Type 5 streams may be allowed at locations approved in writing by the Contract Administrator within Unit #1. 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.

- d. Existing downed logs shall not be removed and remain in their original locations. Any downed trees or logs yarding to the landing will be returned to their original location.
- e. Any and all operations associated with this sale may be temporarily suspended when, in the opinion of the Contract Administrator, there is the potential for delivery to typed water.
- f. No equipment shall operate, or trees felled or damaged, outside the timber sale boundary.
- g. 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.
- h. Skid trail closure will occur immediately upon completion of yarding all tributary timber. Closure shall consist of creating plantable spots at approximately 11.5 foot by 11.5 foot spacing to facilitate reforestation and creating water bars or other methods as directed by the Contract Administrator to prevent water accumulation and sediment movement.
- i. 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.
- j. Purchaser shall cut all vine maple within the harvest unit(s), leaving a stump no more than 12 inches in height.
- k. 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.
- l. Within shovel logging areas, and when yarding and loading operations are occurring simultaneously, an additional shovel will be required for loading to avoid extra trips to the landing. No more than one round trip per shovel road is allowed.
- m. No more than two skid trails shall be open to active skidding at any one time.

- n. In the event operations become inactive for long periods of time, skid trails shall be water barred prior to completion of yarding tributary timber to prevent water accumulation and sediment movement, if required by the Contract Administrator.
- o. Once a skid trail is closed, the Purchaser shall not reopen a skid trail unless approve in writing by the Contract Administrator.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Leave 2 down logs per acre. A log is defined as having a minimum diameter of 12 inches on the small end of the log and a minimum length of 20 feet or at least 100 board feet.
- b. No equipment may operate within, nor logs yarded through or over, leave tree clumps marked with yellow leave tree area tags within Units #1, #2, #3, #4, #5, #7, and #8.
- c. Areas restricting operations are located within and outside the sale boundary.
 - Locations inside the sale boundary are identified as Non-Tradeable Leave Trees marked with yellow Leave Tree Area tags as shown on the Timber Sale and Logging Plan Maps inside which no trees may be used as tailholds and no equipment may operate within, nor logs yarded through or over.
 - Locations outside the sale boundary are identified as Tailhold Restriction Areas on the Logging Plan and Timber Sales Maps. Trees within these areas shall not be used as tailholds.
- d. Timber haul on the 5000 and 5400 roads will not be permitted from October 15 to April 15.
- e. Hauling on the 5000 and 5400 roads will not be permitted from October 15 to April 15, unless authority to do so is granted in writing by the State.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

Section C: Construction and Maintenance**C-040 Road Plan**

Road construction and associated work provisions of the Road Plan for this sale, dated 4/29/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

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

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 GM-4 road(s).

C-140 Water Bars

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

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

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

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

S-010 Fire Hazardous Conditions

Purchaser acknowledges that operations under this Contract may increase the risk of fire. Purchaser shall conduct all operations under this agreement following the

requirements of WAC 332-24-005 and WAC 332-24-405 and further agrees to use the highest degree of care to prevent uncontrolled fires from starting.

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

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

S-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 any stream as a result of operations under this contract and which is identified by the Contract Administrator shall be removed and deposited in a stable position. Removal of slash or debris shall be accomplished in a manner that avoids damage to the natural stream bed and bank vegetation.

S-110 Resource Protection

No equipment may operate within the Riparian or Wetland Management Zones or within 30 feet of Type 5 streams unless authority is granted in writing by the Contract Administrator.

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.

DRAFT

DRAFT

DRAFT

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Print Name

Date: _____

Address: _____

Scott Sargent

South Puget Sound Region Manager

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 _____

Schedule A
Recreation Trail Clean Out and Repair

This schedule applies to the Wildcat Trail.

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

- If needed, upon completion of harvest activities Purchaser shall locate the original recreation trail with pink fluorescent flagging. The CA will then approve the trail location in writing and repair/clean out can begin.
- The CA may require cleanout of the trail prior to completion of harvest, if there is a delay in harvesting activities.

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

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

All work described above shall be done as determined by the CA. The logging release for Unit #8 will not be issued until repair and clean out is completed and approved in writing by the CA.



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
FOREST EXCISE TAX ROAD SUMMARY SHEET

Region:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

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

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

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

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

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

EXCISE TAX EXEMPT ACTIVITIES

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

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

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

PRE-CRUISE NARRATIVE

Sale Name: Tailings	Region: South Puget Sound
Agreement #: 30-095702	District: Hood Canal
Contact Forester: Nick Chicano	Phone/ Location: (360)-509-1079 Ext: /
Alternate Contact: Roger Hart	Phone/ Location: (360)-277-8008 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?: **Evaluation was completed**

Percentage cable (specify downhill vs uphill): **Uphill 28%**

Percentage ground based: **72%**

Species Onsite: RC, DF, WH, RA, BC, BLM, NF, SF, SS, Other:(Please List)

WWP, LPP, PM

UNIT ACREAGES* AND METHOD OF DETERMINATION:

Unit #	Harvest R/W or RMZ WMZ	Legal Description Sec/Twp/Rng	Grant	Gross Traversed Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method, dimensions and error of closure if applicable)
					RMZ/WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1		Sec 22/ T 24N/ R 1 W	01, 03	5.7		1.7			4.0	GPS Garmin 64s
2		Sec 22/ T 24N/ R 1 W	01	26.1		.7			25.3	GPS Garmin 64s
3		Sec 22/ T 24N/ R 1 W	01	9.5		.4			9.1	GPS Garmin 64s
4		Sec 22/ T 24N/ R 1 W	01	6.5		.2			6.3	GPS Garmin 64s
5		Sec 22/ T 24N/ R 1 W	01	10.7		.9			9.8	GPS Garmin 64s
6		Sec 22/ T 24N/ R 1 W	01	3.8		0			3.8	GPS Garmin 64s
7		Sec 22 & 15/ T 24N/ R 1 W	01, 03	20.3		.6			19.7	GPS Garmin 64s
8		Sec 10 & 3/ T 24N/ R 1 W	01	39.0		1.1			37.9	GPS Garmin 64s
9 R/W		Sec 22/ T 24N/ R 1 W	01	.5		0			.5	GPS Garmin 64s
10 R/W		Sec 22/ T 24N/ R 1 W	01	.4		0			.4	GPS Garmin 64s
11 R/W		Sec 22/ T 24N/ R 1 W	01	1.8		0			1.8	GPS Garmin 64s
12 R/W		Sec 22/ T 24N/ R 1 W	01	.1		0			.1	GPS Garmin 64s
TOTAL ACRES				124.4		5.6			118.7	

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	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps.	N/A	63 Leave Trees (63 in two clumps, of 13 and 50)

2	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink paint with "X" on tree for last take tree near property boundary. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps. Blue paint banded around individual leave trees.	N/A	210 Leave Trees (204 in six clumps of 44, 41, 14, 36, 35, and 34. Also 6 individual trees)
3	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink paint with "X" on tree for last take tree near property boundary. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps.	N/A	76 Leave Trees (76 in three clumps of 39, 25, and 12)
4	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink paint with "X" on tree for last take tree near property boundary. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps.	N/A	56 Leave Trees (56 trees in one clump)
5	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps.	N/A	90 Leave Trees (90 trees in two clumps of 51 and 39)
6	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Blue paint banded around individual leave trees.	N/A	29 Leave Trees (29 individual trees)
7	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps. Blue paint banded around individual leave trees.	N/A	163 Leave Trees (160 trees in six clumps of 30, 28, 25, 27, 26, and 24. Also 3 individual trees)
8	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps. Blue paint banded around individual leave trees.	N/A	315 Leave Trees (158 trees in four clumps of 50, 41, 53, and 14. Also 157 individual trees)
9 (ROW)	Orange "RIGHT OF WAY" Tags	N/A	0 Leave Trees
10 (ROW)	Orange "RIGHT OF WAY" Tags	N/A	0 Leave Trees
11 (ROW)	Orange "RIGHT OF WAY" Tags	N/A	0 Leave Trees
12 (ROW)	Orange "RIGHT OF WAY" Tags	N/A	0 Leave Trees

OTHER PRE-CRUISE INFORMATION:

Unit #	Estimated Volume	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	See Cruise	Gate #237, Lock 786	Available at Belfair office
2	See Cruise	Gate #237, Lock 786	Available at Belfair office
3	See Cruise	Gate #237, Lock 786	Available at Belfair office
4	See Cruise	Gate #237, Lock 786	Available at Belfair office
5	See Cruise	Gate #214 & #215 & #255, Lock 786	Available at Belfair office
6	See Cruise	Gate #214 & #215 & #255, Lock 786	Available at Belfair office

7	See Cruise	Gate #214 & #215 & #255, Lock 786	Available at Belfair office
8	See Cruise	Gate #214 & #215 & #255, Lock 786	Available at Belfair office
9 (ROW)	See Cruise	Gate #237, Lock 786	Available at Belfair office
10 (ROW)	See Cruise	Gate #237, Lock 786	Available at Belfair office
11 (ROW)	See Cruise	Gate #214 & #215 & #255, Lock 786	Available at Belfair office
12 (ROW)	See Cruise	Gate #214 & #215 & #255, Lock 786	Available at Belfair office

REMARKS:

Unit 6 has 29 scattered leave tree around the type 5 and no leave tree clumps.

Prepared By: Nick Chicano Date: 4/8/2019	Title: State Lands Forester	CC:
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Revised 2/23/2007 (PSLD)

Cruise Narrative

Sale Name: Tailings	Region: South Puget Sound
Agree. #: 30-095702	District: Hood Canal
Lead cruiser: John Piety Narrative written by Dan Hohl	Completion date: 5/14/2019 edited 5/16/19
Other cruisers on sale:	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	4.0	Yes	
2	25.3	Yes	
3	9.1	Yes	
4	6.3	Yes	
5	9.8	Yes	
6	3.8	Yes	
7	19.7	Yes	
8	37.9	Yes	
RW09	.5	Yes	
RW10	.4	Yes	
RW11	1.8	Yes	
RW12	.1	Yes	
Total	118.7	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	V.P.	40.0 BAF	4.5'	N/A	1:1	3
2	V.P.	40.0 BAF	4.5'	N/A	1:1	17
3	V.P.	40.0 BAF	4.5'	N/A	1:1	8
4	V.P.	40.0 BAF	4.5'	N/A	1:1	4
5	V.P.	40.0 BAF	4.5'	N/A	1:1	7
6	V.P.	40.0 BAF	4.5'	N/A	1:1	3
7	V.P.	27.78 BAF	4.5'	N/A	1:1	15
8	V.P.	27.78 BAF	4.5'	N/A	1:1	25
RW09	V.P.	40.0 BAF	4.5'	N/A	1:1	1
RW10	V.P.	40.0 BAF	4.5'	N/A	1:1	1
RW11	V.P.	54.4 BAF	4.5'	N/A	1:1	3
RW12	V.P.	54.4 BAF	4.5'	N/A	1:1	1

Sale/Cruise Description:

Minor species cruise intensity:	100% up to 5 trees per species
Minimum cruise spec:	HA - Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 1/2" in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators 1/2" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (High Quality sort. Grades SM, 2S, 3S. Lengths 16ft-40ft, 2ft multiples min TDIB 8".)

	<p>HB - Logs meeting the following criteria: Surface characteristics for an Intermediate B sort will have sound tight knots not to exceed 1 1/2" in diameter. May include logs with not more than two larger knots up to 2 1/2" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (Intermediate sort. Grades 2S, 3S. . Lengths 16ft-40ft, 2ft multiples min TDIB 8".).</p> <p>D - Domestic quality logs that do not meet high quality or intermediate definitions. (Domestic sort. Grades 2S, 3S, 4S and utility. Lengths 16ft-40ft, min TDIB 2in.)</p> <p>O- Logs exceeding 27" on the large end. (Oversize sort. Grade 2S. Lengths 16ft-40ft, 2ft multiples butt diameter min dia. 27 in. +)</p> <p>R - Logs meeting the following criteria: Surface characteristics for a rough log sort will not meet the requirements for a domestic 2S, but still be in limitations for a domestic 3S. Meaning logs will contain excessive knots in excess of 2 1/2" and not exceeding 3" with a recovery of less than 65% of the net scale and greater than 33% of the gross scale. (Rough oversize sort. Grade 3S. Lengths 16ft-40ft, 2ft multiples TDIB 12"+)</p>						
Avg ring count by sp:	<table border="1"> <tr> <td>DF =</td> <td>8</td> <td>WH =</td> <td>10</td> <td>SS =</td> <td></td> </tr> </table>	DF =	8	WH =	10	SS =	
DF =	8	WH =	10	SS =			
Leave/take tree description:	<p>Variable Retention Harvest: Boundaries are marked with white "Timber Sale Boundary" tags, blue "Special Management Unit" tags, pink flashers and pink flagging. Clumped leave trees are marked with yellow "Leave Tree Area" tags, pink flashers and pink flagging. Individual leave trees are marked with blue paint.</p> <p>Riparian Management Zone Thinning: Boundaries are marked with white "Timber Sale Boundary" tags, blue "Special Management Unit" tags, pink flashers and pink flagging. Trees are harvested based off prescription.</p>						
Other conditions	<p>The RMZ units are thinned to targets identified under the Riparian Forest Restoration Strategy (RFRS). RD targets range from 30-35. RMZ 1 thin to approximately 115 BA. RMZ 2 thin to approximately 164 BA. In the cruise reports harvest trees are identified with a "T".</p>						

Field observations:

<p>The Tailings Timber Sale was cruised using the variable plot sample methods. The species composition by harvest volume for this sale is Douglas-fir at 68%, Western Hemlock at 25%, Red Alder at 3%, Western Red Cedar at 1%, Bigleaf Maple at 2% and White Pine less than 0.2%. The table below shows the average diameter and bole height for the top three major species.</p> <table border="1"> <thead> <tr> <th></th> <th>DBH (inches)</th> <th>Bole Length (feet)</th> </tr> </thead> <tbody> <tr> <td>Douglas-fir</td> <td>16.5</td> <td>75</td> </tr> <tr> <td>Western Hemlock</td> <td>14.0</td> <td>71</td> </tr> <tr> <td>Red Alder</td> <td>13.4</td> <td>48</td> </tr> </tbody> </table> <p>There are multiple sorts among the Douglas-fir species in this sale. Approximately 17% (3,587 bd.ft.) of Douglas-fir volume is high quality A sort, 26% (5,468 bd.ft.) is high quality B sort, 50% (10,258 bd.ft.) is domestic sort, and 7% (1,355 bd.ft.) is oversize sort. There is an average of 3.1% defect for the entire sale.</p> <p>The tailings timber sale consists of an approximately 60 year old stands (units 1-6) and 40 year old stands (units 7 and 8). The sale is easily accessible due to the amount of existing road. The majority of the sale is proposed for ground based harvesting, with a small percentage of uphill cable in portions of Units 1, 2 and 3.</p>		DBH (inches)	Bole Length (feet)	Douglas-fir	16.5	75	Western Hemlock	14.0	71	Red Alder	13.4	48
	DBH (inches)	Bole Length (feet)										
Douglas-fir	16.5	75										
Western Hemlock	14.0	71										
Red Alder	13.4	48										

Grants: 01 and 03

Prepared By: Daniel Hohl
Title: Forest Cruiser

TC PSPCSTGR **Species, Sort Grade - Board Foot Volumes (Project)**

T17N R03W S17 Ty0002 THRU T24N R01W S22 TyRW12	Project: TAILINGS Acres 118.70	Page 1 Date 11/8/2019 Time 1:20:37PM
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Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF	CU	CU			100.0	126											6	9		0.00	9.7	
DF	HA	SM	7	2.1	1,493	1,461	173										40	18	504	2.58	2.9	
DF	HA	2S	5	2.6	1,235	1,202	143				100						40	14	268	1.51	4.5	
DF	HA	3S	5	1.1	936	926	110			100							40	9	133	0.78	7.0	
DF	HB	2S	19	2.5	4,023	3,922	466				55	45					40	15	348	1.80	11.3	
DF	HB	3S	7	1.2	1,594	1,574	187			100							40	10	135	0.76	11.7	
DF	D	2S	19	2.9	3,889	3,778	448				67	33			1		40	14	298	1.66	12.7	
DF	D	3S	15	1.6	3,274	3,221	382		5	95					3	1	39	9	118	0.78	27.3	
DF	D	4S	16	.3	3,270	3,259	387		95	5				8	19	6	32	6	42	0.37	77.2	
DF	D	UT	1		121	121	14		100					64	4	32	11	5	6	0.12	20.3	
DF	OS	2S	6	3.4	1,283	1,239	147										40	21	723	3.66	1.7	
DF Totals				68	2.5	21,242	20,703	2,457	16	28	28	28		2	4	1	93	31	8	111	0.82	186.2
WH	CU	CU															6	10		0.00	4.5	
WH	HA	3S	2	4.6	170	162	19			100							40	8	100	0.59	1.6	
WH	HB	3S	2	3.3	150	145	17			100							40	10	145	0.75	1.0	
WH	D	2S	30	7.1	2,503	2,324	276				90	10					40	13	239	1.47	9.7	
WH	D	3S	36	4.2	2,900	2,778	330		1	99				1		1	39	9	118	0.75	23.6	
WH	D	4S	21	1.5	1,624	1,600	190		99	1				5	15	10	33	5	41	0.35	38.9	
WH	D	UT	7	.8	563	558	66		68	8	13	12		60	18		20	6	26	0.28	21.5	
WH	OS	2S	2	31.8	164	112	13										40	19	409	3.40	.3	
WH Totals				25	4.9	8,074	7,679	912	26	41	28	5		6	5	2	87	31	7	76	0.61	101.0
RC	CU	CU			100.0	10											5	10		0.00	3.3	
RC	D	3S	58	31.9	315	215	25			56	44			14	20		31	11	94	1.34	2.3	
RC	D	4S	42		150	150	18		100					4	33	7	32	5	40	0.35	3.8	
RC Totals				1	23.2	475	364	43	41	33	26			10	25	3	62	22	8	39	0.65	9.4
BM	CU	CU			100.0	38											13	8		0.00	4.8	
BM	D	2S	7	11.2	55	49	6				48	52		52	48		25	14	159	2.24	.3	
BM	D	3S	44	7.5	328	304	36			75	25			11	24	49	29	10	109	1.12	2.8	
BM	D	4S	23	7.1	174	161	19		58	42				28	43	29	24	8	42	0.53	3.8	
BM	D	UT	20		137	137	16		37	63				58	42		16	6	26	0.40	5.2	
BM	OS	2S	6	9.4	43	39	5										24	18	290	2.87	.1	
BM Totals				2	11.0	775	690	82	21	55	15	9		27	38	28	7	19	8	41	0.61	17.0
RA	CU	CU			100.0	17											7	8		0.00	2.6	
RA	D	2S	6	2.6	58	57	7				100					28	72	36	13	195	1.43	.3
RA	D	3S	37	3.4	329	318	38			100					63	37	32	10	124	0.93	2.6	
RA	D	4S	44	.8	385	381	45		81	19				8	46	8	31	6	40	0.41	9.6	
RA	D	UT	13		104	104	12			100							40	11	180	1.03	.6	
RA Totals				3	3.7	894	861	102	36	58	7			3	44	5	48	28	7	55	0.55	15.7
WP	D	2S	21	20.8	16	13	2				100						40	13	190	1.66	.1	
WP	D	4S	5		3	3	0			100				100			18	9	40	0.68	.1	
WP	OS	2S	74	14.5	51	44	5										40	21	650	4.00	.1	
WP Totals				0	15.4	70	60	7		5	22	74		5		95	33	14	293	2.43	.2	

Species, Sort Grade - Board Foot Volumes (Project)

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 THRU
 T24N R01W S22 TyRW12

Project: TAILINGS
Acres 118.70

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Date 11/8/2019
Time 1:20:37PM

S Spp	So T	Gr rt	ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99					
Totals					3.7	31,530	30,357	3,603	20	32	27	21	3	6	2	88	30	8	92	0.73	329.5

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT			TAILINGS				DATE	11/8/2019	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
17N	03	17	TAILINGS	0002	THR	118.70	88	493	S	W	
24N	01W	22	TAILINGS	RW12							
		PLOTS	TREES	TREES PER PLOT		ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		88	493	5.6							
CRUISE		53	277	5.2		18,135	1.5				
DBH COUNT											
REFOREST											
COUNT		35	186	5.3							
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	165	80.5	16.5	75	29.3	119.1	21,242	20,703	4,819	4,797	
WHEMLOCK	65	47.5	14.0	71	13.5	50.6	8,074	7,679	1,936	1,936	
R ALDER	17	9.3	13.4	48	2.5	9.1	894	861	243	239	
WR CEDAR	11	3.8	15.7	59	1.3	5.1	475	364	139	137	
BL MAPLE	18	11.7	13.5	42	3.2	11.6	775	690	210	198	
W PINE	1	.1	31.0	100	0.1	.4	70	60	16	16	
TOTAL	277	152.8	15.3	69	50.0	196.0	31,530	30,357	7,362	7,321	
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		89.4	7.0	454	488	522					
WHEMLOCK		70.3	8.7	217	238	258					
R ALDER		67.4	16.8	92	111	130					
WR CEDAR		74.3	23.5	88	115	141					
BL MAPLE		69.9	16.9	84	102	119					
W PINE											
TOTAL		103.7	6.2	344	367	390	429	219	107		
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		81.9	8.7	73	80	87					
WHEMLOCK		144.7	15.4	40	47	55					
R ALDER		299.8	31.9	6	9	12					
WR CEDAR		434.7	46.3	2	4	6					
BL MAPLE		328.4	35.0	8	12	16					
W PINE		938.1	99.9	0	0	0					
TOTAL		49.6	5.3	145	153	161	98	50	25		
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		76.5	8.1	109	119	129					
WHEMLOCK		152.2	16.2	42	51	59					
R ALDER		278.6	29.7	6	9	12					
WR CEDAR		415.0	44.2	3	5	7					
BL MAPLE		284.2	30.3	8	12	15					
W PINE		938.1	99.9	0	0	1					
TOTAL		43.7	4.7	187	196	205	76	39	19		
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		93.3	9.9	18,646	20,703	22,760					
WHEMLOCK		167.0	17.8	6,313	7,679	9,045					
R ALDER		280.2	29.8	604	861	1,117					

TC PSTATS		PROJECT STATISTICS							PAGE	2
		PROJECT			TAILINGS			DATE	11/8/2019	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
17N	03	17	TAILINGS	0002	THR	118.70	88	493	S	W
24N	01W	22	TAILINGS	RW12						
CL	68.1		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
WR CEDAR			449.4	47.9	190	364	539			
BL MAPLE			289.9	30.9	477	690	903			
W PINE			938.1	99.9	0	60	119			
TOTAL			66.9	7.1	28,194	30,357	32,519	179	91	45
CL	68.1		COEFF	V BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR					157	174	191			
WHEMLOCK			100.4	10.7	125	152	179			
R ALDER			224.0	23.9	66	94	122			
WR CEDAR			440.9	47.0	37	71	106			
BL MAPLE			225.5	24.0	41	59	78			
W PINE			938.1	99.9	0	168	336			
TOTAL			58.9	6.3	144	155	166	138	71	35

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1								
Project: TAILINGS												Date 11/8/2019								
												Time 1:20:36PM								
T17N R03W S17 T0002										T17N R03W S17 T0002										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt											
17N	03W	17	TAILINGS	0002	25.30	17	52	S	W											
S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf	
Spp	T							5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft		
WH	CU	CU														7	10		0.00	17.0
WH	DM	2S	34	7.5	5,651	5,229	132			100					100	40	13	210	1.31	24.9
WH	DM	3S	29	7.7	4,831	4,460	113	4	96						100	40	9	119	0.78	37.5
WH	DM	4S	18	1.9	2,840	2,787	71	100				3	4	15	78	36	5	43	0.37	64.4
WH	DM	UT	16	.9	2,329	2,308	58	64	9	13	13	56	20		24	22	6	30	0.31	75.8
WH	OS	2S	3	26.7	603	442	11				100				100	40	19	440	3.44	1.0
WH	Totals		39	6.3	16,254	15,226	385	29	30	36	5	9	4	3	85	30	7	69	0.60	220.6
DF	CU	CU		100.0	45											5	7		0.00	21.5
DF	HA	SM	9	2.2	2,193	2,145	54				100				100	40	17	450	2.39	4.8
DF	HA	2S	11	2.8	2,719	2,644	67			100					100	40	13	255	1.45	10.4
DF	HA	3S	4		832	832	21		100						100	40	8	90	0.57	9.2
DF	HB	2S	30	2.4	7,081	6,908	175			57	43				100	40	15	338	1.74	20.4
DF	HB	3S	4	2.7	1,051	1,023	26		100						100	40	10	143	0.80	7.2
DF	DM	2S	16	1.4	3,622	3,570	90			81	19				100	40	14	282	1.51	12.6
DF	DM	3S	14	.7	3,253	3,231	82		100					5	95	38	10	130	0.79	24.9
DF	DM	4S	12		2,656	2,656	67	100				12	12	6	71	31	6	43	0.37	61.4
DF	DM	UT														7	5		0.00	3.6
DF	Totals		58	1.9	23,452	23,009	582	12	22	41	25	1	2	1	96	32	9	131	0.92	176.0
RC	CU	CU		100.0	45											5	10		0.00	3.7
RC	DM	3S	77	24.3	952	721	18		46	54		20	24		57	28	11	101	1.42	7.1
RC	DM	4S	23		210	210	5	100				8	30	23	39	31	5	34	0.37	6.3
RC	Totals		2	22.9	1,207	931	24	23	36	42		17	25	5	53	24	9	55	0.86	17.1
BM	DM	2S	52	13.3	127	110	3			100					100	30	12	130	1.71	.8
BM	DM	4S	48	20.0	126	101	3		100						100	26	8	40	0.64	2.5
BM	Totals		1	16.7	252	210	5		48	52					100	27	9	63	0.94	3.4
Type Totals				4.3	41,165	39,377	996	19	25	39	17	5	4	2	90	30	8	94	0.75	417.1

T17N R03W S17 T0003 **T17N R03W S17 T0003**
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 17N 03W 17 TAILINGS 0003 9.10 8 28 S W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF		CU	CU		100.0	308												16	5		0.00	14.2
DF		HA	SM	9	2.6	2,750	2,678	24										40	18	549	2.77	4.9
DF		HA	2S	17	3.4	5,027	4,854	44			100							40	14	280	1.56	17.3
DF		HA	3S	8		2,300	2,300	21		100								40	10	164	0.91	14.0
DF		HB	2S	19	2.4	5,429	5,301	48			58	42						40	14	300	1.55	17.7
DF		HB	3S	17	2.2	5,014	4,902	45		100								40	9	131	0.72	37.5
DF		DM	2S	3		658	658	6			100							40	12	200	1.09	3.3
DF		DM	3S	11	3.8	3,288	3,163	29	26	74								40	8	95	0.59	33.3
DF		DM	4S	15		4,389	4,389	40	100				4	24	7	66		33	6	42	0.32	103.6
DF		DM	UT	1		76	76	1	100									12	5	10	0.17	7.6
DF	Totals			58	3.1	29,240	28,321	258	19	34	30	17	1	4	1	94		35	8	112	0.72	253.4
WH		HA	3S	10	4.6	2,218	2,116	19		100								40	8	100	0.59	21.2
WH		HB	3S	9	3.3	1,953	1,887	17		100								40	10	145	0.75	13.0
WH		DM	2S	14	20.0	3,543	2,834	26			100							40	14	250	1.74	11.3
WH		DM	3S	39	1.2	7,863	7,771	71		100								40	9	133	0.75	58.5
WH		DM	4S	25		5,086	5,086	46	100				3	17	9	71		33	6	45	0.32	112.5
WH		DM	UT	3		470	470	4	100				100					16	5	16	0.18	29.0
WH	Totals			41	4.6	21,133	20,165	183	28	58	14		3	4	2	90		34	7	82	0.57	245.5
RC		CU	CU															4	8		0.00	16.0
RC		DM	4S	100		480	480	4	100									40	6	60	0.32	8.0
RC	Totals			1		480	480	4	100									16	7	20	0.27	24.0
Type Totals					3.7	50,853	48,966	446	23	44	23	10	2	4	2	93		34	8	94	0.64	523.0

T17N R03W S17 T0004										T17N R03W S17 T0004				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
17N	03W	17	TAILINGS	0004	6.30	4	10	S	W					

Spp	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre			
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/				
								5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf				
DF	HB	3S	21		2,862	2,862	18	100				100				40	10	150	0.89	19.1			
DF	DM	2S	39	4.7	5,361	5,108	32	100				100				39	12	202	1.35	25.3			
DF	DM	4S	40	.0	5,120	5,120	32	100					53	47			29	5	38	0.29	135.3		
DF	DM	UT														11	5		0.00	11.0			
DF	Totals		49	1.9	13,344	13,090	82	39	22	39					21	79			31	7	69	0.54	190.7
WH	DM	3S	50	9.7	6,688	6,040	38	100				100				40	8	93	0.65	64.8			
WH	DM	4S	46	.0	5,371	5,371	34	100				100				39	5	48	0.33	111.1			
WH	DM	UT	4		463	463	3	100				100				12	5	10	0.17	46.3			
WH	Totals		44	5.2	12,522	11,874	75	49	51						4	96			34	6	53	0.43	222.2
RC	CU	CU														9	10		0.00	16.8			
RC	DM	3S	50	42.7	1,786	1,023	6	91		9		100				37	10	83	1.10	12.3			
RC	DM	4S	50		995	995	6	100				42				58	31	5	38	0.32	26.2		
RC	Totals		7	27.4	2,782	2,019	13	49	46	4	21				79	26	8	37	0.53	55.2			
Type Totals				5.8	28,647	26,983	170	44	36	19	2	12	87		32	7	58	0.48	468.2				

T17N R03W S17 T0007										T17N R03W S17 T0007				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
17N	03W	17	TAILINGS	0007	19.70	15	35	S	W					

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF		CU	CU														3	12		0.00	5.4
DF		HA	2S	4		557	557	11			100						40	13	240	1.45	2.3
DF		HB	3S	12		1,475	1,475	29			100						40	8	98	0.62	15.0
DF		DM	2S	9	5.1	1,037	984	19			43	57					40	14	285	1.87	3.5
DF		DM	3S	33	1.4	4,071	4,016	79			100						40	10	135	0.88	29.7
DF		DM	4S	41		4,873	4,873	96	90	10			2	20	14	64	34	6	47	0.41	104.1
DF		DM	UT	1		85	85	2	100					100			8	5	2	0.08	38.2
DF	Totals			90	.9	12,098	11,989	236	37	50	8	5	2	8	6	85	30	7	60	0.56	198.2
WH		DM	4S	100	13.0	586	510	10	100					79	13	9	28	5	25	0.31	20.6
WH	Totals			4	13.0	586	510	10	100					79	13	9	28	5	25	0.31	20.6
RA		CU	CU														4	6		0.00	4.9
RA		DM	4S	100	2.9	636	617	12	85	15				70	30		31	6	38	0.35	16.2
RA	Totals			5	2.9	636	617	12	85	15				70	30		25	6	29	0.33	21.2
RC		CU	CU														3	12		0.00	2.7
RC		DM	3S	29	62.5	105	40	1			100			100			26	13	60	2.15	.7
RC		DM	4S	71		94	94	2	100				14	86			27	6	35	0.49	2.7
RC	Totals			1	33.1	199	133	3	70	30			10	90			16	9	22	0.73	6.0
Type Totals					2.0	13,519	13,249	261	42	46	8	4	2	14	6	78	29	7	54	0.52	246.0

T24N R01W S10 T0008 **T24N R01W S10 T0008**
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 24N 01W 10 TAILINGS 0008 37.90 25 74 S W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF		CU	CU		100.0	118												5	14		0.00	2.2
DF		HA	SM	8	1.1	1,052	1,040	39										40	18	521	2.65	2.0
DF		HA	3S	3	6.9	446	415	16		100								40	10	135	0.82	3.1
DF		HB	2S	11	4.0	1,378	1,322	50			60	40						40	14	310	1.83	4.3
DF		HB	3S	2	6.7	230	215	8		100								40	10	140	0.81	1.5
DF		DM	2S	19	3.5	2,433	2,348	89			76	24		7		93		39	14	255	1.64	9.2
DF		DM	3S	27	2.7	3,416	3,324	126	9	91					2	98		40	9	111	0.77	30.0
DF		DM	4S	19	.4	2,378	2,369	90	96	4				21	14	66		29	6	37	0.36	63.7
DF		DM	UT			58	58	2	100									9	5	2	0.06	23.6
DF		OS	2S	11	4.4	1,341	1,282	49										40	20	664	3.55	1.9
DF	Totals			76	3.7	12,851	12,372	469	21	30	21	28		4	5	91		29	8	87	0.76	141.7
BM		CU	CU		100.0	120												13	8		0.00	14.9
BM		DM	2S	3	9.1	87	80	3				100			100			19	17	200	3.41	.4
BM		DM	3S	48	7.5	1,027	951	36		75	25			11	24	49	16	29	10	109	1.12	8.7
BM		DM	4S	21	4.8	460	438	17	67	33				33	34	33		24	8	43	0.51	10.3
BM		DM	UT	21		429	429	16	37	63				58	42			16	6	26	0.40	16.3
BM		OS	2S	7	9.4	136	123	5				100			100			24	18	290	2.87	.4
BM	Totals			12	10.6	2,259	2,020	77	22	56	12	10		29	33	30	8	19	8	40	0.59	51.0
RA		CU	CU		100.0	54												9	10		0.00	5.7
RA		DM	3S	30	4.4	445	425	16		100					100			30	10	114	0.95	3.7
RA		DM	4S	46		634	634	24	72	28				14	37	49		30	6	42	0.46	14.9
RA		DM	UT	24		326	326	12		100						100		40	11	180	1.03	1.8
RA	Totals			8	5.1	1,459	1,385	52	33	67				7	48	46		26	8	53	0.57	26.2
WH		DM	2S	41	8.3	176	161	6			100					100		40	15	330	2.32	.5
WH		DM	3S	46		179	179	7		100						100		40	9	120	0.76	1.5
WH		DM	4S	13		49	49	2	60	40				60	40			19	6	25	0.44	2.0
WH	Totals			2	3.6	405	390	15	8	51	41			8	5	87		30	8	98	0.91	4.0
WP		DM	2S	21	20.8	51	40	2			100					100		40	13	190	1.66	.2
WP		DM	4S	5		8	8	0		100					100			18	9	40	0.68	.2
WP		OS	2S	74	14.5	161	138	5				100				100		40	21	650	4.00	.2
WP	Totals			1	15.4	220	187	7		5	22	74		5		95		33	14	293	2.43	.6
Type Totals					4.9	17,194	16,354	620	22	37	18	23		8	12	4	77	26	8	73	0.72	223.4

T24N R01W S22 TRW12										T24N R01W S22 TRW12				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
24N	01W	22	TAILINGS	RW12	.10	1	4	S	W					

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre				Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre		
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/			
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf			
DF	CU	CU																					
DF	DM	2S	55	1.2	24,099	23,804	2			25	75				100			6	10			0.00	19.7
DF	DM	3S	7		3,323	3,323	0	100							100			40	16	411	1.99	57.8	
DF	OS	2S	38	6.3	17,137	16,052	2			100					100			40	9	129	0.88	25.8	
DF																		40	22	814	4.12	19.7	
DF	Totals		81	3.1	44,559	43,179	4	8	14	78					100			35	15	351	2.06	123.1	
WH	DM	3S	23	33.3	3,497	2,331	0	100							100			40	9	80	0.68	29.1	
WH	DM	4S	6		583	583	0	100					100					22	5	20	0.29	29.1	
WH	DM	UT	71		6,994	6,994	1		100						100			40	13	240	1.34	29.1	
WH	Totals		19	10.5	11,074	9,908	1	6	24	71			6		94			34	9	113	0.85	87.4	
Type Totals				4.6	55,633	53,088	5	1	11	24	64		1		99			34	12	252	1.56	210.5	

TC TSTATS		STATISTICS								PAGE	1
		PROJECT				TAILINGS				DATE	11/8/2019
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
17N	03W	17	TAILINGS	0002	25.30	17	100	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		17	100	5.9							
CRUISE		10	52	5.2	4,439	1.2					
DBH COUNT											
REFOREST											
COUNT		7	44	6.3							
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	24	110.4	13.6	67	30.0	110.6	16,254	15,226	3,971	3,972	
DOUG FIR	21	55.4	18.9	104	24.9	108.2	23,452	23,009	5,139	5,128	
WR CEDAR	5	6.3	18.5	69	2.7	11.8	1,207	931	369	359	
BL MAPLE	2	3.4	16.0	28	1.2	4.7	252	210	85	85	
TOTAL	52	175.5	15.7	78	59.4	235.3	41,165	39,377	9,564	9,545	
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		67.5	14.1	189	220	251					
DOUG FIR		51.2	11.4	486	549	611					
WR CEDAR		64.4	32.0	110	162	214					
BL MAPLE		74.9	70.1	25	85	145					
TOTAL		78.5	10.9	305	342	379	246	126	62		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WHEMLOCK		61.0	15.2	94	110	127					
DOUG FIR		84.7	21.2	44	55	67					
WR CEDAR		244.9	61.2	2	6	10					
BL MAPLE		319.4	79.8	1	3	6					
TOTAL		30.7	7.7	162	175	189	40	20	10		
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		69.5	17.4	91	111	130					
DOUG FIR		79.2	19.8	87	108	130					
WR CEDAR		233.2	58.3	5	12	19					
BL MAPLE		282.3	70.5	1	5	8					
TOTAL		27.5	6.9	219	235	251	32	16	8		
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		74.4	18.6	12,397	15,226	18,056					
DOUG FIR		78.4	19.6	18,501	23,009	27,517					
WR CEDAR		271.0	67.7	301	931	1,561					
BL MAPLE		282.6	70.6	62	210	359					
TOTAL		35.8	8.9	35,858	39,377	42,896	54	28	14		
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WHEMLOCK				112	138	163					
DOUG FIR				171	213	254					
WR CEDAR		271.0	67.7	26	79	133					

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT		TAILINGS		DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
17N	03W	17	TAILINGS	0002	25.30	17	100	S	W	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
BL MAPLE		282.6	70.6	13	45	76				
TOTAL		<i>195.8</i>	<i>48.9</i>	<i>152</i>	<i>167</i>	<i>182</i>	<i>1,626</i>	<i>829</i>	<i>406</i>	

