



TIMBER NOTICE OF SALE

SALE NAME: Q BOYCE

AGREEMENT NO: 30-99988

AUCTION: June 16, 2020 starting at 10:00 a.m., Northeast Region Office, Colville, WA

COUNTY: Pend Oreille

SALE LOCATION: Sale located approximately 13 miles southwest of Usk, WA

PRODUCTS SOLD AND SALE AREA:

All green conifer species except for leave trees banded with blue paint and leave trees bounded by yellow leave tree area tags in Units 1, 2, 3, 4 and 5 bounded with white timber sale boundary tags; and all right of way timber bounded with orange right of way boundary tags on part(s) of Sections 5 and 8 all in Township 31 North, Range 43 East, W.M., containing 151 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Table with columns: Species, Avg DBH, Ring Count, Total MBF, and MBF by Grade (P, SM, 1S, 2S, 3S, 4S, 5S, 6S, UT). Rows include Grand fir, Douglas fir, Red cedar, Larch, Hemlock, Lodgepole, Spruce, White pine, Ponderosa pine, Alpine fir, and Sale Total.

MINIMUM BID: \$1,043,000.00

BID METHOD: Sealed Bids

PERFORMANCE SECURITY:

\$100,000.00

SALE TYPE: Lump Sum

EXPIRATION DATE: November 15, 2022

ALLOCATION: Export Restricted

BID DEPOSIT: \$104,300.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Falling and Yarding will not be permitted from February 15 to June 1 unless authorized in writing by the Contract Administrator due to spring breakup.

ROADS: 51.36 stations of required construction. 596.37 stations of required prehaul maintenance. 42.55 stations of decommissioning. Road construction will not be permitted from November 15 to June 1 unless authorized in writing by the Contract Administrator due to frozen conditions and spring breakup. The hauling of forest products will not be permitted from February 15 to June 1 unless authorized in writing by the Contract Administrator due to spring breakup.



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ACREAGE DETERMINATION

CRUISE METHOD: Acreage determined using GPS methods. Acreage shown above is net harvest acres in harvest units. Ponderosa pine and western red cedar: 8.0 - 17.5 inches dbh has a minimum top of 5.6 inch dib. All other species: 7.0 - 17.5 inches dbh has minimum top of 4.6 inch dib. All species 17.6 inches and greater dbh have a minimum top dib of 40% of dob at 16 feet or a 6 inch top whichever is greater.

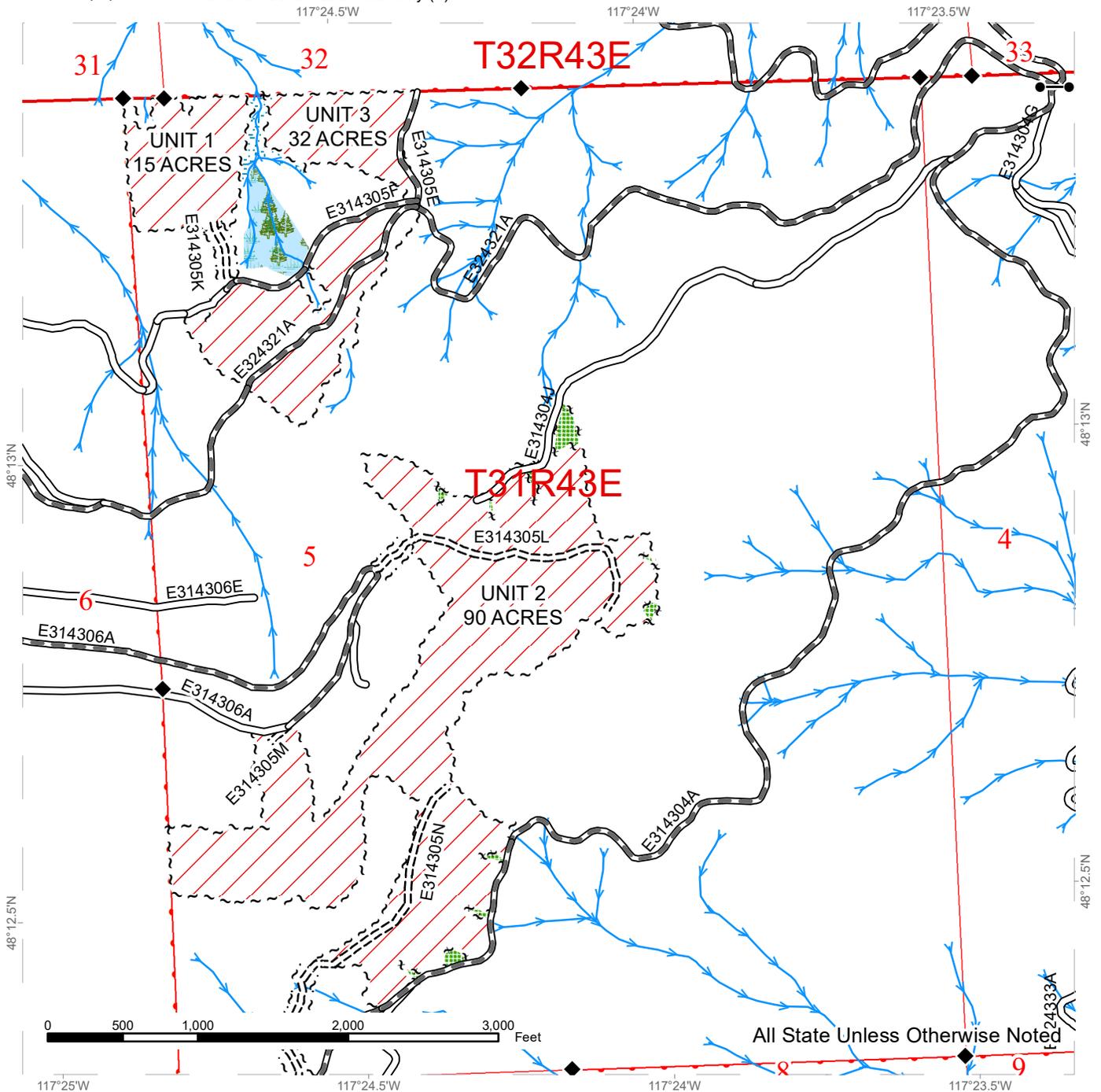
FEES: \$94,894.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: Locked gate restricts access to Units 2, 4 and 5. Contact the Northeast Region Office for access. Cable or tethered equipment is required in Unit 2, approximately 32 acres.

TIMBER SALE MAP

SALE NAME: Q BOYCE
AGREEMENT #: 30-099988
TOWNSHIP(S): T31R43E
TRUST(S): Common School and Indemnity (3)

REGION: Northeast Region
COUNTY(S): Pend Oreille
ELEVATION RGE: 3520-4680



All State Unless Otherwise Noted

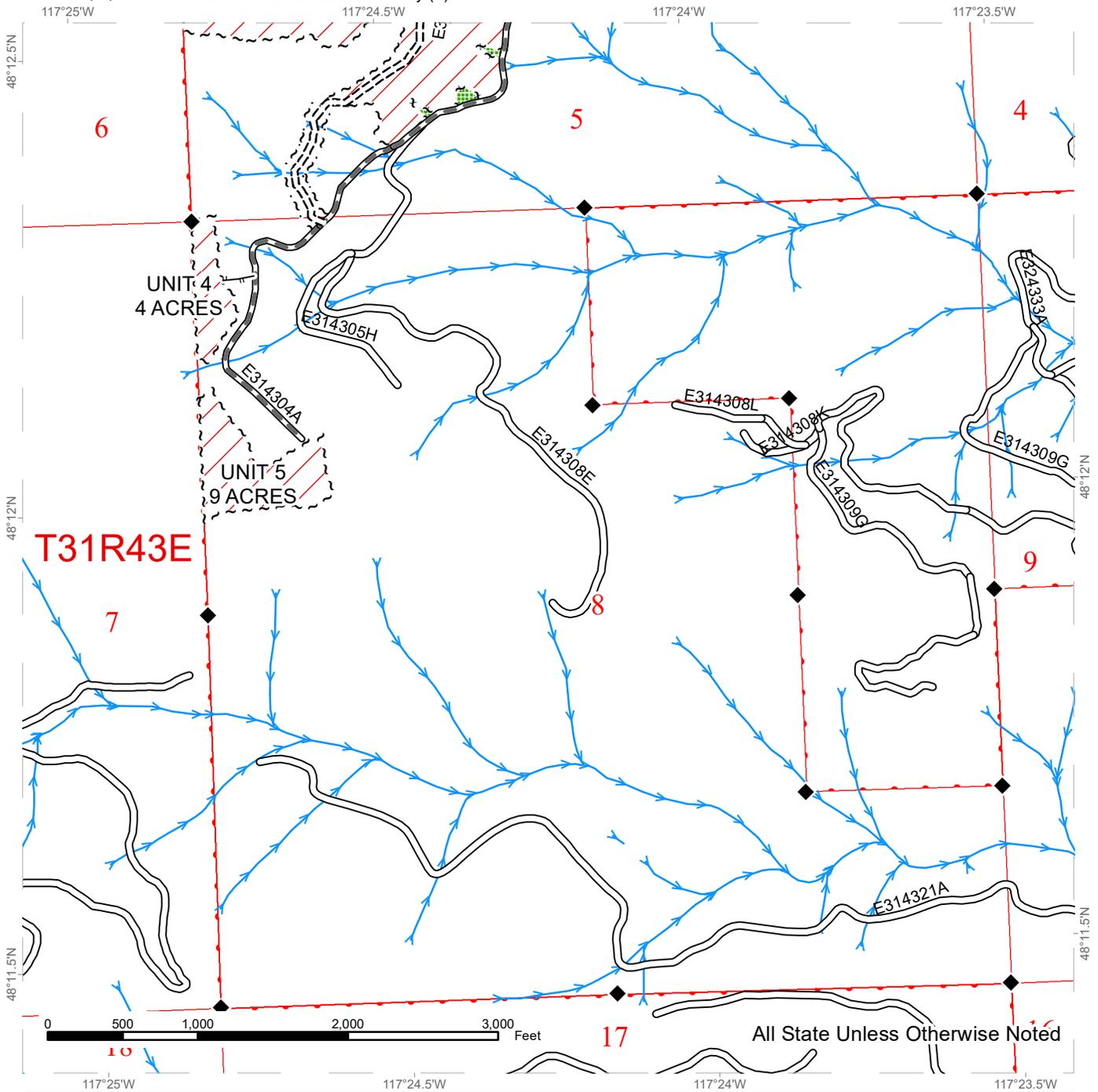
Public Land Survey Townships	Leave Tree Area	Existing Roads
DNR Managed Lands	Riparian Mgt Zone	Required Pre-Haul Maintenance
Variable Retention Harvest	Forested Wetland	Required Construction
Sale Boundary Tags	Streams	Survey Monument
Leave Tree Tags	Gates	
Right of Way Tags = 1 acre		