TC TSTATS		STATISTICS								PAGE	1
		PROJECT				TAILINGS				DATE	11/8/2019
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
17N	03W	17	TAILINGS	0003	9.10	8	50	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		8	50	6.3							
CRUISE		5	28	5.6	1,797	1.6					
DBH COUNT											
REFOREST											
COUNT		3	16	5.3							
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	15	96.9	16.3	94	34.7	140.0	29,240	28,321	6,405	6,348	
WHEMLOCK	12	92.5	14.4	91	27.6	105.0	21,133	20,165	4,721	4,720	
WR CEDAR	1	8.0	10.7	55	1.5	5.0	480	480	102	102	
TOTAL	28	197.4	15.2	91	64.0	250.0	50,853	48,966	11,228	11,169	
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		72.2	19.3	351	435	519					
WHEMLOCK		47.6	14.3	222	259	296					
WR CEDAR											
TOTAL		75.4	14.5	296	346	396	236	120	59		
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		51.8	19.5	78	97	116					
WHEMLOCK		107.2	40.4	55	93	130					
WR CEDAR		282.8	106.6		8	17					
TOTAL		25.8	9.7	178	197	217	30	15	8		
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		59.1	22.3	109	140	171					
WHEMLOCK		111.4	42.0	61	105	149					
WR CEDAR		282.8	106.6		5	10					
TOTAL		16.6	6.2	234	250	266	12	6	3		
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		63.4	23.9	21,548	28,321	35,094					
WHEMLOCK		113.4	42.7	11,545	20,165	28,784					
WR CEDAR		282.8	106.6		480	993					
TOTAL		22.3	8.4	44,851	48,966	53,082	23	12	6		
CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR				154	202	251					
WHEMLOCK		66.0	24.9	110	192	274					
WR CEDAR		282.8	106.6		96	199					
TOTAL		165.2	62.3	179	196	212	1,241	633	310		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	TAILINGS			DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
17N	03W	17	TAILINGS	0004	6.30	4	22	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	4	22	5.5							
CRUISE	2	10	5.0	1,717		.6				
DBH COUNT										
REFOREST										
COUNT	2	12	6.0							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	4	135.3	11.6	45	29.3	100.0	13,344	13,090	3,168	3,168
WHEMLOCK	3	111.1	12.2	68	25.8	90.0	12,522	11,874	3,236	3,236
WR CEDAR	3	26.2	14.5	57	7.9	30.0	2,782	2,019	762	761
TOTAL	10	272.6	12.2	56	63.1	220.0	28,647	26,983	7,166	7,165
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	60.9	34.8		124	190	256				
WHEMLOCK	35.7	24.7		85	113	141				
WR CEDAR	61.9	42.8		51	90	129				
TOTAL	64.0	21.3		108	137	166	181	93	45	
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	65.2	37.3		85	135	186				
WHEMLOCK	46.8	26.7		81	111	141				
WR CEDAR	200.0	114.3			26	56				
TOTAL	22.9	13.1		237	273	308	27	14	7	
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	51.6	29.5		70	100	130				
WHEMLOCK	42.6	24.3		68	90	112				
WR CEDAR	200.0	114.3			30	64				
TOTAL	23.5	13.4		190	220	250	29	15	7	
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	50.6	28.9		9,303	13,090	16,878				
WHEMLOCK	41.4	23.7		9,064	11,874	14,683				
WR CEDAR	200.0	114.3			2,019	4,326				
TOTAL	25.4	14.5		23,064	26,983	30,903	34	17	8	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				93	131	169				
WHEMLOCK				101	132	163				
WR CEDAR	200.0	114.3			67	144				
TOTAL	260.0	148.6		105	123	140	3,532	1,802	883	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	TAILINGS			DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
17N	03W	17	TAILINGS	0005	9.80	7	50	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	7	50	7.1							
CRUISE	5	28	5.6		1,135		2.5			
DBH COUNT										
REFOREST										
COUNT	2	13	6.5							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	25	97.9	21.9	116	54.9	257.1	61,433	59,694	12,901	12,782
WHEMLOCK	3	17.9	17.1	100	6.9	28.6	5,829	5,786	1,329	1,329
TOTAL	28	115.8	21.3	114	61.9	285.7	67,262	65,480	14,229	14,110
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	43.9	8.9		683	750	818				
WHEMLOCK	36.5	25.3		264	353	443				
TOTAL	47.5	9.1		643	708	773	94	48	23	
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	28.0	11.4		87	98	109				
WHEMLOCK	98.2	40.0		11	18	25				
TOTAL				116	116	116				
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	26.7	10.9		229	257	285				
WHEMLOCK	105.8	43.1		16	29	41				
TOTAL				286	286	286				
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	26.3	10.7		53,306	59,694	66,082				
WHEMLOCK	109.0	44.4		3,219	5,786	8,352				
TOTAL				65,480	65,480	65,480				
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				207	232	257				
WHEMLOCK	73.2	29.8		113	202	292				
TOTAL	159.5	64.9		229	229	229	1,180	602	295	

TC TSTATS		STATISTICS								PAGE	1
		PROJECT				TAILINGS				DATE	11/8/2019
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
17N	03W	17	TAILINGS	0006	3.80	3	12	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		3	12	4.0							
CRUISE		2	10	5.0	459	2.2					
DBH COUNT											
REFOREST											
COUNT		1	2	2.0							
BLANKS											
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	7	74.5	16.2	69	26.5	106.7	18,115	17,580	4,038	4,038	
R ALDER	2	33.9	14.7	67	10.4	40.0	5,395	5,241	1,314	1,314	
WHEMLOCK	1	12.5	14.0	60	3.6	13.3	1,372	1,372	408	408	
TOTAL	<i>10</i>	<i>120.9</i>	<i>15.6</i>	<i>67</i>	<i>40.5</i>	<i>160.0</i>	<i>24,883</i>	<i>24,193</i>	<i>5,760</i>	<i>5,760</i>	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		89.0	36.2	293	459	625					
R ALDER		4.6	4.3	148	155	162					
WHEMLOCK											
TOTAL		<i>101.1</i>	<i>33.7</i>	<i>241</i>	<i>363</i>	<i>485</i>	<i>453</i>	<i>231</i>	<i>113</i>		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		68.5	47.4	39	75	110					
R ALDER		100.0	69.2	10	34	57					
WHEMLOCK		173.2	119.8		12	27					
TOTAL		<i>44.3</i>	<i>30.7</i>	<i>84</i>	<i>121</i>	<i>158</i>	<i>113</i>	<i>58</i>	<i>28</i>		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		108.3	74.9	27	107	187					
R ALDER		100.0	69.2	12	40	68					
WHEMLOCK		173.2	119.8		13	29					
TOTAL		<i>66.1</i>	<i>45.8</i>	<i>87</i>	<i>160</i>	<i>233</i>	<i>251</i>	<i>128</i>	<i>63</i>		
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		135.0	93.4	1,159	17,580	34,001					
R ALDER		100.0	69.2	1,615	5,241	8,866					
WHEMLOCK		173.2	119.8		1,372	3,016					
TOTAL		<i>88.6</i>	<i>61.3</i>	<i>9,369</i>	<i>24,193</i>	<i>39,016</i>	<i>451</i>	<i>230</i>	<i>113</i>		
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		132.4	91.6	11	165	319					
R ALDER		70.7	48.9	40	131	222					
WHEMLOCK		173.2	119.8		103	226					
TOTAL		<i>132.7</i>	<i>91.8</i>	<i>59</i>	<i>151</i>	<i>244</i>	<i>1,012</i>	<i>516</i>	<i>253</i>		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	TAILINGS			DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
17N	03W	17	TAILINGS	0007	19.70	15	74	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	15	74	4.9							
CRUISE	8	35	4.4	2,821		1.2				
DBH COUNT										
REFOREST										
COUNT	7	39	5.6							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	23	103.7	14.1	58	30.1	113.0	12,098	11,989	3,264	3,264
WHEMLOCK	5	20.6	10.0	28	3.5	11.1	586	510	176	176
R ALDER	5	16.2	10.2	34	2.9	9.3	636	617	175	175
WR CEDAR	2	2.7	16.0	40	0.9	3.7	199	133	72	72
TOTAL	35	143.2	13.2	50	37.7	137.0	13,519	13,249	3,687	3,686
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	68.2	14.5		126	147	168				
WHEMLOCK	22.8	11.3		21	24	27				
R ALDER	35.4	17.6		33	40	47				
WR CEDAR	47.1	44.1		34	60	86				
TOTAL	89.0	15.0		93	109	126	316	161	79	
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	49.0	13.1		90	104	117				
WHEMLOCK	198.3	53.0		10	21	31				
R ALDER	300.4	80.2		3	16	29				
WR CEDAR	387.3	103.4			3	5				
TOTAL	51.2	13.7		124	143	163	112	57	28	
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	46.0	12.3		99	113	127				
WHEMLOCK	207.0	55.3		5	11	17				
R ALDER	314.0	83.9		1	9	17				
WR CEDAR	387.3	103.4			4	8				
TOTAL	45.0	12.0		121	137	154	87	44	22	
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	50.2	13.4		10,381	11,989	13,597				
WHEMLOCK	189.1	50.5		252	510	768				
R ALDER	315.5	84.3		97	617	1,137				
WR CEDAR	387.3	103.4			133	271				
TOTAL	49.9	13.3		11,484	13,249	15,015	107	54	27	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				92	106	120				
WHEMLOCK	176.9	47.3		23	46	69				
R ALDER	315.5	84.3		10	67	123				
WR CEDAR	387.3	103.4			36	73				
TOTAL	246.4	65.8		84	97	110	2,599	1,326	650	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	TAILINGS			DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	10	TAILINGS	0008	37.90	25	131	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	25	131	5.2							
CRUISE	13	74	5.7	4,530		1.6				
DBH COUNT										
REFOREST										
COUNT	12	55	4.6							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	49	68.8	15.7	61	23.3	92.2	12,851	12,372	3,154	3,136
BL MAPLE	16	34.3	13.3	42	9.1	33.3	2,259	2,020	601	563
R ALDER	6	14.2	14.2	50	4.1	15.6	1,459	1,385	404	391
WHEMLOCK	2	2.0	17.6	61	0.8	3.3	405	390	108	108
W PINE	1	.2	31.0	100	0.2	1.1	220	187	51	51
TOTAL	74	119.5	14.9	54	37.7	145.6	17,194	16,354	4,316	4,248
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	104.5	14.9		309	363	417				
BL MAPLE	70.9	18.3		85	104	123				
R ALDER	48.8	21.7		86	110	134				
WHEMLOCK	63.8	59.7		103	255	407				
W PINE										
TOTAL	116.7	13.6		251	290	330	544	278	136	
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	108.0	22.0		54	69	84				
BL MAPLE	167.5	34.2		23	34	46				
R ALDER	204.6	41.7		8	14	20				
WHEMLOCK	302.1	61.6		1	2	3				
W PINE	500.0	102.0			0	0				
TOTAL	54.1	11.0		106	120	133	122	62	30	
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	93.5	19.1		75	92	110				
BL MAPLE	142.3	29.0		24	33	43				
R ALDER	200.2	40.8		9	16	22				
WHEMLOCK	276.4	56.4		1	3	5				
W PINE	500.0	102.0			1	2				
TOTAL	44.9	9.1		132	146	159	84	43	21	
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	97.7	19.9		9,908	12,372	14,837				
BL MAPLE	143.0	29.2		1,431	2,020	2,609				
R ALDER	199.1	40.6		823	1,385	1,947				
WHEMLOCK	276.9	56.5		170	390	610				
W PINE	500.0	102.0			187	377				
TOTAL	64.3	13.1		14,211	16,354	18,497	172	88	43	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	50.9	10.4		107	134	161				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	TAILINGS			DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	10	TAILINGS	0008	37.90	25	131	S	W	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
BL MAPLE		94.2	19.2	43	61	78				
R ALDER		125.3	25.6	53	89	125				
WHEMLOCK		218.5	44.6	51	117	183				
W PINE		500.0	102.0		168	339				
TOTAL		<i>182.8</i>	<i>37.3</i>	<i>98</i>	<i>112</i>	<i>127</i>	<i>1,389</i>	<i>709</i>	<i>347</i>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	TAILINGS			DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	22	TAILINGS	0001	4.00	3	24	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	3	24	8.0							
CRUISE	3	15	5.0	685			2.2			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	9	131.8	17.8	93	53.8	226.7	43,458	42,696	10,129	10,129
DOUG FIR	4	24.2	22.5	110	14.1	66.7	16,242	15,916	3,346	3,346
R ALDER	2	15.2	17.9	72	6.3	26.7	3,343	3,343	930	930
TOTAL	15	171.2	18.5	93	74.4	320.0	63,043	61,955	14,405	14,405
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	53.8	19.0	323	399	475					
DOUG FIR	53.9	30.8	654	945	1,236					
R ALDER			220	220	220					
TOTAL	75.8	20.2	415	521	626	246	126	61		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK	35.9	24.8	99	132	165					
DOUG FIR	58.4	40.4	14	24	34					
R ALDER	173.2	119.8		15	33					
TOTAL			171	171	171					
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	36.7	25.4	169	227	284					
DOUG FIR	34.6	24.0	51	67	83					
R ALDER	173.2	119.8		27	59					
TOTAL			320	320	320					
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	36.3	25.1	31,967	42,696	53,425					
DOUG FIR	35.2	24.4	12,037	15,916	19,795					
R ALDER	173.2	119.8		3,343	7,349					
TOTAL			61,955	61,955	61,955					
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK			141	188	236					
DOUG FIR			181	239	297					
R ALDER	173.2	119.8		125	276					
TOTAL	143.2	99.1	194	194	194	1,178	601	295		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	TAILINGS			DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	22	TAILINGS	RW09	0.50	1	5	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		1	5	5.0						
CRUISE		1	5	5.0	39		12.8			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	4	60.2	22.1	107	34.1	160.0	35,801	35,165	7,729	7,729
R ALDER	1	17.8	20.3	65	8.9	40.0	4,627	4,271	1,269	1,269
TOTAL	5	78.0	21.7	97	43.0	200.0	40,429	39,437	8,998	8,998
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		42.4	24.2	536	708	879				
R ALDER										
TOTAL		54.3	27.0	448	614	780	146	74	36	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	TAILINGS			DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	22	TAILINGS	RW10	0.40	1	4	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	1	4	4.0							
CRUISE	1	4	4.0	59	6.7					
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	4	148.7	14.0	50	42.7	160.0	16,925	16,340	4,489	4,489
TOTAL	4	148.7	14.0	50	42.7	160.0	16,925	16,340	4,489	4,489
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	61.4	35.1	91	140	189					
TOTAL	61.4	35.1	91	140	189	197	101	49		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	TAILINGS			DATE	11/8/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
24N	01W	22	TAILINGS	RW11	1.80	3	17	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		3	17	5.7						
CRUISE		2	12	6.0	447		2.7			
DBH COUNT										
REFOREST										
COUNT		1	5	5.0						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	10	215.2	15.2	66	69.7	272.0	52,403	51,479	11,114	11,114
WHEMLOCK	1	4.0	29.0	80	3.4	18.1	2,807	1,621	699	699
R ALDER	1	29.0	10.7	40	5.5	18.1	1,162	1,162	396	396
TOTAL	12	248.2	15.1	63	79.4	308.3	56,371	54,261	12,209	12,209
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		105.7	35.2	515	795	1,075				
WHEMLOCK										
R ALDER										
TOTAL		113.7	34.2	460	700	940	562	287	141	
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		81.9	56.7	93	215	337				
WHEMLOCK		173.2	119.8		4	9				
R ALDER		173.2	119.8		29	64				
TOTAL		52.4	36.2	158	248	338	157	80	39	
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		80.0	55.3	121	272	423				
WHEMLOCK		173.2	119.8		18	40				
R ALDER		173.2	119.8		18	40				
TOTAL		53.9	37.3	193	308	423	167	85	42	
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		95.5	66.0	17,480	51,479	85,477				
WHEMLOCK		173.2	119.8		1,621	3,563				
R ALDER		173.2	119.8		1,162	2,553				
TOTAL		83.0	57.4	23,106	54,261	85,416	396	202	99	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		64.1	44.4	64	189	314				
WHEMLOCK		173.2	119.8		89	196				
R ALDER		173.2	119.8		64	141				
TOTAL		178.4	123.4	75	176	277	1,827	932	457	

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

T17N R03W S17 Ty000	25.3
T17N R03W S17 Ty000	9.1
T24N R01W S22 TyRW1	.1

Project **TAILINGS**
Acres **118.70**

Page No **1**
Date: **11/8/2019**
Time **1:20:37PM**

Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	9,549	20,955	16,302	59.62	27.17	0.85	5,720	5,693	2,521	2,457
WHEMLOCK	5,635	11,461	7,352	40.77	20.05	0.62	2,297	2,298	958	912
R ALDER	1,109	1,546	792	25.53	18.32	0.58	288	283	106	102
BL MAPLE	1,385	1,453	661	16.96	16.17	0.79	249	235	92	82
WR CEDAR	449	720	387	36.18	22.56	0.72	165	162	56	43
W PINE	8	24	46	238.62	79.54	2.41	19	19	8	7
Totals	18,135	36,158	25,540	47.92	24.03	0.76	8,739	8,691	3,743	3,603

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
C	15,641	33,160	24,087	52.25	24.65	0.77	8,201	8,173	3,545	3,419
H	2,494	2,999	1,453	20.77	17.28	0.66	537	518	198	184
Totals	18,135	36,158	25,540	47.92	24.03	0.76	8,739	8,691	3,743	3,603



Forest Practices Application/Notification Notice of Decision

FPA/N No: 2421233

Effective Date: 11/1/2019

Expiration Date: 11/1/2022

Shut Down Zone: 654

EARR Tax Credit: Eligible Non-eligible

Reference: Tailings #30-095702

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 approved FPA/N

FPA/N Classification

Number of Years Granted on Multi-Year Request

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

Conditions on Approval / Reasons for Disapproval

Notify DNR (3) three business days prior to starting operation. Contact Aileen Nichols at 253-732-1822 and/or email southpugetforestpractices@dnr.wa.gov: refer to FPA 2421233. If a break in operation occurs for greater than (3) three weeks, re-notify the DNR that the operation has started again.

Issued By: Aileen Nichols Region: South Puget Sound

Title: Resource Protection Forester Date: 11/1/2019

Copies to: Landowner, Timber Owner and Operator.

Issued in person: Landowner Timber Owner Operator By: 

Appeal Information

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

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

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

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

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

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

And

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

Other Applicable Laws

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

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

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

Notify DNR of new Operators within 48 hours.

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

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

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

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

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

DNR affidavit of mailing:

On this day 11/1/2019, I placed in the United States mail at Enumclaw, WA,
(date mm/dd/yyyy) (post office location)

postage paid, a true and accurate copy of this document. Notice of Decision FPA #2421233

Meredith Dessens

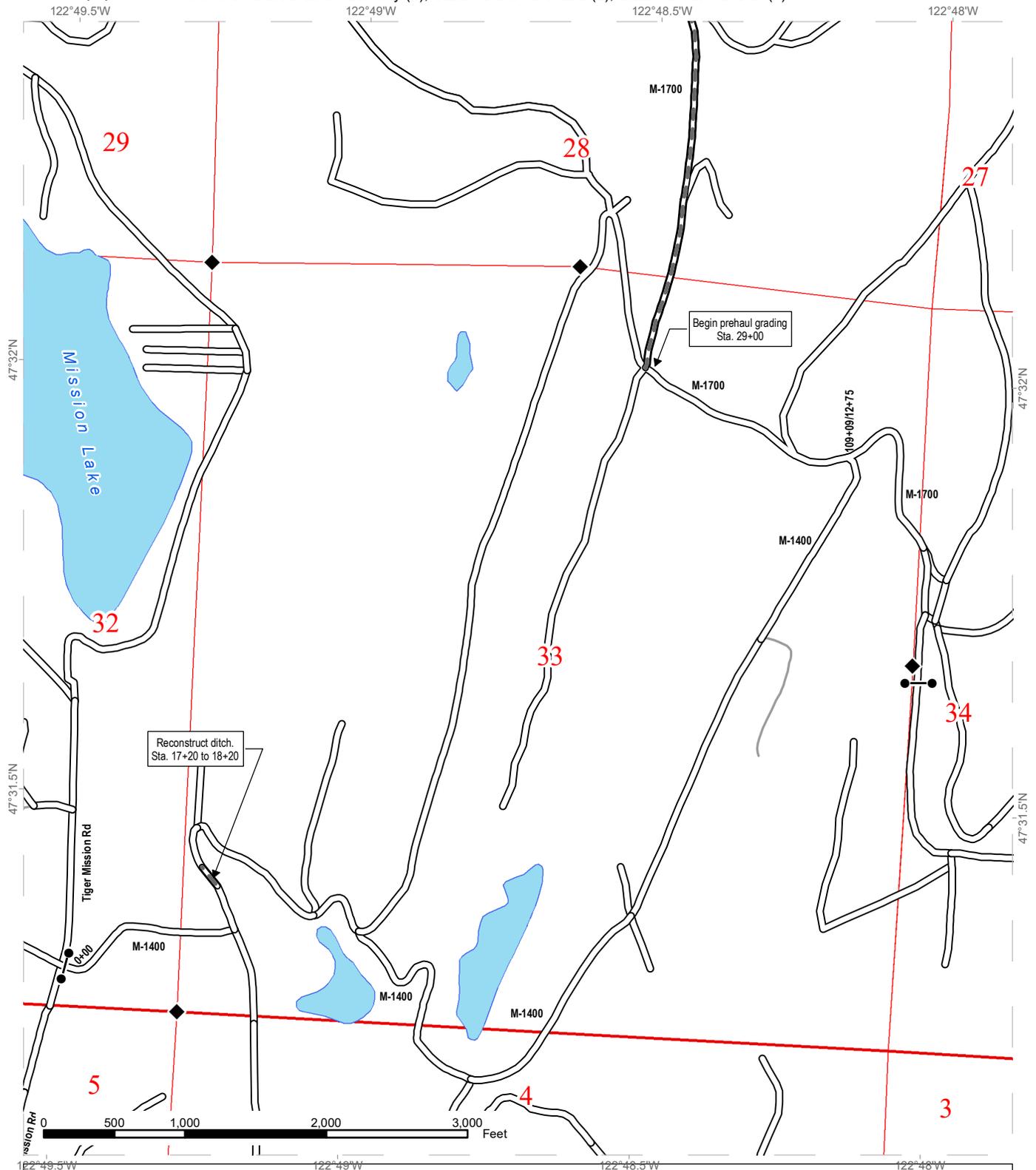
(Printed name)

(Signature)

ROAD WORK MAP

SALE NAME: TAILINGS
AGREEMENT #: 30-095702
TOWNSHIP(S): T24R1W
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Kitsap
ELEVATION RGE: 816-1756

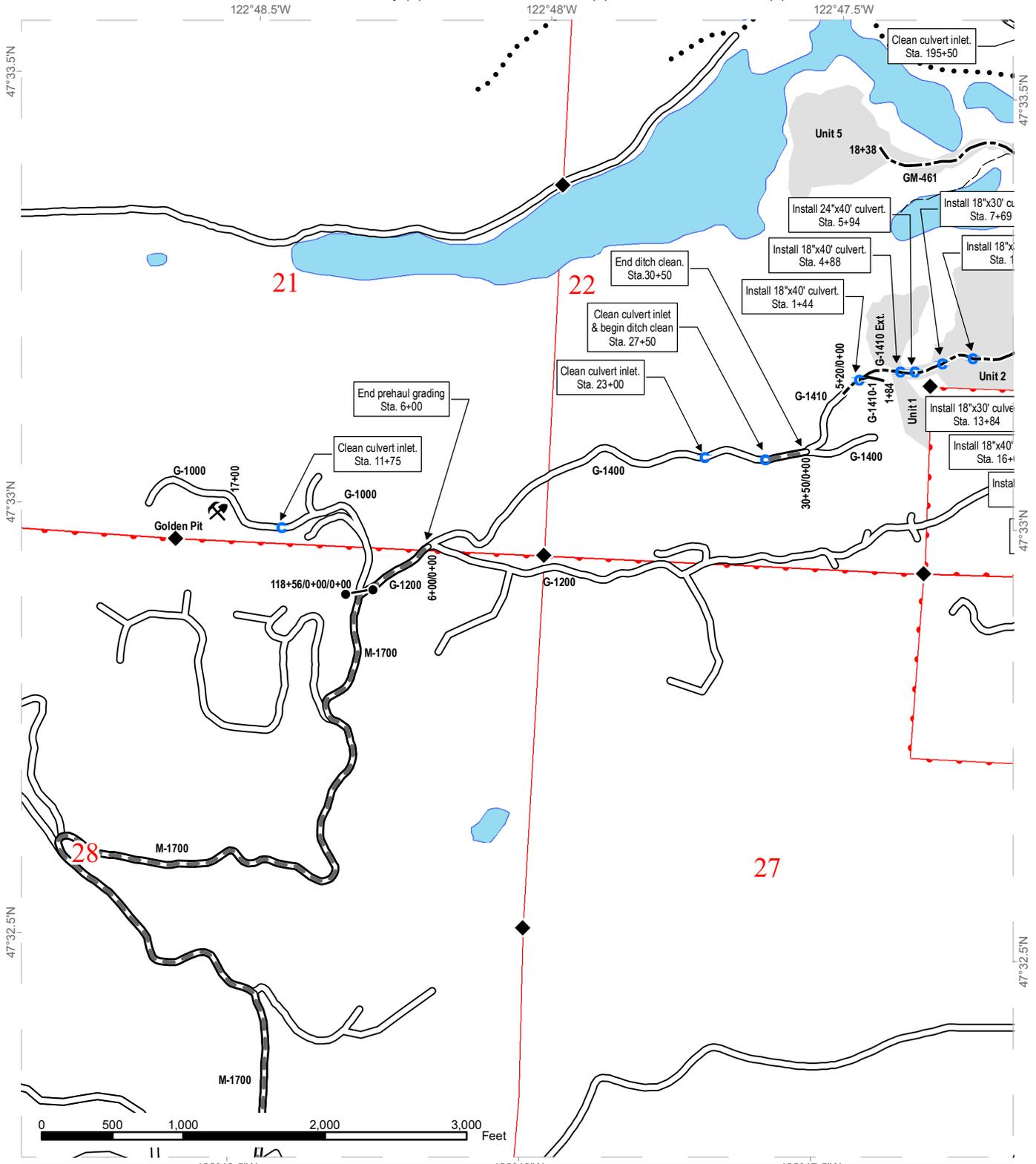


Road Construction Types	Culvert Work	Timber Sale
Existing Roads	Rock Pit	Survey Monument
Required Pre-Haul Maintenance	Waste Area	Public Land Survey Sections
Optional Construction	Gate	DNR Managed Lands
Required Abandonment		

ROAD WORK MAP

SALE NAME: TAILINGS
AGREEMENT #: 30-095702
TOWNSHIP(S): T24R1W
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Kitsap
ELEVATION RGE: 816-1756

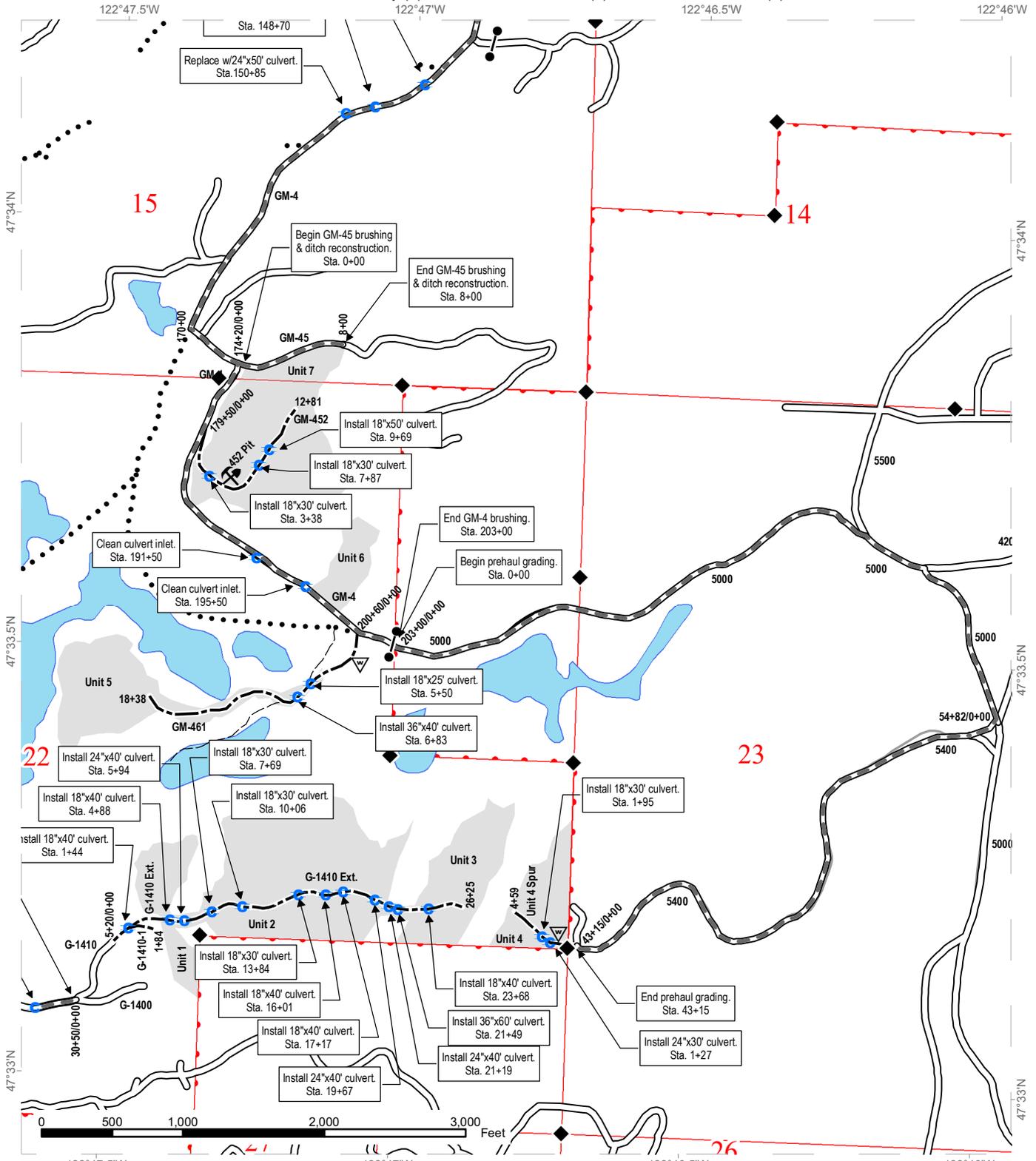


Road Construction Types	Culvert Work	Timber Sale
Existing Roads	Rock Pit	Survey Monument
Required Pre-Haul Maintenance	Waste Area	Public Land Survey Sections
Optional Construction	Gate	DNR Managed Lands
Required Abandonment		

ROAD WORK MAP

SALE NAME: TAILINGS
AGREEMENT #: 30-095702
TOWNSHIP(S): T24R1W
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
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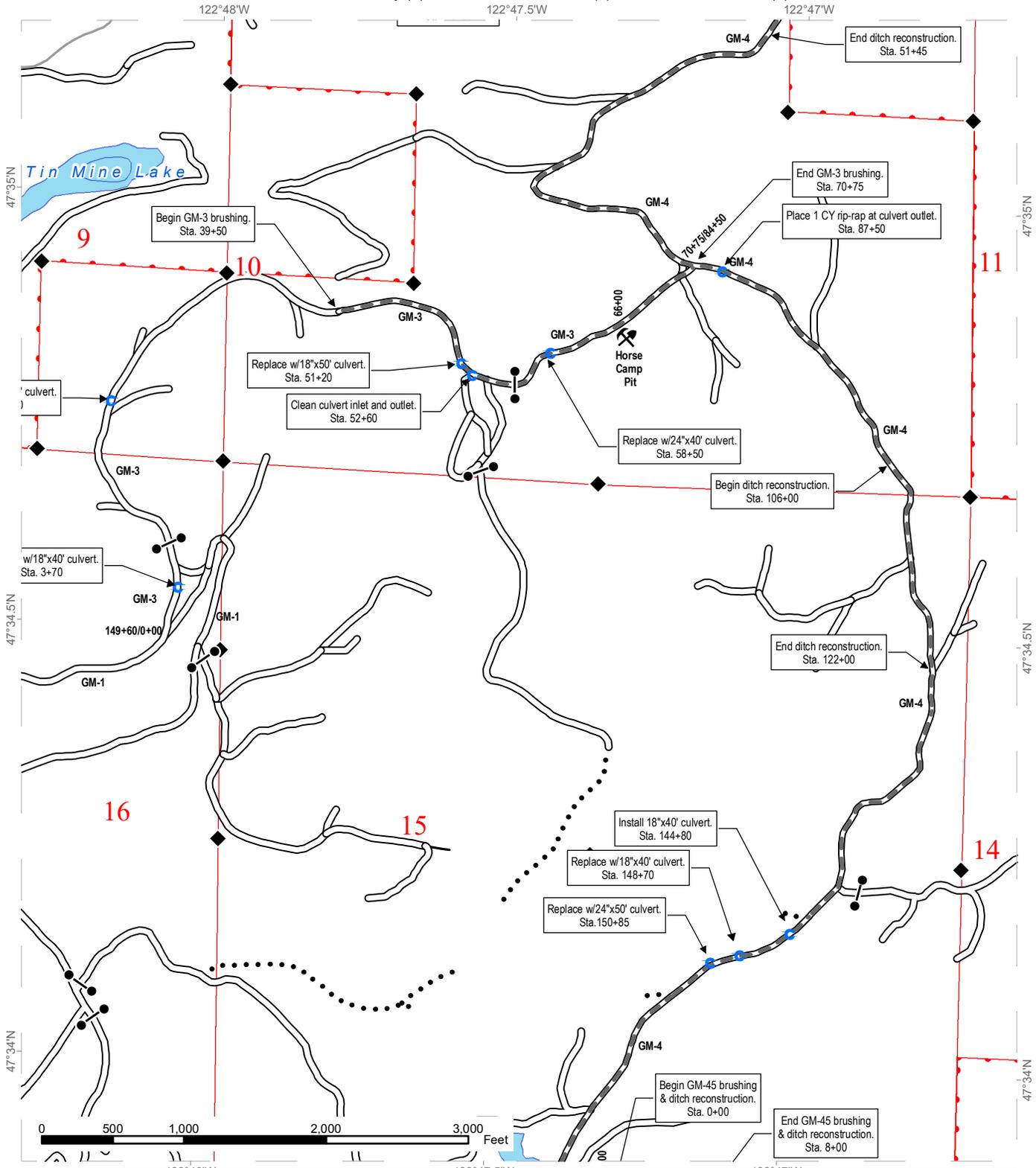


Road Construction Types	Culvert Work	Timber Sale
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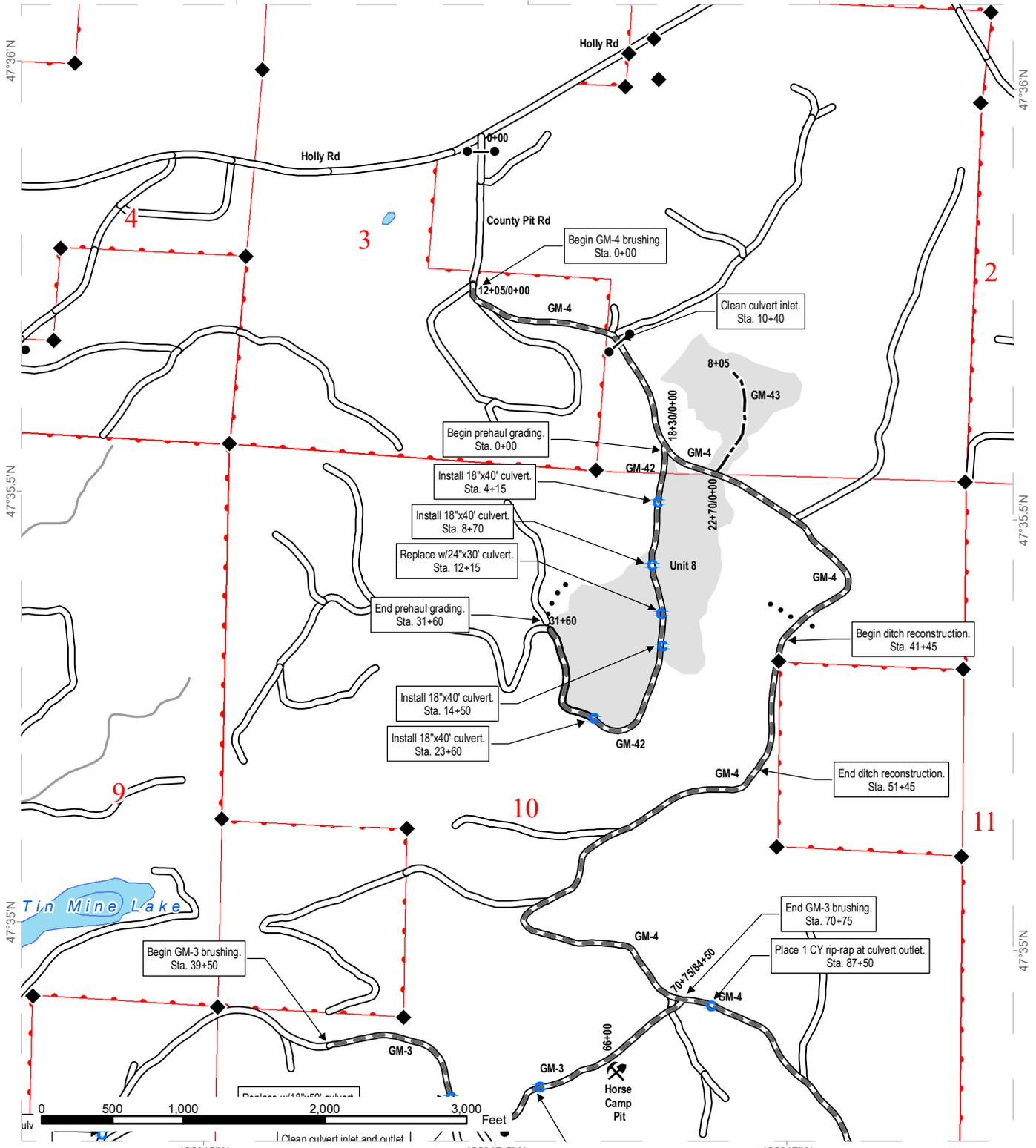
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|-------------------------------|--------------|-----------------------------|
| Existing Roads | Culvert Work | Timber Sale |
| Required Pre-Haul Maintenance | Rock Pit | Survey Monument |
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122°48'W 122°47.5'W 122°47'W

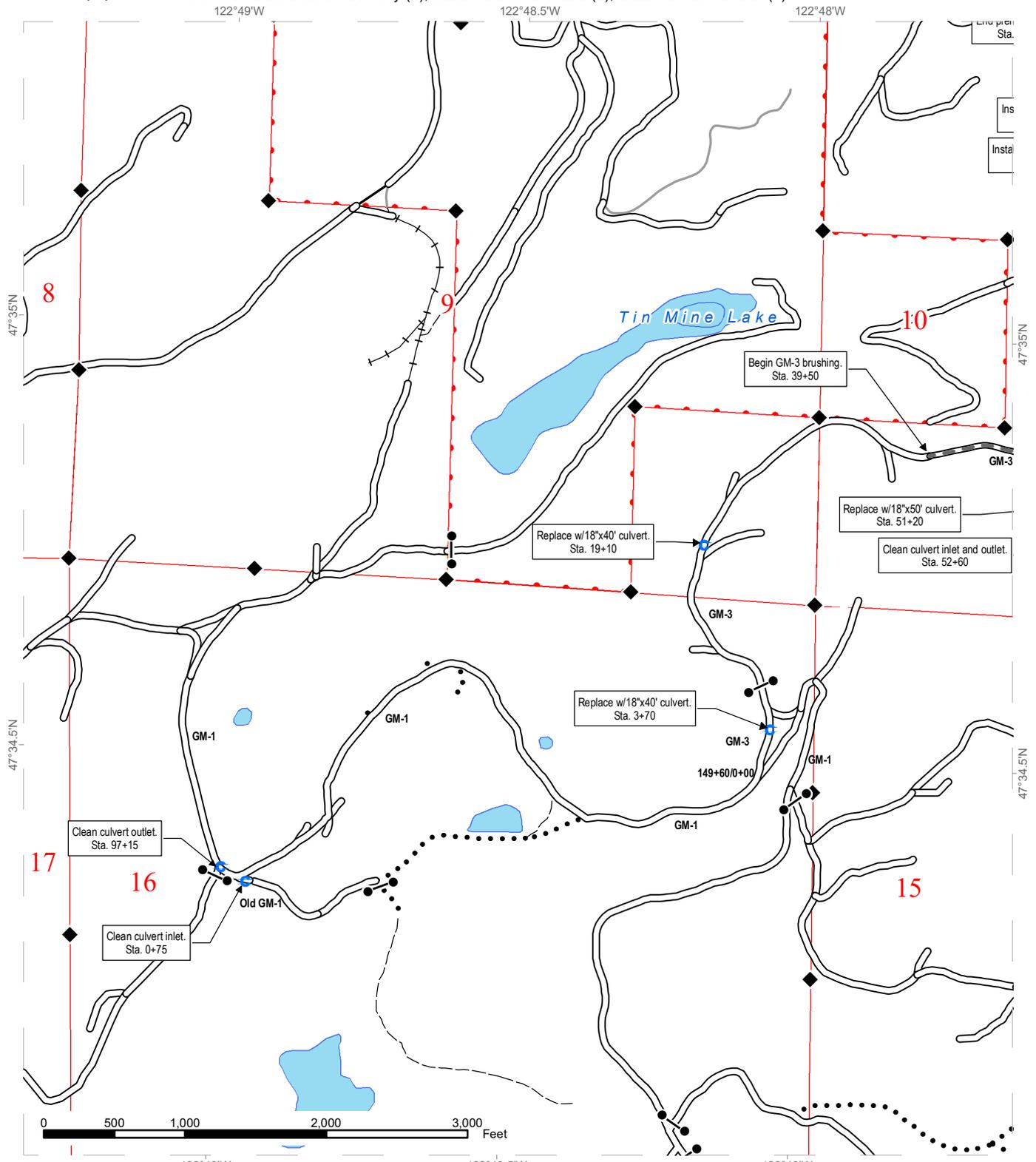


Road Construction Types	Culvert Work	Timber Sale
Existing Roads	Rock Pit	Survey Monument
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STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

TAILINGS TIMBER SALE ROAD PLAN
KITSAP COUNTY
BELFAIR UNIT
SOUTH PUGET SOUND REGION

AGREEMENT NO.: 30-095702

STAFF ENGINEER: B. HEYMANN

DATE: APRIL 29, 2019

DRAWN & COMPILED BY: J. GARDNER

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

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

0-2 REQUIRED ROADS

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
Old GM-1	0+65to 0+75	Prehaul Maintenance
GM-1	97+10 to 97+20	Prehaul Maintenance
GM-3	3+55 to 3+85, 18+95 to 19+25, 39+50 to 70+75	Prehaul Maintenance
GM-4	0+00 to 203+00	Prehaul Maintenance
GM-42	0+00 to 31+60	Pre/Posthaul Maintenance
GM-43	0+00 to 8+05	Abandonment-if built
GM-45	0+00 to 8+00	Prehaul Maintenance
GM-461	4+30 to 18+38	Abandonment-if built
5000	0+00 to 54+82	Pre/Posthaul Maintenance
5400	0+00 to 43+15	Pre/Posthaul Maintenance
Unit 4 Spur	0+00 to 4+59	Abandonment-if built
M-1400	17+20 to 18+20	Prehaul Maintenance
M-1400	0+00 to 109+09	Posthaul Maintenance
M-1700	29+00 to 118+56	Prehaul Maintenance
M-1700	12+75 to 118+56	Posthaul Maintenance
G-1000	11+70 to 11+80	Prehaul Maintenance
G-1200	0+00 to 6+00	Prehaul Maintenance
G-1400	22+95 to 23+05, 27+50 to 30+50	Prehaul Maintenance
G-1410-1	0+00 to 1+84	Abandonment-if built

0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
GM-43	0+00 to 8+05	Construction
GM-452	0+00 to 12+81	Construction
GM-461	0+00 to 18+38	Construction
Unit 4 Spur	0+00 to 4+59	Construction
G-1410 Ext	0+00 to 26+25	Construction
G-1410-1	0+00 to 1+84	Construction

0-4 CONSTRUCTION

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

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

0-6 PRE-HAUL MAINTENANCE

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

- brushing right-of-way;
- reconstructing ditches;
- acquisition and installation of drainage structures;
- cleaning culvert inlets and outlets;
- grading and shaping existing road surface and turnouts;
- acquisition, manufacture, and application of rock.