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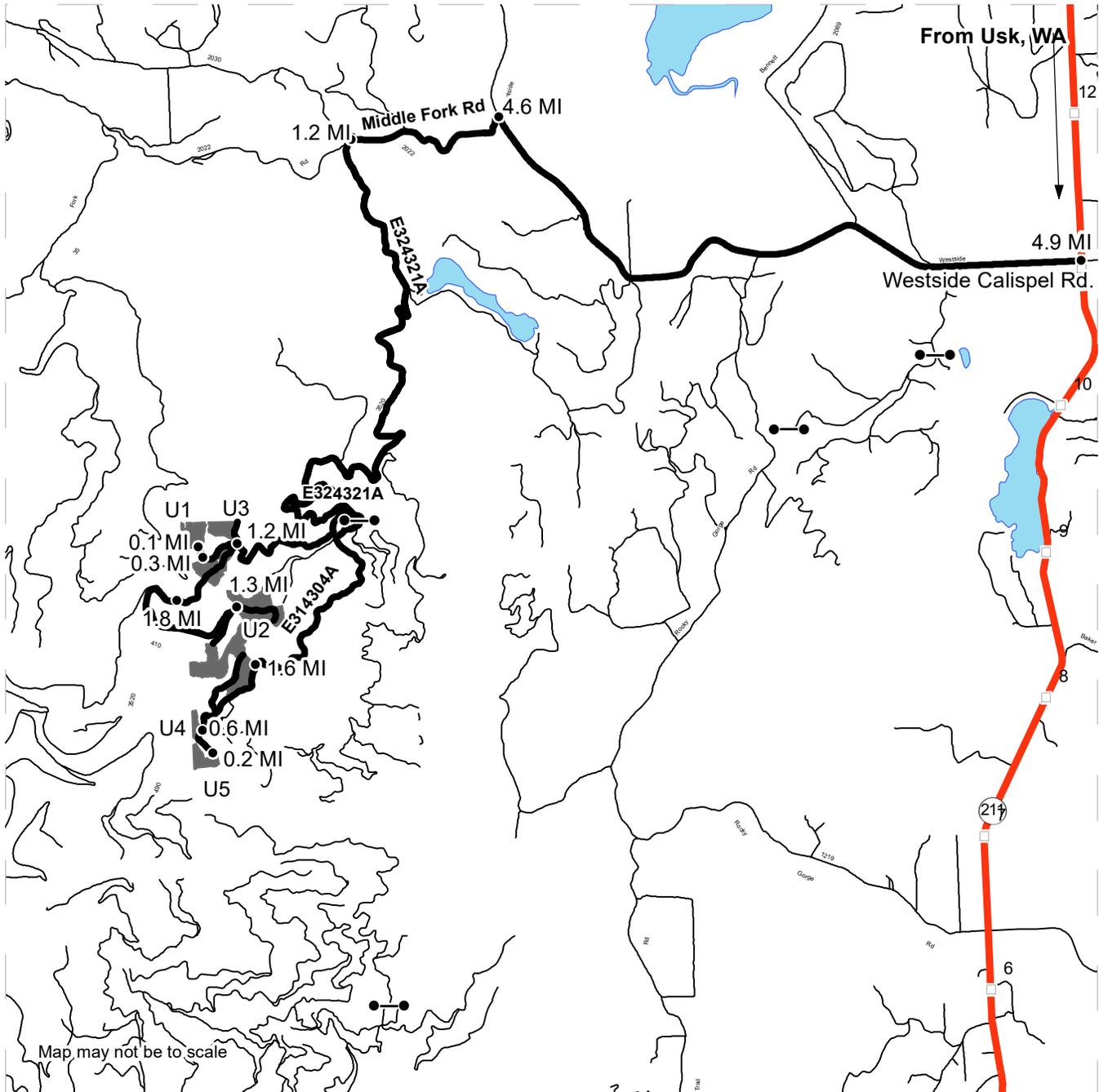
Public Land Survey Townships	Leave Tree Area	Existing Roads
DNR Managed Lands	Required Construction	Required Pre-Haul Maintenance
Variable Retention Harvest	Designated Skid Trail	Streams
Sale Boundary Tags	Survey Monument	
Leave Tree Tags		
Right of Way Tags = 1 acre		



DRIVING MAP

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ELEVATION RGE: 3520-4680



Map may not be to scale

	Timber Sale Unit
	Haul Route
	Milepost Markers

DRIVING DIRECTIONS:

From Usk, WA travel south on Highway 211 for 4.9 miles. Turn right on Westside Calispell Rd and travel west for 4.6 miles. Turn left on Middle Fork Road and travel west for 1.2 miles. Turn left on the E324321A Road and travel south for 5.2 miles to a red DNR gate. From gate to Units 4, 5, and east portion of Unit 2: Travel through the gate on the E314304A Road for 1.6 miles to arrive at Unit 2. Continue on the E314304A Road for 0.6 miles to arrive at Unit 4. Continue on the E314304A Road for 0.2 miles and Unit 5 will be located at the end of the road. From gate to Unit 3 and 1: Travel 1.2 miles west on the E324321A road to arrive at Unit 3. Travel west on the E314305F Road for 0.3 miles and head north for 0.1 miles on the E314305K Road for 0.1 miles to arrive at Unit 1. From gate to west portion of Unit 2: Travel 1.8 miles west on the E324321A Road. Turn left on the E314306A Road and travel west for 1.3 miles to arrive at Unit 2.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-099988

SALE NAME: Q BOYCE

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on June 16, 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 green conifer species except for leave trees banded with blue paint and leave trees bounded by yellow leave tree area tags in Units 1, 2, 3, 4 and 5 bounded with white timber sale boundary tags; and all right of way timber bounded with orange right of way boundary tags, located on approximately 151 acres on part(s) of Sections 5, and 8 all in Township 31 North, Range 43 East W.M. in Pend Oreille County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

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

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to November 15, 2022.

G-040 Contract Term Adjustment - No Payment

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

- a. Road and bridge failures which deny access.
- b. Access road closures imposed by road owner.
- c. Excessive suspensions as provided in clause G-220.
- d. Regulatory actions not arising from Purchaser's failure to comply with this contract which will prevent timber harvest for a period less than 6 months.

G-051 Contract Term Extension - Payment

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

- a. A written request for extension of the contract term must be received prior to the expiration date of the contract.
- b. Completion of all required roads and compliance with all contract and regulatory requirements.
- c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the total contract price.

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

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

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

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

- e. Payment of \$347.00 per acre per annum for the acres on which an operating release has not been issued .
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.
- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.
- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any

threatened or endangered species, or the presence of their habitat, within the sale area.

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

G-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-102 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 shall become a part of this contract and the Scribner log scale volume, as defined by the Northwest Log Rules Eastside, 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-116 Sustainable Forestry Initiative® (SFI) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative program Standard under certificate number: PwC-SFIFM-513.

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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 Colville, 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; E324321A, E314304A, E314305E, E314305F, E314305K, E314306A, E314305L, E314305M and E314305N. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-320 Erosion Control

Purchaser shall deliver 250 pounds of grass seed to a location designated by the Contract Administrator. Seed provided shall meet the following specifications.

18% Durar Hard Fescue, 18% White Dutch Clover or Aslike Clover, 9% Birdsfoot Trefoil, 37% Mountain Brome, 18% Upland Draylar Bluegrass
Seed shall be certified weed free, premixed and delivered to the Deer Park Work Center in 50 pound bags clearly labeled with the timber sale name on each bag.

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 E324321A 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 2413 with USFS dated July 12, 1991

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:

Easement, including the terms and provisions thereof,

For: Road

In Favor of: United States of America

Disclosed by Application No.: 50-052316

Granted: 7/31/1991

Expires: Indefinite

Easement, including the terms and provisions thereof,

For: Road Use Permit

In Favor of: USA, USDA- Forest Service

Disclosed by Application No.: 50-093065

Granted: 10/6/2015

Expires: 9/24/2025

Covenant, including the terms and provisions thereof,

For: Agreement

In Favor of: United States of America

Disclosed by Application No.: 54-094902

Granted: 7/31/1991

Expires: Indefinite

Lease, including the terms and provisions thereof,

For: Land Use License

In Favor of: Washington Department of Fish & Wildlife
Disclosed by Application No.: 60-094981
Granted: 12/29/2016
Expires: 6/30/2022

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 \$145,132.00. The total contract price consists of a \$0.00 contract bid price plus \$145,132.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-001 Operations Outside the Sale Boundaries

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

H-010 Cutting and Yarding Schedule

Felling and Yarding will not be permitted from February 15 to June 1 in Units 1, 2, 3, 4 and 5 unless authorized in writing by the Contract Administrator.

H-011 Certification of Fallers and Yarder Operators

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

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

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

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

H-013 Reserve Tree Damage Definition

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

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

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

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

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

H-016 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

- a. A skid trail will not exceed 12 feet in width, including rub trees.
- b. Skid trails shall not cover more than 10 percent of the total acreage on one unit.
- c. Location of the skid trails must be marked by Purchaser and approved by the Contract Administrator.
- d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.

- f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- g. Purchaser will not have more than two skid trails open to active skidding at any one time. All other skid trails used for skidding timber will be closed.
- h. Once a skid trail is closed, Purchaser will not reopen a skid trail unless approved in writing by the Contract Administrator.
- i. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.
- j. Skid trails shall avoid draws and when parallel to draws, shall not be located within 30 feet of draws.
- k. Skid trails shall not be located within 30 feet of Riparian Management Zones.
- l. Skid trails constructed on slopes over 40 percent slope shall have side-case reclaimed to recontour the foot print of the trail after useage.
- m. If purchaser plans to construct skid trails outside of the harvest units, they will be subject to approval by the Contract Administrator. Purchaser shall notify the Contract Administrator 30 days prior to planned construction.

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 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-050 Rub Trees

Trees designated for cutting along skid trails and cable corridors shall be left standing as rub trees until all timber that is tributary to the skid trail or cable corridor has been removed.

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-110 Stump Height

Trees shall be cut as close to the ground as practicable. Stump height shall not exceed 12 inches in height measured on the uphill side, or 2 inches above the root collar, whichever is higher.

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using ground based equipment D6 equivalent or smaller in Units 1, 3, 4 and 5 and cable or tethered equipment in a 32 acre portion of Unit 2. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-130 Hauling Schedule

The hauling of forest products will not be permitted on all roads from February 15 to June 1 unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Whole tree yarding is required in all units.
- b. A minimum of 70% of slash generated at the landings, 3 inches and less in diameter shall be hauled back and scattered in the units. Purchaser shall provide a written plan to meet this objective approved by the Contract Administrator at the time of operations.
- c. All slash piles must be machine trailed exposing a minimum of six feet of bare mineral soil around the perimeter of each pile. Dozer blades shall not be used for piling slash.

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. Slash shall not be deposited within the Riparian Management Zones.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

H-250 Additional Falling Requirements

Within all units, all non-merchantable live stems of grand fir, western hemlock and lodgepole pine 3 inches and greater in diameter at breast height not banded by blue paint, shall be felled concurrently with felling operations. Areas of young or immature timber may be excluded from this requirement by the Contract Administrator.

H-260 Fall Leaners

Trees in Units 1, 2, 3, 4 and 5 that have been pushed over in falling or skidding operations shall be felled.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 10/22/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on E324321A, E314304A, E314305E, E314305F, E314305K, E314306A, E314305L, E314305M and E314305N roads. 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-130 Dust Abatement

Purchaser shall abate dust on the E324321A road used for hauling from July 15 to September 15.

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-040 Noxious Weed Control

Purchaser shall notify the Contract Administrator in advance of moving equipment onto State lands. Purchaser shall thoroughly clean all off road equipment prior to entry onto State land to remove contaminated soils and noxious weed seed. If equipment is moved from one DNR project area to another, the Contract Administrator reserves the right to require the cleaning of equipment. Equipment shall be cleaned at a location approved by the Contract Administrator.

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 harvesting equipment may operate within Riparian Management Zones and Leave Tree Areas unless authority is granted in writing by the Contract Administrator.

S-120 Stream Protection

No timber shall be felled into, across, or yarded through any stream.

S-130 Hazardous Materials**a. Hazardous Materials and Waste - Regulatory Compliance**

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

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 the units.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Ken McNamee

Print Name

Northeast Region Manager

Date: _____

Date: _____

Address:

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

STATE OF _____)

COUNTY OF _____)

On this _____ day of _____, 20____, before me personally
appeared _____

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

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

Notary Public in and for the State of

My appointment expires _____



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Northeast

Timber Sale Name: Q BOYCE

Application Number: 30- 099988

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 5,136 linear feet
Road to be constructed (optional and required) but not abandoned

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

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

Decommission: 4,255 linear feet
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 59,637 linear feet
Existing road to receive maintenance work (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

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

0 linear feet
Temporary Reconstruction:
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)

Cruise Narrative

Sale Name: Boyce	Region: Northeast
Agreement Number: 30-0	District: Arcadia
Lead Cruiser: Jim Putnam	Completion Date: 7/15/2019
Other Cruisers on sale: Dylan Worlock, Chad Godley, Zach St. Amand.	Legal: Sections 5 & 8, T 31 N, R 43 E WM.

Unit Acreage Specifications:							
Unit #	Gross Acres	Net Acres	Total Deletions	Existing Roads	Leave Tree Acres	Power Line	Other
1	14.50	14.50	0.00				
2	92.30	89.60	2.70		2.70		
3	33.10	32.40	0.70	0.70			
4	4.10	4.10	0.00				
5	9.20	9.20	0.00				
ROW6	0.10	0.10	0.00				
ROW7	0.90	0.90	0.00				
Total	154.20	150.80	3.40	0.70	2.70	0.00	0.00

Cruise Sample Design:

This timber sale was cruised using the **variable plot** sampling method. The double basal area system was employed; a small BAF to determine Basal Area (count trees) and a large BAF to determine the Volume-Basal Area Ratio (cruise trees). Each plot was a full plot. Plot locations were created using a computer generated grid, and found using a hand held GPS unit.

Unit #	Small BAF (count)	Large BAF (cruise)	Sighting height	Grid size (plot spacing in feet)	% Cruise to count Target	% Cruise to count Actual	Total number of Plots
1	46.95	100.28	D4H	208' x 208'	47%	53%	14
2	46.95	184.29	D4H	220' x 220'	25%	28%	82
3	46.95	184.29	D4H	220' x 220'	25%	25%	27
4	40	40	D4H	175' x 175'	100%	100%	5
5	40	40	D4H	208' x 208'	100%	100%	9
ROW6	Cruise All	Cruise All	D4H	n/a	100%	100%	1
ROW7	33.61	33.61	D4H	150'	100%	100%	4
Total						41%	142

Cruise Specifications:

Minor species cruise intensity:	We grade the first tree of all minor species encountered with the smaller BAF; then followed through with the small BAF to large BAF ratio.
Minimum top dib:	<p>Ponderosa pine and western redcedar: Trees less than 17.5" DBH have a minimum top of 5.6" dib. Trees 17.6" and greater DBH have a minimum top dib of 40% of DOB at 16' or a 6" top whichever is greater.</p> <p>All other species: Trees less than 17.5" DBH have a minimum top of 4.6" dib. Trees 17.6" and greater DBH have a minimum top dib of 40% of DOB at 16' or a 6" top whichever is greater.</p>
Minimum dbh:	Ponderosa pine and western redcedar: 8.0 inches DBH All other species: 7.0 inches DBH
Log lengths:	Saw logs: 32 feet where possible, minimum of 12 feet
Take / Leave tree description:	Harvest all green conifers that meet the minimum cruise specifications and are not banded with blue paint.
Commercial species observed in sale area, but not in cruise:	
Status codes used:	L – leave tree
Sort codes used	D – saw log
Species table used:	NE
Grade table used:	NEGRADE
Other tables used (cruise adjustment):	

Field Observations:

Location:	Southwestern Pend Orielle County, 15 miles east-southeast of Chewelah, Washington.
Aspect:	North, East, South and West
Elevation:	3500' to 4700'
Slope:	Unit 1 – 0% to 35%, Average 15% Unit 2 – 0% to 55%, Average 20% Unit 3 – 0% to 55%, Average 20% Unit 4 – 0% to 55%, Average 30% Unit 5 – 0% to 35%, Average 15%
Harvest Methods:	75% Ground based, 25% uphill cable
Stand Composition:	The stands are second growth grand fir, Douglas-fir, western redcedar and western larch with larger residual trees. There is a minor component of western hemlock, lodgepole pine, engelmann spruce white pine, ponderosa pine, and subalpine fir.
Stand Health:	This sale has significant amounts of root rot, especially in the grand fir, and there is quite a bit of down timber.
Timber Quality:	The timber is a mix of domestic quality grand fir (38%), Douglas-fir (24%), western redcedar (15%), western larch (13%). Smaller amounts of western hemlock (5%), lodgepole pine (4%), Engelmann spruce (<1%), white pine (<1%), ponderosa pine (<1%), and subalpine fir (<1%).
Non-board Foot Volume:	n/a
Other Considerations:	

Trust and Counties:

Entire sale is in Pend Orielle County and within Trust 03.