0-7 POST-HAUL MAINTENANCE

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

0-10 ABANDONMENT

This project includes abandonment listed in Clause 9-21 ROAD ABANDONMENT.

0-12 DEVELOP ROCK SOURCE

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

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

7. Road Work maps.

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer's recommendation.

1-15 ROAD MARKING

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

1-16 CONSTRUCTION STAKES SET BY STATE

Purchaser shall perform work on the following road(s) in accordance with the construction stakes and reference points set in the field for grade and alignment.

1-18 REFERENCE POINT DAMAGE

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

1-20 COMPLETE BY DATE

On the following road(s), Purchaser shall complete road work within the specified period.

<u>Road</u>	<u>Stations</u>	<u>Date</u>
GM-461	4+30 to 18+38	The construction and abandonment of this road will occur in one operating season between July 15 and September 30.

1-21 HAUL APPROVAL

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

1-23 ROAD WORK PHASE APPROVAL

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

- Drainage installation
- Subgrade compaction
- Rock compaction

1-25 ACTIVITY TIMING RESTRICTION

On the following road(s), the operation of road construction equipment is not allowed on weekends or state recognized holidays or between October 15th and April 15th, unless authorized in writing by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
5000	0+00 to 54+82
5400	0+00 to 43+15

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

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

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

1-32 BRIDGE OR ASPHALT SURFACE RESTRICTION

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

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all road construction and hauling operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surface(s) and have surface(s) evaluated 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.

Purchaser shall have asphalt surfaces reviewed by a third party, specializing in asphalt construction and repair. The third party's scope of the damage and repairs must be

agreed upon between the Purchaser and the Contract Administrator. Damage to the asphalt from transporting equipment will be repaired at the Purchaser's expense.

1-33 SNOW PLOWING RESTRICTION

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

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

1-44 ROAD WORK AROUND UTILITIES

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

<u>Road</u>	<u>Utility</u>
G-1200	buried utilities
G-1000	buried utilities

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.

2-5 MAINTENANCE GRADING – EXISTING ROAD

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

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
GM-42	0+00 to 31+60	Grading
5000	0+00 to 54+82	As required by RUP
5400	0+00 to 43+15	As required by RUP
M-1700	29+00 to 118+56	Grading
G-1200	0+00 to 6+00	Grading

2-6 CLEANING CULVERTS

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

<u>Road</u>	<u>Stations</u>
Old GM-1	0+75
GM-1	97+15
GM-3	52+60
GM-4	10+40, 191+50, & 195+50
G-1000	11+75
G-1400	3+70, & 19+10

2-7 RECONSTRUCTING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall reconstruct ditches, headwalls, and catch basins. Work must be completed before timber haul and must be done in accordance with the TYPICAL SECTION SHEET dimensions

<u>Road</u>	<u>Stations</u>
GM-4	41+45 to 51+45
GM-4	106+00 to 122+00
M-1400	17+20 to 18+20

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 4 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
GM-3	39+50 to 70+75
GM-4	0+00 to 203+00
GM-45	0+00 to 8+00

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 and within waste and debris areas, 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.

3-6 CLEARING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING

At the following stream crossing location(s), Purchaser shall place three logs, with length equal to two (2) times the width of the ordinary high water, from the largest diameter class conifer tree cut from within the Inner Zone (25 feet either side of the stream) in the stream in accordance with the Typical Riparian Strategy Stream Crossing detail.

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
GM-461	6+48 to 7+30	Log length to be a minimum of 50 feet long

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 standing trees.

3-10 GRUBBING

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

3-11 GRUBBING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING

At the following stream crossing location(s), Purchaser shall retain all grubbed stumps (root wads) within the Inner Zone (25 feet either side of the stream) for placement in accordance with the Typical Riparian Strategy Stream Crossing detail. Three root wads must be placed in or adjacent to the stream channel. The remaining stumps grubbed from the Inner Zone must be placed at least 50 feet from the roadway in the Middle (25 feet to 100 feet from the stream) or the Outer Zones (remaining portion of RMZ).

<u>Road</u>	<u>Stations</u>
GM-461	6+48 to 7+30

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 rock application and/or timber haul.

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland, unless used to comply with the specifications detailed in the Riparian Strategy, Clause 3-6 CLEARING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING, and Clause 3-11 GRUBBING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING.
- 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 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 in natural openings.

SECTION 4 – EXCAVATION

4-2 PIONEERING

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

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

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

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 12 percent adverse.

- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-12 FULL BENCH CONSTRUCTION

Where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width except as designed.

4-21 TURNOUTS

Purchaser shall construct turnouts as designated on the TURNOUT & TURNAROUND LIST. Locations may be adjusted to fit the final subgrade alignment and sight distances. Minimum dimensions are shown on the TYPICAL SECTION SHEET.

4-22 TURNAROUNDS

Purchaser shall construct turnarounds as designated on the TURNOUT & TURNAROUND LIST.

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

Purchaser shall construct and 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 must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as needed. 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.

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 50% if the waste material is compacted and free of organic debris. On side slopes greater than 50%, all waste material must be end hauled or pushed to waste areas not prohibited in Clause 4-37
WASTE AREA LOCATION AREAS.

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.

<u>Road</u>	<u>Waste Area Location</u>	<u>Comments</u>
GM-461	Between sta. 1+80 to 3+80	Waste material on the SE side of the road.

Unit 4 Spur	Between sta. 0+00 to 0+25	Section Corner markings in vicinity of waste area. Do not destroy or cover Survey Points or Witness Markers.
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4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

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

4-48 NATIVE MATERIAL

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

4-55 ROAD SHAPING

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

4-60 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.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width except ditch. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rock application and/or timber haul.

4-70 GEOTEXTILE

On the following road(s), Purchaser shall provide and install geotextile fabric as specified in the TAILINGS TIMBER SALE, GM-461 CROSSING INSTALLATION & REMOVAL drawings. Geotextile fabric must be installed to a width that is 2 feet more than the subgrade width. Geotextile fabric must overlap by a minimum of 2 feet at all joints. The geotextile fabric must be covered with a minimum of 8 inches of compacted 4 INCH IN-PLACE rock as specified in the ROCK LIST.

<u>Road</u>	<u>Stations</u>
GM-461	6+33 to 7+33

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

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

5-2 PUNCHEON REPLACEMENT

On the following road(s), Purchaser may remove the existing puncheon and replace with a culvert as specified on the CULVERT AND DRAINAGE LIST. Puncheon replacement and removal must be done in accordance with the TAILINGS TIMBER SALE, GM-461 CROSSING INSTALLATION & REMOVAL drawings.

<u>Road</u>	<u>Stations</u>
GM-461	6+83

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 10-24.

5-7 USED CULVERT MATERIAL

On the following road(s), Purchaser may install used culverts. All other roads must have new culverts installed.

<u>Road</u>	<u>Stations</u>
GM-43	0+00 to 8+05
GM-461	4+30 to 18+38
Unit 4 Spur	0+00 to 4+59

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 at Horse Camp Pit.

5-13 CONTINGENCY CULVERTS

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

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

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer's recommendations. Culverts shall be banded using lengths of no less than 10 feet, and no more than one length less than 16 feet. Shorter section of banded culvert shall be installed at the inlet end.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

All 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.

5-20 ENERGY DISSIPATERS

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

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT AND DRAINAGE LIST. Placement must with a zero-drop-height only.

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts, except for temporary culverts. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be with a zero-drop-height 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 NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 vertical feet between waterbars or between natural drainage paths, and with a maximum spacing of 200 horizontal feet.

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

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

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Horse Camp Pit	SW ¼ SE ¼ Sect. 10 T24R01W	4-INCH IN-PLACE, QUARRY SPALLS, LIGHT LOOSE RIP-RAP
Golden Pit	SW ¼ SE ¼ Sect. 21 T24R01W	
452 Pit	NW ¼ NE ¼ Sect. 22 T24R01W	

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.

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.

<u>Source</u>	<u>Rock Type</u>
Horse Camp Pit	4-INCH IN-PLACE, QUARRY SPALLS, LIGHT LOOSE RIP-RAP

6-12 ROCK SOURCE SPECIFICATIONS

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

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

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

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

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale may not exceed 5% of the total volume mined in that source.
- Oversize material is defined as rock fragments too large to be converted by the Purchaser to a size that will meet specifications used for the roads in this sale.
- Oversized rock that exceeds the maximum allowable amount must be stockpiled as directed by the Contract Administrator.

- Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- 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.

6-23 ROCK GRADATION TYPES

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

6-38 4-INCH IN-PLACE ROCK

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

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

6-43 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:

<u>Quantity</u>	<u>Approximate Size Range</u>
20% to 90%	18" - 28"
15% to 80%	8" - 18"
10% to 20%	3" - 8"

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. Unless otherwise stated in Clause 6-75 OPTIONAL ROCK EXCEPTION.

6-70 APPROVAL BEFORE ROCK APPLICATION

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

6-71 ROCK APPLICATION

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. 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, Purchaser may place less rock than shown on the ROCK LIST.

<u>Road</u>	<u>Stations</u>
GM-43	0+00 to 8+05
GM-461	4+30 to 18+38
Unit 4 Spur	0+00 to 4+59
G-1410-1	0+00 to 1+84

SECTION 7 – STRUCTURES

7-70 GATE CLOSURE

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

7-71 GATE CLOSURE DURING HAUL

On the following road(s), Purchaser shall keep gates closed and locked except for passing vehicles.

<u>Road</u>	<u>Station</u>	<u>Comment</u>
5000	0+05	City of Bremerton Gate

SECTION 8 – EROSION CONTROL

8-15 REVEGETATION

On the following road(s), Purchaser shall spread grass seed and a layer of straw on all exposed soils that have potential to deliver to typed water. Seed shall be covered with straw within 3 days of application. Alternative methods of seeding and mulching must be approved in writing by the Contract Administrator.

<u>Road</u>	<u>Location</u>	<u>Qty (lbs)*</u>	<u>Type</u>	<u>Comments</u>
GM-461	5+83 to 7+83	50 lbs/acre	Pasture Mix	Seed and straw upon abandonment
Unit 4 spur	0+77 to 1+77	50 lbs/acre	Pasture Mix	

*Quantities are estimates only.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the Pasture Mix seed and straw.

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the BARRICADE DETAIL.

<u>Road</u>	<u>Station</u>	<u>Comment</u>
GM-43	0+30	
GM-461	4+30	
Unit 4 Spur	0+10	Section Corner markings in vicinity of proposed barricade. Do not destroy or cover Survey Points or Witness Markers.
G-1410-1	0+10	

9-2 CULVERT REMOVAL FROM LIVE STREAM

On the following road(s), Purchaser shall remove existing culverts and/or puncheons from live streams and leave the resulting channel open with excavation slope and excavated channel width as specified. End haul excavated material to a waste area designated in Clause 4-37 WASTE AREA LOCATION.

<u>Road</u>	<u>Stations</u>	<u>Excavated Channel Width</u>	<u>Slope Ratio</u>	<u>Comments</u>
GM-461	6+83	22 feet	Variable	See TAILINGS TIMBER SALE, GM-461 CROSSING INSTALLATION & REMOVAL drawing
Unit 4 Spur	1+27	4 feet	2H:1V	

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 and as specified below.

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
GM-42	0+00 to 31+60	Grading
5000	0+00 to 54+82	Grading as required by RUP
5400	0+00 to 43+15	Grading as required by RUP
M-1400	0+00 to 109+09	Grading
M-1700	12+75 to 118+56	Grading

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-21 ROAD ABANDONMENT

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
GM-43	0+00 to 8+05	Abandonment
GM-461	4+30 to 18+38	Abandonment
Unit 4 Spur	0+00 to 4+59	Abandonment
G-1410-1	0+00 to 1+84	Abandonment

9-24 ABANDONMENT

- Construct non-drivable waterbars in accordance with the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 200 feet.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached BARRICADE DETAIL.
- Remove culverts.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.

- Cover, concurrently with abandonment, all exposed soils that have potential to deliver to typed water, with a layer of straw.

SECTION 10 MATERIALS

10-2 GEOTEXTILE FOR SEPARATION

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

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Non-woven
Apparent opening size	D 4751	No. 30 max
Water permittivity	D 4491	0.02 sec ⁻¹
Grab tensile strength	D 4632	160 lb
Grab tensile elongation	D 4632	>= 50%
Puncture strength	D 6241	310 lb
Tear strength	D 4533	50 lb
Ultraviolet stability	D 4355	50% retained after 500 hours of exposure

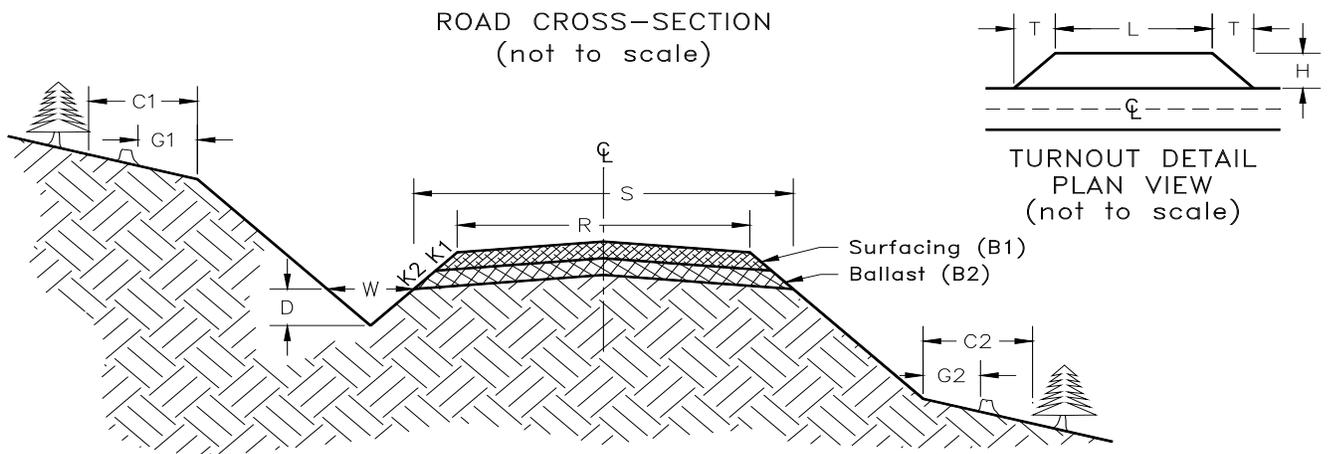
10-17 CORRUGATED PLASTIC CULVERT

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

10-22 PLASTIC BAND

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

TYPICAL SECTION SHEET (page 1 of 2)



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
						Width (feet)	Depth (feet)		G1	G2	C1	C2		
County Pit Rd	0+00	12+05	C	-	14	2	1	4	0	0	0	0	4-5	4-6
Old GM-1	0+00	0+75	C	-	14	2	1	4	0	0	0	0	4-5	4-6
GM-1	0+00	149+60	C	-	14	2	1	4	0	0	0	0	4-5	4-6
GM-3	0+00	70+75	C	-	14	2	1	4	0	0	0	0	4-5	4-6
GM-4	0+00	203+00	C	-	14	2	1	4	0	0	0	0	4-5	4-6
GM-42	0+00	31+60	C	16	12	2	1	4	0	0	0	0	4-5	4-6
GM-43	0+00	8+05	C	16	12	2	1	4	0	0	0	0	4-5	4-6
GM-45	0+00	12+00	C	-	12	2	1	4	0	0	0	0	4-5	4-6
GM-452	0+00	12+81	C	16	12	2	1	4	5	5	7	7	4-5	4-5
GM-461	0+00	4+30	C	16	12	2	1	4	0	0	0	0	4-5	4-6
GM-461	4+30	13+76	C	16	12	2	1	4	0	0	tags	tags	4-5	4-6
GM-461	13+76	15+83	C	16	12	2	1	4	0	0	0	0	4-5	4-6
GM-461	15+83	17+00	C	16	12	2	1	4	0	0	tags	tags	4-5	4-6
GM-461	17+00	18+38	C	16	12	2	1	4	0	0	0	0	4-5	4-6
5000	0+00	54+82	C	-	12	2	1	4	0	0	0	0	4-5	4-5
5400	0+00	43+15	C	-	12	2	1	4	0	0	0	0	4-5	4-6
Unit 4 Spur	0+00	4+59	C	16	12	2	1	4	0	0	0	0	4-5	4-6

TYPICAL SECTION SHEET(page 2 of 2)

Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
						Width (feet)	Depth (feet)							
M-1400	0+00	109+09	C	-	12	2	1	4	0	0	0	0	4-5	4-6
M-1700	12+75	118+56	C	-	12	2	1	4	0	0	0	0	4-5	4-6
G-1000	0+00	17+00	C	-	12	2	1	4	0	0	0	0	4-5	4-6
G-1200	0+00	6+00	C	-	12	2	1	4	0	0	0	0	4-5	4-6
G-1400	0+00	30+50	C	-	12	2	1	4	0	0	0	0	4-5	4-6
G-1410	0+00	5+20	C	-	12	2	1	4	0	0	0	0	4-5	4-6
G-1410 Ext	0+00	26+25	C	16	12	2	1	4	5	5	7	7	4-5	4-6
G-1410 Ext	4+50	7+55	C	16	12	2	1	4	5	5	tags	tags	4-5	4-6
G-1410 Ext	7+55	20+85	C	16	12	2	1	4	5	5	7	7	4-5	4-6
G-1410 Ext	20+85	22+70	C	16	12	2	1	4	5	5	tags	tags	4-5	4-6
G-1410 Ext	22+70	26+25	C	16	12	2	1	4	5	5	7	7	4-5	4-6
G-1410-1	0+00	1+84	C	16	12	2	1	4	5	5	7	7	4-5	4-6

ROCK LIST

BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout			
									Length	Width	Taper	
			K2	B2	4-Inch In-Place				L	H	T	
GM-3	3+55	3+85	1 ½ :1	8"	40	0.3	12	Horse Camp Pit -or- Golden Pit -or- 452 Pit				
GM-3	18+95	19+25	1 ½ :1	8"	40	0.3	12					
GM-3	51+05	51+35	1 ½ :1	8"	40	0.3	12					
GM-3	58+35	58+65	1 ½ :1	8"	40	0.3	12					
GM-4	144+65	144+95	1 ½ :1	8"	40	0.3	12					
GM-4	148+55	148+85	1 ½ :1	8"	40	0.3	12					
GM-4	150+70	151+00	1 ½ :1	8"	40	0.3	12					
GM-42	4+00	4+30	1 ½ :1	8"	40	0.3	12					
GM-42	8+55	8+85	1 ½ :1	8"	40	0.3	12					
GM-42	12+00	12+30	1 ½ :1	8"	40	0.3	12					
GM-42	14+35	14+65	1 ½ :1	8"	40	0.3	12					
GM-42	23+45	23+75	1 ½ :1	8"	40	0.3	12					
*GM-43	0+00	8+05	1 ½ :1	8"	35	8.05	282					
GM-452	0+00	12+81	1 ½ :1	8"	35	12.81	448			50'	14'	25'
GM-461	0+00	4+30	1 ½ :1	8"	35	4.30	151					
*GM-461	4+30	18+38	1 ½ :1	8"	35	14.08	493					
*Unit 4 Spur	0+00	4+59	1 ½ :1	8"	35	4.59	161					
G-1410 Ext	0+00	26+25	1 ½ :1	8"	35	26.25	919			50'	14'	25'
*G-1410-1	0+00	1+84	1 ½ :1	8"	35	1.84	64					
Turnouts			1 ½ :1	8"	30 per ea.	4* 1	120 30					
Turnarounds			1 ½ :1	8"	36 per ea.	7	252					
*Landings			1 ½ :1		50 per ea.	9	450					
					Quarry Spalls & Light Loose Riprap							
Culvert Headwalls and Dissipaters							37					

4-Inch In-Place Total 3514 Cubic Yards
 Quarry Spalls & Riprap Total 37 Cubic Yards
 Ballast Total 3551 Cubic Yards

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

NOTE: All 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.**

TURNOUT & TURNAROUND LIST

Road Number	Begin L- Station	End L- Station	Turnout Width (H)	Full Width Length (L)	Taper Length (T)	Comments
GM-43	7+60	8+05	30'	30'	15'	Turnaround Left
GM-452	8+03	9+03	14'	50'	25'	Turnout Right
GM-452	12+36	12+81	30'	30'	15'	Turnaround Right
GM-461	3+75	4+30	30'	30'	15'	Turnaround Left
GM-461	17+93	18+38	30'	30'	15'	Turnaround Left
G-1410 Ext.	0+00	1+00	14'	50'	25'	Turnout Right
G-1410 Ext.	6+49	7+49	14'	50'	25'	Turnout Right
G-1410 Ext.	11+53	12+53	14'	50'	25'	Turnout Right
G-1410 Ext.	21+97	22+97	14'	50'	25'	Turnout Right
G-1410 Ext.	25+80	26+25	30'	30'	15'	Turnaround Right
G-1410-1	1+39	1+84	30'	30'	15'	Turnaround Right
Unit 4 Spur	4+15	4+59	30'	30'	15'	Turnaround Left

*See Typical Section Sheet for Turnout Detail

COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
GM-3	0+00	70+75	Surfacing	12"	Smooth Drum Vibratory Roller	14,000	4 low freq. vibe on	3
GM-4	0+00	203+00	Surfacing	12"	Smooth Drum Vibratory Roller	14,000	4 low freq. vibe on	3
GM-42	0+00	31+60	Surfacing	12"	Smooth Drum Vibratory Roller	14,000	4 low freq. vibe on	3
GM-43	0+00	8+05	Subgrade, Surfacing	12"	Smooth Drum Vibratory Roller	14,000	4 low freq. vibe on	3
GM-452	0+00	12+81	Subgrade, Surfacing	12"	Smooth Drum Vibratory Roller	14,000	4 low freq. vibe on	3
GM-461	0+00	18+38	Subgrade, Surfacing	12"	Smooth Drum Vibratory Roller	14,000	4 low freq. vibe on	3
Unit 4 Spur	0+00	4+59	Subgrade, Surfacing	12"	Smooth Drum Vibratory Roller	14,000	4 low freq. vibe on	3
G-1410 Ext	0+00	26+25	Subgrade, Surfacing	12"	Smooth Drum Vibratory Roller	14,000	4 low freq. vibe on	3
G-1410-1	0+00	1+84	Subgrade, Surfacing	12"	Smooth Drum Vibratory Roller	14,000	4 low freq. vibe on	3

CULVERT AND DRAINAGE LIST (page 1 of 2)

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material*	Placement Method*	Const. Staked*	Remarks
		Dia. (in)	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type				
Old GM-1	0+75	18	CMP										Clean inlet
GM-1	97+15	18	CMP										Clean outlet
GM-3	3+70	18	PD	40			0.5	0.5	QS	NT			Replace existing
GM-3	19+10	18	PD	40			0.5	0.5	QS	NT			Replace existing
GM-3	51+20	18	PD	50			0.5	0.5	QS	NT			Replace existing
GM-3	52+60	12	CMP										Clean inlet & outlet
GM-3	58+50	24	PD	40			1	1	QS	NT			Replace existing, T5 Stream
GM-4	10+40	18	PD										Clean inlet
GM-4	87+50	18	CMP					1	LL				Place Riprap at outlet
GM-4	144+80	18	PD	40			0.5	0.5	QS	NT			
GM-4	148+70	18	PD	40			0.5	0.5	QS	NT			Replace existing
GM-4	150+85	24	PD	50			1	1	QS	NT			Replace existing, T4 Stream
GM-4	191+50	18	PD										Clean inlet
GM-4	195+50	18	PD										Clean inlet
GM-42	4+15	18	PD	40			0.5	0.5	QS	NT			
GM-42	8+70	18	PD	40			0.5	0.5	QS	NT			
GM-42	12+15	24	PD	30			1	1	QS	NT			Replace existing, T5 Stream
GM-42	14+50	18	PD	40			0.5	0.5	QS	NT			
GM-42	23+60	18	PD	40			0.5	0.5	QS	NT			
GM-452	3+38	18	PD	30			0.5	0.5	QS	NT			
GM-452	7+87	18	PD	30			0.5	0.5	QS	NT			
GM-452	9+69	18	PD	50			0.5	0.5	QS	NT			
GM-461	5+50	18	TEMP	25						NT			
GM-461	6+83	36	TEMP	40						NT			Replace existing, T3 Stream
Unit 4 Spur	1+27	24	TEMP	30						NT			T5 Stream
Unit 4 Spur	1+95	18	TEMP	30						NT			

PD = Polyethylene Pipe Dual Wall AASHTO No. M294 Type S or ASTM F2648
 CMP = Corrugated Metal Pipe
 TEMP = Temporary Culvert
 QS = Quarry Spalls
 LL = Light Loose Rip Rap
 NT = Native (bank run)

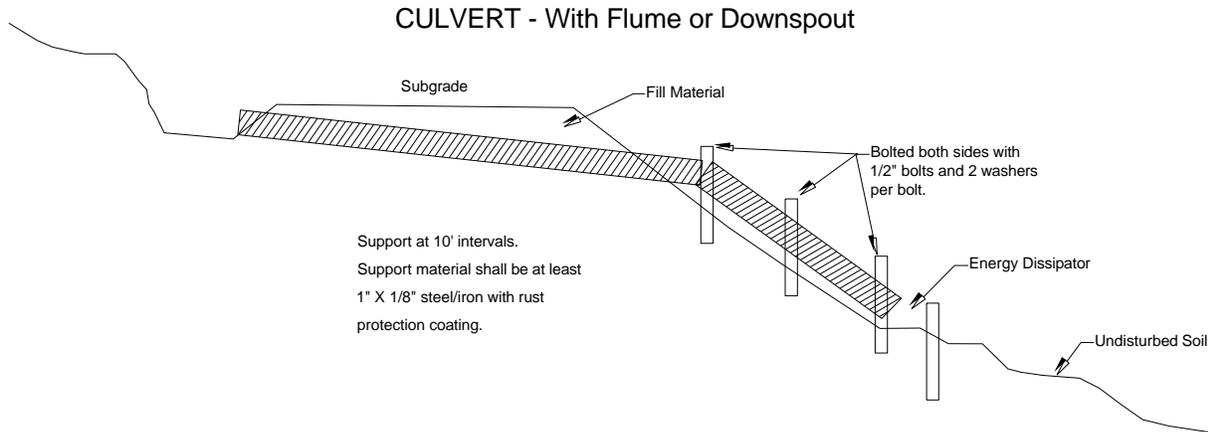
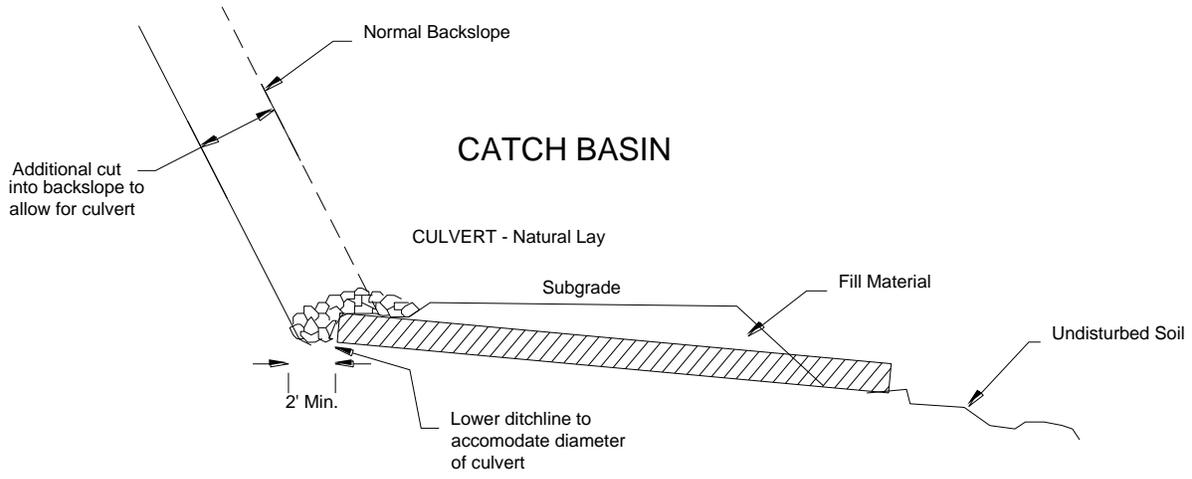
CULVERT AND DRAINAGE LIST (page 2 of 2)

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material*	Placement Method*	Const. Staked*	Remarks
		Dia. (in)	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type				
G-1000	11+75	18	PD										Clean inlet
G-1400	3+70	18	PD							NT			Clean inlet
G-1400	19+10	18	PD							NT			Clean inlet
G-1410 Ext	1+44	18	PD	40			0.5	0.5	QS	NT			
G-1410 Ext	4+88	18	PD	40			0.5	0.5	QS	NT			
G-1410 Ext	5+94	24	PD	40			1	1	QS	NT			T4 Stream
G-1410 Ext	7+69	18	PD	30			0.5	0.5	QS	NT			
G-1410 Ext	10+06	18	PD	30			0.5	0.5	QS	NT			
G-1410 Ext	13+84	18	PD	30			0.5	0.5	QS	NT			
G-1410 Ext	16+01	18	PD	40			0.5	0.5	QS	NT			
G-1410 Ext	17+17	18	PD	40			0.5	0.5	QS	NT			
G-1410 Ext	19+67	24	PD	40			1	1	QS	NT			Overland flow
G-1410 Ext	21+19	24	PD	40			1	1	QS	NT			T5 Stream
G-1410 Ext	21+49	36	PD	60			2	2	LL	NT			T4 Stream
G-1410 Ext	23+68	18	PD	40			0.5	0.5	QS	NT			

- PD = Polyethylene Pipe Dual Wall AASHTO No. M294 Type S or ASTM F2648
- CMP = Corrugated Metal Pipe
- TEMP = Temporary Culvert
- QS = Quarry Spalls
- LL = Light Loose Rip Rap
- NT = Native (bank run)

CULVERT AND DRAINAGE SPECIFICATION DETAIL

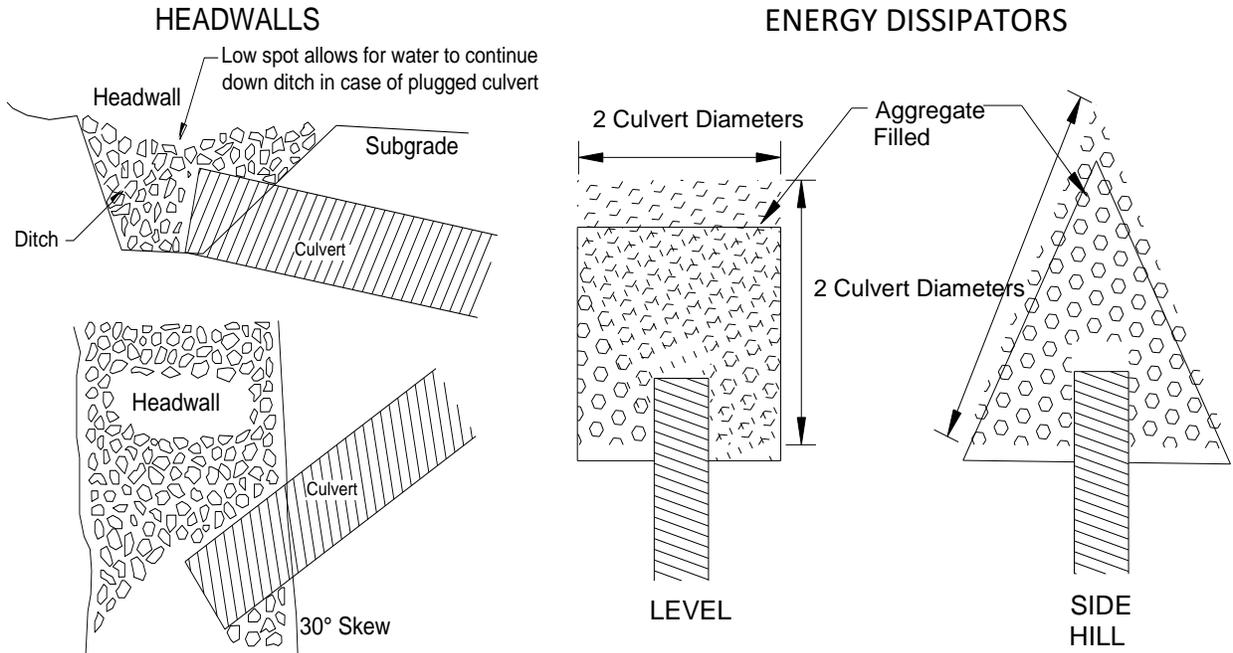
(Page 1 of 3)



CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 2 of 3)

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



Headwalls to be constructed of material that will resist erosion.

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

CULVERT AND DRAINAGE SPECIFICATION DETAIL

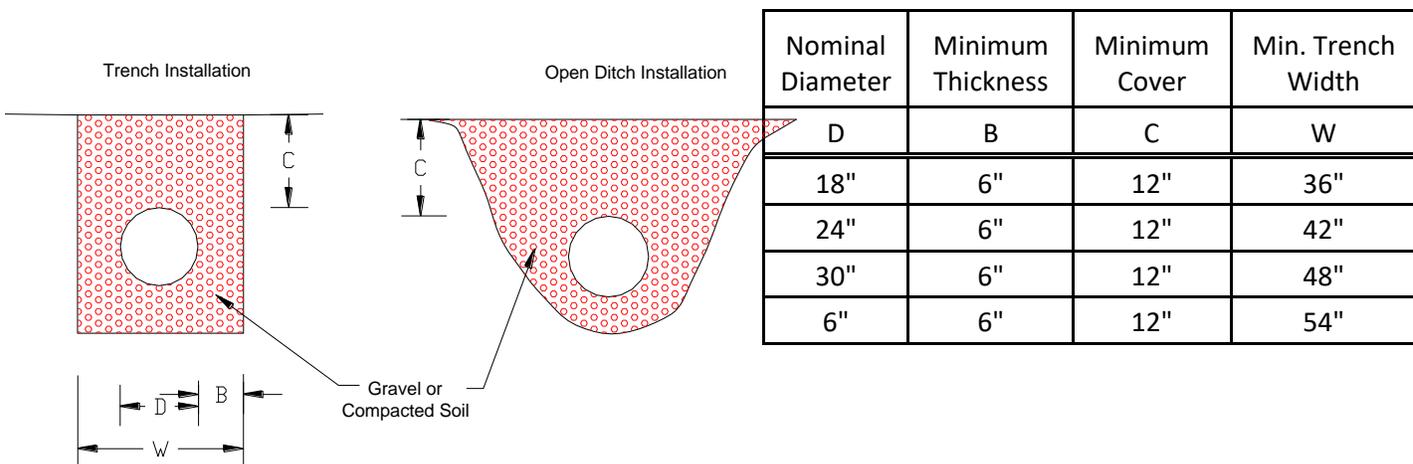
(Page 3 of 3)

POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

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

MINIMUM DIMENSIONS Trench or Open Ditch Installation



FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

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

Surface

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

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.