Prepared by: Jim Putnam

Title: Forest Check Cruiser 1

CC: Timber Sales Document Center & File #30-09

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T31N R43E S05 Ty00U1 THRU T31N R43E S08 TyROW6				Project: BOYCE				Page 1													
				Acres 150.80				Date 7/15/2019				Time 10:52:13AM									
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
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
LP	D	3		88	3.5	1,517	1,464	221		94	6			100	32	8	101	0.67	14.5		
LP	D	4		12		189	189	29	92	8			34	66	21	5	26	0.26	7.4		
LP Totals				4	3.1	1,707	1,653	249	11	84	6		4	96	28	7	75	0.57	21.9		
RC	D	3		85	10.0	5,323	4,791	723		66	18	15		5	95	32	9	114	1.00	42.1	
RC	D	4		15	2.4	835	815	123		100			54	38	8	19	6	24	0.35	33.7	
RC Totals				15	9.0	6,158	5,607	846		71	16	13		8	9	83	26	8	74	0.79	75.9
WH	D	2		46	4.0	822	789	119			77	23		100	32	14	284	1.83	2.8		
WH	D	3		47	3.5	824	795	120		100				100	32	8	93	0.69	8.6		
WH	D	4		7		117	117	18	99	1			9	56	35	25	5	31	0.27	3.8	
WH Totals				5	3.5	1,763	1,702	257	7	47	36	11		1	4	95	30	8	112	0.82	15.2
GF	D	2		61	4.5	8,927	8,525	1,286			66	34		100	32	15	312	1.79	27.3		
GF	D	3		32	4.1	4,760	4,565	688		100	0		0	11	89	31	9	103	0.69	44.1	
GF	D	4		7	1.7	861	846	128	69	31			38	34	28	23	6	29	0.31	29.0	
GF Totals				38	4.2	14,549	13,936	2,102	4	34	41	21		2	6	92	29	9	139	0.94	100.4
DF	D	2		68	2.9	6,327	6,143	926			72	28		100	32	15	301	1.83	20.4		
DF	D	3		25	1.1	2,293	2,268	342		100				15	85	31	9	109	0.73	20.7	
DF	D	4		7	4.4	565	540	81	52	48			29	47	23	24	6	28	0.36	19.0	
DF Totals				24	2.5	9,185	8,952	1,350	3	28	50	19		2	7	92	29	10	149	1.05	60.2
WL	D	2		39	3.9	2,033	1,954	295			100			100	32	13	220	1.50	8.9		
WL	D	3		49	5.5	2,516	2,376	358		100				4	96	32	8	87	0.59	27.3	
WL	D	4		12		582	582	88	92	8			22	19	59	25	5	32	0.26	18.4	
WL Totals				13	4.3	5,130	4,912	741	11	49	40			3	4	93	30	8	90	0.65	54.6
ES	D	2		41	6.3	54	51	8			100			100	32	15	300	1.60	.2		
ES	D	3		40		49	49	7		100				100	32	9	124	0.85	.4		
ES	D	4		19		23	23	3	63	37			12	37	50	26	6	42	0.32	.5	
ES Totals				0	2.7	126	123	19	12	47	41			2	7	91	29	8	111	0.74	1.1
WP	D	3		100	6.7	76	71	11		16	84			100	32	11	187	1.24	.4		
WP Totals				0	6.7	76	71	11		16	84				100	32	11	187	1.24	.4	
PP	D	4		59		31	31	5			100			100	32	14	265	2.32	.1		
PP	D	5		41		21	21	3		100			10	16	75	26	7	64	0.55	.3	
PP Totals				0	.0	52	52	8		41	59			4	6	90	27	9	116	1.09	.4
AF	D	4		100		6	6	1	100					100	19	5	20	0.26	.3		
AF Totals				0		6	6	1	100					100	19	5	20	0.26	.3		
Totals					4.5	38,752	37,014	5,582	5	43	37	15		3	6	91	28	9	112	0.85	330.3

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT BOYCE							DATE	7/15/2019	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	00U1	THR	150.80	142	743	S	E	
31N	43E	08	BOYCE	ROW6							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			142	743	5.2						
CRUISE			111	286	2.6	25,976	1.1				
DBH COUNT											
REFOREST											
COUNT			28	118	4.2						
BLANKS			3								
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	
GR FIR	110	44.8	16.9	82	16.9	69.6	14,549	13,936	2,721	2,721	
WR CEDAR	54	55.4	13.7	49	15.3	56.4	6,158	5,607	1,547	1,546	
DOUG FIR	53	27.8	17.9	78	11.5	48.8	9,185	8,952	1,828	1,828	
W LARCH	31	24.8	14.9	89	7.8	30.0	5,130	4,912	1,057	1,057	
WHEMLOCK	18	8.6	15.5	76	2.9	11.2	1,763	1,702	377	377	
LP PINE	11	9.8	13.3	91	2.6	9.5	1,707	1,653	352	352	
P PINE	3	.2	19.1	60	0.1	.4	52	52	13	13	
E SPRUCE	3	.5	14.4	70	0.2	.6	126	123	24	24	
ALP FIR	2	.3	7.7	42	0.0	.1	6	6	2	2	
W PINE	1	.1	21.6	103	0.1	.3	76	71	15	15	
TOTAL	286	172.3	15.5	72	57.6	227.0	38,752	37,014	7,936	7,935	
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	10	15		
GR FIR		73.6	7.2	429	463	496					
WR CEDAR		111.4	15.1	230	271	312					
DOUG FIR		76.4	10.5	385	430	475					
W LARCH		66.1	11.9	256	290	325					
WHEMLOCK		109.2	26.5	306	416	526					
LP PINE		38.3	12.8	170	195	220					
P PINE		88.9	61.5	91	237	382					
E SPRUCE		115.2	79.7	46	227	407					
ALP FIR				20	20	20					
W PINE											
TOTAL		86.2	5.2	360	380	399	297	74	33		
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR		62.9	6.2	84	89	95					
WR CEDAR		101.4	13.8	65	75	85					
DOUG FIR		62.7	8.6	78	85	93					
W LARCH		62.2	11.2	53	60	66					
WHEMLOCK		91.5	22.2	61	79	96					
LP PINE		45.2	15.0	37	43	50					
P PINE		91.0	62.9	22	58	95					
E SPRUCE		101.3	70.1	13	44	74					
ALP FIR		19.7	18.4	4	5	6					
W PINE											
TOTAL		75.3	4.5	75	79	82	226	57	25		
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

PROJECT STATISTICS
PROJECT **BOYCE**

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	00U1	THR	150.80	142	743	S	E	
31N	43E	08	BOYCE	ROW6							
			GR FIR	139.3	11.7	40	45	50			
			WR CEDAR	124.7	10.5	50	55	61			
			DOUG FIR	134.5	11.3	25	28	31			
			W LARCH	167.2	14.0	21	25	28			
			WHEMLOCK	258.0	21.6	7	9	10			
			LP PINE	351.1	29.4	7	10	13			
			P PINE	815.1	68.3	0	0	0			
			E SPRUCE	697.7	58.5	0	1	1			
			ALP FIR	1191.6	99.9	0	0	1			
			W PINE	1191.6	99.9	0	0	0			
			TOTAL	16.5	1.4	170	172	175	11	3	1
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
			GR FIR	106.2	8.9	63	70	76			
			WR CEDAR	112.8	9.5	51	56	62			
			DOUG FIR	124.3	10.4	44	49	54			
			W LARCH	147.2	12.3	26	30	34			
			WHEMLOCK	243.5	20.4	9	11	14			
			LP PINE	333.7	28.0	7	9	12			
			P PINE	1027.4	86.1	0	0	1			
			E SPRUCE	794.2	66.6	0	1	1			
			ALP FIR	1191.6	99.9	0	0	0			
			W PINE	1191.6	99.9	0	0	1			
			TOTAL			227	227	227			
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
			GR FIR	101.0	8.5	12,757	13,936	15,116			
			WR CEDAR	112.9	9.5	5,076	5,607	6,138			
			DOUG FIR	125.1	10.5	8,013	8,952	9,890			
			W LARCH	145.5	12.2	4,312	4,912	5,511			
			WHEMLOCK	279.1	23.4	1,304	1,702	2,101			
			LP PINE	336.0	28.2	1,188	1,653	2,119			
			P PINE	1107.0	92.8	4	52	100			
			E SPRUCE	906.5	76.0	29	123	216			
			ALP FIR	1191.6	99.9	0	6	13			
			W PINE	1191.6	99.9	0	71	142			
			TOTAL			37,014	37,014	37,014			
CL	68.1	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
			GR FIR	102.9	8.6	2,487	2,721	2,956			
			WR CEDAR	113.1	9.5	1,399	1,546	1,692			
			DOUG FIR	124.2	10.4	1,637	1,828	2,018			
			W LARCH	145.9	12.2	928	1,057	1,186			
			WHEMLOCK	259.5	21.8	295	377	460			
			LP PINE	335.7	28.1	253	352	451			
			P PINE	1102.9	92.5	1	13	25			
			E SPRUCE	860.5	72.1	7	24	41			
			ALP FIR	1191.6	99.9	0	2	3			
			W PINE	1191.6	99.9	0	15	30			
			TOTAL			7,935	7,935	7,935			
CL	68.1	COEFF	V BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
			GR FIR			183	200	217			
			WR CEDAR			90	99	109			
			DOUG FIR			164	184	203			
			W LARCH	31.4	2.6	144	164	184			
			WHEMLOCK	231.6	19.4	116	151	187			
			LP PINE	111.8	9.4	126	175	224			

TC PSTATS		PROJECT STATISTICS						PAGE	3	
		PROJECT		BOYCE				DATE	7/15/2019	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
31N	43E	05	BOYCE	00U1	THR	150.80	142	743	S	E
31N	43E	08	BOYCE	ROW6						
CL	68.1		COEFF	V BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
P PINE			817.6	68.5	9	119	229			
E SPRUCE			878.6	73.7	48	202	356			
ALP FIR			1191.6	99.9	0	62	125			
W PINE			1191.6	99.9	0	220	440			
TOTAL					<i>163</i>	<i>163</i>	<i>163</i>			

Species, Sort Grade - Board Foot Volumes (Type)										Page	1										
T	TSPCSTGR									Date	7/15/2019										
Project: BOYCE										Time	10:52:13AM										
T31N R43E S05 T00U1										T31N R43E S05 T00U1											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
31N	43E	05	BOYCE	00U1	14.50	14	42	S	E												
Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
									Net BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length			
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	D	2		63	.8	8,728	8,655	125			51	49			100		32	16	363	1.91	23.8
DF	D	3		32	1.2	4,359	4,306	62		100				4	96		32	9	125	0.78	34.6
DF	D	4		5		601	601	9	86	14			30	23	48		25	5	33	0.33	18.0
DF	Totals			29	.9	13,689	13,562	197	4	32	32	31	1	2	96		30	10	177	1.06	76.4
RC	D	3		95	8.9	7,035	6,411	93		55	31	15		100		32	8	105	0.75	61.3	
RC	D	4		5		312	312	5		100			54	46			21	7	32	0.41	9.8
RC	Totals			14	8.5	7,347	6,723	97		57	29	14	3	2	95		30	8	95	0.71	71.1
GF	D	2		79	2.5	7,379	7,198	104			31	69		100		32	16	409	2.15	17.6	
GF	D	3		21	10.4	2,059	1,845	27		100			5	11	84		30	8	82	0.71	22.4
GF	Totals			19	4.2	9,438	9,043	131		20	24	55	1	2	97		31	12	226	1.37	40.0
WL	D	2		37	1.3	2,665	2,631	38			100			100		32	13	236	1.40	11.2	
WL	D	3		50		3,545	3,545	51		100				2	98		32	8	81	0.53	43.5
WL	D	4		13		855	855	12	69	31			27	9	64		26	5	34	0.24	25.0
WL	Totals			15	.5	7,065	7,031	102	8	54	37		3	2	94		30	8	88	0.58	79.7
WH	D	2		25	4.7	1,672	1,592	23			100			100		32	13	205	1.26	7.8	
WH	D	3		58		3,563	3,563	52		100				100		32	8	102	0.63	34.8	
WH	D	4		17		1,030	1,030	15	100				9	50	41		26	5	34	0.25	30.2
WH	Totals			13	1.3	6,265	6,186	90	17	58	26		1	8	90		29	7	85	0.56	72.7
LP	D	3		92		2,972	2,972	43		100				100		32	10	130	0.86	22.9	
LP	D	4		8		229	229	3	100				100				18	5	20	0.24	11.4
LP	Totals			7		3,201	3,201	46	7	93			7		93		27	8	93	0.72	34.3
WP	D	3		100	6.7	791	738	11		16	84			100		32	11	187	1.24	4.0	
WP	Totals			2	6.7	791	738	11		16	84			100		32	11	187	1.24	4.0	
Type Totals					2.7	47,795	46,483	674	5	44	29	22	2	3	95		30	9	123	0.81	378.1

Species, Sort Grade - Board Foot Volumes (Type)											Page	1								
T	TSPCSTGR										Date	7/15/2019								
Project: BOYCE											Time	10:52:13AM								
T31N R43E S05 T00U2											T31N R43E S05 T00U2									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt											
31N	43E	05	BOYCE	00U2	89.60	82	138	S	E											
Spp	So	Gr	% 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
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
GF	D	2	65	4.1	10,826	10,378	930			64	36			100		32	15	326	1.86	31.8
GF	D	3	29	3.7	4,844	4,666	418		100				12	88		31	9	107	0.70	43.6
GF	D	4	6	.9	886	878	79	62	38			43	24	33		22	6	30	0.32	29.3
GF	Totals		42	3.8	16,556	15,922	1,427	3	31	42	23	2	5	93		29	10	152	1.01	104.7
DF	D	2	71	2.9	8,045	7,808	700			75	25			100		32	14	294	1.82	26.5
DF	D	3	22	.4	2,364	2,354	211		100				21	79		30	9	109	0.73	21.6
DF	D	4	7	4.8	794	756	68	47	53			27	53	20		24	6	28	0.37	26.9
DF	Totals		29	2.5	11,203	10,918	978	3	25	53	18	2	8	90		29	10	146	1.05	75.0
RC	D	3	82	11.9	4,990	4,395	394		60	21	18		6	94		31	10	130	1.19	33.8
RC	D	4	18	3.2	991	960	86		100			40	48	12		21	6	28	0.36	33.9
RC	Totals		14	10.5	5,981	5,355	480		67	18	15	7	13	80		26	8	79	0.86	67.8
WL	D	2	43	2.9	2,012	1,952	175			100				100		32	13	232	1.53	8.4
WL	D	3	51	2.9	2,318	2,252	202		100				3	97		32	9	98	0.63	22.9
WL	D	4	6		260	260	23	87	13			33		67		23	5	30	0.25	8.6
WL	Totals		12	2.7	4,590	4,464	400	5	51	44		2	1	97		30	9	112	0.77	40.0
WH	D	2	49		358	358	32			100				100		32	14	270	2.11	1.3
WH	D	3	51	3.5	375	361	32		100					100		32	8	90	0.82	4.0
WH	Totals		2	1.8	733	719	64		50	50				100		32	9	135	1.14	5.3
LP	D	3	100		290	290	26		100					100		32	9	115	0.73	2.5
LP	Totals		1		290	290	26		100					100		32	9	115	0.73	2.5
ES	D	2	57	6.3	91	85	8			100				100		32	15	300	1.60	.3
ES	D	3	33		48	48	4		100					100		32	11	170	0.94	.3
ES	D	4	10		14	14	1		100				100		24	7	50	0.46	.3	
ES	Totals		0	3.7	154	148	13		42	58			10	90		29	11	173	1.05	.9
Type Totals				4.3	39,506	37,817	3,388	3	38	42	17	3	6	91		28	9	128	0.95	296.1

Species, Sort Grade - Board Foot Volumes (Type)											Page 1												
T TSPCSTGR											Date 7/15/2019												
Project: BOYCE											Time 10:52:13AM												
T31N R43E S05 T00U3											T31N R43E S05 T00U3												
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt											BdFt												
31N 43E 05 BOYCE 00U3 32.40 27 39 S											E												
Spp	S	So	Gr	% 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		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft					
RC	D		3	86	3.6	5,472	5,277	171	100				5	95	32	8	82	0.73	64.4				
RC	D		4	14		818	818	26	100				100				14	6	16	0.30	52.4		
RC	Totals			20	3.1	6,290	6,094	197	100				13	5	82	24	7	52	0.61	116.8			
WL	D		2	34	7.0	2,707	2,517	82	100				100				32	13	194	1.49	13.0		
WL	D		3	45	12.6	3,712	3,246	105	100				6	94	32	8	73	0.55	44.3				
WL	D		4	21		1,459	1,459	47	100					17	33	49	26	5	31	0.26	46.8		
WL	Totals			24	8.3	7,878	7,221	234	20	45	35	4	10	87	29	7	69	0.56	104.2				
GF	D		2	39	3.4	2,512	2,427	79	100				100				32	13	232	1.30	10.4		
GF	D		3	53	1.3	3,302	3,260	106	100				13	87	31	9	104	0.68	31.3				
GF	D		4	8	.0	468	468	15	100					100				26	5	30	0.30	15.6	
GF	Totals			20	2.0	6,282	6,155	199	8	53	39	15				85	30	8	107	0.71	57.4		
LP	D		3	86	5.0	4,911	4,664	151	91	9					100				32	8	93	0.63	50.0
LP	D		4	14		757	757	25	94	6					27	73	21	5	26	0.26	28.9		
LP	Totals			18	4.4	5,668	5,420	176	13	79	8	4	96				28	7	69	0.53	78.9		
DF	D		2	68	3.3	2,826	2,732	89	80				20	100				32	14	299	1.78	9.1	
DF	D		3	30		1,234	1,234	40	100				6				94	31	8	106	0.77	11.7	
DF	D		4	2		45	45	1	100				100				16	6	20	0.32	2.3		
DF	Totals			13	2.3	4,105	4,012	130	32	54	14	1	2	97	30	11	174	1.17	23.1				
WH	D		2	48	15.6	567	479	16	100				100				32	15	270	1.93	1.8		
WH	D		3	52	12.5	583	509	17	100				100				32	7	70	0.64	7.3		
WH	Totals			3	14.1	1,150	988	32	52	48	100				32	9	109	0.89	9.1				
PP	D		4	61		138	138	4	100				100				32	14	270	2.38	.5		
PP	D		5	39		87	87	3	100				18	82	29	8	85	0.61	1.0				
PP	Totals			1		224	224	7	39	61	7				93	30	10	147	1.24	1.5			
Type Totals					4.7	31,596	30,115	976	9	62	27	2	4	7	89	28	8	77	0.64	390.9			