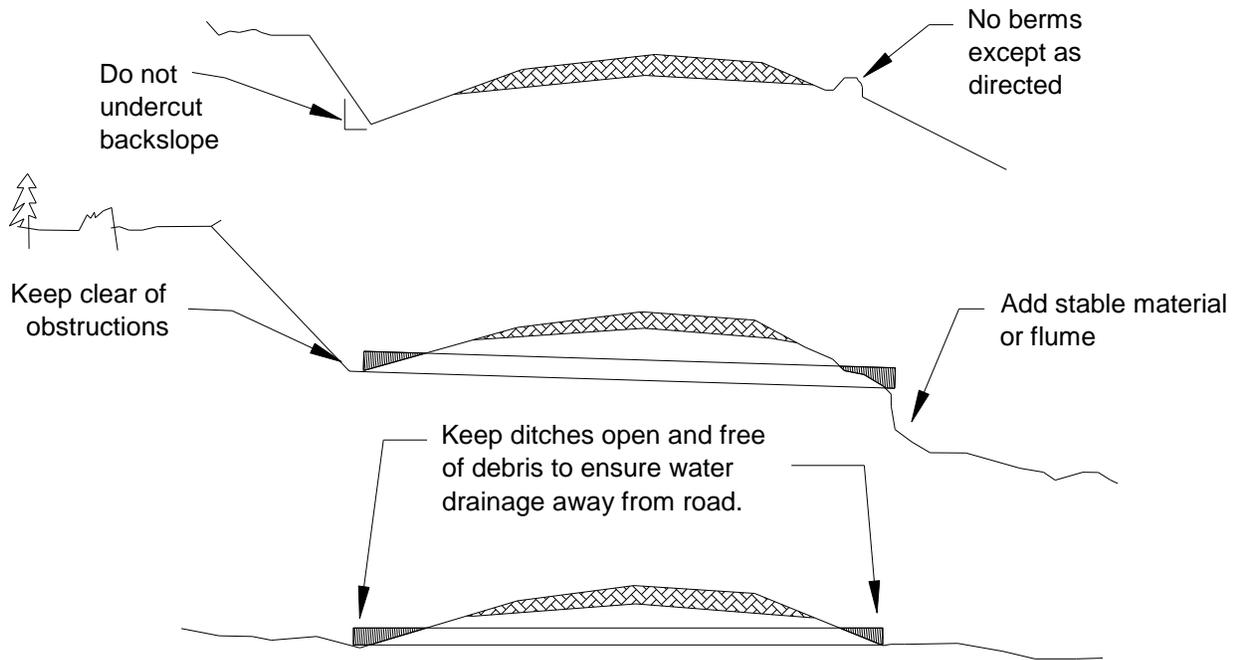
FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

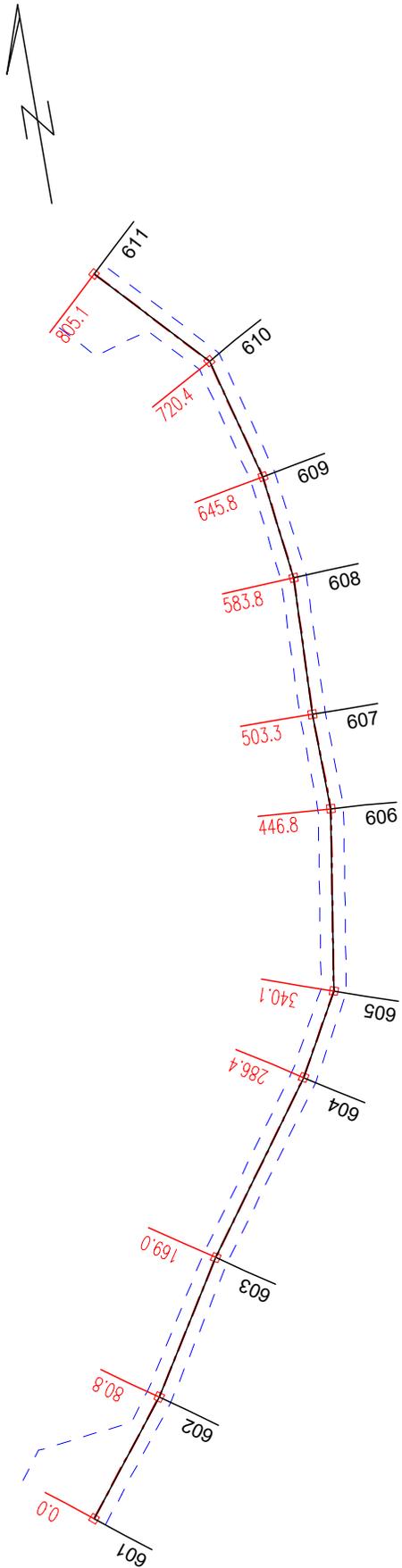
Termination of Use or End of Season

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

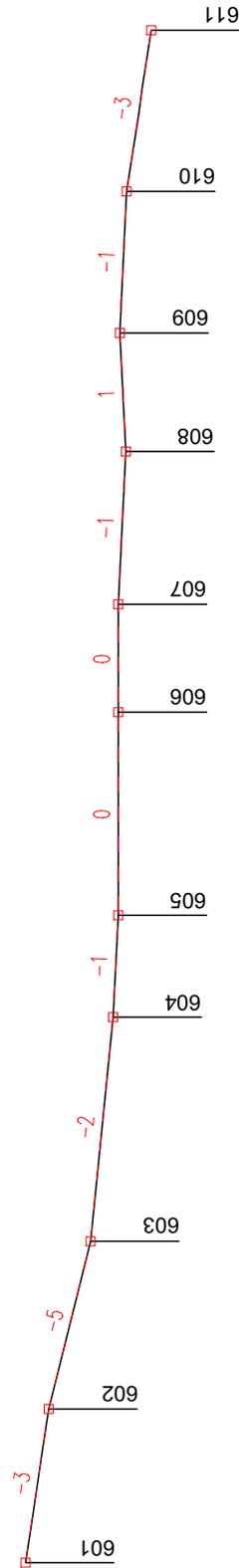
Debris

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





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Tailings Timber Sale
GM-43 RD
Contract#: 30-095702

Washington State Department of Natural Resources
South Puget Sound Region



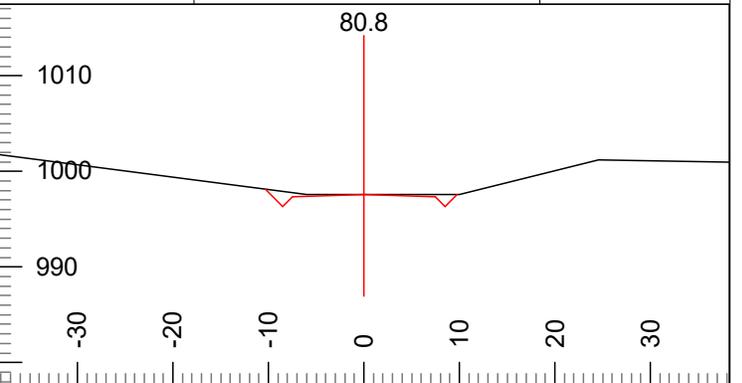
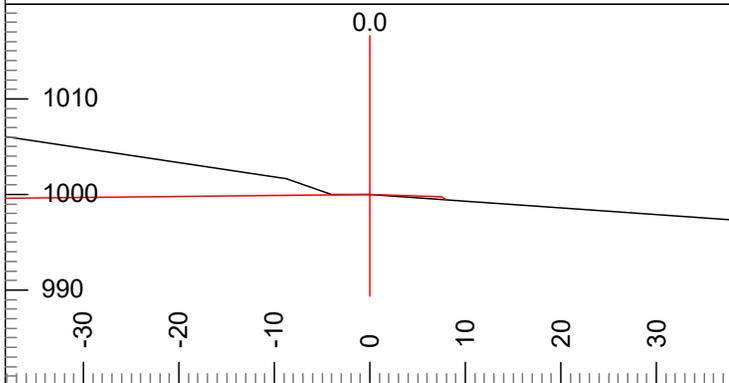
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Profile Vert Scale 1:240
Profile Horz Scale 1:1200

Engineer: J. Gardner

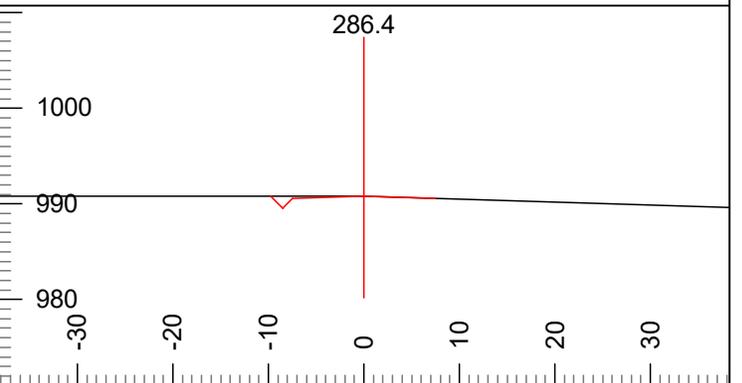
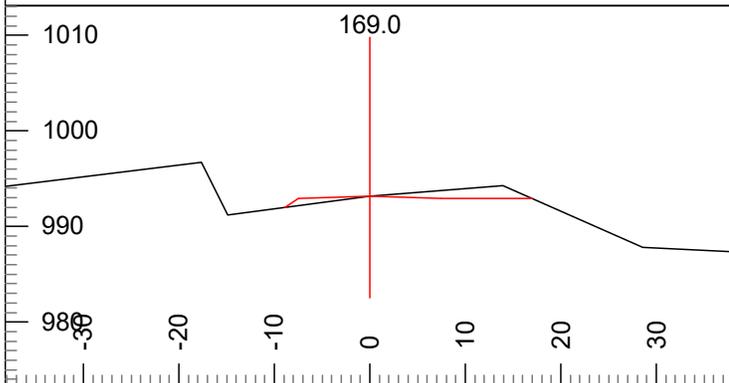
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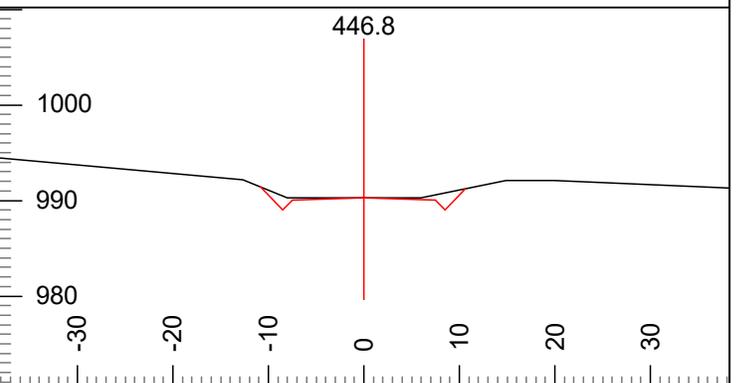
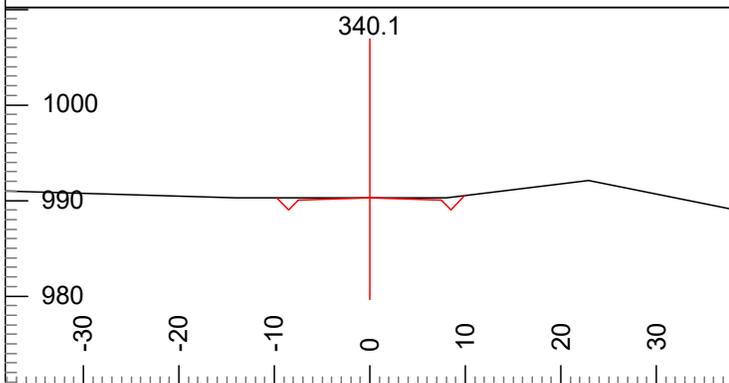
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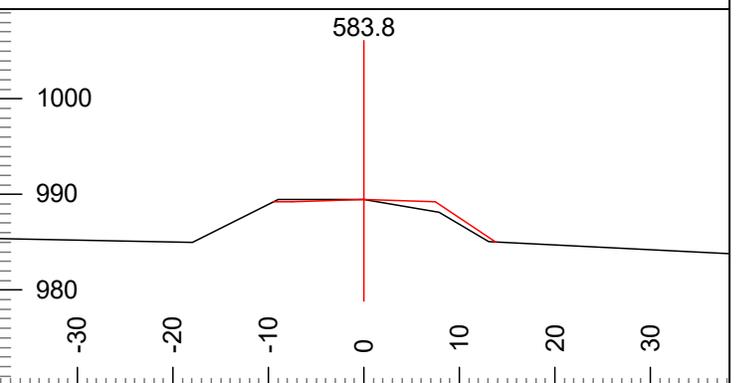
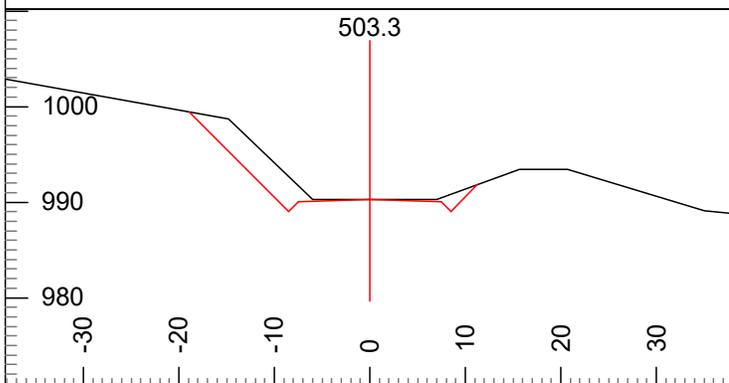
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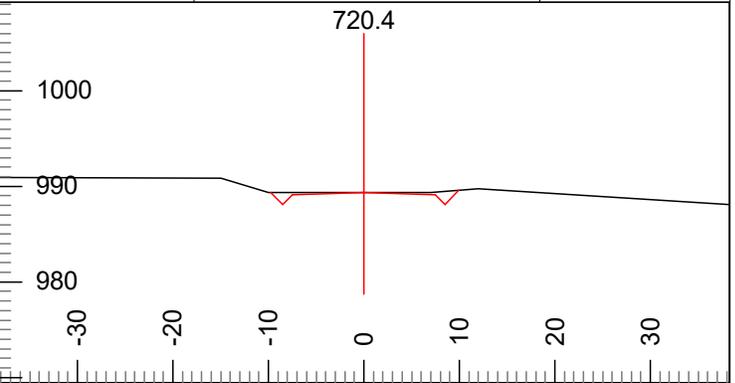
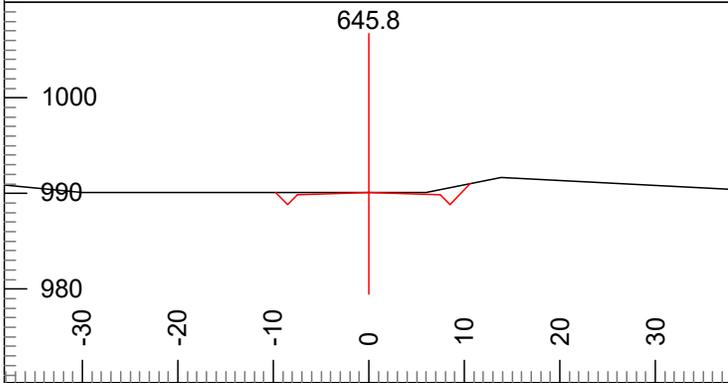
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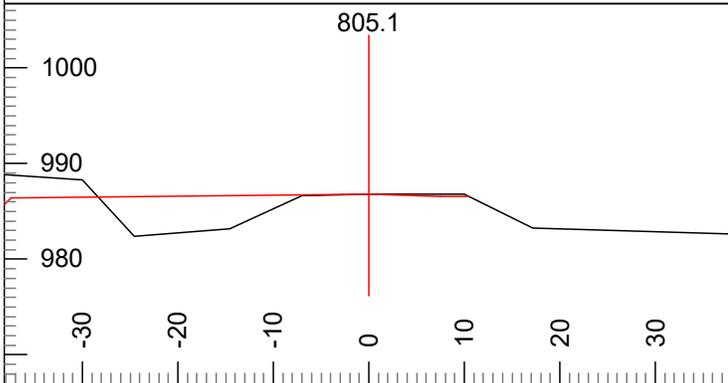
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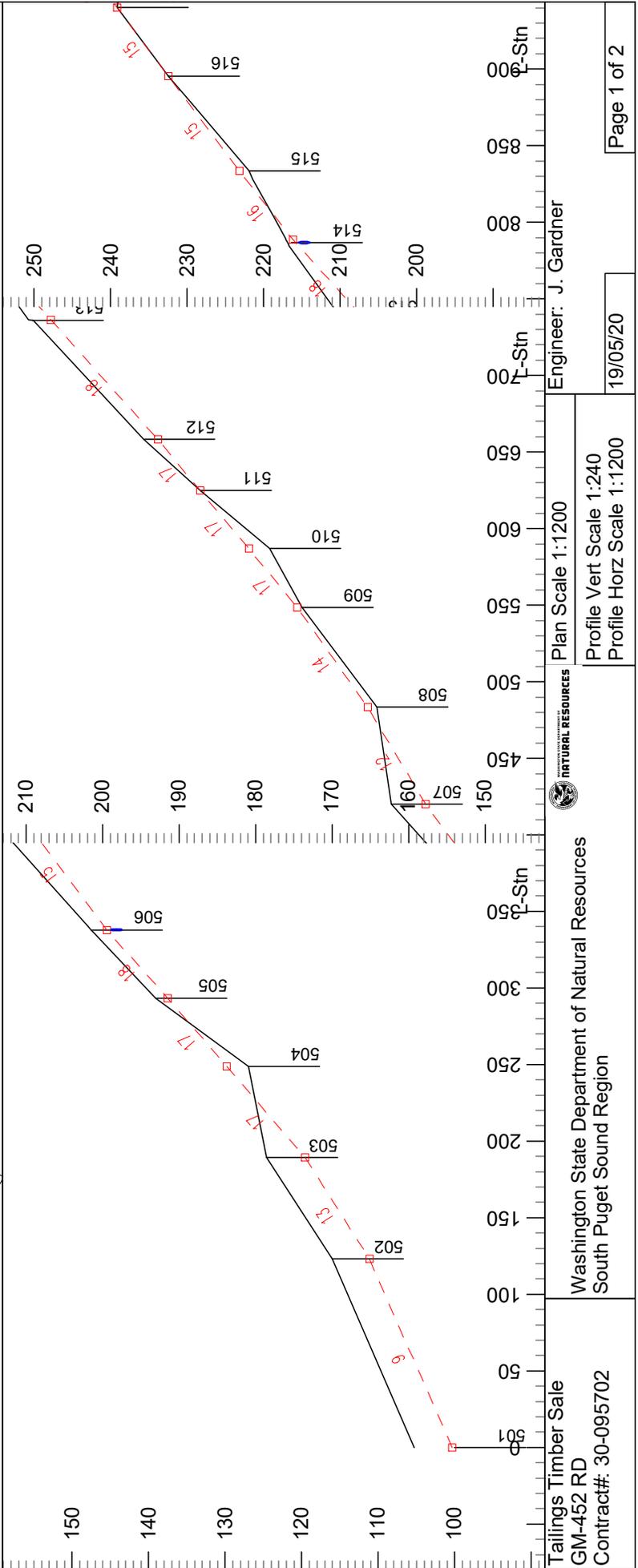
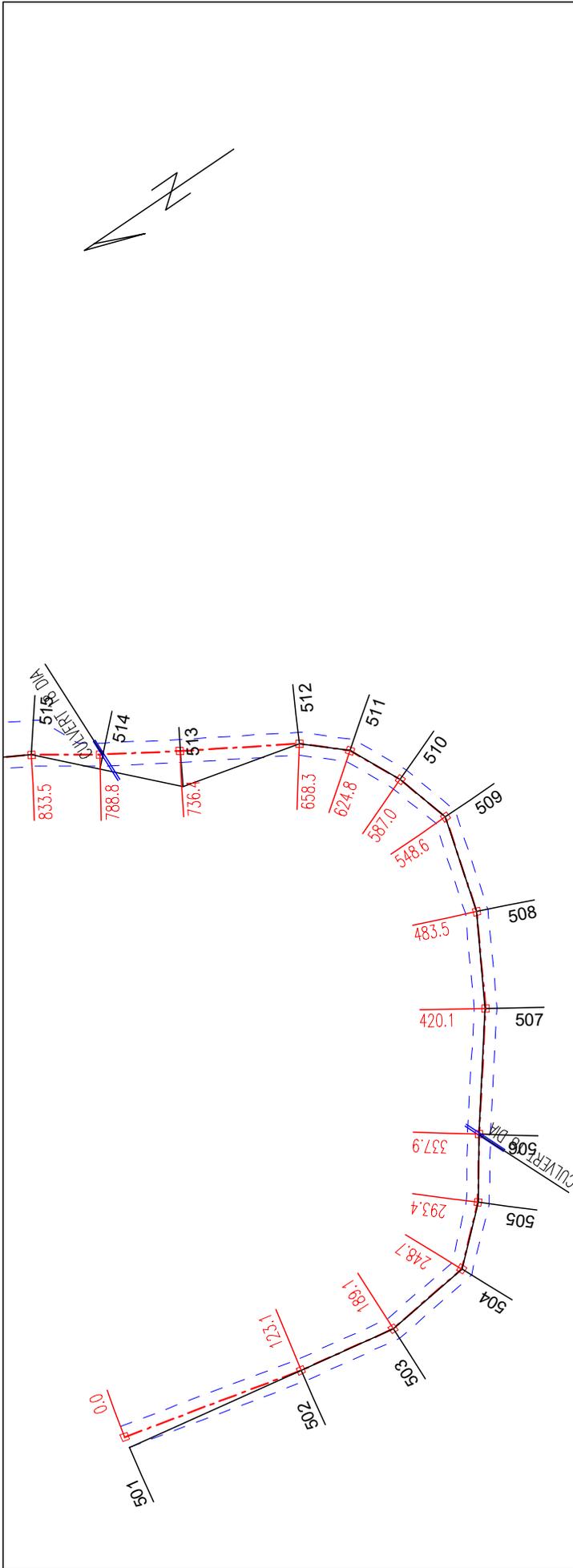


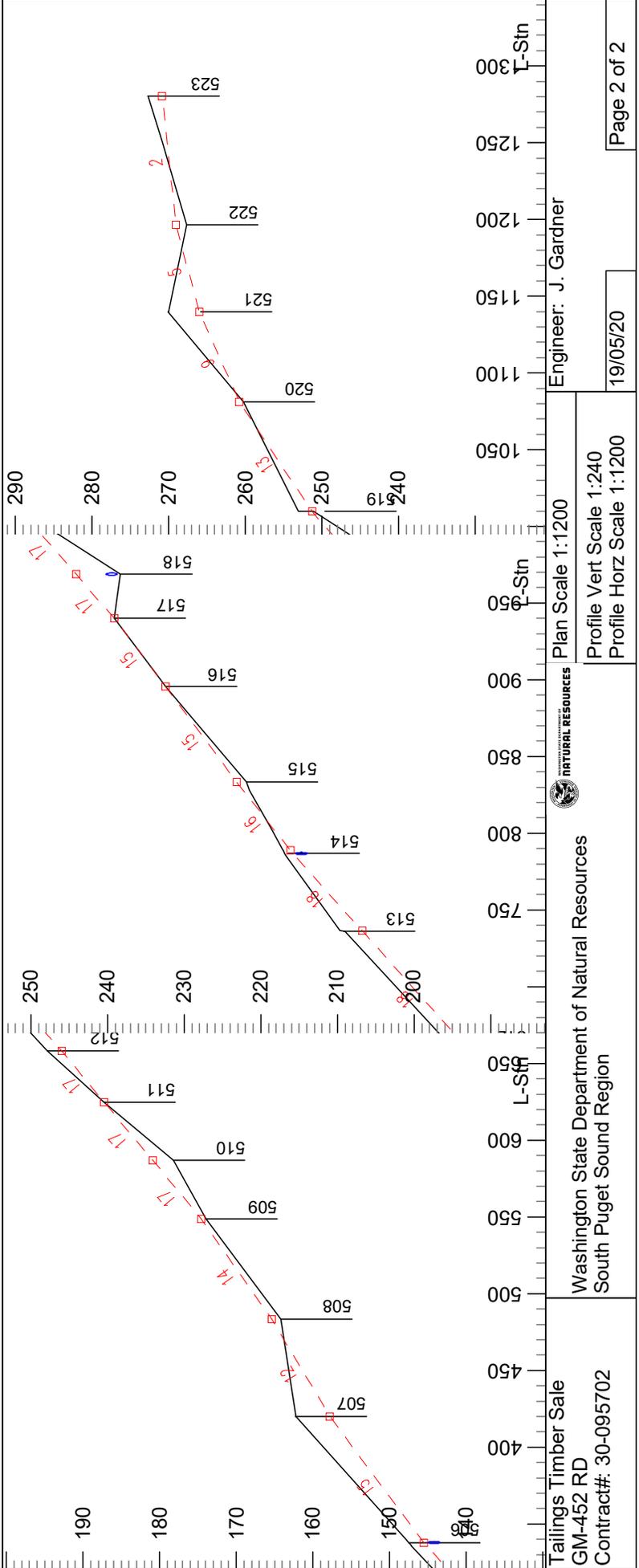
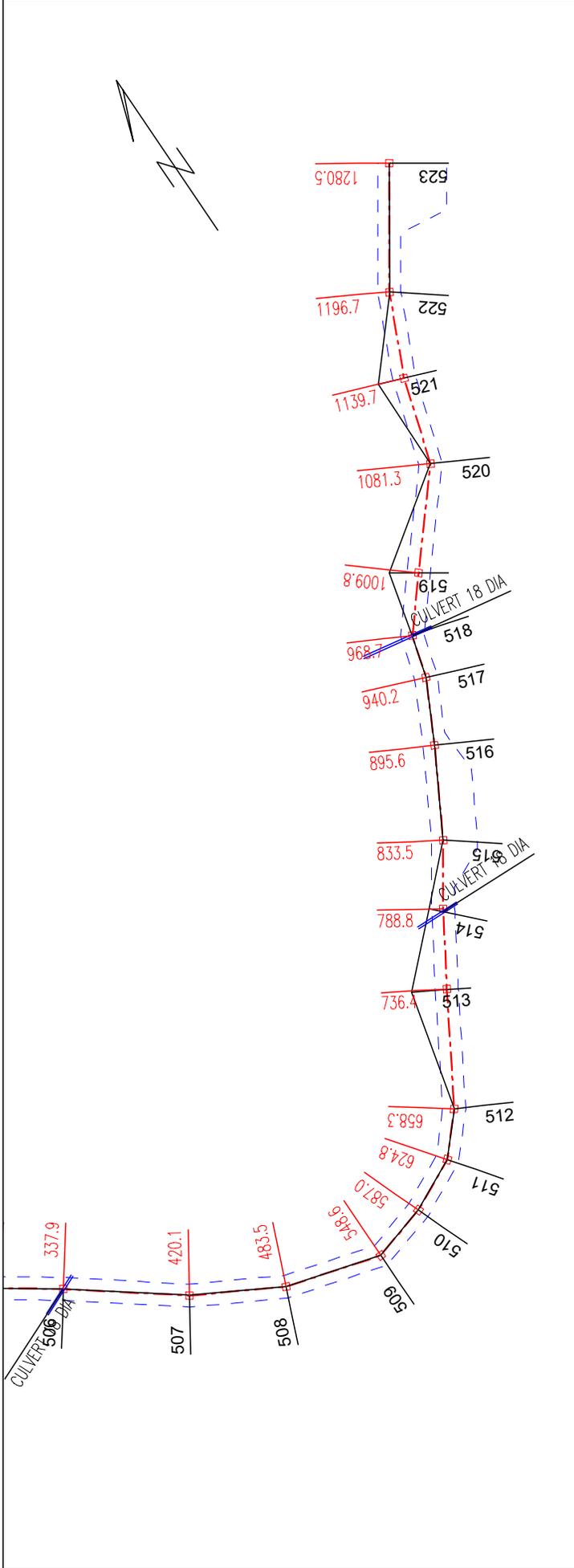
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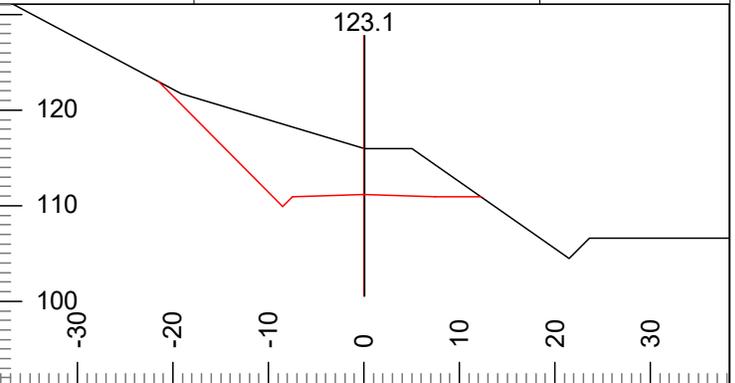
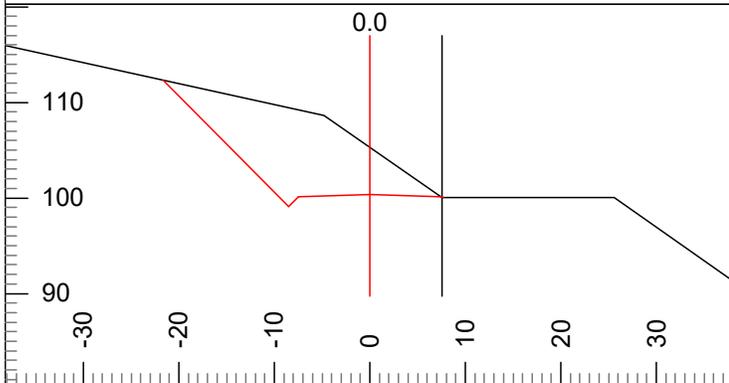
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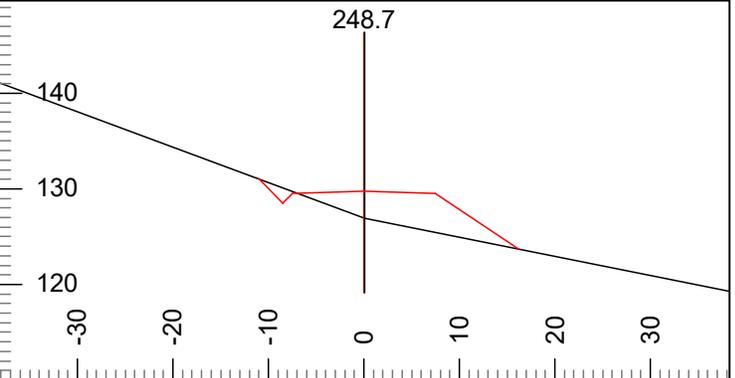
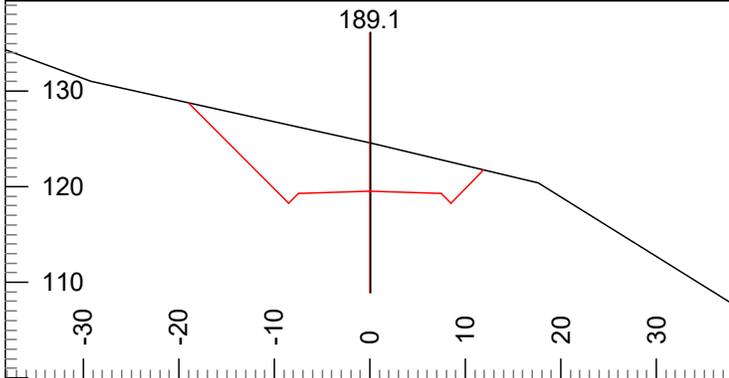






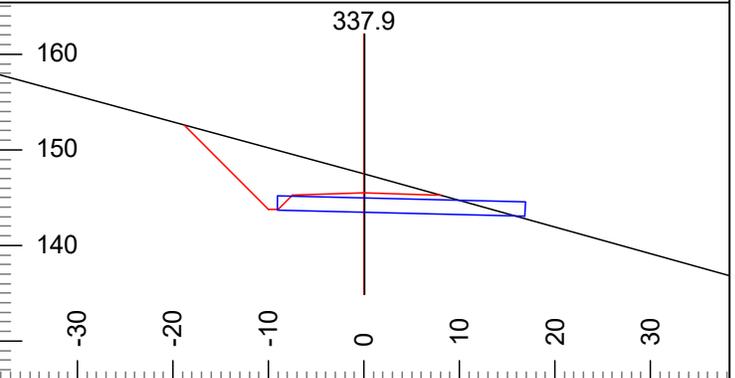
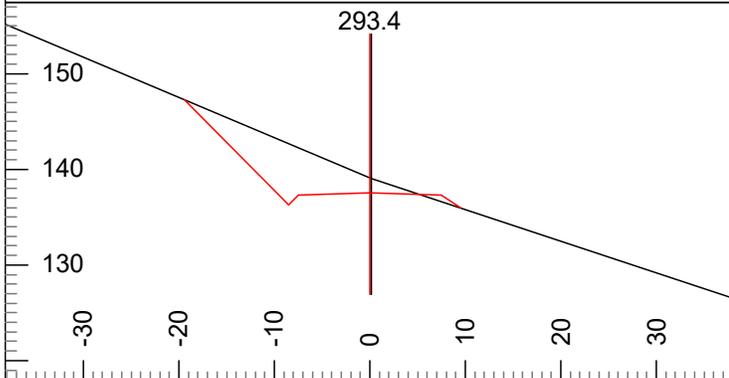
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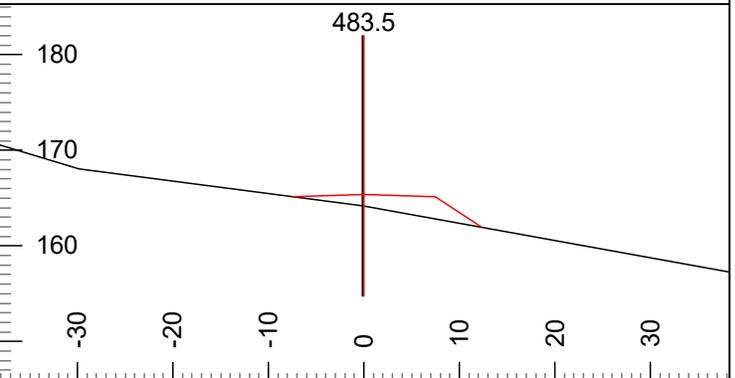
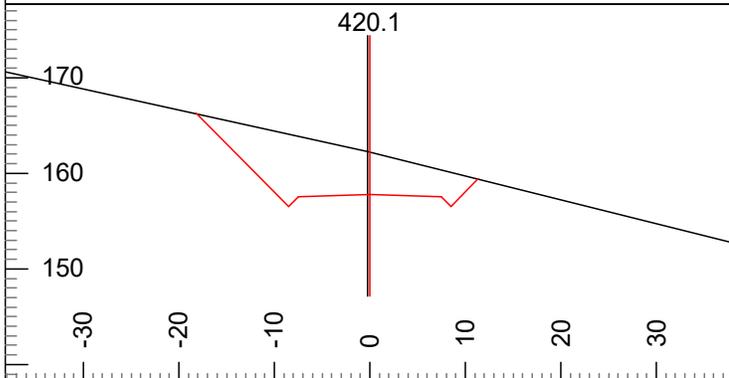
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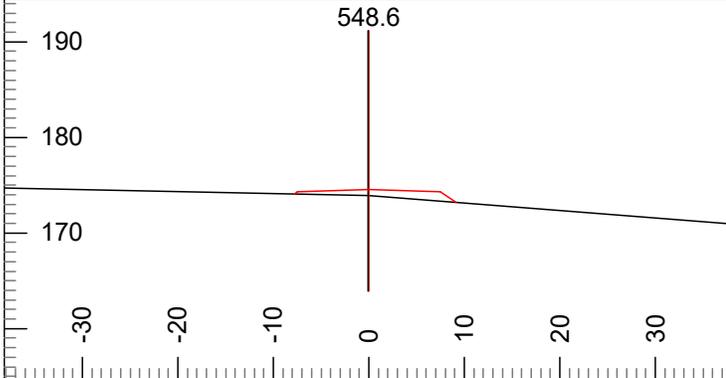
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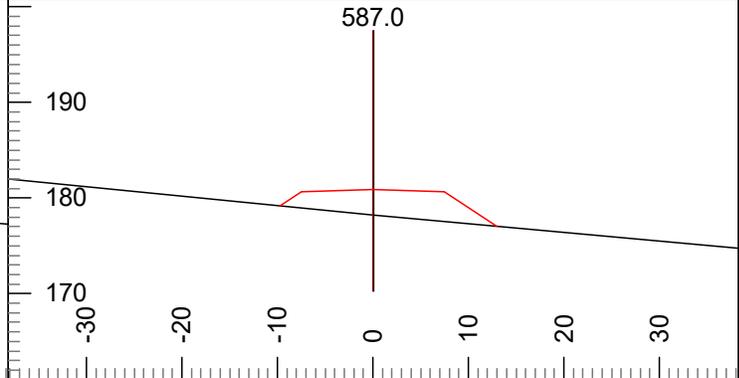