T31N R43E S08 T00U4		T31N R43E S08 T00U4
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt		BdFt
31N 43E 08 BOYCE 00U4 4.10 5 29 S		E

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft		CF/ Lf
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
GF	D	2		57	8.9	12,914	11,770	48		75	25		100	32	14	265	1.61	44.4			
GF	D	3		36	1.3	7,629	7,529	31		100			5	95	32	8	100	0.66	75.2		
GF	D	4		7		1,244	1,244	5	67	33			29	38	33	21	6	28	0.32	44.2	
GF	Totals			61	5.7	21,788	20,544	84	4	39	43	15	2	4	94	29	9	125	0.88	163.8	
DF	D	2		30	15.7	3,710	3,129	13		100				100	32	13	214	1.67	14.6		
DF	D	3		61	7.4	6,826	6,324	26		100			6	94	32	8	97	0.64	65.5		
DF	D	4		9	8.2	918	843	3	79	21			35	29	35	25	5	29	0.32	28.9	
DF	Totals			30	10.1	11,455	10,297	42	6	63	30		3	6	91	30	8	94	0.72	109.0	
RC	D	3		100	44.4	2,248	1,249	5		32	68			100	32	14	185	2.51	6.7		
RC	Totals			4	44.4	2,248	1,249	5		32	68			100	32	14	185	2.51	6.7		
ES	D	3		64		758	758	3		100				100	32	8	90	0.79	8.4		
ES	D	4		36		421	421	2	100					100	32	5	50	0.24	8.4		
ES	Totals			3		1,179	1,179	5	36	64				100	32	7	70	0.52	16.8		
WH	D	3		100	14.3	679	582	2		100				100	32	7	60	0.53	9.7		
WH	Totals			2	14.3	679	582	2		100				100	32	7	60	0.53	9.7		
Type Totals					9.4	37,347	33,849	139	6	48	35	11	2	4	94	30	9	111	0.83	306.1	

T31N R43E S08 TROW6										T31N R43E S08 TROW6			
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt				
31N	43E	08	BOYCE	ROW6	.10	1	3	S	E				

Spp	Sp	T	So	Gr	ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
											Log Scale Dia.				Log Length				Ln	Dia	Bd		CF/
											4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft		Lf
PP			D		4	76	1,900	1,900	0	100								32	12	190	1.28	10.0	
PP			D		5	24	600	600	0	100								32	6	60	0.49	10.0	
PP	Totals					74	2,500	2,500	0	24	76							32	9	125	0.88	20.0	
DF			D		4	100	500	500	0	100								32	5	50	0.29	10.0	
DF	Totals					15	500	500	0	100								32	5	50	0.29	10.0	
WL			D		4	100	400	400	0	100								32	5	40	0.29	10.0	
WL	Totals					12	400	400	0	100								32	5	40	0.29	10.0	
Type Totals							3,400	3,400	0	26	18	56						32	7	85	0.59	40.0	

T31N R43E S05 TROW7	T31N R43E S05 TROW7
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt	BdFt
31N 43E 05 BOYCE ROW7 .90 4 15 S	E

S Sp	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 Ft	Dia In	Bd Ft		CF/ Lf
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	D	3	97	3,046	Gross	3,046	3	100				21	79	32	6	58	0.70	52.5		
DF	D	4	3	69	Net	69	0	100				100		14	5	10	0.24	6.9		
DF	Totals		40	3,115		3,115	3	2	98			2	20	77	29	6	52	0.67	59.5	
RC	D	4	100	29.6	672	473	0	100				100		16	6	14	0.37	33.6		
RC	Totals		6	29.6	672	473	0	100				100		16	6	14	0.37	33.6		
AF	D	4	100	1,048	1,048		1	100				100		19	5	20	0.26	52.4		
AF	Totals		13	1,048	1,048		1	100				100		19	5	20	0.26	52.4		
LP	D	3	43	637	637		1	100				100		32	6	50	0.49	12.7		
LP	D	4	57	819	819		1	100				100		32	6	50	0.37	16.4		
LP	Totals		19	1,455	1,455		1	100				100		32	6	50	0.42	29.1		
PP	D	5	100	349	349		0	100				100		18	6	20	0.33	17.4		
PP	Totals		4	349	349		0	100				100		18	6	20	0.33	17.4		
ES	D	4	100	470	470		0	100				100		20	5	20	0.29	23.5		
ES	Totals		6	470	470		0	100				100		20	5	20	0.29	23.5		
GF	D	3	87	788	788		1	100				100		32	7	70	0.59	11.3		
GF	D	4	13	113	113		0	100				100		14	5	10	0.20	11.3		
GF	Totals		12	900	900		1	13	87			13	87	23	6	40	0.47	22.5		
Type Totals				2.5	8,009	7,810	7	22	78			32	8	60	23	6	33	0.46	238.0	

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

T31N R43E S05 Ty00U1	14.5
T31N R43E S05 Ty00U2	89.6
T31N R43E S08 TyROW	.1

Project BOYCE
Acres 150.80

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Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
				Tree	Log		Gross	Net	Gross	Net
GR FIR	6,750	15,142	11,758	60.80	27.10	0.94	4,104	4,104	2,194	2,102
DOUG FIR	4,188	9,072	7,855	65.81	30.38	1.07	2,756	2,756	1,385	1,350
WR CEDAR	8,350	11,439	5,483	27.91	20.38	0.79	2,333	2,331	929	846
W LARCH	3,743	8,229	3,826	42.59	19.37	0.64	1,594	1,594	774	741
WHEMLOCK	1,290	2,288	1,821	44.11	24.88	0.83	569	569	266	257
LP PINE	1,475	3,305	1,273	35.97	16.05	0.57	531	530	257	249
E SPRUCE	81	167	94	44.60	21.71	0.75	36	36	19	19
W PINE	19	57	55	118.94	39.65	1.24	23	23	11	11
P PINE	33	67	48	60.05	29.65	1.09	20	20	8	8
ALP FIR	47	47	6	5.00	5.00	0.26	2	2	1	1
Totals	25,976	49,815	32,218	46.06	24.02	0.85	11,968	11,966	5,844	5,582

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
				Tree	Log		Gross	Net	Gross	Net
C	25,976	49,815	32,218	46.06	24.02	0.85	11,968	11,966	5,844	5,582
Totals	25,976	49,815	32,218	46.06	24.02	0.85	11,968	11,966	5,844	5,582

Log Stock Table - MBF

T31N R43E S05 Ty00U1
THRU
T31N R43E S08 TyROW6

Project: BOYCE
Acres 150.80

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Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches										
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39
GF		D	3	30	33		33	1.6			19	14							
GF		D	3	32	642	4.6	613	29.2			82	198	330		3				
GF		D	4	12	2		2	.1		0	2								
GF		D	4	13	0		0	.0		0									
GF		D	4	14	3		3	.1		3									
GF		D	4	16	7		7	.3		4	1	1							
GF		D	4	18	13		13	.6		4	3	6							
GF		D	4	20	24	2.0	24	1.1		10	10	2	2						
GF		D	4	23	1		1	.1		1									
GF		D	4	24	14	4.9	13	.6		7	6								
GF		D	4	26	25		25	1.2		23	3								
GF		D	4	28	3		3	.1		3									
GF		D	4	30	1	25.0	1	.0		1									
GF		D	4	32	36	2.2	36	1.7		32	3								
GF		Totals			2,194	4.2	2,102	37.7		88	158	232	334	302	351	490	128	18	
DF		D	2	32	954	2.9	926	68.6					241	267	376	43			
DF		D	3	24	16		16	1.2			7	9							
DF		D	3	26	4		4	.3			4								
DF		D	3	28	8		8	.6			8								
DF		D	3	30	22		22	1.6			7	15							
DF		D	3	32	295	1.3	292	21.6			27	78	186						
DF		D	4	12	4		4	.3			3	0							
DF		D	4	14	0		0	.0		0									
DF		D	4	16	7		7	.5		4	3								
DF		D	4	18	1		1	.1			0	0							
DF		D	4	20	12		12	.9		2	8	2							
DF		D	4	24	12		12	.9		12									
DF		D	4	28	1		1	.1		1									
DF		D	4	30	26		26	1.9		18	7								
DF		D	4	32	23	16.3	19	1.4		5	14								
DF		Totals			1,385	2.5	1,350	24.2		42	90	105	186	241	267	376	43		
WL		D	2	32	307	3.9	295	39.8					123	172					
WL		D	3	24	1		1	.2			1								
WL		D	3	30	13		13	1.7			13								
WL		D	3	32	366	5.8	345	46.5			82	126	137						

Log Stock Table - MBF

T31N R43E S05 Ty00U1
THRU
T31N R43E S08 TyROW6

Project: BOYCE
Acres 150.80

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Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
WL		D	4	12	2		2	.2			2									
WL		D	4	16	2		2	.3		2										
WL		D	4	18	8		8	1.1		8										
WL		D	4	20	7		7	.9		5	1									
WL		D	4	24	1		1	.1		1										
WL		D	4	26	11		11	1.4		11										
WL		D	4	28	5		5	.7		5										
WL		D	4	32	52		52	7.0		48	4									
WL		Totals			774	4.3	741	13.3		81	102	126	137	123	172					
ES		D	2	32	8	6.3	8	41.3						8						
ES		D	3	32	7		7	40.2			3	4								
ES		D	4	20	0		0	2.3		0										
ES		D	4	24	1		1	6.9		1										
ES		D	4	32	2		2	9.3		2										
ES		Totals			19	2.7	19	.3		2	1	3	4		8					
WP		D	3	32	11	6.7	11	100.0			2		3	6						
WP		Totals			11	6.7	11	.2			2		3	6						
PP		D	4	32	5		5	59.4					0	4						
PP		D	5	18	0		0	4.0		0										
PP		D	5	26	0		0	6.3		0										
PP		D	5	32	2		2	30.3		0		2								
PP		Totals			8		8	.1			1		2	0	4					
AF		D	4	18	1		1	55.2		1										
AF		D	4	20	0		0	44.8		0										
AF		Totals			1		1	.0		1										
Total		All Species			5,844	4.5	5,582	100.0		258	698	802	917	798	915	927	198	68		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT		BOYCE		DATE	7/15/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	00U1	14.50	14	75	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		14	75	5.4						
CRUISE		14	37	2.6	2,507		1.5			
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	9	26.8	19.7	97	12.8	57.0	13,689	13,562	2,457	2,457
WR CEDAR	8	53.5	13.6	59	14.6	53.7	7,347	6,723	1,546	1,546
GR FIR	4	15.2	21.1	102	8.0	36.9	9,438	9,043	1,690	1,690
W LARCH	9	34.4	14.0	99	9.9	36.9	7,065	7,031	1,388	1,388
WHEMLOCK	5	30.2	13.5	96	8.2	30.2	6,265	6,186	1,208	1,208
LP PINE	1	11.4	16.4	106	4.1	16.8	3,201	3,201	678	678
W PINE	1	1.3	21.6	103	0.7	3.4	791	738	157	157
TOTAL	37	172.9	15.8	87	59.1	234.8	47,795	46,483	9,125	9,125
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	10	15		
DOUG FIR	68.6	24.2	520	686	852					
WR CEDAR	98.1	37.0	162	256	351					
GR FIR	83.3	47.6	481	918	1,354					
W LARCH	68.4	24.1	228	300	372					
WHEMLOCK	44.9	22.3	188	242	296					
LP PINE										
W PINE										
TOTAL	94.4	15.5	380	450	519	356	89	40		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	58.6	20.7	94	119	144					
WR CEDAR	100.7	38.0	40	65	90					
GR FIR	77.0	44.0	91	163	234					
W LARCH	64.4	22.7	45	58	71					
WHEMLOCK	47.4	23.5	37	48	59					
LP PINE										
W PINE										
TOTAL	82.7	13.6	74	86	98	273	68	30		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	50.3	13.9	23	27	31					
WR CEDAR	67.3	18.6	44	53	63					
GR FIR	119.9	33.2	10	15	20					
W LARCH	150.7	41.8	20	34	49					
WHEMLOCK	154.8	42.9	17	30	43					
LP PINE	235.7	65.3	4	11	19					
W PINE	374.2	103.6		1	3					
TOTAL			173	173	173					

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT BOYCE			DATE	7/15/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	00U1	14.50	14	75	S	E	
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E. %	LOW	AVG	HIGH	5	10	15	
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15	
DOUG FIR		57.6	16.0	48	57	66				
WR CEDAR		46.8	13.0	47	54	61				
GR FIR		113.6	31.5	25	37	48				
W LARCH		133.8	37.1	23	37	51				
WHEMLOCK		156.8	43.4	17	30	43				
LP PINE		235.7	65.3	6	17	28				
W PINE		374.2	103.6		3	7				
TOTAL				235	235	235				
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15	
DOUG FIR		70.8	19.6	10,902	13,562	16,221				
WR CEDAR		46.8	13.0	5,851	6,723	7,596				
GR FIR		115.5	32.0	6,150	9,043	11,936				
W LARCH		128.7	35.7	4,524	7,031	9,537				
WHEMLOCK		155.7	43.1	3,518	6,186	8,853				
LP PINE		235.7	65.3	1,111	3,201	5,290				
W PINE		374.2	103.6		738	1,503				
TOTAL				46,483	46,483	46,483				
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15	
DOUG FIR		64.1	17.8	2,021	2,457	2,893				
WR CEDAR		45.6	12.6	1,351	1,546	1,742				
GR FIR		114.0	31.6	1,156	1,690	2,224				
W LARCH		128.8	35.7	893	1,388	1,884				
WHEMLOCK		157.6	43.7	680	1,208	1,735				
LP PINE		235.7	65.3	235	678	1,121				
W PINE		374.2	103.6		157	319				
TOTAL				9,125	9,125	9,125				
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15	
DOUG FIR				191	238	285				
WR CEDAR				109	125	142				
GR FIR				167	245	324				
W LARCH	118.6	32.9		123	191	259				
WHEMLOCK	96.6	26.8		117	205	293				
LP PINE				66	191	316				
W PINE	374.2	103.6			220	448				
TOTAL	129.7	35.9		198	198	198	723	181	80	

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				BOYCE				DATE	7/15/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	00U2	89.60	82	423	S	E	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		82	423	5.2						
CRUISE		59	113	1.9	13,524	.8				
DBH COUNT										
REFOREST										
COUNT		21	91	4.3						
BLANKS		2								
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
GR FIR	46	44.9	17.7	82	18.2	76.7	16,556	15,922	3,050	3,049
DOUG FIR	25	36.3	17.7	75	14.7	61.8	11,203	10,918	2,266	2,266
WR CEDAR	23	49.0	14.3	41	14.5	55.0	5,981	5,355	1,526	1,524
W LARCH	14	15.1	17.5	101	6.0	25.2	4,590	4,464	922	922
WHEMLOCK	2	4.0	17.7	66	1.6	6.9	733	719	194	194
LP PINE	2	1.3	15.8	87	0.4	1.7	290	290	59	59
E SPRUCE	1	.3	19.2	91	0.1	.6	154	148	26	26
TOTAL	<i>113</i>	<i>150.9</i>	<i>16.6</i>	<i>69</i>	<i>55.9</i>	<i>227.9</i>	<i>39,507</i>	<i>37,817</i>	<i>8,044</i>	<i>8,041</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	10	15		
GR FIR	67.1	9.9	489	542	596					
DOUG FIR	55.2	11.3	426	480	534					
WR CEDAR	128.5	27.4	181	249	317					
W LARCH	50.1	13.9	301	350	399					
WHEMLOCK	84.9	79.5	46	225	404					
LP PINE										
E SPRUCE										
TOTAL	<i>74.5</i>	<i>7.0</i>	<i>407</i>	<i>437</i>	<i>468</i>	<i>222</i>	<i>55</i>	<i>25</i>		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	58.2	8.6	93	102	110					
DOUG FIR	47.3	9.6	87	96	106					
WR CEDAR	114.7	24.4	53	70	87					
W LARCH	47.5	13.1	62	72	81					
WHEMLOCK	74.5	69.7	18	59	100					
LP PINE										
E SPRUCE										
TOTAL	<i>65.9</i>	<i>6.2</i>	<i>84</i>	<i>89</i>	<i>95</i>	<i>174</i>	<i>43</i>	<i>19</i>		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	96.8	10.7	40	45	50					
DOUG FIR	115.6	12.8	32	36	41					
WR CEDAR	128.2	14.1	42	49	56					
W LARCH	145.3	16.0	13	15	18					
WHEMLOCK	308.2	34.0	3	4	5					
LP PINE	671.6	74.1	0	1	2					
E SPRUCE	905.5	99.9	0	0	1					
TOTAL			<i>151</i>	<i>151</i>	<i>151</i>					
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	83.6	9.2	70	77	84					