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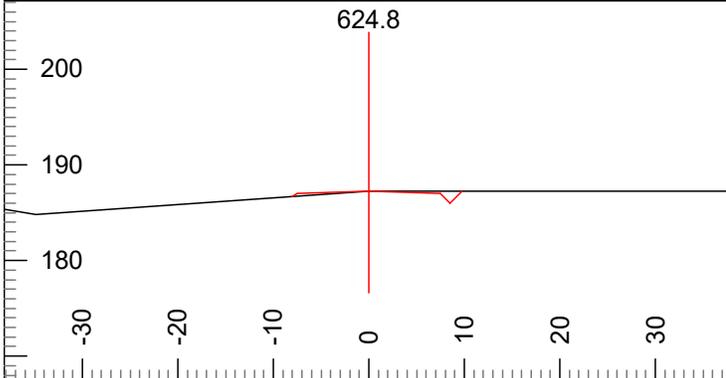
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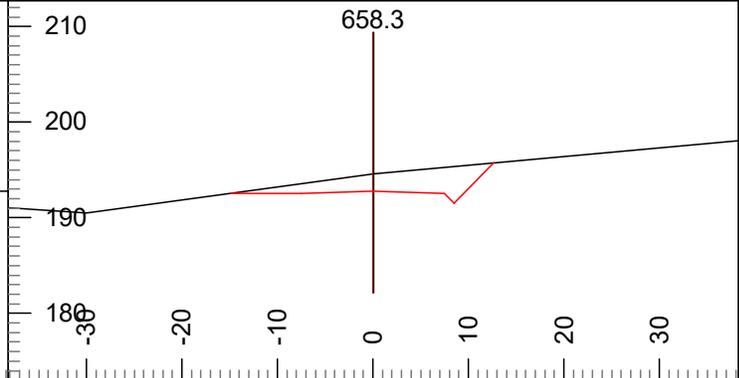
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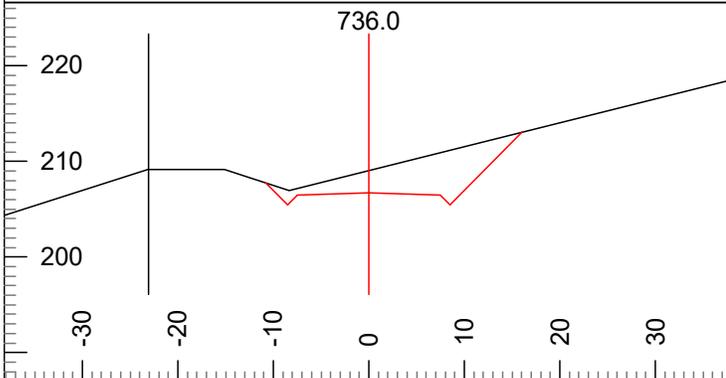
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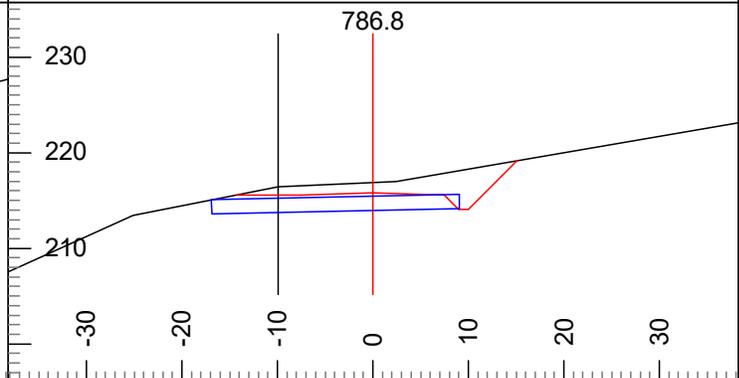
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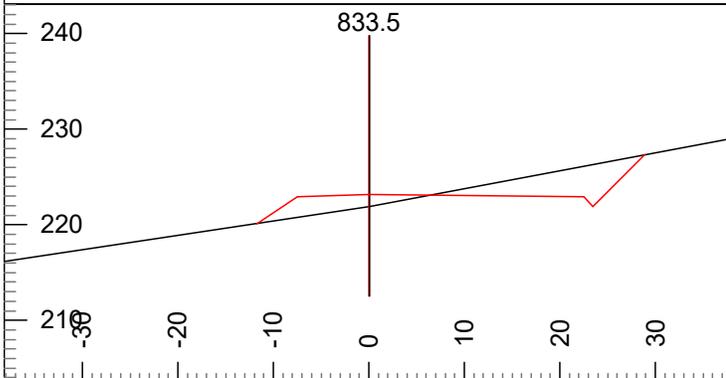
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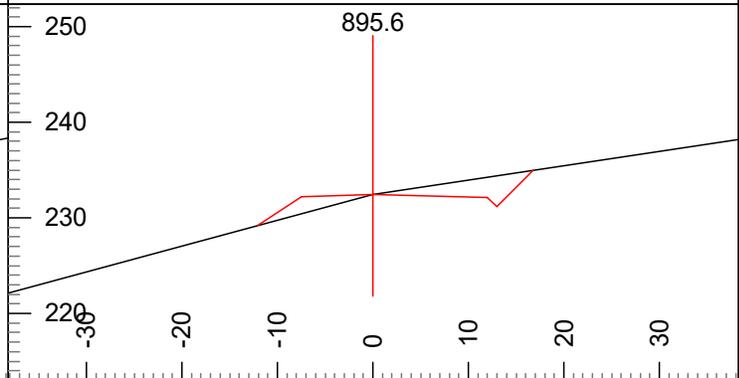
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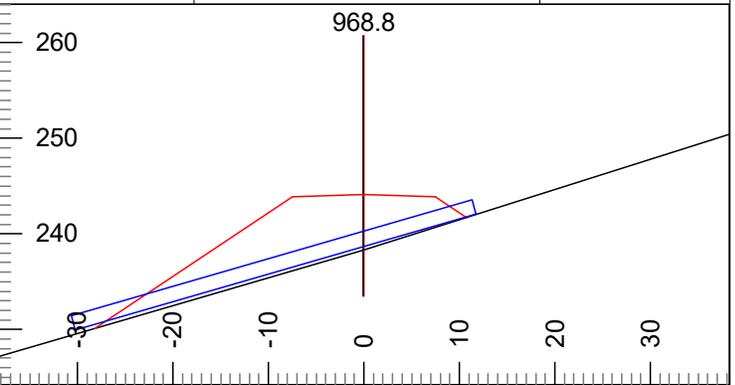
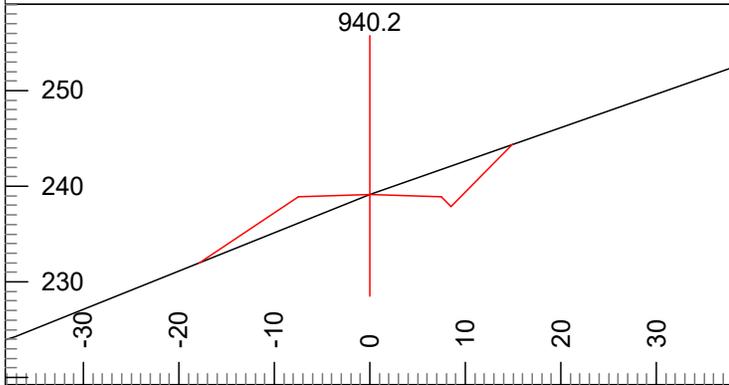
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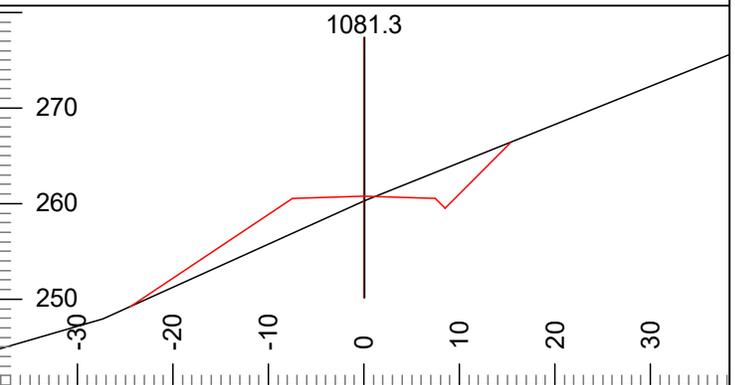
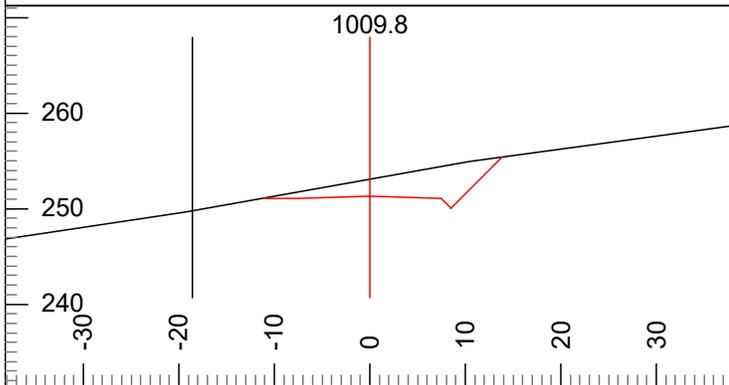


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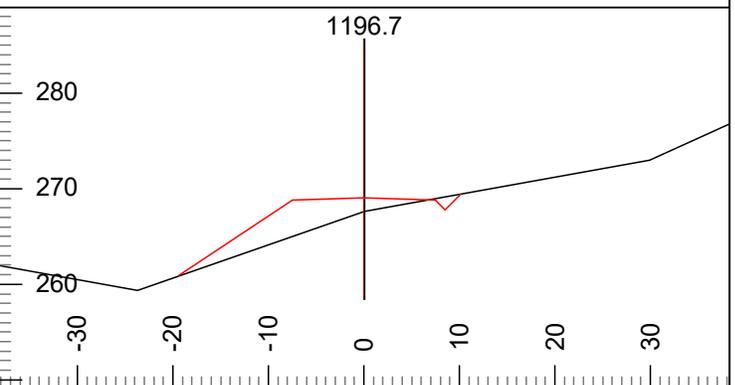
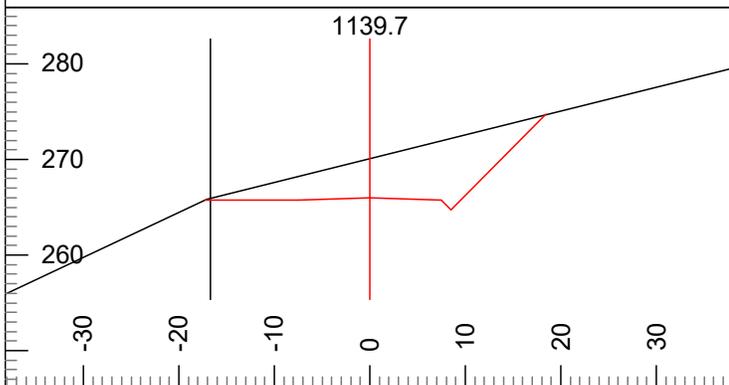
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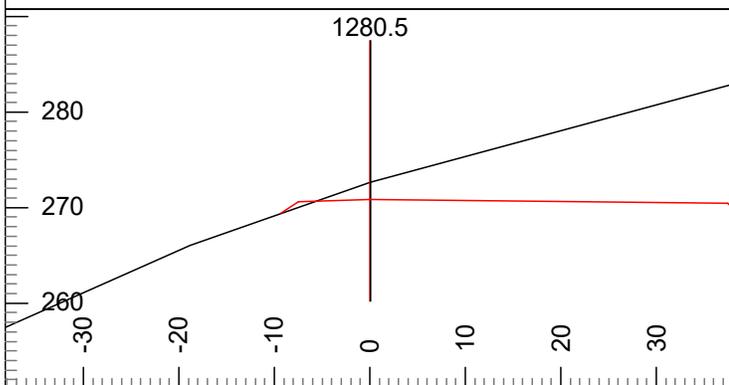
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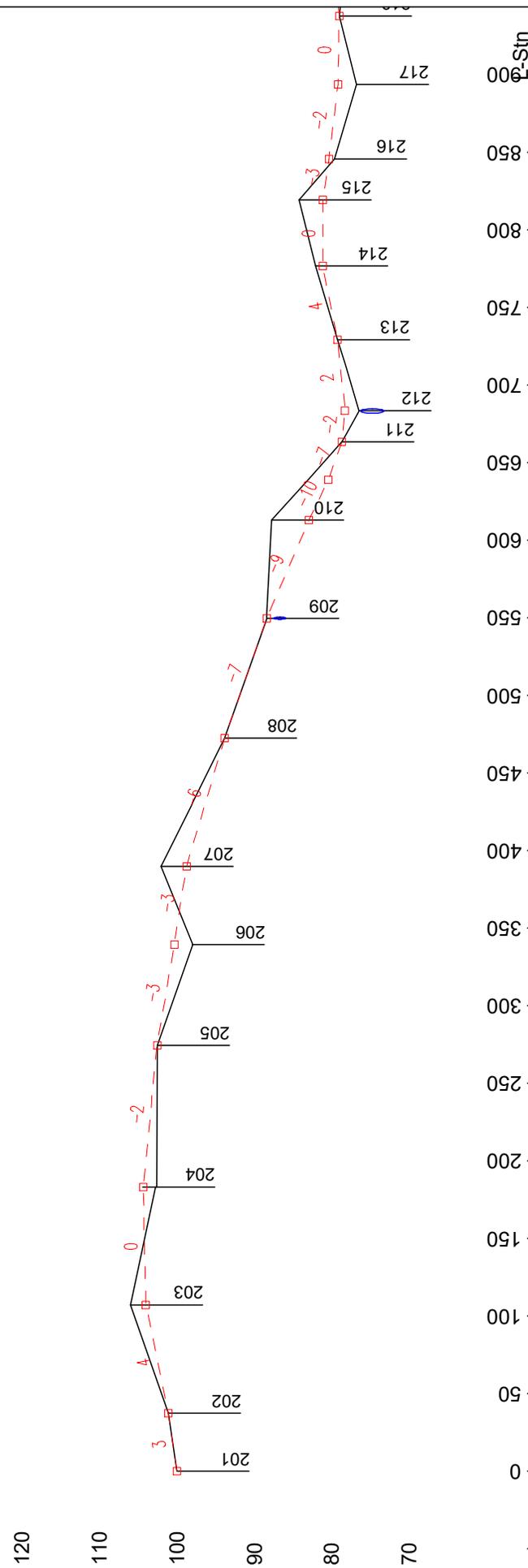
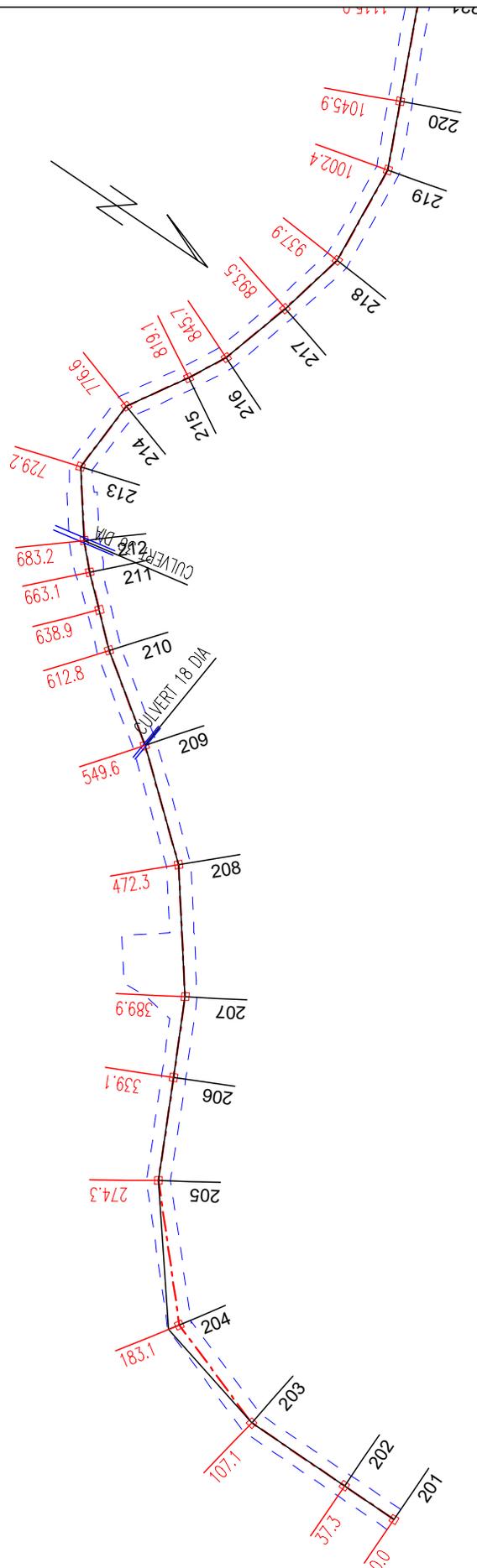


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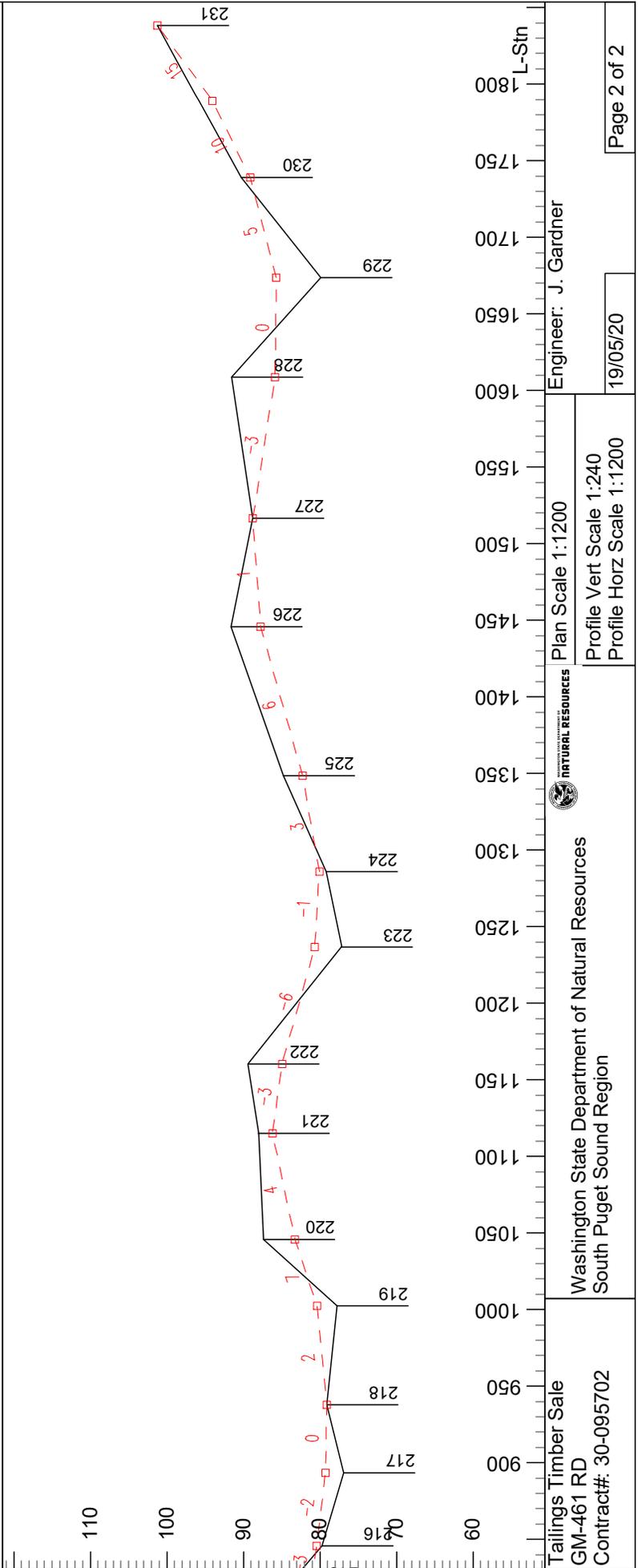
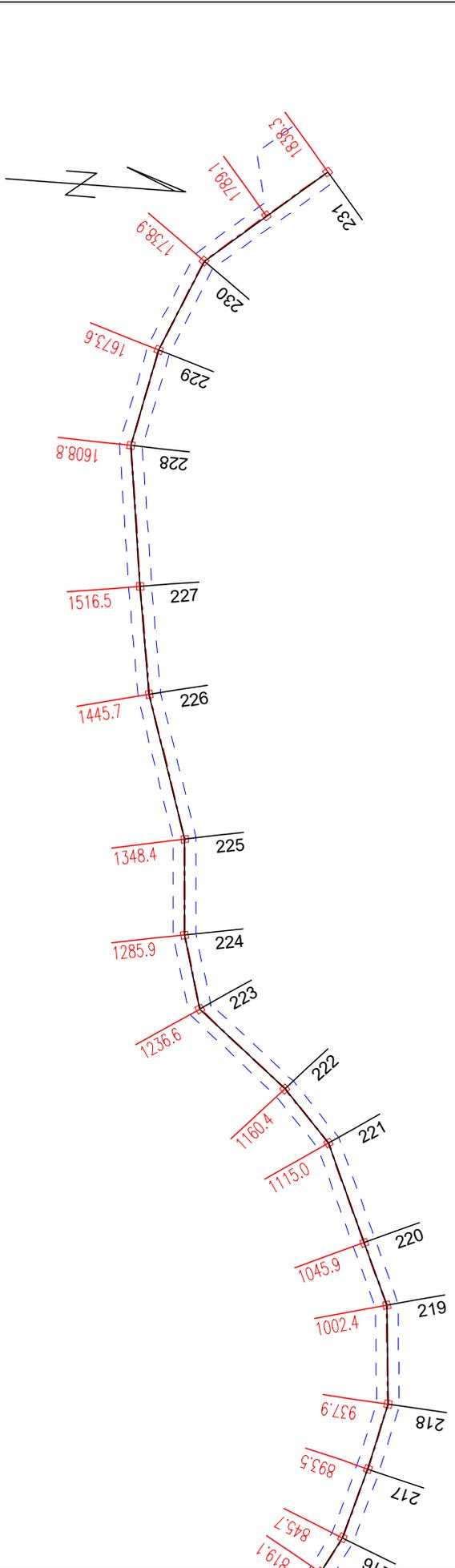
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Tailings Timber Sale GM-461 RD Contract#: 30-095702	Washington State Department of Natural Resources South Puget Sound Region		Engineer: J. Gardner	Page 1 of 2
			Plan Scale 1:1200	Profile Vert Scale 1:240 Profile Horz Scale 1:1200



Engineer: J. Gardner

Plan Scale 1:1200



Washington State Department of Natural Resources
South Puget Sound Region

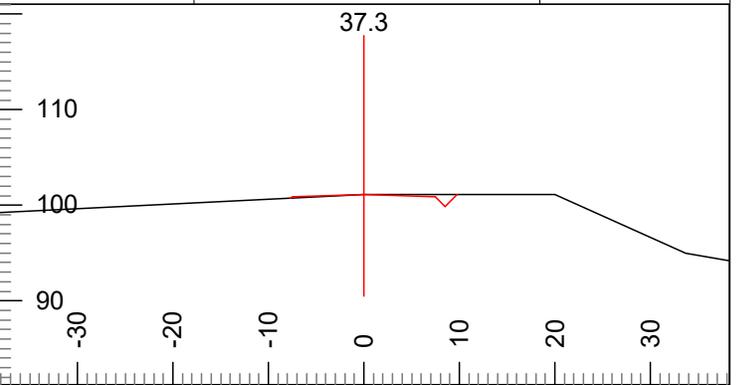
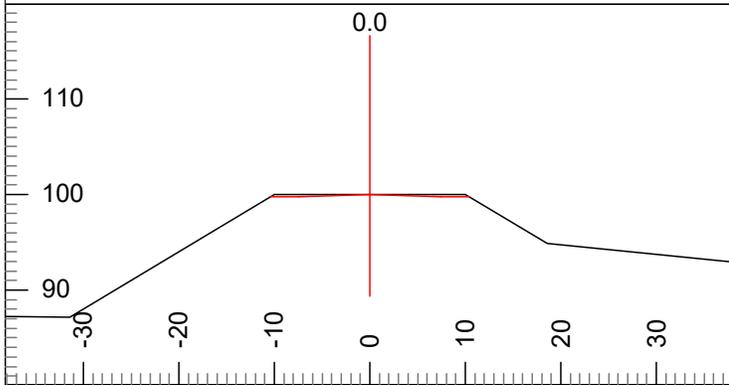
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GM-461 RD
Contract#: 30-095702

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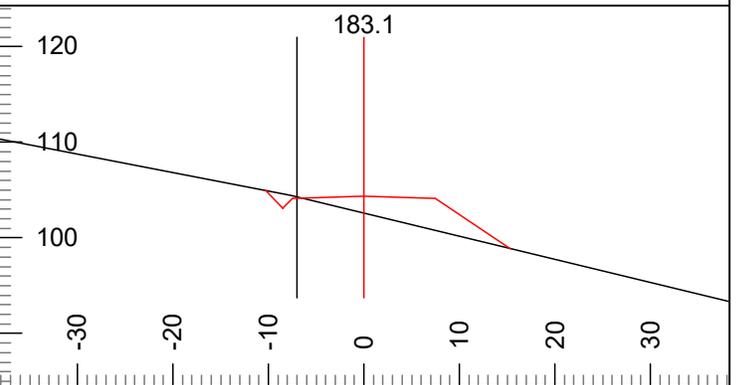
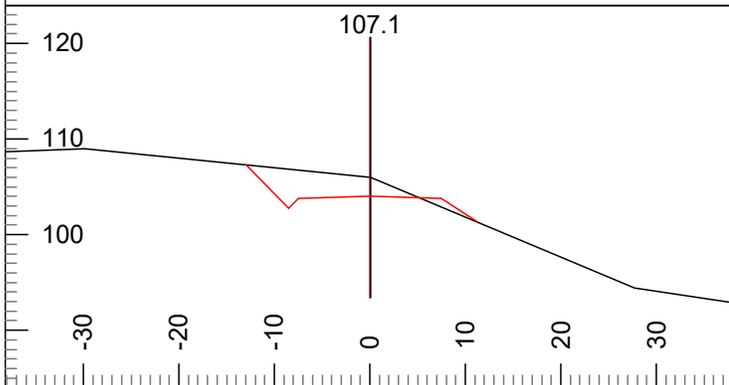
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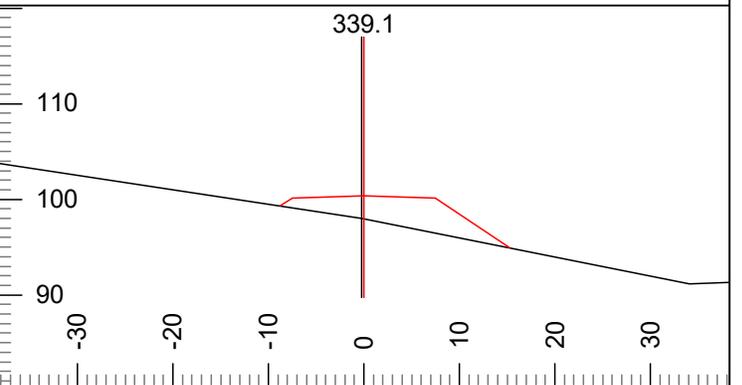
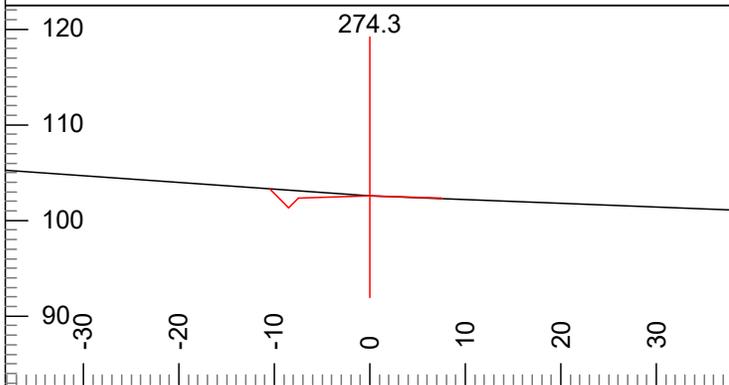
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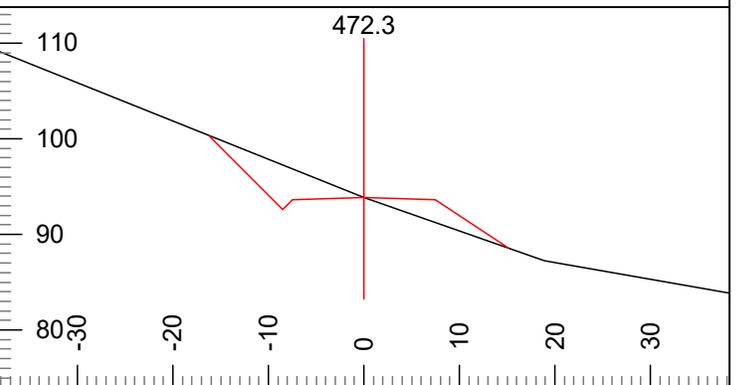
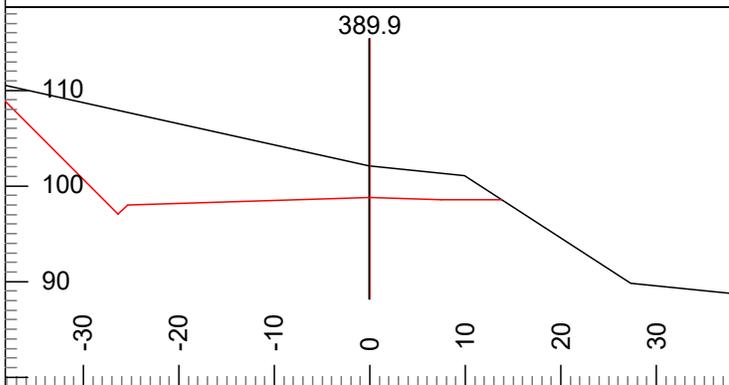
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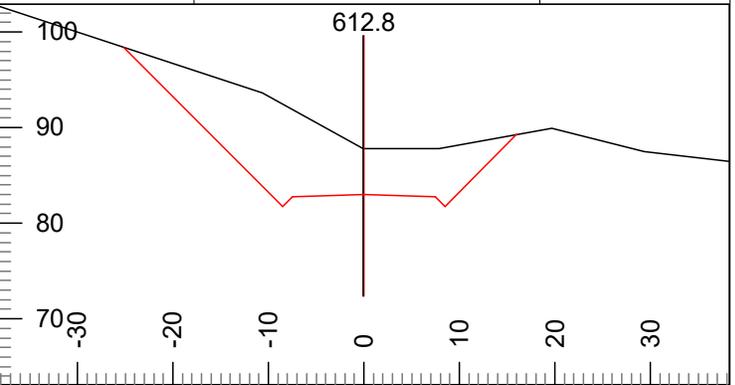
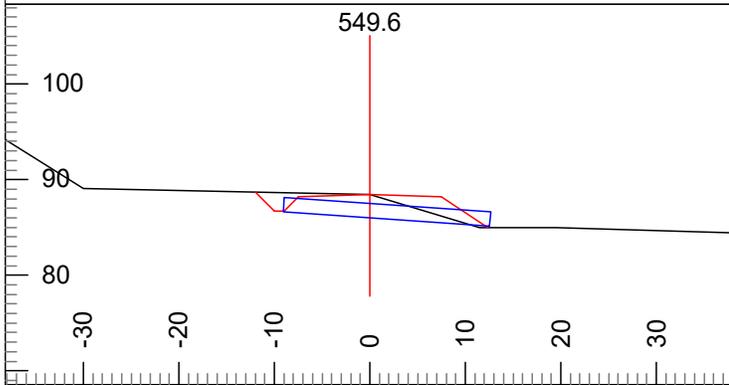
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P-Stn : 343.3 H. Offset: 0.2 Cut Dp: -2.4
 L-Stn : 339.1 V.Offset: 2.3 Index: 206



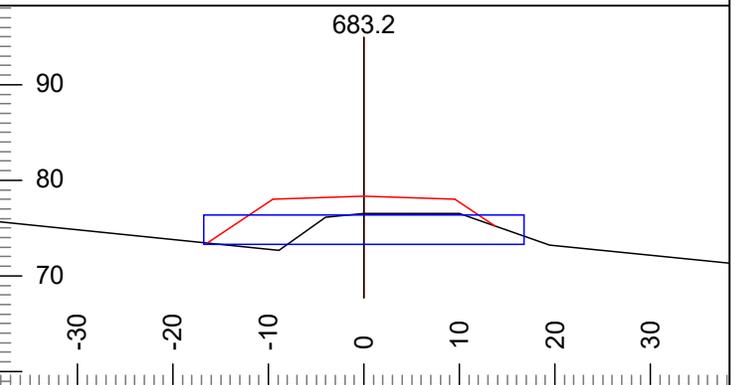
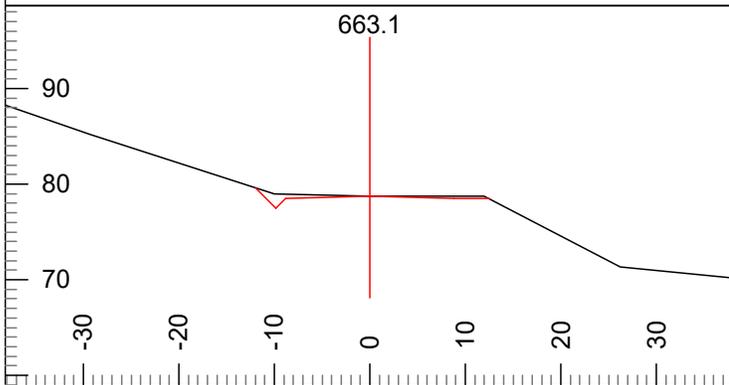
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P-Stn : 476.4 H. Offset: 0.0 Cut Dp: 0.0
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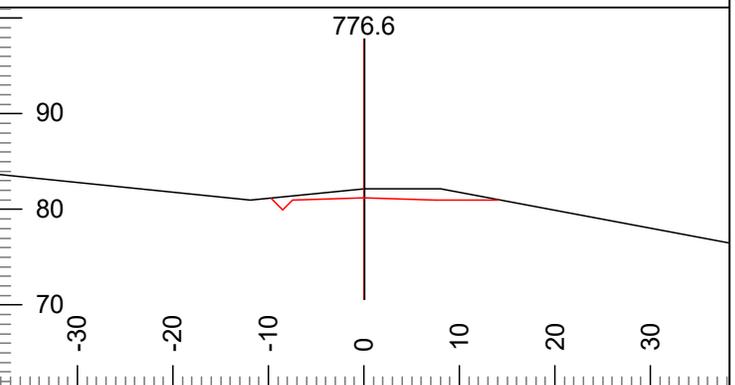
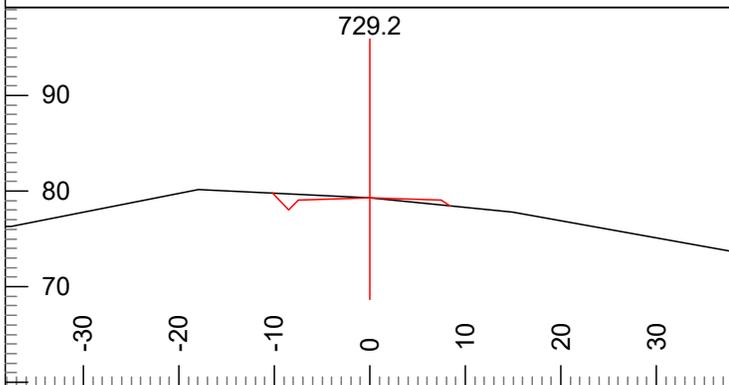
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P-Stn : 617.0 H. Offset: 0.1 Cut Dp: 4.8
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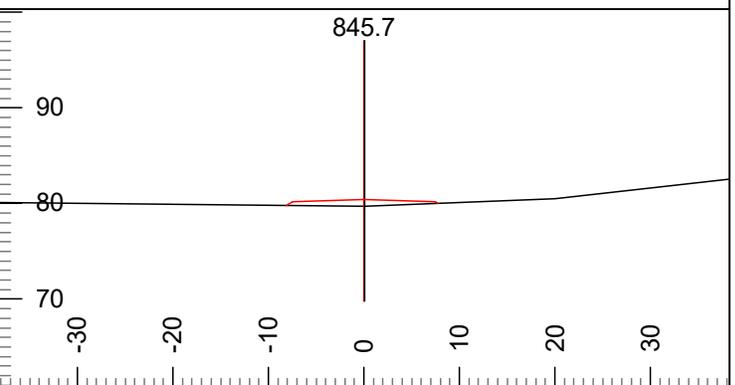
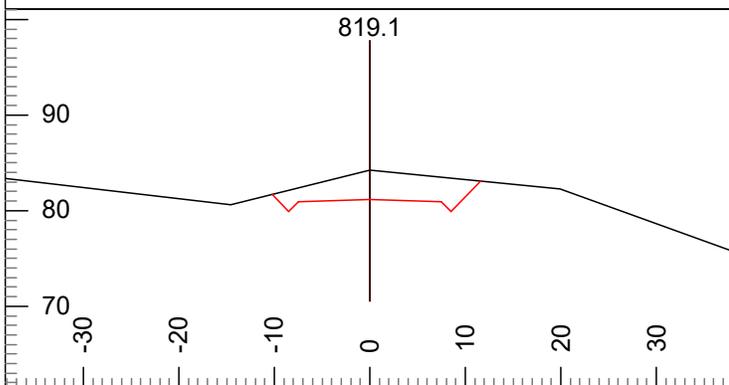
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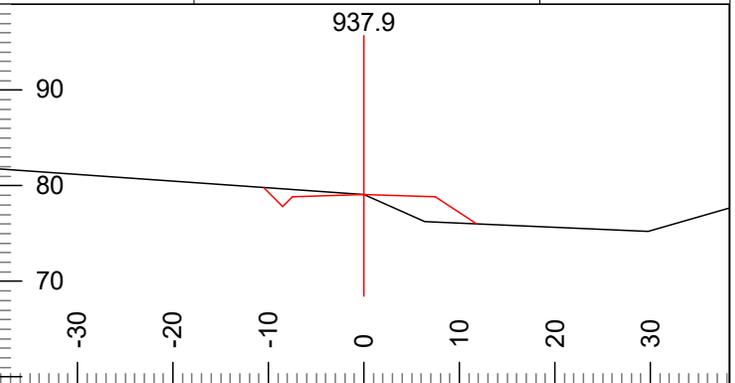
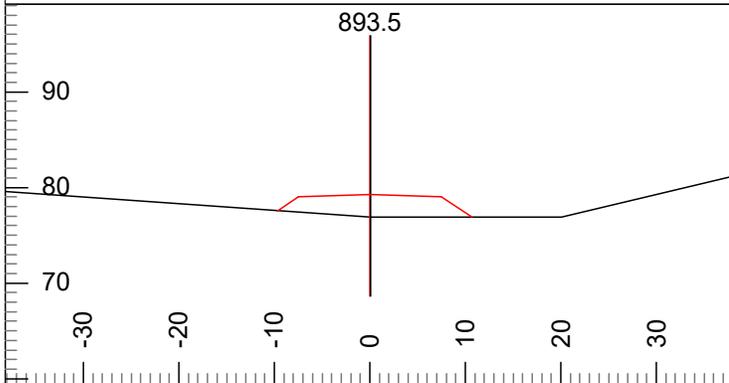
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P-Stn : 780.8 H. Offset: 0.0 Cut Dp: 0.9
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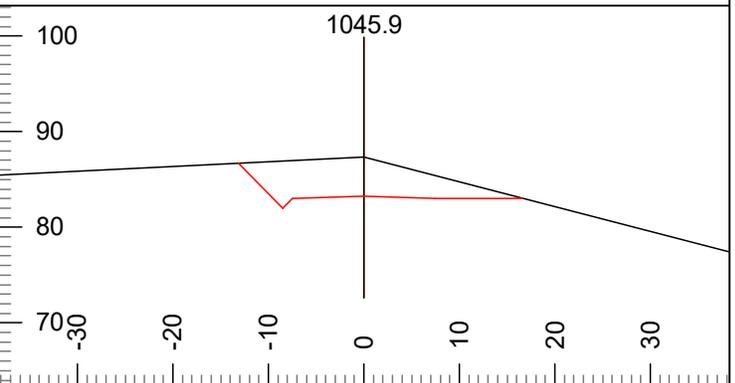
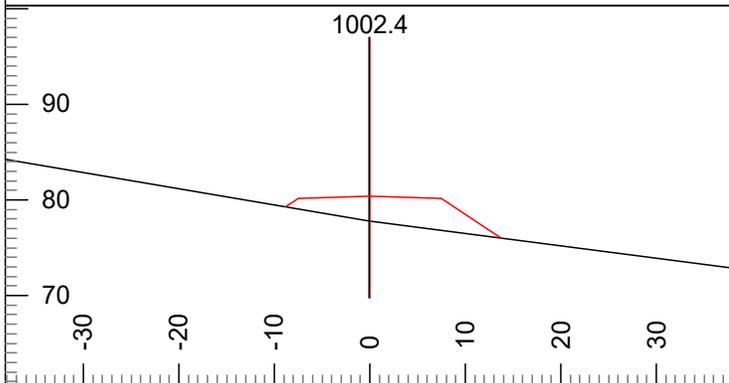
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 L-Stn : 819.1 V.Offset: -3.1 Index: 215

P-Stn : 849.9 H. Offset: 0.0 Cut Dp: -0.7
 L-Stn : 845.7 V.Offset: 0.7 Index: 216



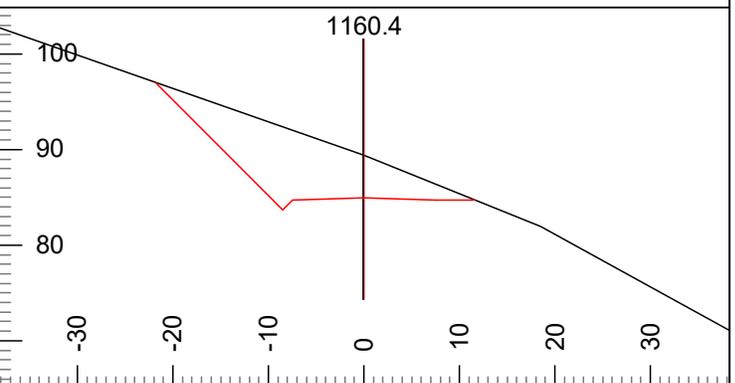
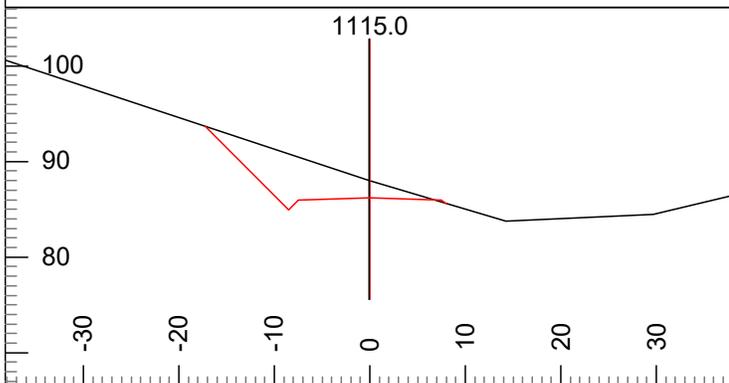
P-Stn : 897.7 H. Offset: 0.0 Cut Dp: -2.4
 L-Stn : 893.5 V.Offset: 2.4 Index: 217

P-Stn : 942.1 H. Offset: 0.0 Cut Dp: 0.0
 L-Stn : 937.9 V.Offset: 0.0 Index: 218



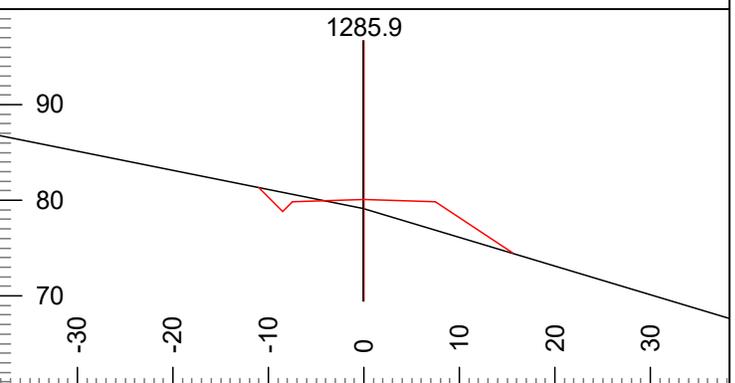
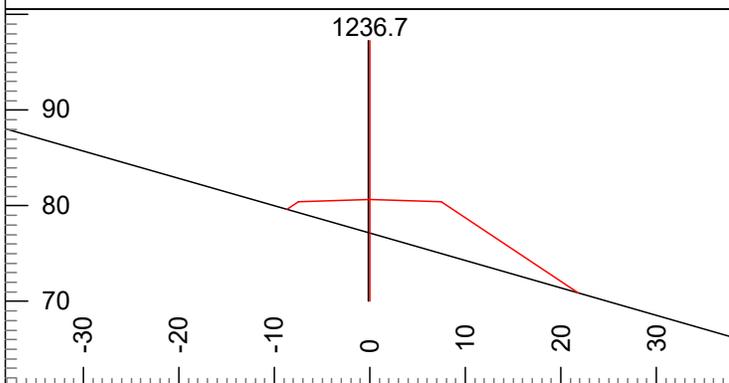
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 L-Stn : 1002.4 V.Offset: 2.6 Index: 219

P-Stn : 1050.0 H. Offset: 0.0 Cut Dp: 4.1
 L-Stn : 1045.9 V.Offset: -4.1 Index: 220



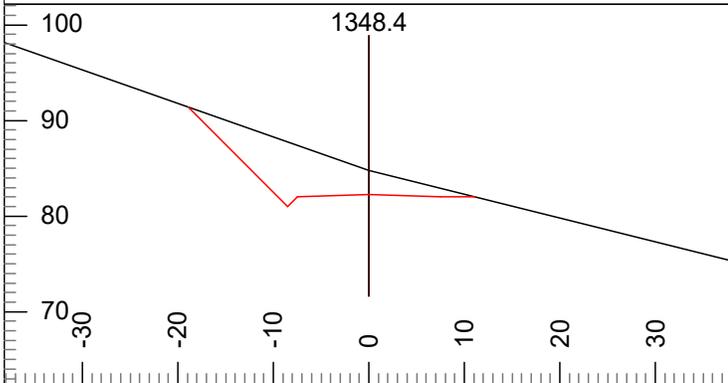
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 L-Stn : 1115.0 V.Offset: -1.8 Index: 221

P-Stn : 1164.5 H. Offset: 0.1 Cut Dp: 4.4
 L-Stn : 1160.4 V.Offset: -4.5 Index: 222

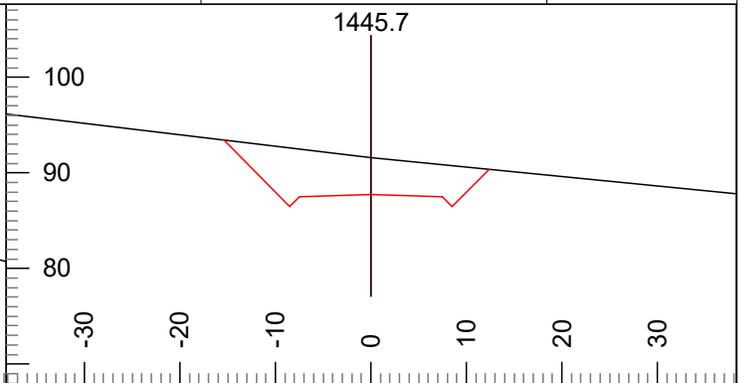


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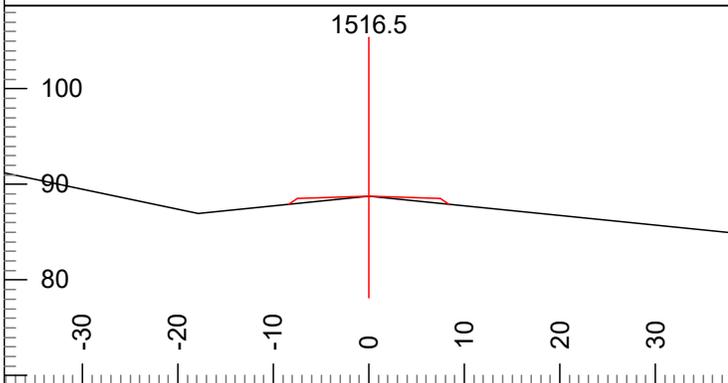
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 L-Stn : 1285.9 V.Offset: 0.9 Index: 224



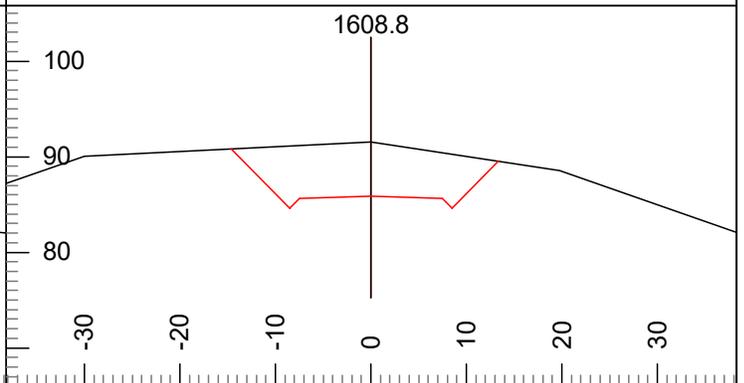
P-Stn : 1352.6 H. Offset: 0.0 Cut Dp: 2.5
 L-Stn : 1348.4 V.Offset: -2.5 Index: 225



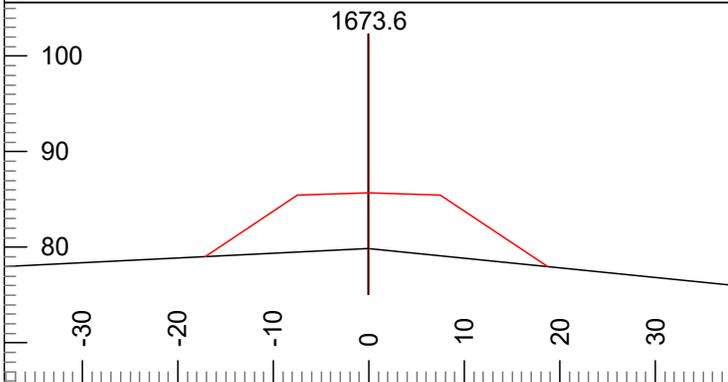
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 L-Stn : 1445.7 V.Offset: -3.9 Index: 226



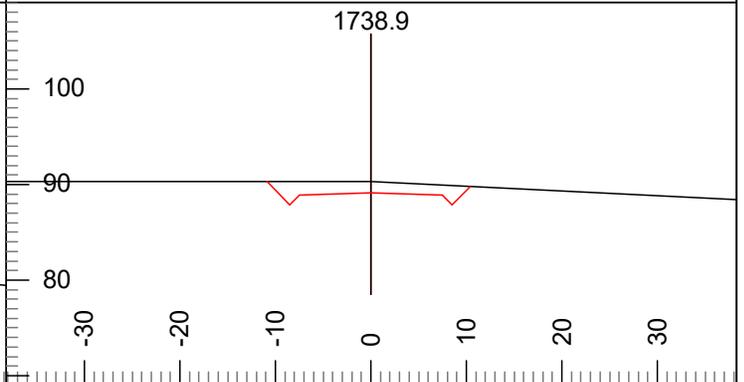
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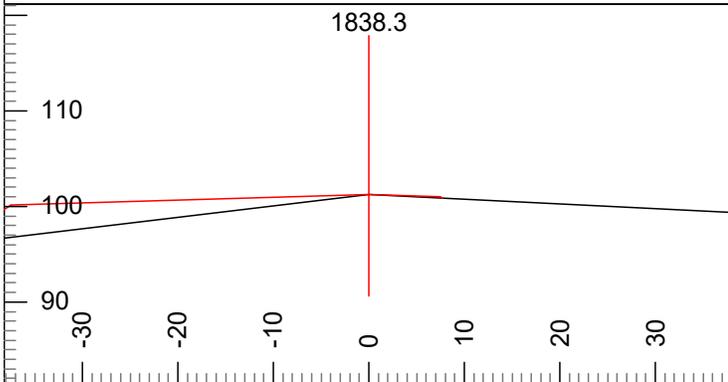
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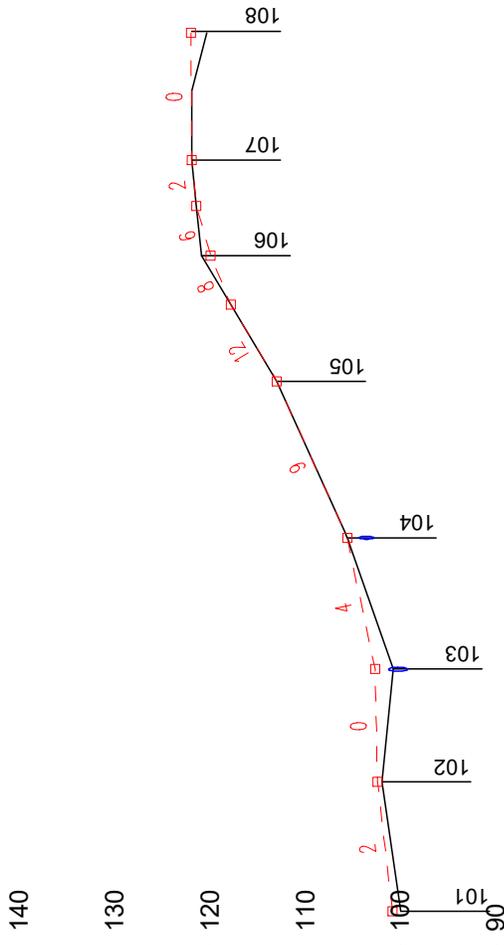
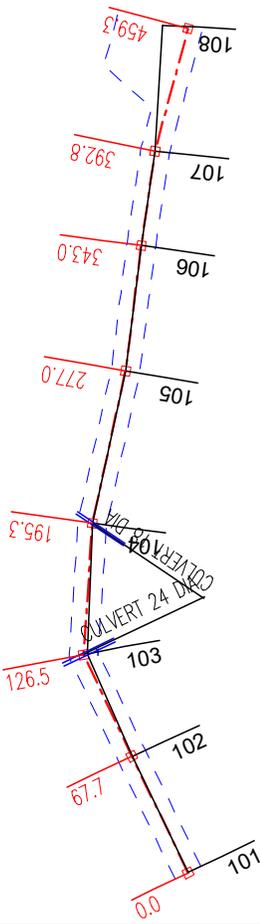
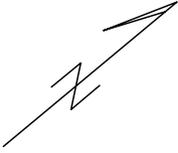
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 L-Stn : 1673.6 V.Offset: 5.8 Index: 229



P-Stn : 1743.1 H. Offset: 0.0 Cut Dp: 1.2
 L-Stn : 1738.9 V.Offset: -1.2 Index: 230



P-Stn : 1842.5 H. Offset: 0.0 Cut Dp: 0.0
 L-Stn : 1838.3 V.Offset: 0.0 Index: 231



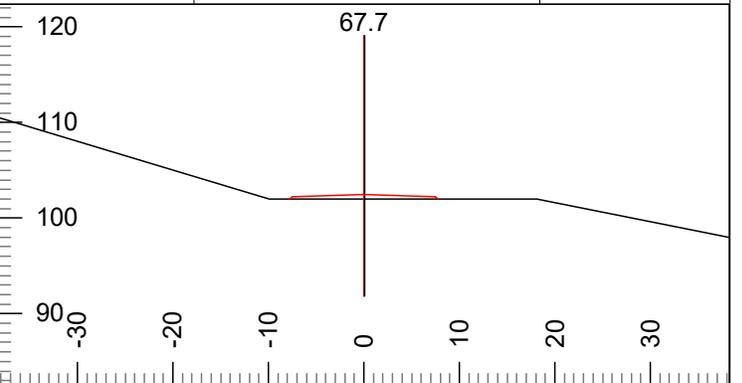
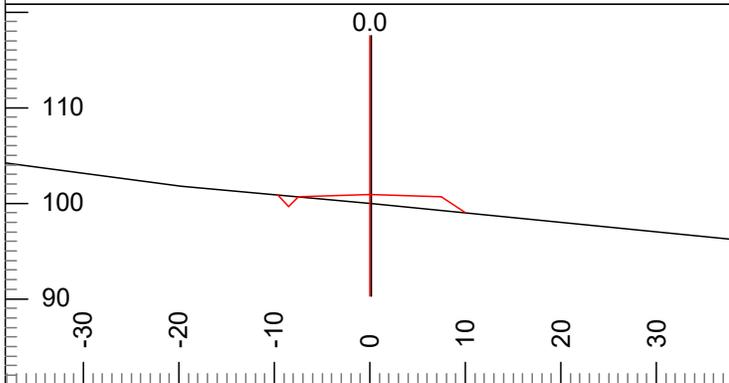
Washington State Department of Natural Resources
South Puget Sound Region

Tailings Timber Sale
Unit 4 Spur
Contract#: 30-095702

Engineer: J. Gardner

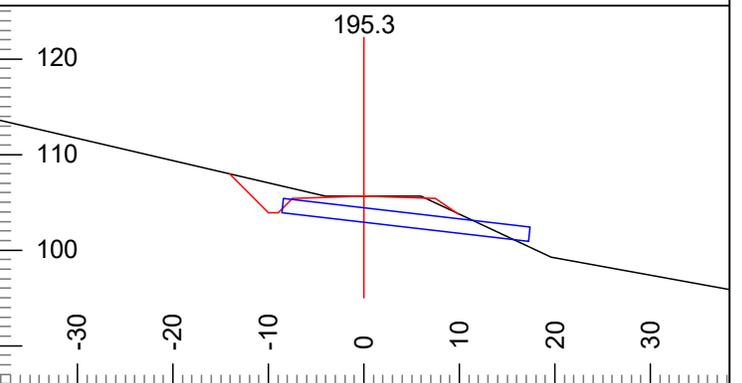
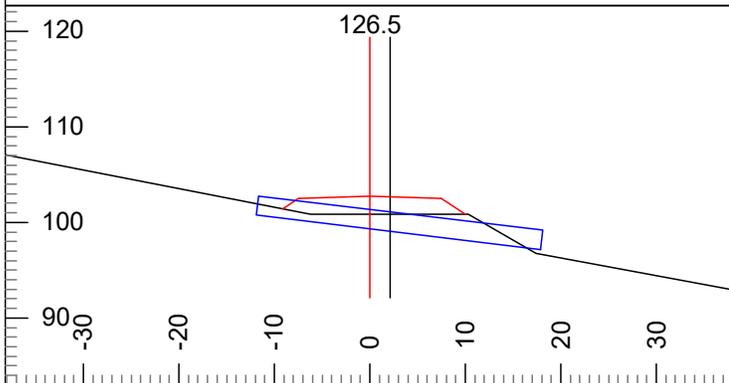
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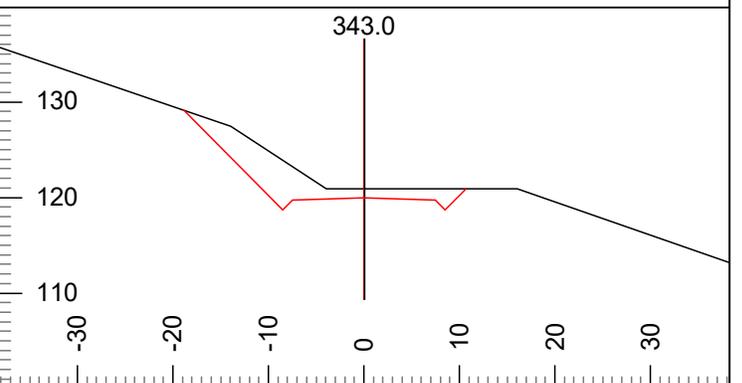
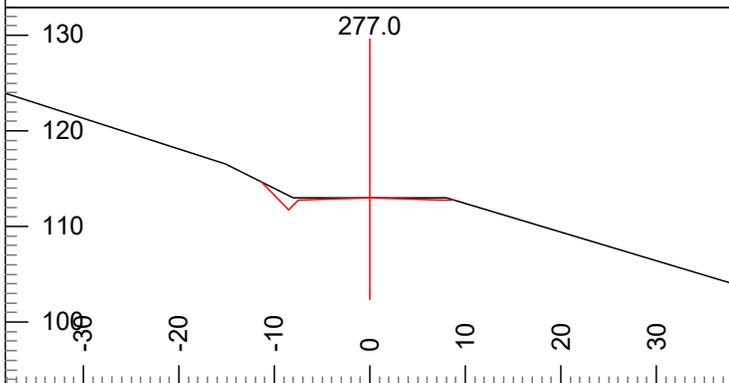
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 L-Stn : 0.0 V.Offset: 0.9 Index: 101

P-Stn : 67.7 H. Offset: -0.1 Cut Dp: -0.4
 L-Stn : 67.7 V.Offset: 0.4 Index: 102



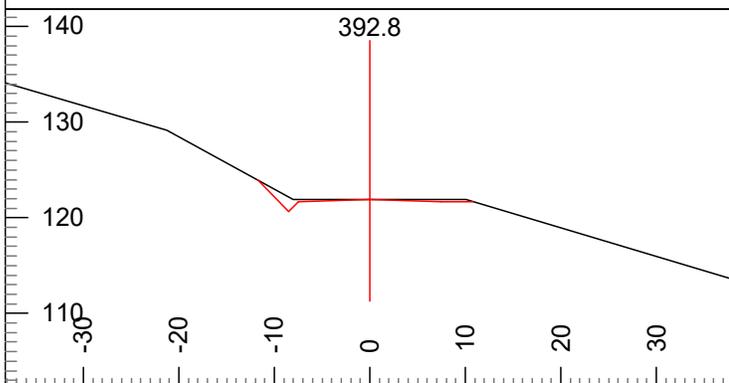
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 L-Stn : 126.5 V.Offset: 1.9 Index: 103

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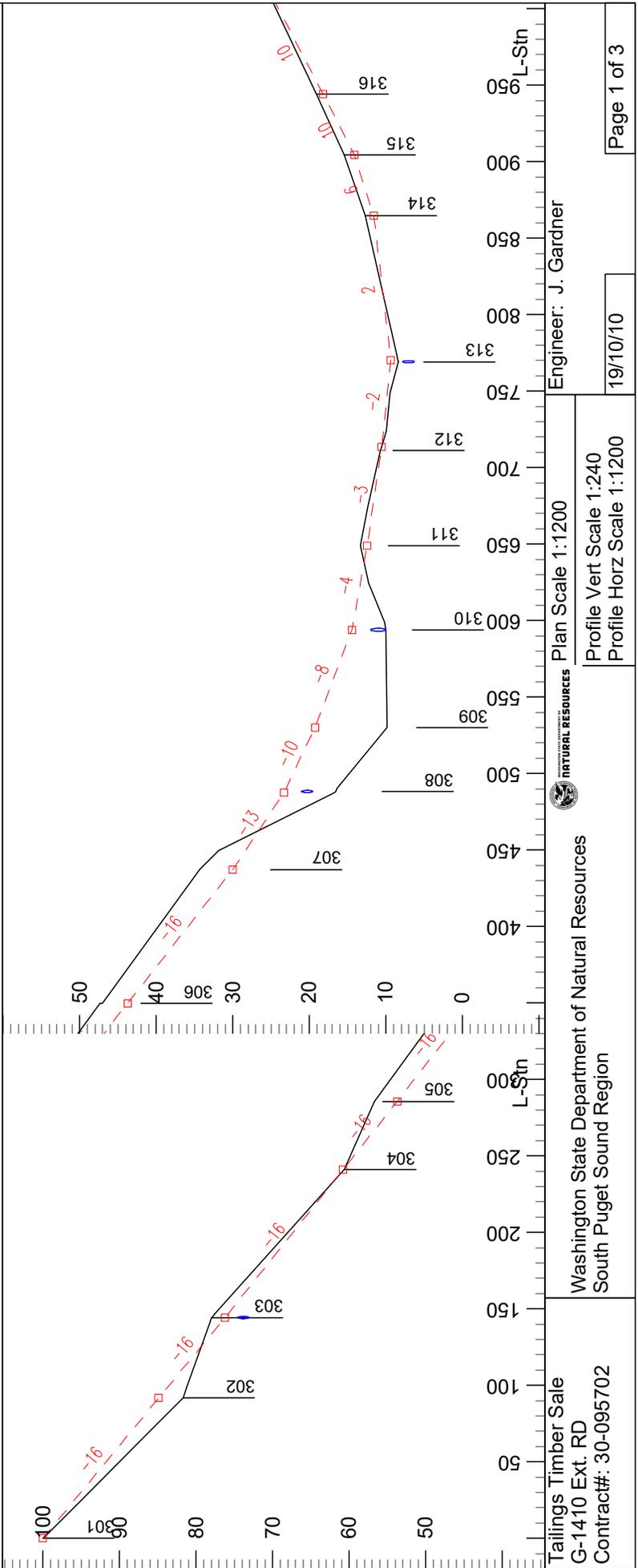
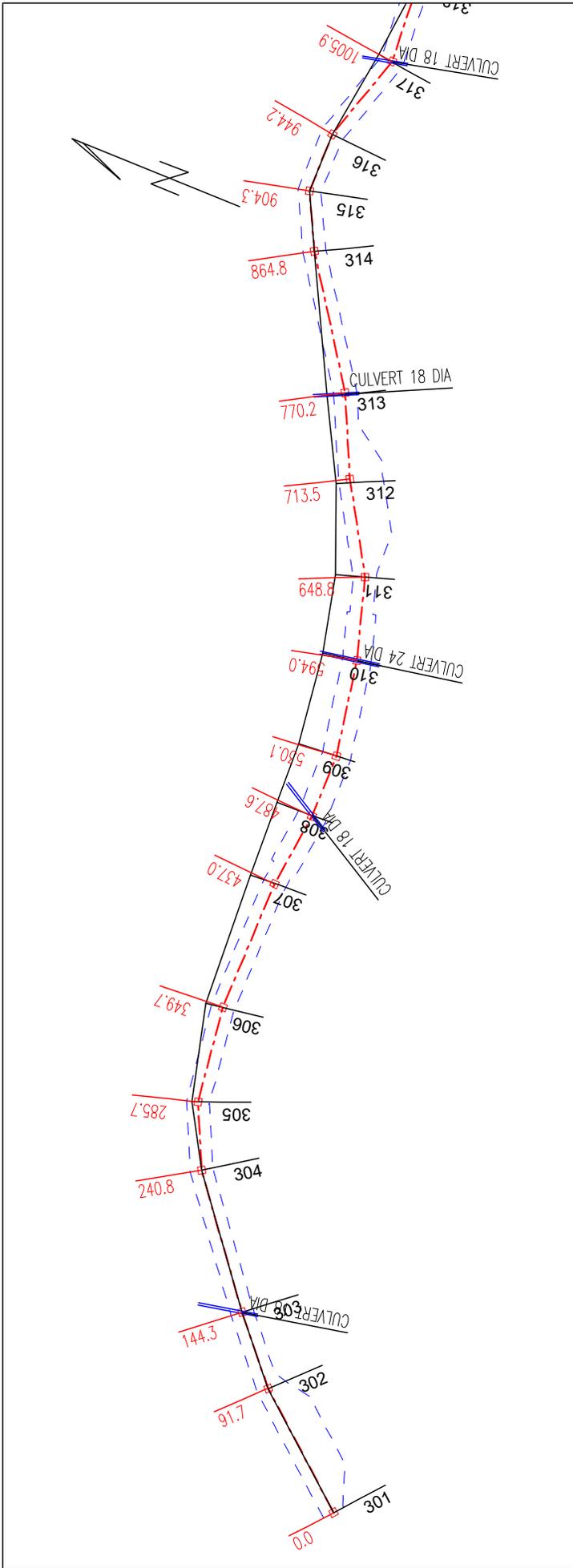


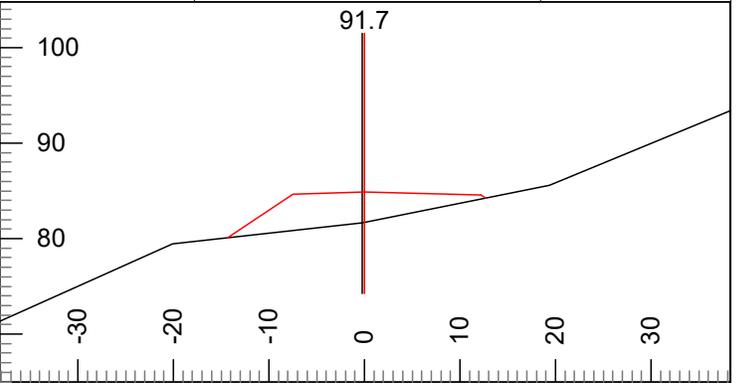
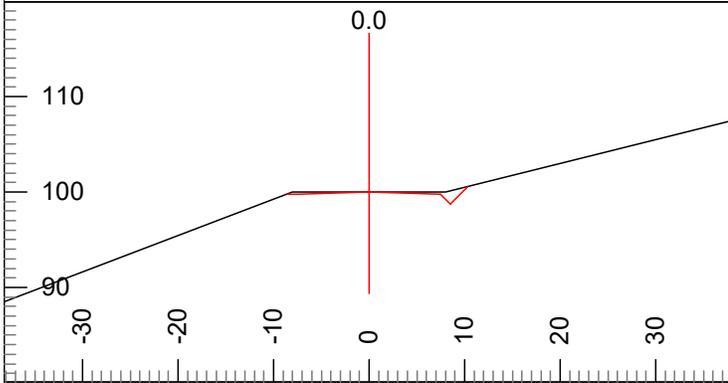
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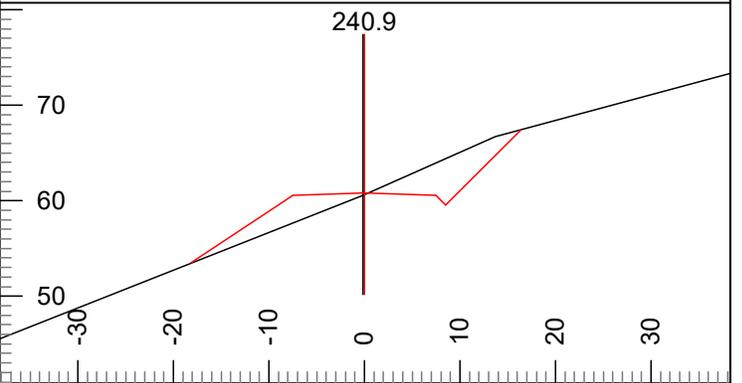
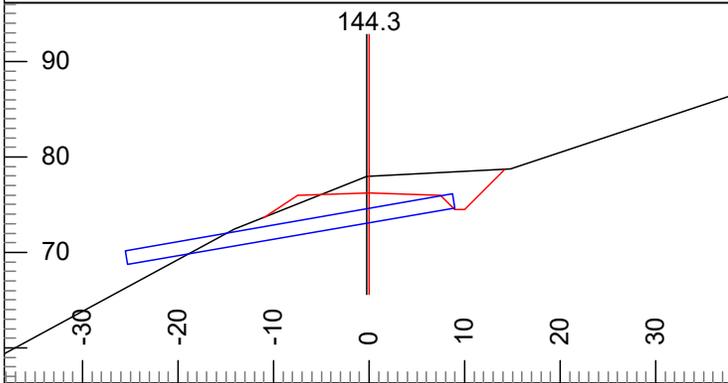
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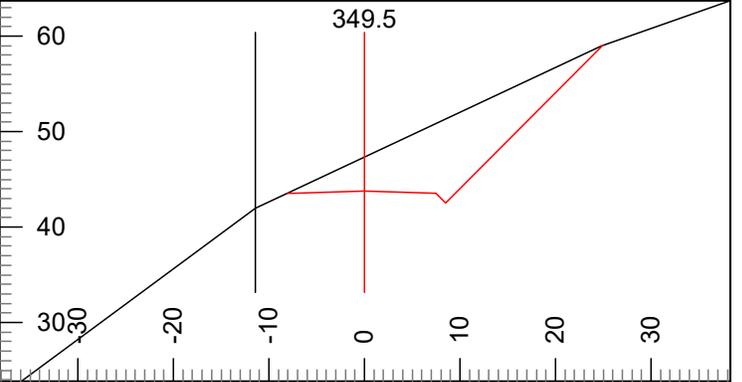
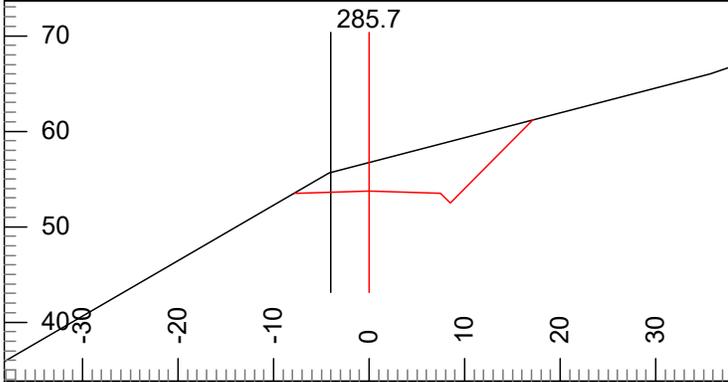
P-Stn : 0.0 H. Offset: 0.0 Cut Dp: 0.0
 L-Stn : 0.0 V.Offset: 0.0 Index: 301

P-Stn : 91.7 H. Offset: 0.2 Cut Dp: -3.2
 L-Stn : 91.7 V.Offset: 3.2 Index: 302



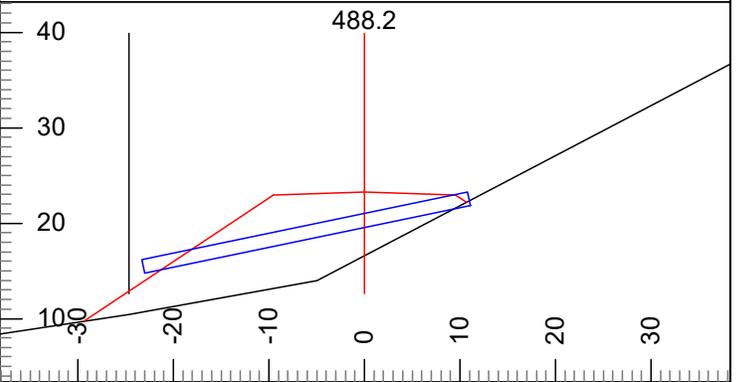
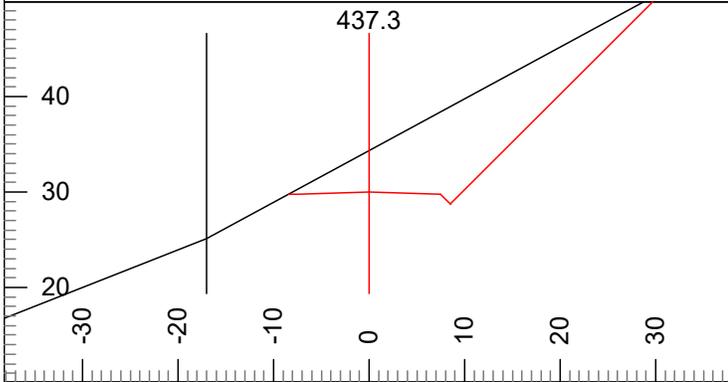
P-Stn : 144.4 H. Offset: 0.2 Cut Dp: 1.8
 L-Stn : 144.3 V.Offset: -1.8 Index: 303

P-Stn : 240.9 H. Offset: 0.1 Cut Dp: -0.2
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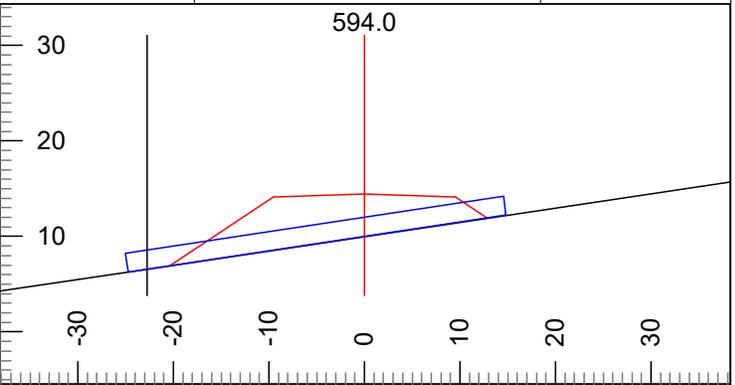
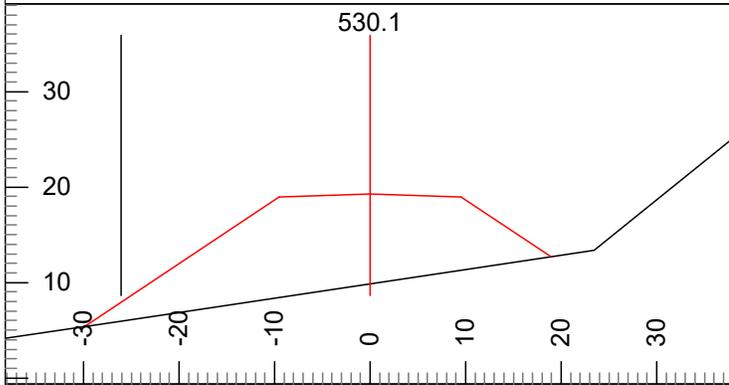
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P-Stn : 351.2 H. Offset: 11.4 Cut Dp: 3.5
 L-Stn : 349.5 V.Offset: 1.8 Index: 306



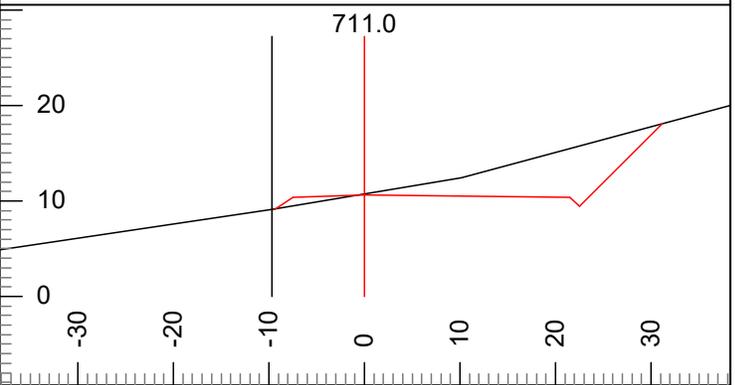
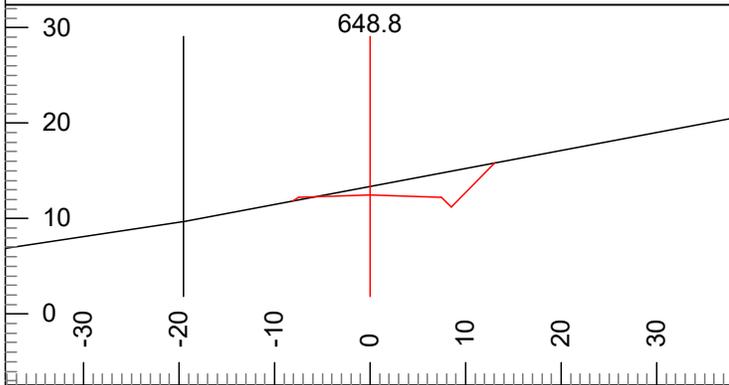
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P-Stn : 490.4 H. Offset: 24.6 Cut Dp: -6.7
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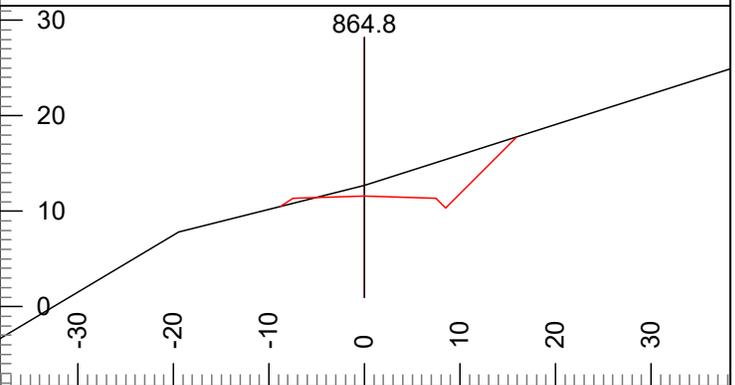
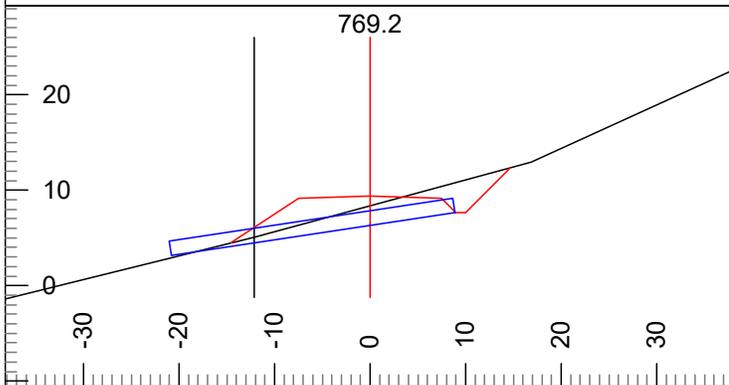
P-Stn : 531.2 H. Offset: 26.0 Cut Dp: -9.4
 L-Stn : 530.1 V.Offset: 13.3 Index: 309

P-Stn : 592.7 H. Offset: 22.6 Cut Dp: -4.5
 L-Stn : 594.0 V.Offset: 7.9 Index: 310



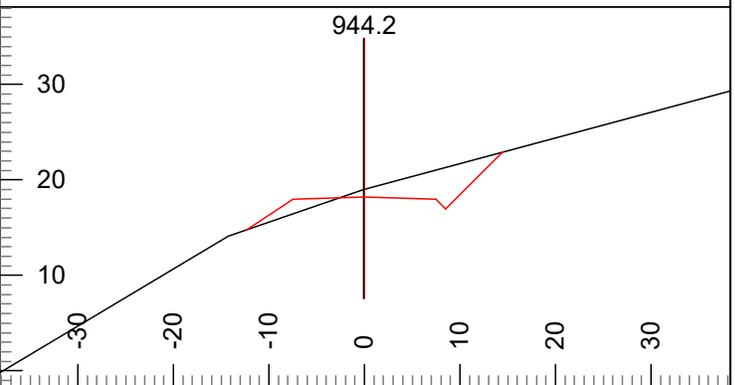
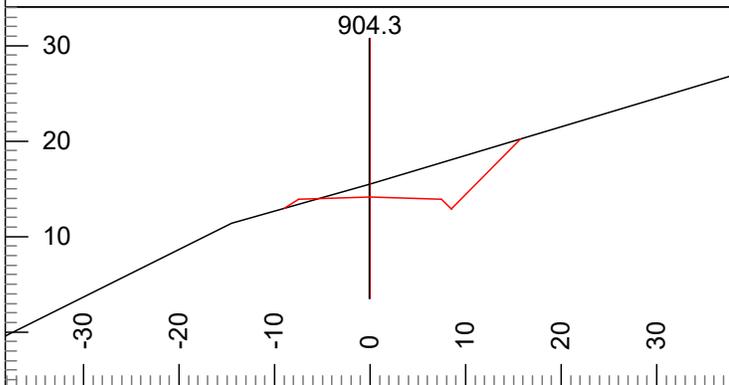
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 L-Stn : 648.8 V.Offset: 2.8 Index: 311

P-Stn : 704.2 H. Offset: 9.6 Cut Dp: 0.1
 L-Stn : 711.0 V.Offset: 1.5 Index: 312



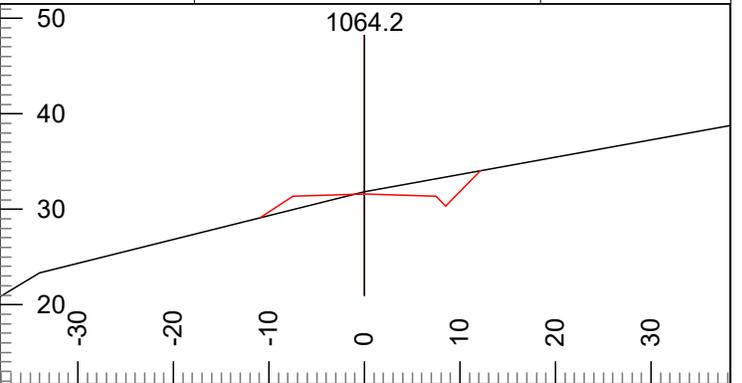
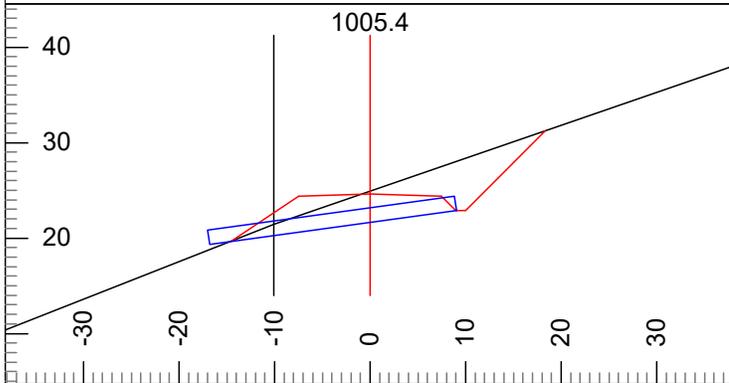
P-Stn : 761.9 H. Offset: 12.1 Cut Dp: -1.0
 L-Stn : 769.2 V.Offset: 4.3 Index: 313

P-Stn : 856.9 H. Offset: 0.0 Cut Dp: 1.1
 L-Stn : 864.8 V.Offset: -1.1 Index: 314



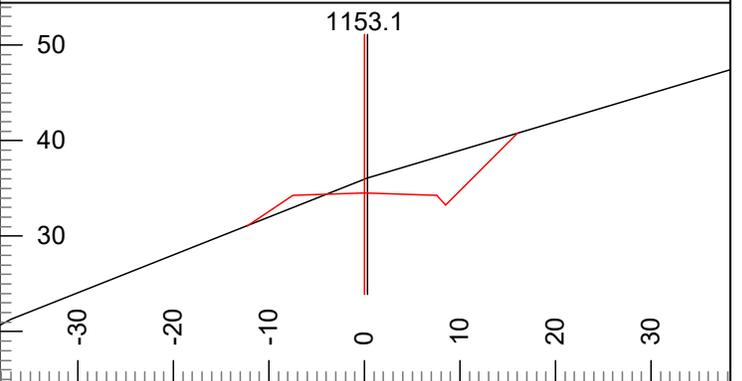
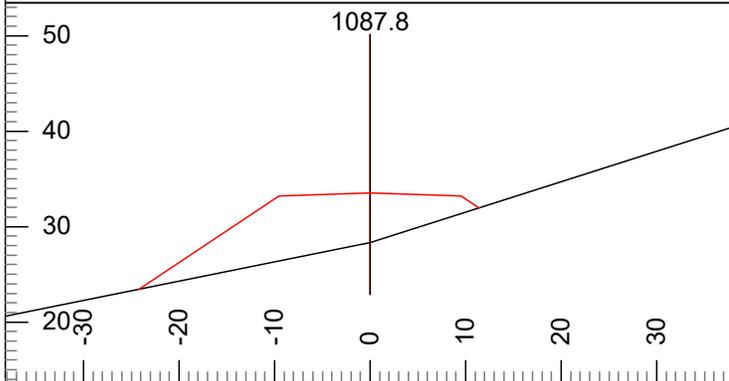
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P-Stn : 936.3 H. Offset: 0.1 Cut Dp: 0.8
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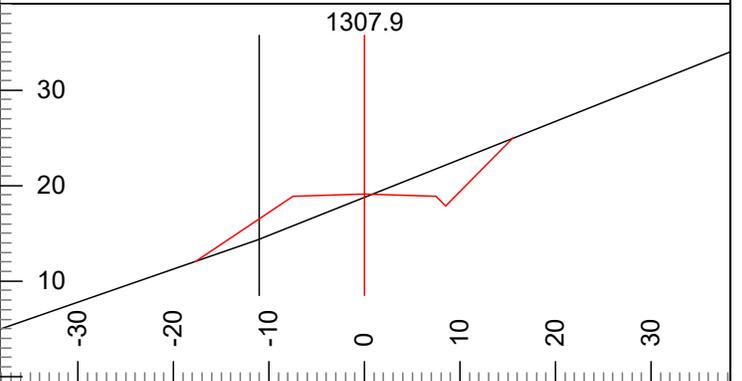
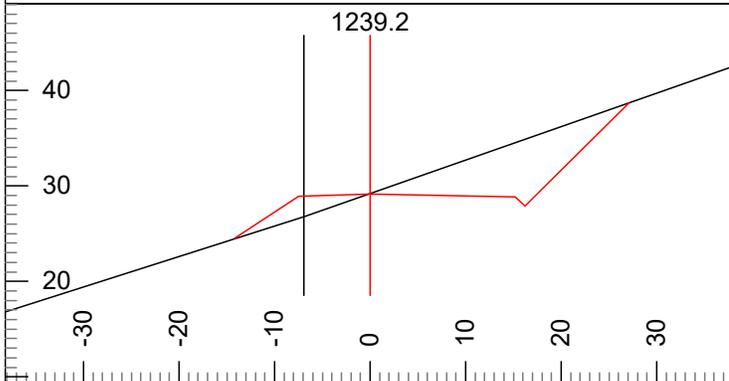
P-Stn : 996.5 H. Offset: 9.9 Cut Dp: 0.3
 L-Stn : 1005.4 V.Offset: 3.2 Index: 317

P-Stn : 1054.2 H. Offset: 0.0 Cut Dp: 0.2
 L-Stn : 1064.2 V.Offset: -0.2 Index: 318



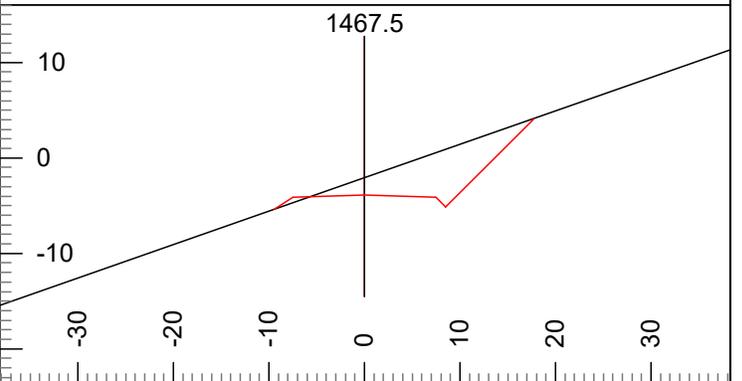
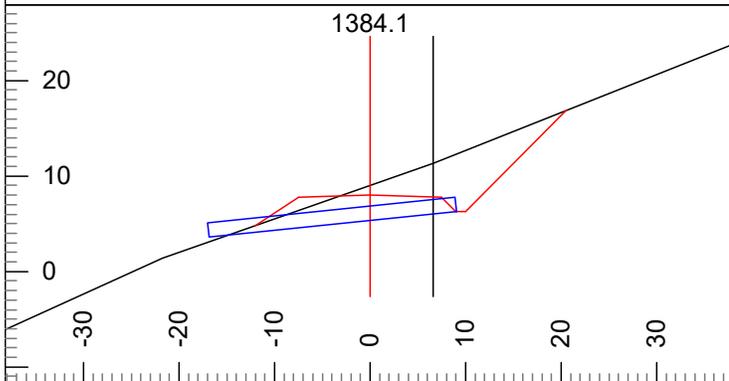
P-Stn : 1077.9 H. Offset: 0.0 Cut Dp: -5.2
 L-Stn : 1087.8 V.Offset: 5.2 Index: 319

P-Stn : 1143.2 H. Offset: -0.3 Cut Dp: 1.5
 L-Stn : 1153.1 V.Offset: -1.6 Index: 320



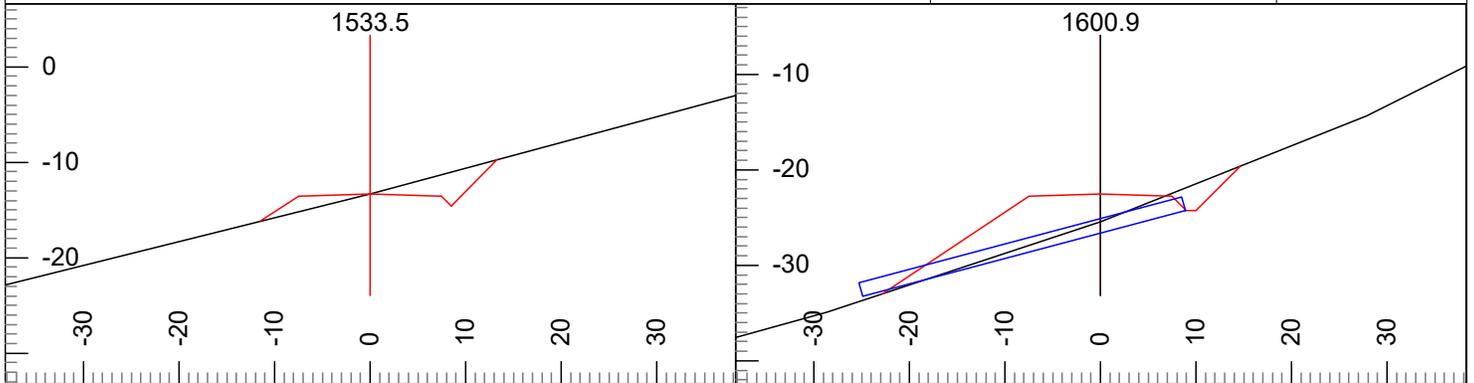
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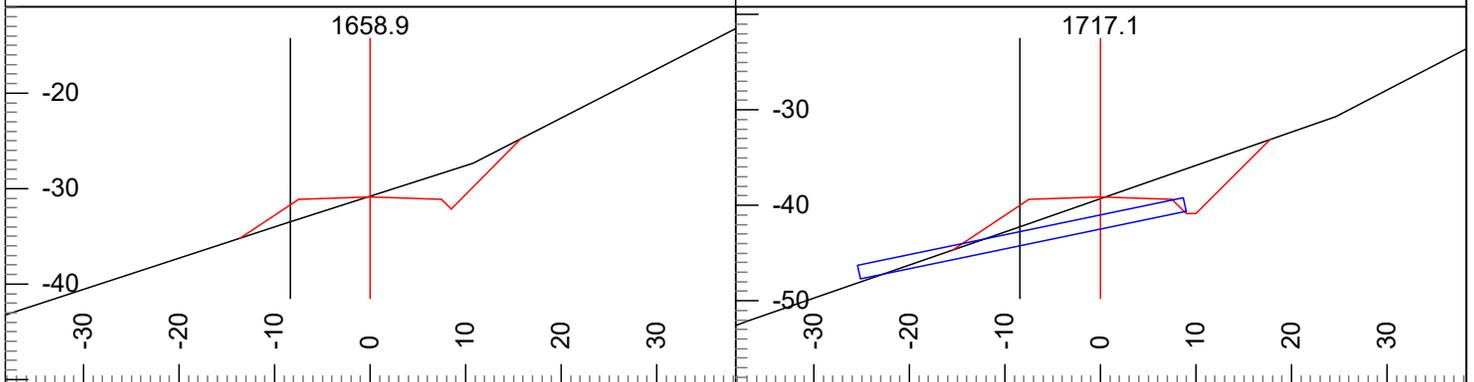
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 L-Stn : 1467.5 V.Offset: -1.8 Index: 324



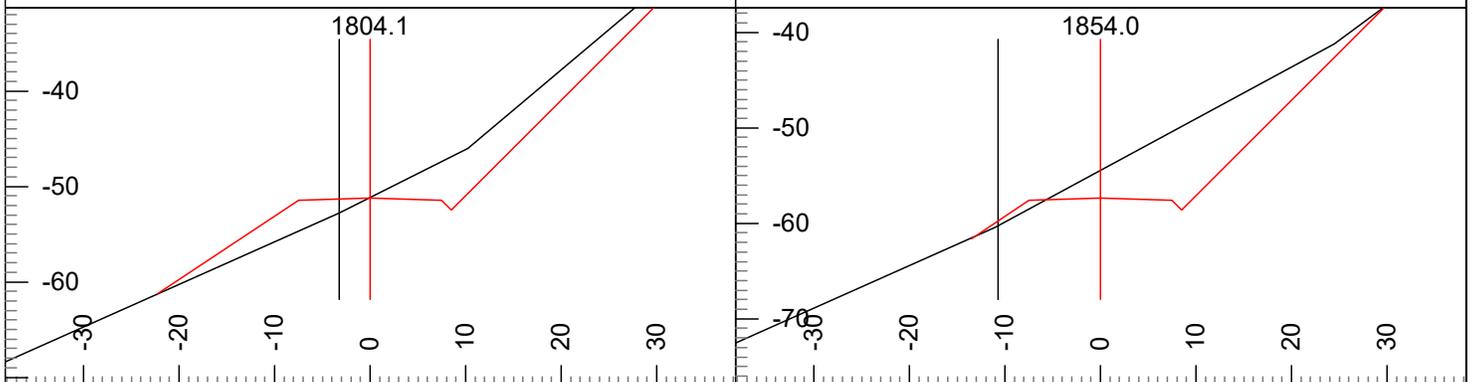
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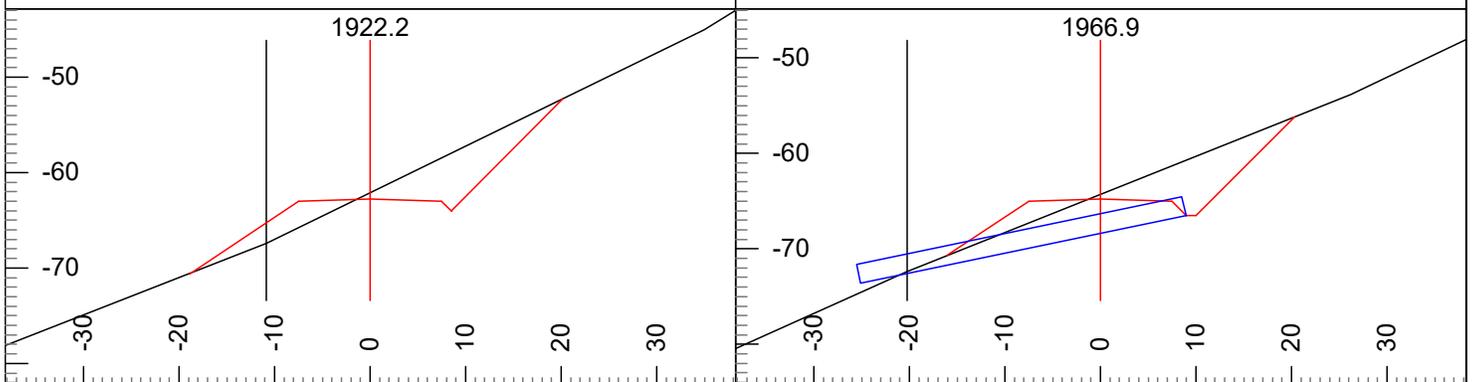
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L-Stn : 1717.1 V.Offset: 3.1 Index: 328



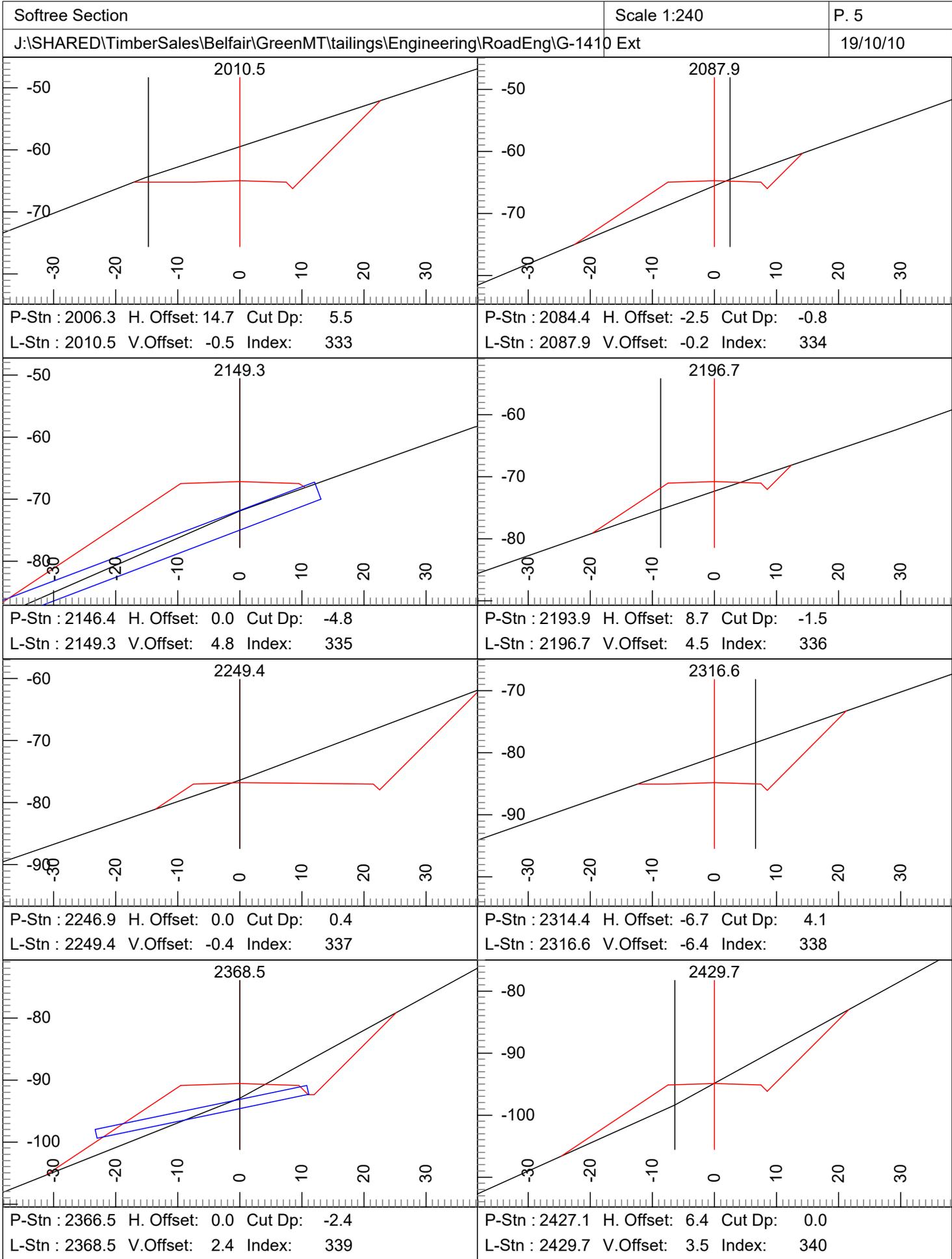
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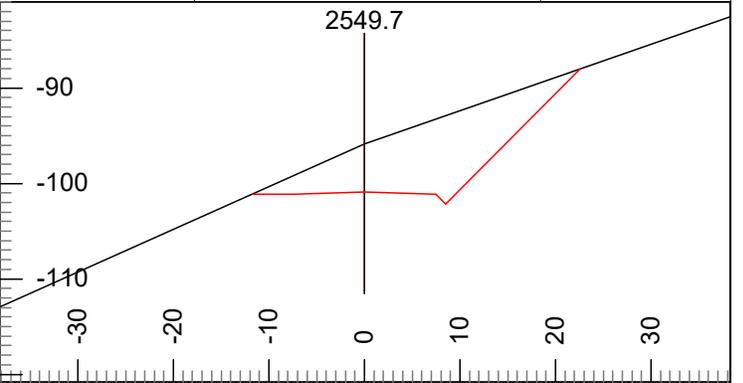
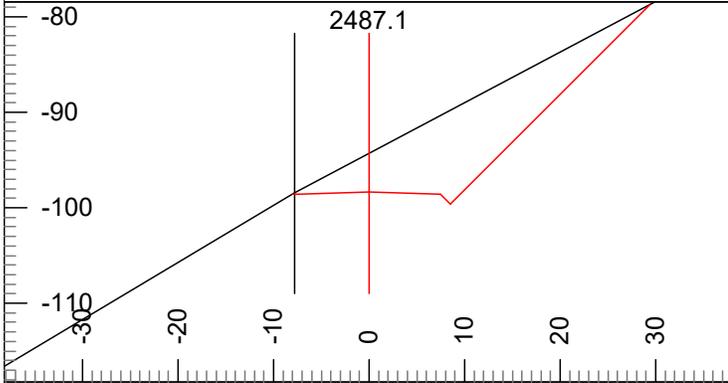
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L-Stn : 1854.0 V.Offset: 3.1 Index: 330



P-Stn : 1915.0 H. Offset: 10.6 Cut Dp: 0.6
L-Stn : 1922.2 V.Offset: 4.7 Index: 331

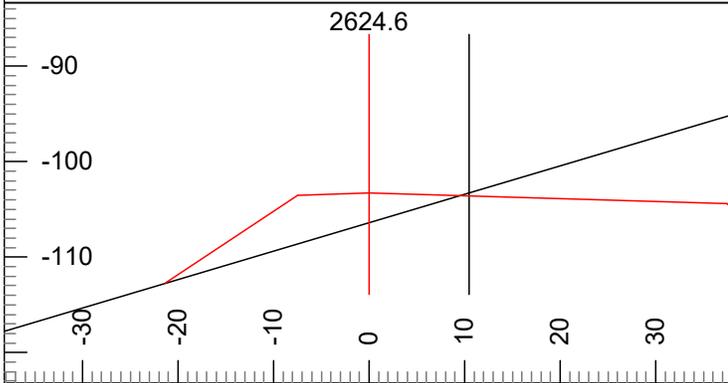
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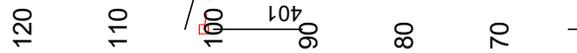
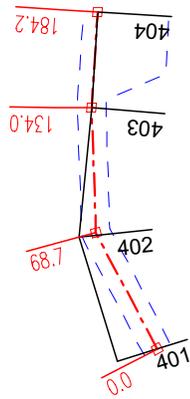


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L-Stn : 2487.1 V.Offset: 0.0 Index: 341

P-Stn : 2548.1 H. Offset: 0.0 Cut Dp: 5.0
L-Stn : 2549.7 V.Offset: -5.0 Index: 342



P-Stn : 2622.3 H. Offset: -10.3 Cut Dp: -3.1
L-Stn : 2624.6 V.Offset: 0.0 Index:



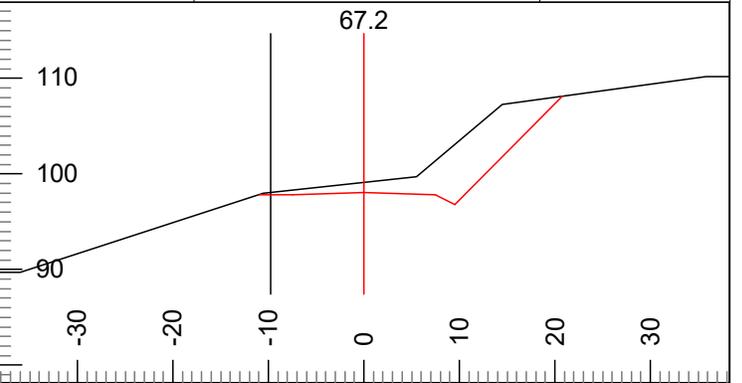
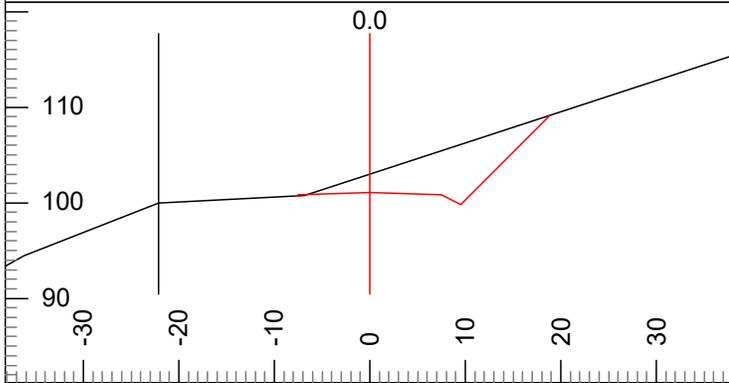
Washington State Department of Natural Resources
South Puget Sound Region

Tailings Timber Sale
G-1410-1 RD
Contract#: 30-095702

Engineer: J. Gardner

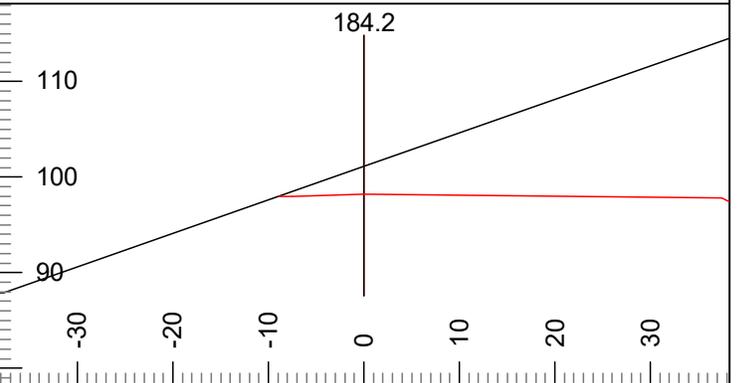
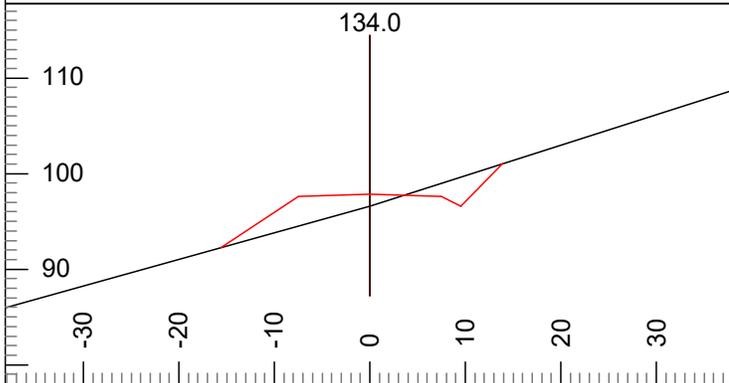
Plan Scale 1:1200
Profile Vert Scale 1:240
Profile Horz Scale 1:1200

Page 1 of 1



P-Stn : 0.0 H. Offset: 21.7 Cut Dp: 1.9
L-Stn : 0.0 V.Offset: 1.1 Index: 401

P-Stn : 68.0 H. Offset: 9.8 Cut Dp: 1.1
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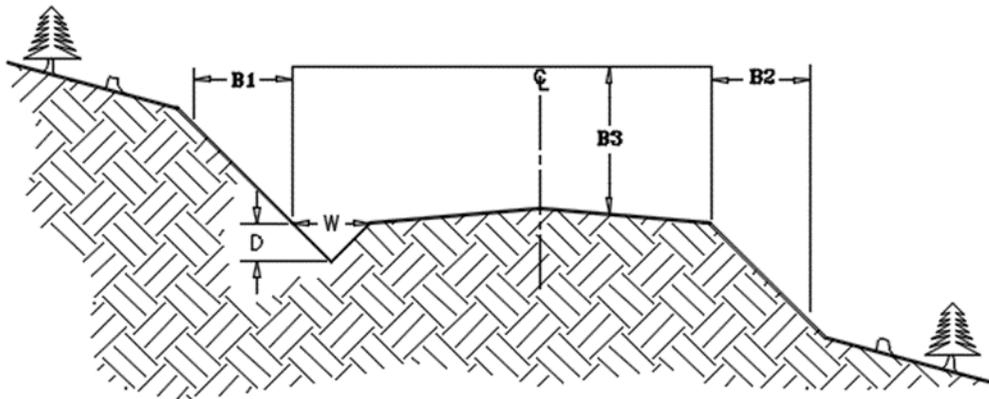


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P-Stn : 186.2 H. Offset: 0.0 Cut Dp: 2.9
L-Stn : 184.2 V.Offset: -2.9 Index: 404

BRUSHING DETAIL

(not to scale)



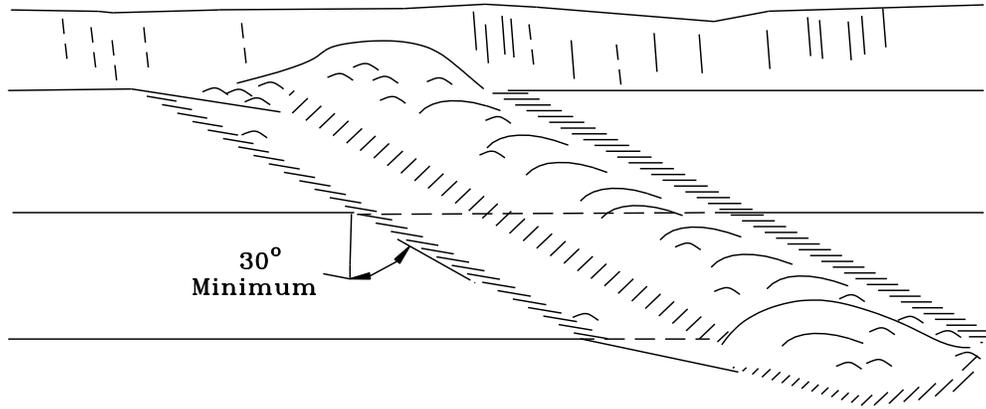
BRUSHING LIST

Road Number	From station	To station	Road Width (feet)	Ditch		Brushing Limits (feet)			Remarks <u>In addition to brushing...</u>
				Width (feet)	Depth (feet)	B1	B2	B3	
				W	D				
GM-3	39+50	70+75	varies	2	1	5	5	14	Cut brush an extra 16 feet on the inside of a curve to provide extra visibility on switchbacks and curves.
GM-4	0+00	203+00	varies	2	1	5	5	14	
GM-45	0+00	8+00	varies	2	1	5	5	14	

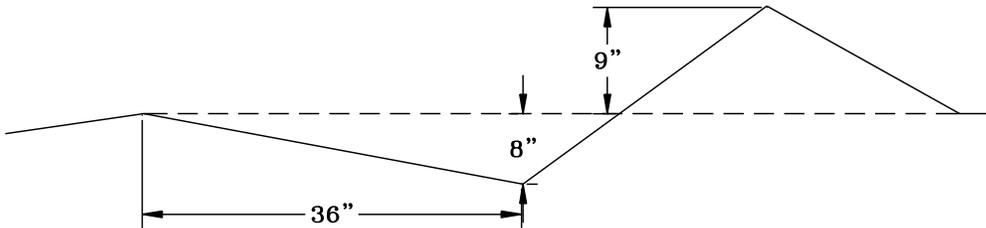
B1 extends horizontally the specified distance in feet from the back of the ditch. B2 extends horizontally the specified distance in feet from the outside edge of the running surface. Brush is defined as all non-merchantable vegetative material found within the specified limits. Brush must be cut to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

Drivable Water Bar Detail

Cross Ditch



Cross Section at Centerline



Water Bar Detail

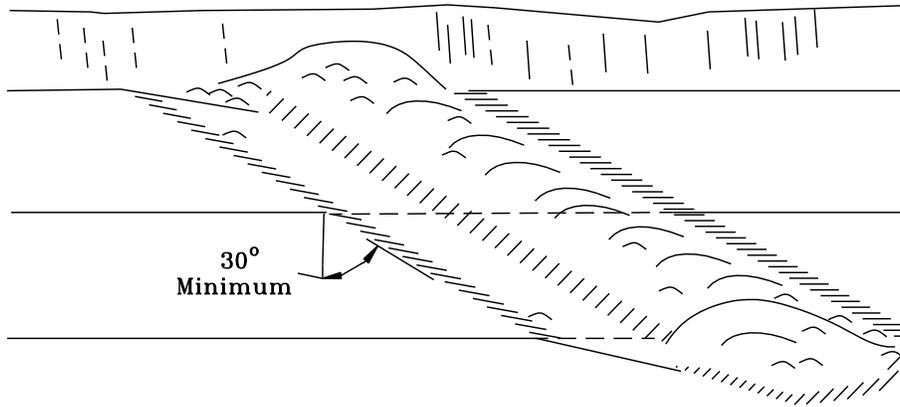
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Scale : None
App#
Drawn by: M.A.D.



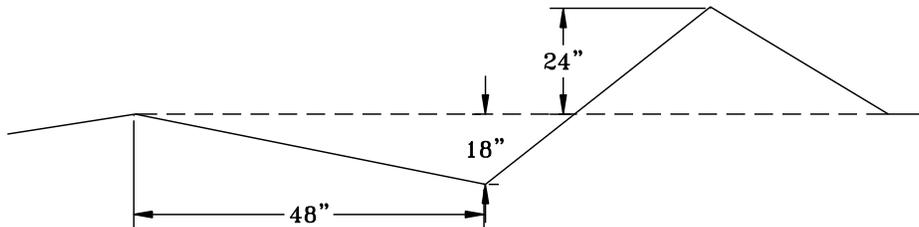
WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

Non-Drivable Water Bar Detail

Cross Ditch



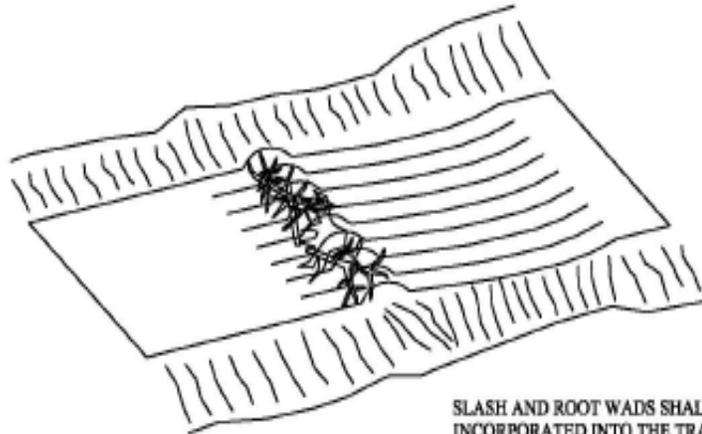
Cross Section at Centerline



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Drawn by: M.A.I

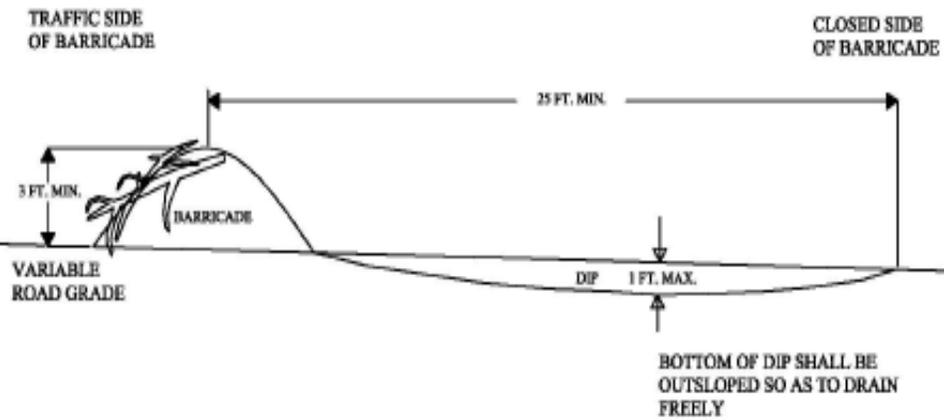


BARRICADE DETAIL



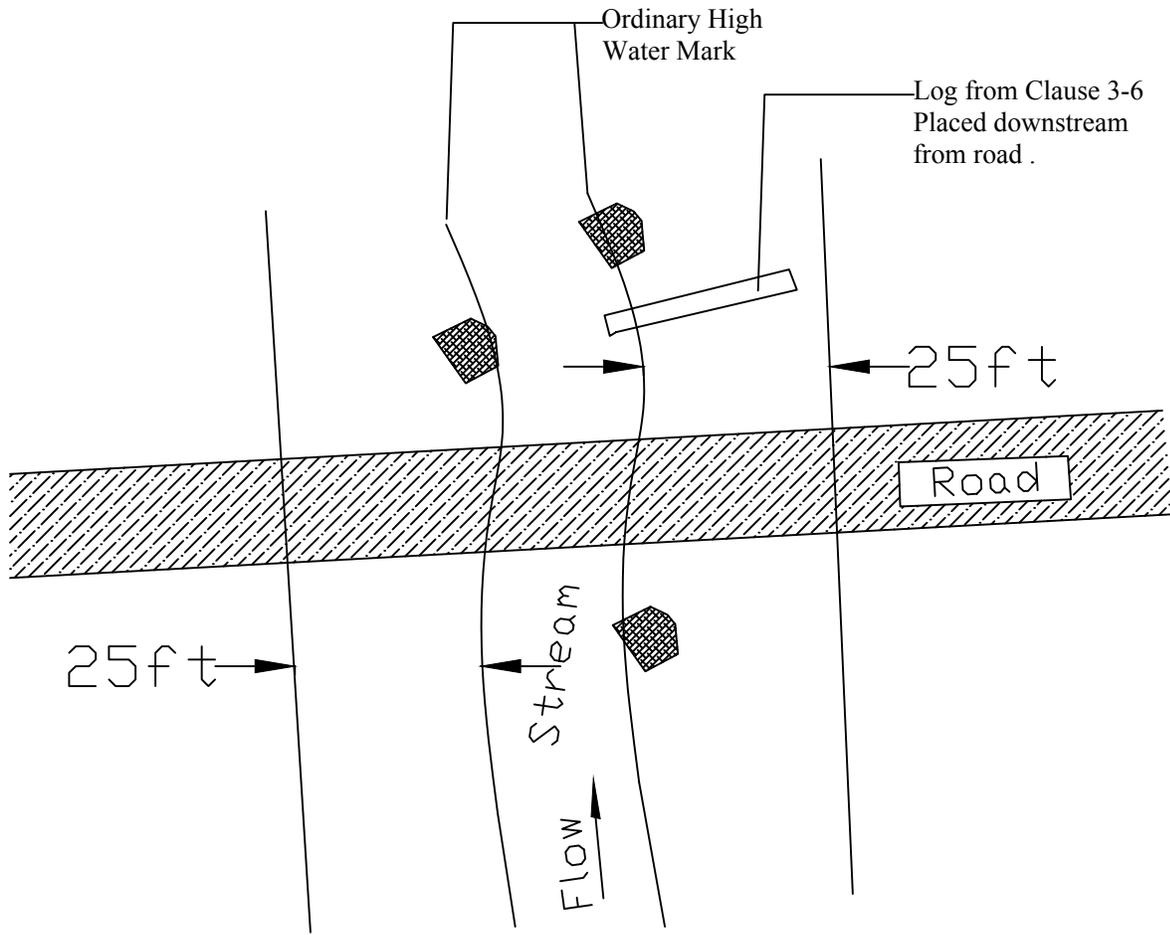
SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.

PLAN VIEW



PROFILE VIEW

Typical Riparian Strategy Stream Crossing Detail



Date: July 7, 2012
Scale: None
Page: 1 of 1
Drawn by: MDB

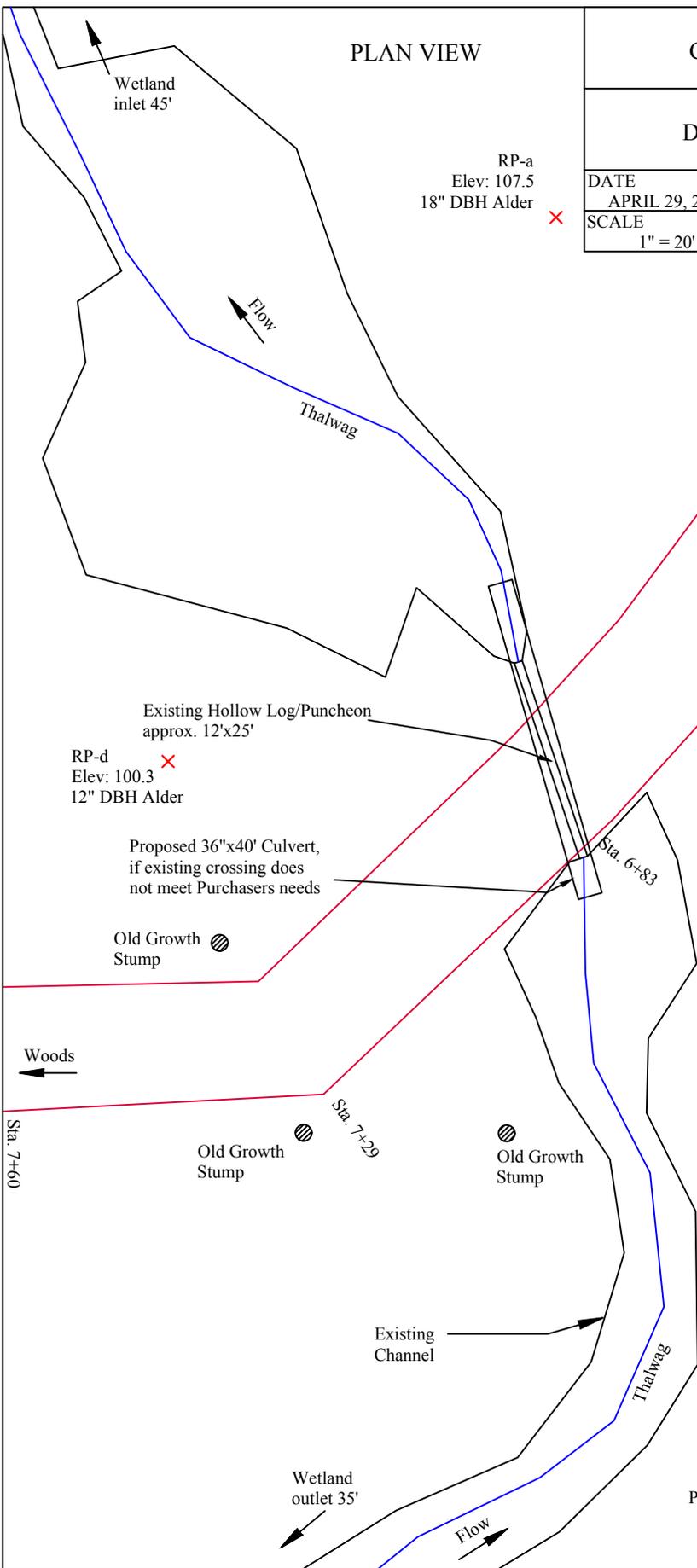
 Stumps from Clause 3-11 placed as shown.

TAILINGS TIMBER SALE, GM-461
CROSSING INSTALLATION & REMOVAL

WASHINGTON STATE
DEPARTMENT OF NATURAL RESOURCES

DATE APRIL 29, 2019	DRAWN J. GARDNER	REV
SCALE 1" = 20'	SW $\frac{1}{4}$ NE $\frac{1}{4}$ SEC 22, T24N, R01W, W.M. KITSAP COUNTY, WA	SHEET 1 of 3

PLAN VIEW



Proposed
18" Relief
Culvert at
Sta. 5+50

Proposed GM-461 Rd
(aka orphaned GM-46 Rd)

Town
Sta. 6+13



INDEX TO SHEETS	
PLAN VIEW	1
PROFILE VIEW	2
ABANDONMENT DETAILS	3

Existing Hollow Log/Puncheon
approx. 12'x25'

RP-d
Elev: 100.3
12" DBH Alder

Proposed 36"x40' Culvert,
if existing crossing does
not meet Purchasers needs

Old Growth
Stump

Woods

Sta. 7+60

Old Growth
Stump

Sta. 7+29

Old Growth
Stump

Existing
Channel

Wetland
outlet 35'

2nd Growth
Douglas Fir

RP-b
Elev: 107.7
20" DBH Maple

RP-c
Elev: 102.6
14" DBH Alder

Note: A site visit was conducted on 03/04/2019. Informal Conference Note No. 104091 was generated. Representatives from Suquamish Tribe, WDNR State Lands, and WDNR Forest Practices were in attendance.

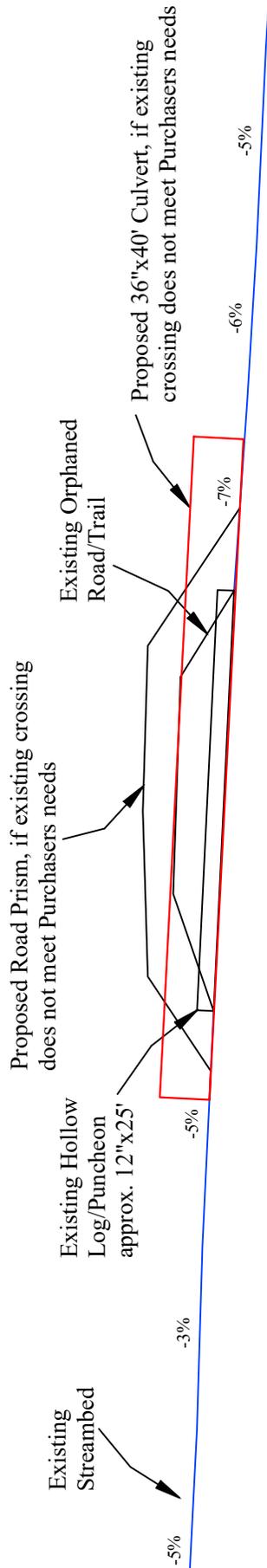
General Installation Notes:

- 1) The Purchaser has the option to use the existing Orphaned GM-46 puncheon crossing as is. If the existing crossing is not suitable, the puncheon may be replaced with a 36"x40' culvert.
- 2) Road slopes to be 1.5H:1V
- 3) Geotextile fabric will be used to separate road rock from subgrade material from station 6+33 to 7+33.
- 4) Construction and abandonment to take place in one operating season between July 15-September 30. If unusually dry conditions are present, landowner/operator may request an on-site meeting with Wa. DNR Forest Practices to determine if conditions will allow the start date to be earlier.

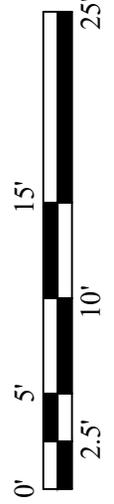
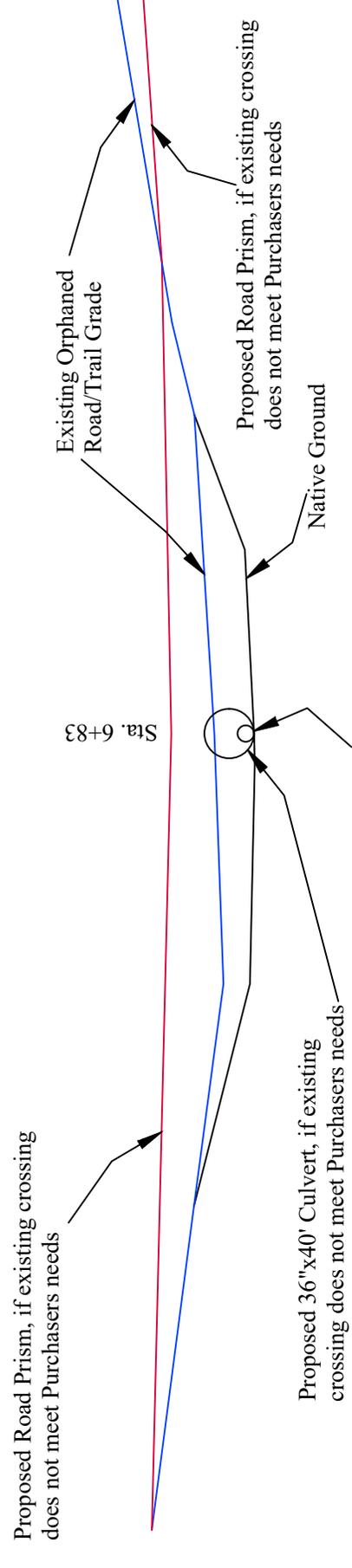
PROJECT LOCATION
N 47.557390
W 122.786295



CHANNEL PROFILE



ROAD PROFILE



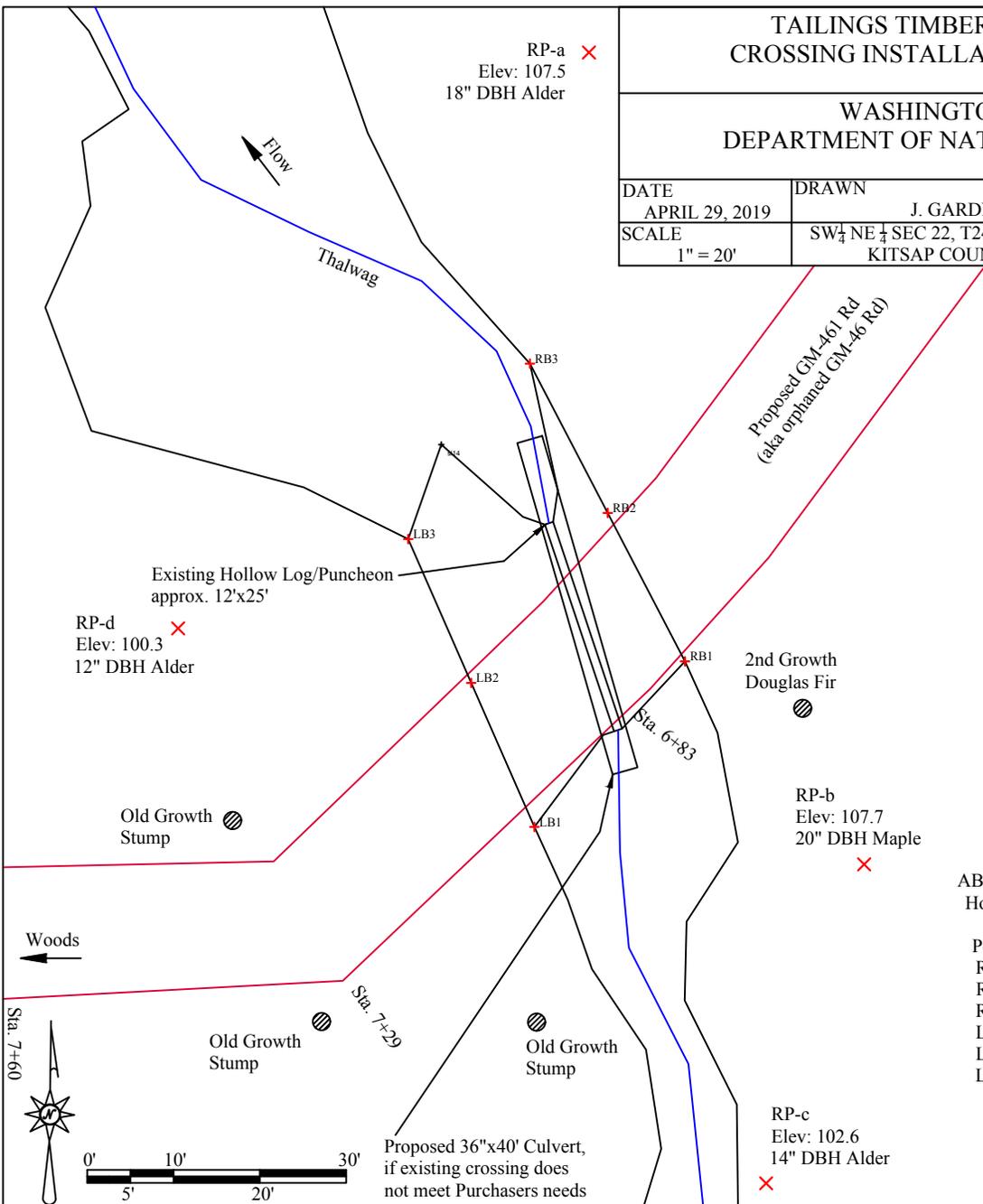
TAILINGS TIMBER SALE, GM-461 CROSSING INSTALLATION & REMOVAL	
WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES	
DATE APRIL 29, 2019	DRAWN J. GARDNER
SCALE 1" = 10'	REV
PROJECT LOCATION N 47.557390 W 122.786295	SHEET SW 1/4 NE 1/4 SEC 22, T24N, R01W, W.M. KITSAP COUNTY, WA
	2 of 3

TAILINGS TIMBER SALE, GM-461
CROSSING INSTALLATION & REMOVAL

WASHINGTON STATE
DEPARTMENT OF NATURAL RESOURCES

DATE APRIL 29, 2019	DRAWN J. GARDNER	REV
SCALE 1" = 20'	SW $\frac{1}{4}$ NE $\frac{1}{4}$ SEC 22, T24N, R01W, W.M. KITSAP COUNTY, WA	SHEET 3 of 3

ABANDONMENT
PLAN VIEW

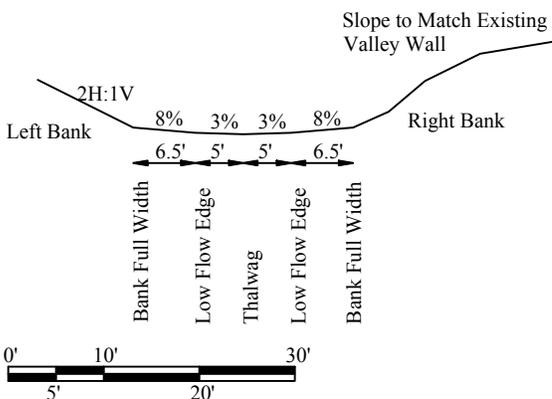


ABANDONMENT STAKE-OUT TABLE
Horz. Dist. from RP to Bank Full Width

Point	Elev.	RP-a	RP-b	RP-c	RP-d
RB-1	98.5	71.5	31.4	61.3	58.8
RB-2	97.0	53.5	50.4	79.9	51.5
RB-3	95.4	36.7	69.8	98.9	51.0
LB-1	98.7	90.1	38.5	49.3	47.3
LB-2	97.1	74.4	50.2	67.3	34.5
LB-3	95.4	60.2	64.9	85.5	28.6

PROJECT LOCATION
N 47.557390
W 122.786295

ABANDONMENT
PROFILE VIEW



Abandonment notes:

- 1) Construction and abandonment to take place in one operating season between July 15-September 30. If unusually dry conditions are present, landowner/operator may request an on-site meeting with Wa. DNR Forest Practices to determine if conditions will allow the start date to be earlier.
- 2) Bank Full Width to be excavated to limits depicted in the drawing by connecting a line through: RB1-RB3 (Right Bank), and LB1-LB2 (Left Bank)
- 3) The Right Bank (RB) excavation slopes will match existing valley wall.
- 4) The Left Bank (LB) excavation slopes will be set back at a minimum of 2H:1V.
- 5) Constructed stream channel will have a low flow channel as depicted in ABANDONMENT PROFILE VIEW.
- 6) Waste material to be endhauled as specified in Road Plan.

Legal Description: SW¼ SE¼ Section 10, T24N R01W

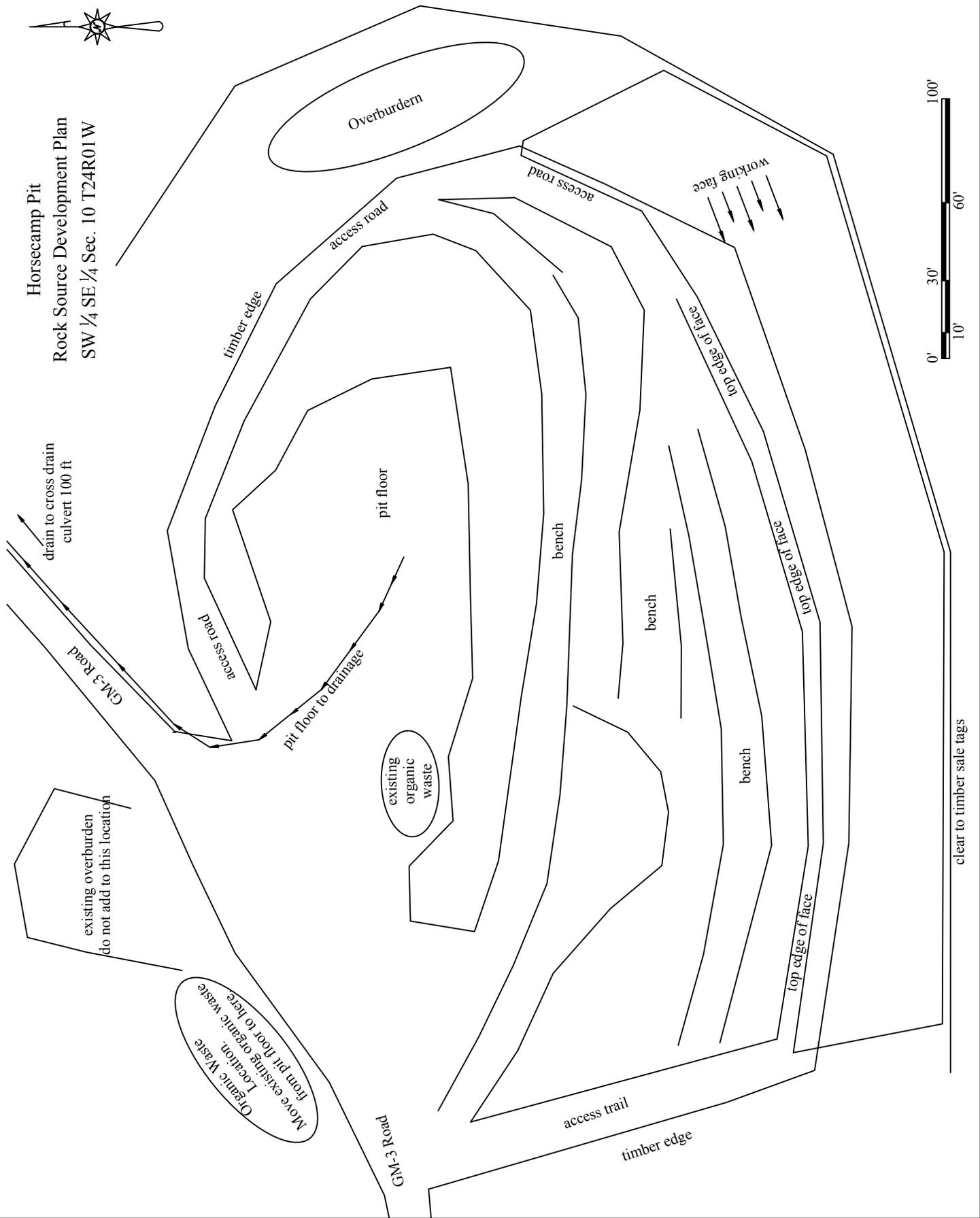
Rock Pit Name: Horse Camp Pit

PIT DEVELOPMENT PLAN

1. A minimum stripping width of 20 feet must be maintained from all pit faces and at the termination of operations pit shall be left in said condition.
2. Pile all reject rock and overburden away from pit working area as shown.
3. Pit floor shall be sloped to allow drainage as shown. No ponding will be allowed.
4. Maximum face height shall not exceed 30 feet in height.
5. Pit face shall have a maximum backslope of ¼:1.
6. Working bench width shall be a minimum of 25 feet.
7. At the completion of operations, Contractor shall request written approval from the Contract Administrator for final rock source condition and compliance with the terms of this plan.
8. Quantity and quality of material is not guaranteed by the State.



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



clear to timber sale tags

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: South Puget Sound
DISTRICT: Hood Canal

SALE/PROJECT NAME: Tailings T.S. CONTRACT NUMBER: 30-095702
LEGAL DESCRIPTION: Sec 3,9,10,15,16,21,22,23,28,32&33 T24NR01W & Sec 4 T23NR01W

ROAD NUMBER:	GM-43 Unit 4 Spur	GM-452 G-1410 Ext	GM-461 G-1410-1		Old GM-1 GM-42 M-1400	GM-1 GM-45 M-1700	GM3 5000 G-1000	GM-4 5400 G-1200
ROAD STANDARD:	Construction			Reconstruction	Pre/Post-haul maintenance			
NUMBER OF STATIONS:	71.92			0.00	785.25			
SIDESLOPE:	10-70%			0	20-40%			
CLEARING AND GRUBBING:	\$14,291			\$0				
EXCAVATION AND FILL:	\$133,897			\$0				
MISC. MAINTENANCE:					\$8,547			
ROCK TOTALS (Cu. Yds.):								
Ballast: 2139	\$25,520			\$0	\$1,842			
Ballast: 1375	\$15,590			\$0	\$0			
Riprap: 37	\$562			\$0	\$428			
CULVERTS AND FLUMES:	\$19,366			\$0	\$11,247			
STRUCTURES:	\$1,000			\$0	\$0			
GENERAL EXPENSES:	\$16,818			\$0	\$1,986			
MOBILIZATION:	\$7,450			\$0	\$7,450			
TOTAL COSTS:	\$234,494			\$0	\$31,500			
COST PER STATION:	\$3,260			\$0	\$40			

ROAD DEACTIVATION AND ABANDONMENT COSTS: \$7,996

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

NOTE²: This appraisal does not account for optional rock.

TOTAL (All Roads) = \$273,990

SALE VOLUME MBF = 3,588

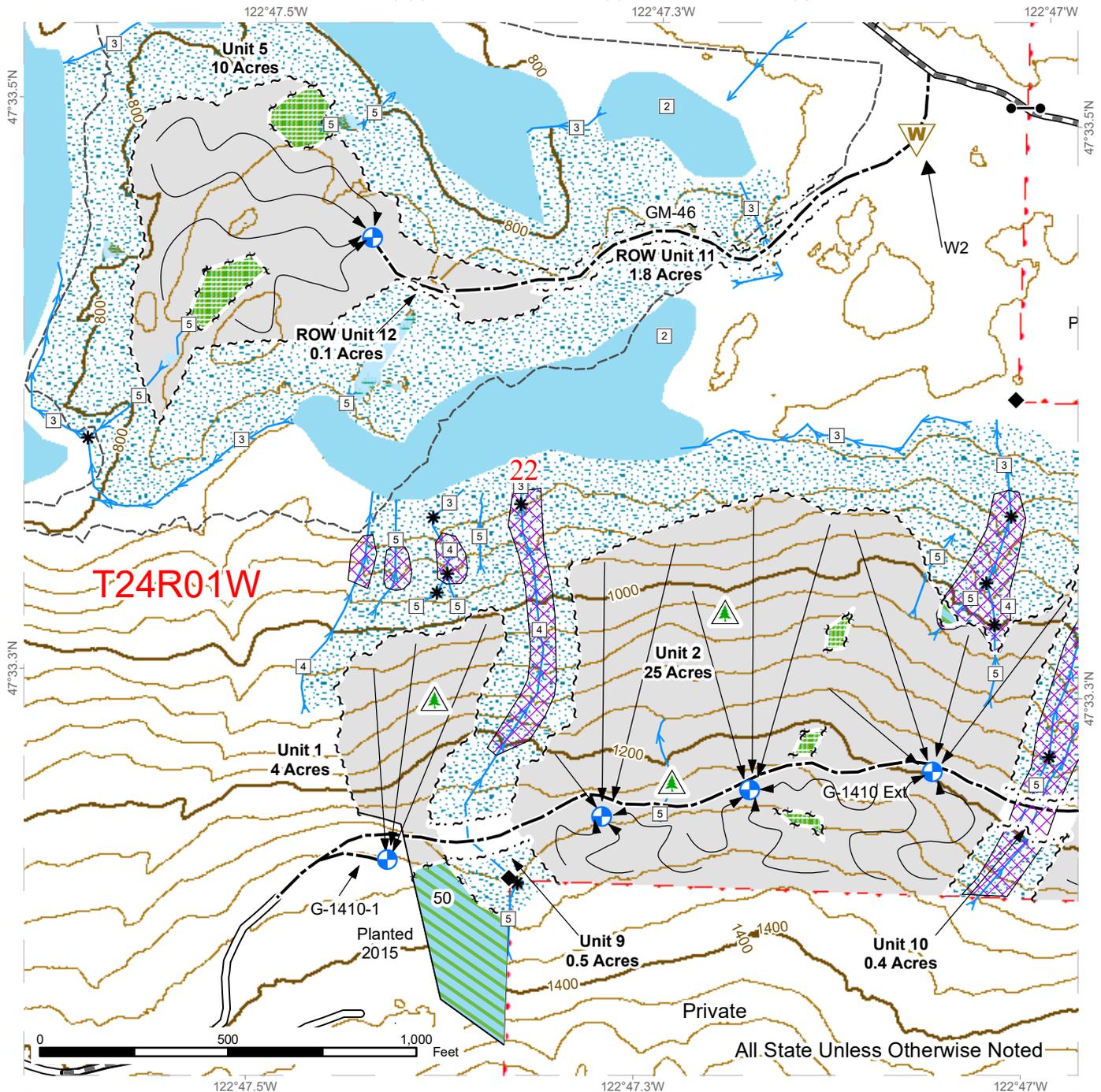
TOTAL COST PER MBF = \$76.36

Date: 04/29/17

LOGGING PLAN MAP

SALE NAME: TAILINGS
 AGREEMENT#: 30-095702
 TOWNSHIP(S): T24R1W
 TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
 COUNTY(S): Kitsap
 ELEVATION RGE: 816-1756



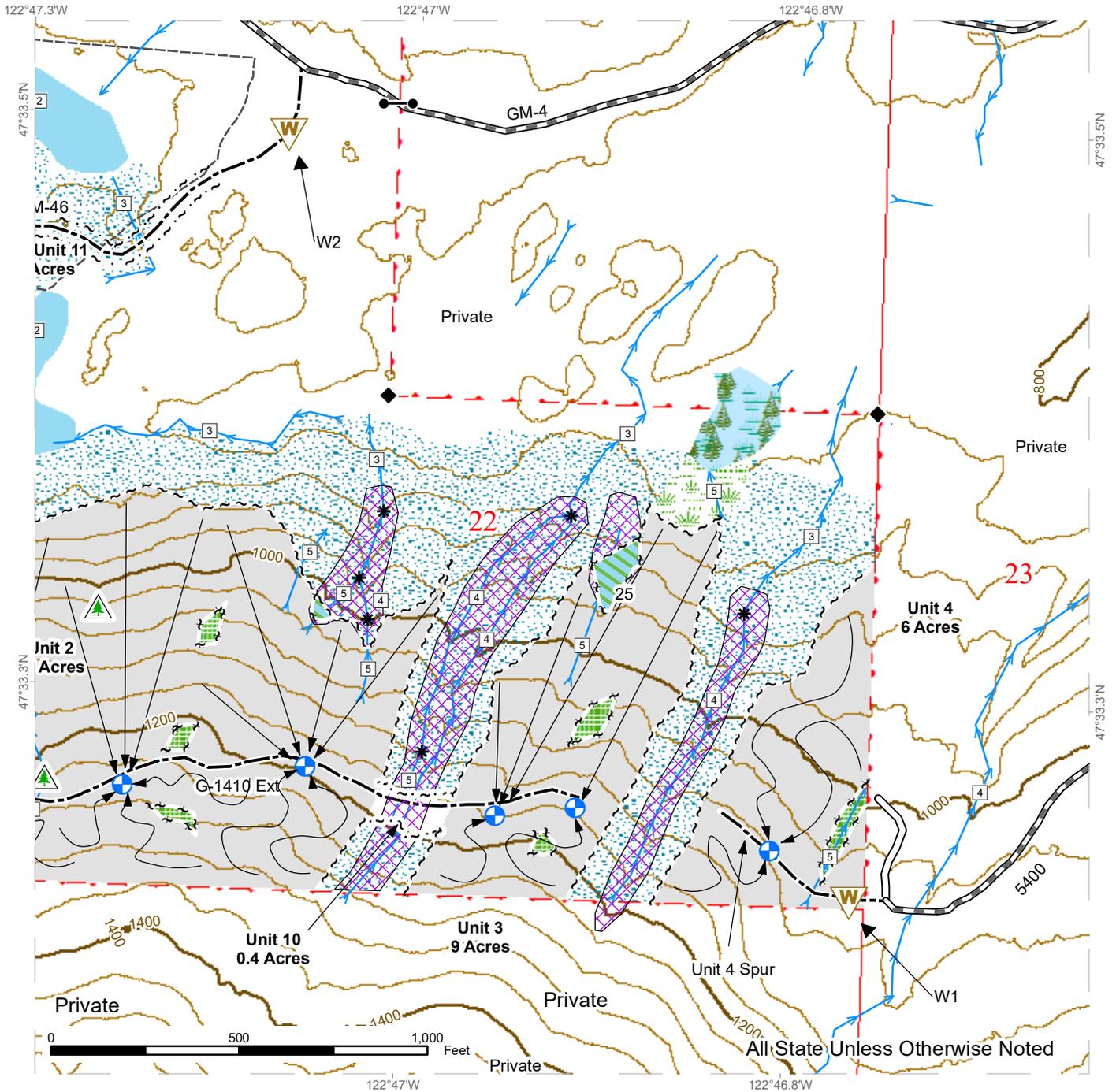
Ground Harvest	Streams	Leave Tree Area
Cable Harvest	Stream Type	Riparian Mgt Zone
Existing Roads	Stream Type Break	Ponds
Required Pre-Haul Maintenance	Survey Monument	Forested Wetland
Optional Construction	Gate	Wetland Mgt Zone
Sale Boundary Tags	Landing - Proposed	Tailhold Restriction Areas
Timber Type Change	Non-Tradeable Leave Trees	Non-tradeable Leave Trees
Leave Tree Tags	Waste Area	Contours 40-foot
Right of Way Tags		Trails
Property Line		



LOGGING PLAN MAP

SALE NAME: TAILINGS
AGREEMENT#: 30-095702
TOWNSHIP(S): T24R1W
TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Kitsap
ELEVATION RGE: 816-1756



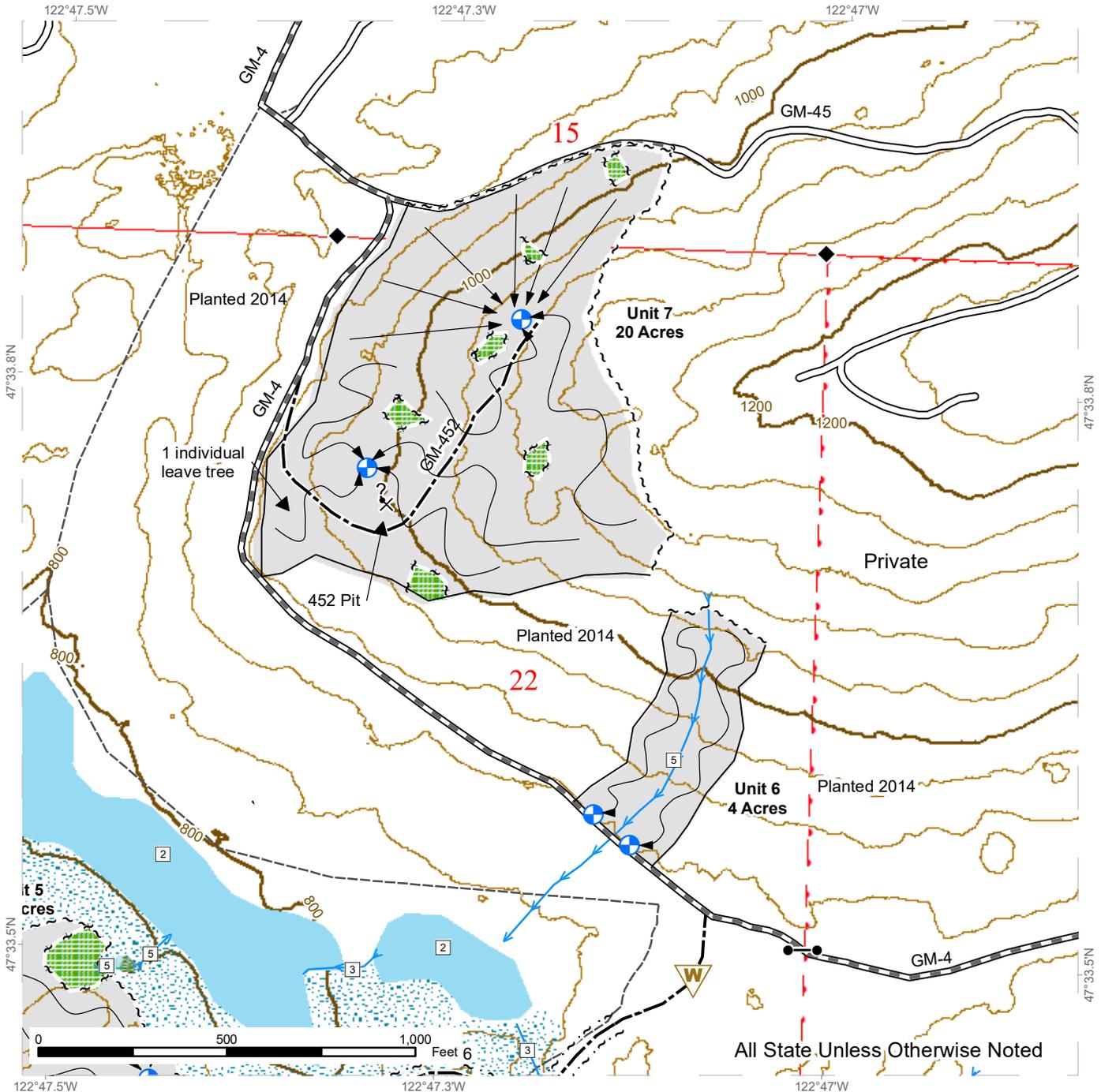
Ground Harvest	Streams	Leave Tree Area
Cable Harvest	Stream Type	Riparian Mgt Zone
Existing Roads	Stream Type Break	Ponds
Required Pre-Haul Maintenance	Survey Monument	Forested Wetland
Optional Construction	Gate	Wetland Mgt Zone
Sale Boundary Tags	Landing - Proposed	Tailhold Restriction Areas
Timber Type Change	Non-Tradeable Leave Trees	Non-tradeable Leave Trees
Leave Tree Tags	Waste Area	Contours 40-foot
Right of Way Tags		Trails
Property Line		



LOGGING PLAN MAP

SALE NAME: TAILINGS
 AGREEMENT#: 30-095702
 TOWNSHIP(S): T24R1W
 TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
 COUNTY(S): Kitsap
 ELEVATION RGE: 816-1756



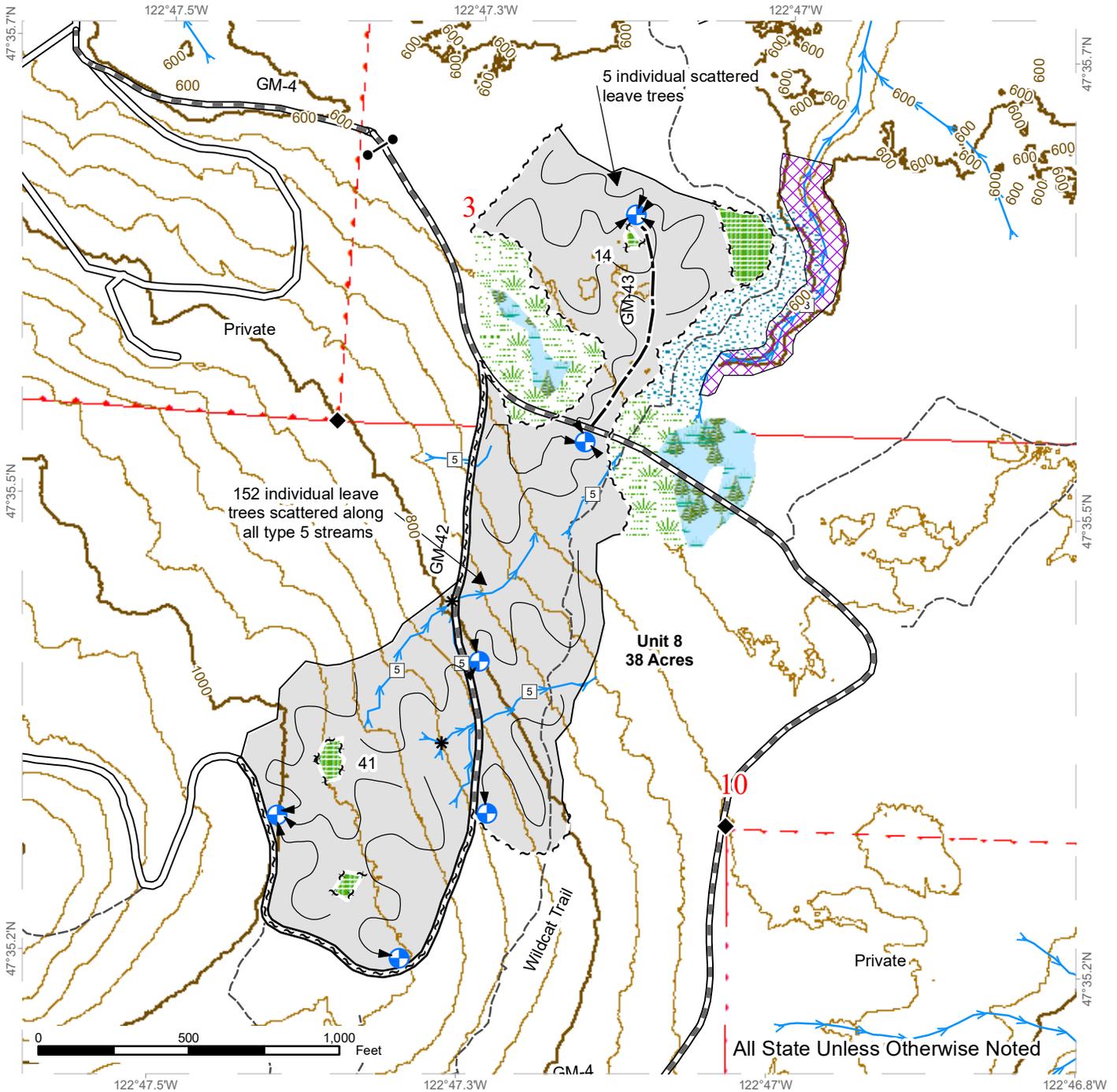
Ground Harvest	Streams	Leave Tree Area
Cable Harvest	Stream Type	Riparian Mgt Zone
Existing Roads	Stream Type Break	Ponds
Required Pre-Haul Maintenance	Survey Monument	Forested Wetland
Optional Construction	Gate	Wetland Mgt Zone
Sale Boundary Tags	Landing - Proposed	Non-tradeable Leave Trees
Timber Type Change	Potential Rock Source	Contours 40-foot
Leave Tree Tags	Waste Area	Trails
Right of Way Tags		
Property Line		



LOGGING PLAN MAP

SALE NAME: TAILINGS
 AGREEMENT#: 30-095702
 TOWNSHIP(S): T24R1W
 TRUST(S): Common School and Indemnity (3), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region
 COUNTY(S): Kitsap
 ELEVATION RGE: 816-1756



All State Unless Otherwise Noted

Ground Harvest	Streams	Leave Tree Area
Existing Roads	Stream Type	Riparian Mgt Zone
Required Pre-Haul Maintenance	Stream Type Break	Forested Wetland
Optional Construction	Survey Monument	Wetland Mgt Zone
Sale Boundary Tags	Gate	Tailhold Restriction Areas
Timber Type Change	Landing - Proposed	Non-tradeable Leave Trees
Leave Tree Tags	Contours 40-foot	Trails
Right of Way Tags		
Property Line		