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT BOYCE			DATE	7/15/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	00U2	89.60	82	423	S	E	
CL: 68.1%		COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	109.9	12.1	54	62	69					
WR CEDAR	120.7	13.3	48	55	62					
W LARCH	147.0	16.2	21	25	29					
WHEMLOCK	306.0	33.8	5	7	9					
LP PINE	671.6	74.1	0	2	3					
E SPRUCE	905.5	99.9	0	1	1					
TOTAL			228	228	228					
CL: 68.1%		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	82.8	9.1	14,468	15,922	17,376					
DOUG FIR	111.7	12.3	9,573	10,918	12,263					
WR CEDAR	123.3	13.6	4,626	5,355	6,084					
W LARCH	148.6	16.4	3,733	4,464	5,196					
WHEMLOCK	308.0	34.0	475	719	964					
LP PINE	671.6	74.1	75	290	505					
E SPRUCE	905.5	99.9	0	148	296					
TOTAL			37,817	37,817	37,817					
CL: 68.1%		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	83.0	9.2	2,770	3,049	3,329					
DOUG FIR	110.7	12.2	1,990	2,266	2,543					
WR CEDAR	122.2	13.5	1,318	1,524	1,729					
W LARCH	147.6	16.3	771	922	1,072					
WHEMLOCK	307.0	33.9	129	194	260					
LP PINE	671.6	74.1	15	59	102					
E SPRUCE	905.5	99.9	0	26	53					
TOTAL			8,041	8,041	8,041					
CL: 68.1%		COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR			189	208	226					
DOUG FIR			155	177	198					
WR CEDAR			84	97	111					
W LARCH	25.2	2.8	148	177	206					
WHEMLOCK	51.3	5.7	69	105	140					
LP PINE	599.0	66.1	44	169	294					
E SPRUCE	905.5	99.9	0	259	517					
TOTAL	308.8	34.1	166	166	166	3,808	952	423		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT BOYCE				DATE	7/15/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	00U3	32.40	27	131	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	27	131	4.9							
CRUISE	20	32	1.6		7,180		.4			
DBH COUNT										
REFOREST										
COUNT	7	27	3.9							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WR CEDAR	6	88.2	11.9	56	19.7	67.8	6,290	6,094	1,705	1,705
W LARCH	6	54.6	13.2	79	14.3	52.2	7,878	7,221	1,722	1,722
GR FIR	7	26.2	15.2	90	8.5	33.0	6,282	6,155	1,226	1,226
LP PINE	6	36.1	12.6	90	8.8	31.3	5,668	5,420	1,160	1,160
DOUG FIR	4	8.7	21.0	86	4.6	20.9	4,105	4,012	811	811
WHEMLOCK	2	7.3	14.8	64	2.3	8.7	1,150	988	260	260
P PINE	1	.5	25.0	93	0.3	1.7	224	224	57	57
TOTAL	32	221.6	13.4	73	59.0	215.6	31,596	30,115	6,940	6,940
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	10	15		
WR CEDAR	69.4	30.9	68	98	129					
W LARCH	82.0	36.5	140	220	300					
GR FIR	64.0	26.0	201	271	342					
LP PINE	45.8	20.4	147	185	223					
DOUG FIR	48.0	27.4	372	513	653					
WHEMLOCK	102.0	95.5	10	215	420					
P PINE										
TOTAL	77.5	13.7	211	245	279	240	60	27		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	74.0	32.9	19	28	38					
W LARCH	75.0	33.4	34	50	67					
GR FIR	52.4	21.3	42	53	64					
LP PINE	61.0	27.1	30	42	53					
DOUG FIR	40.8	23.3	79	103	127					
WHEMLOCK	90.7	84.9	8	53	98					
P PINE										
TOTAL	68.8	12.2	47	54	60	189	47	21		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	90.5	17.7	73	88	104					
W LARCH	102.9	20.2	44	55	66					
GR FIR	128.1	25.1	20	26	33					
LP PINE	164.6	32.3	24	36	48					
DOUG FIR	146.1	28.6	6	9	11					
WHEMLOCK	227.2	44.5	4	7	11					
P PINE	519.6	101.9		1	1					
TOTAL			222	222	222					
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	88.7	17.4	56	68	80					

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT			BOYCE			
							DATE	7/15/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	00U3	32.40	27	131	S	E	
CL: 68.1%		COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
W LARCH	97.7	19.2	42	52	62					
GR FIR	129.6	25.4	25	33	41					
LP PINE	161.1	31.6	21	31	41					
DOUG FIR	144.1	28.3	15	21	27					
WHEMLOCK	213.8	41.9	5	9	12					
P PINE	519.6	101.9		2	4					
TOTAL			216	216	216					
CL: 68.1%		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	89.0	17.4	5,031	6,094	7,157					
W LARCH	97.2	19.1	5,845	7,221	8,598					
GR FIR	134.9	26.4	4,527	6,155	7,783					
LP PINE	161.8	31.7	3,701	5,420	7,140					
DOUG FIR	146.3	28.7	2,861	4,012	5,162					
WHEMLOCK	219.3	43.0	563	988	1,413					
P PINE	519.6	101.9		224	453					
TOTAL			30,115	30,115	30,115					
CL: 68.1%		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	89.0	17.5	1,407	1,705	2,002					
W LARCH	97.6	19.1	1,393	1,722	2,051					
GR FIR	131.9	25.9	909	1,226	1,543					
LP PINE	161.3	31.6	793	1,160	1,527					
DOUG FIR	144.6	28.4	581	811	1,040					
WHEMLOCK	215.6	42.3	150	260	370					
P PINE	519.6	101.9		57	115					
TOTAL			6,940	6,940	6,940					
CL: 68.1%		COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR			74	90	106					
W LARCH			112	138	165					
GR FIR			137	186	236					
LP PINE			118	173	228					
DOUG FIR			137	192	247					
WHEMLOCK	120.2	23.6	65	114	163					
P PINE	519.6	101.9		129	261					
TOTAL	309.9	60.7	140	140	140	3,985	996	443		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT BOYCE				DATE	7/15/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	08	BOYCE	00U4	4.10	5	29	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	5	29	5.8							
CRUISE	5	26	5.2	606			4.3			
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
GR FIR	14	74.3	16.6	78	27.5	112.0	21,788	20,544	4,153	4,153
DOUG FIR	8	51.9	15.0	81	16.5	64.0	11,455	10,297	2,336	2,336
WR CEDAR	2	3.4	29.5	70	2.9	16.0	2,248	1,249	541	541
E SPRUCE	1	8.4	13.2	74	2.2	8.0	1,179	1,179	278	278
WHEMLOCK	1	9.7	12.3	52	2.3	8.0	679	582	163	163
TOTAL	26	147.7	16.1	77	51.9	208.0	37,347	33,849	7,471	7,472
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	10	15		
GR FIR	62.6	18.1	350	427	504					
DOUG FIR	50.6	19.1	216	268	319					
WR CEDAR	7.6	7.2	344	370	396					
E SPRUCE										
WHEMLOCK										
TOTAL	66.0	13.5	299	345	392	181	45	20		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	58.4	16.8	71	85	99					
DOUG FIR	51.7	19.5	49	61	73					
WR CEDAR	.5	.4	160	161	161					
E SPRUCE										
WHEMLOCK										
TOTAL	63.1	12.9	68	79	89	165	41	18		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	74.9	37.2	47	74	102					
DOUG FIR	130.8	65.0	18	52	86					
WR CEDAR	137.0	68.1	1	3	6					
E SPRUCE	223.6	111.1		8	18					
WHEMLOCK	223.6	111.1		10	20					
TOTAL	38.3	19.0	120	148	176	72	18	8		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	68.7	34.1	74	112	150					
DOUG FIR	113.5	56.4	28	64	100					
WR CEDAR	136.9	68.0	5	16	27					
E SPRUCE	223.6	111.1		8	17					
WHEMLOCK	223.6	111.1		8	17					
TOTAL	31.6	15.7	175	208	241	49	12	5		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	65.9	32.8	13,815	20,544	27,272					

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT			BOYCE			
							DATE	7/15/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	08	BOYCE	00U4	4.10	5	29	S	E	
CL: 68.1%		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0		VAR.		S.E.%		LOW	AVG	HIGH		
				5	10	15				
DOUG FIR		118.1		58.7		4,251	10,297	16,342		
WR CEDAR		137.6		68.4		395	1,249	2,103		
E SPRUCE		223.6		111.1			1,179	2,488		
WHEMLOCK		223.6		111.1			582	1,228		
TOTAL		27.6		13.7		29,213	33,849	38,486		
							38	9	4	
CL: 68.1%		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0		VAR.%		S.E.%		LOW	AVG	HIGH		
				5	10	15				
GR FIR		65.9		32.7		2,794	4,153	5,513		
DOUG FIR		119.5		59.4		949	2,336	3,723		
WR CEDAR		137.0		68.1		173	541	910		
E SPRUCE		223.6		111.1			278	586		
WHEMLOCK		223.6		111.1			163	345		
TOTAL		31.7		15.7		6,296	7,472	8,648		
							50	12	6	
CL: 68.1%		COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0		VAR.%		S.E.%		LOW	AVG	HIGH		
				5	10	15				
GR FIR		65.9		32.8		123	183	244		
DOUG FIR		118.1		58.7		66	161	255		
WR CEDAR		137.6		68.4		25	78	131		
E SPRUCE		223.6		111.1			147	311		
WHEMLOCK		223.6		111.1			73	154		
TOTAL		27.6		13.7		140	163	185		
							38	9	4	

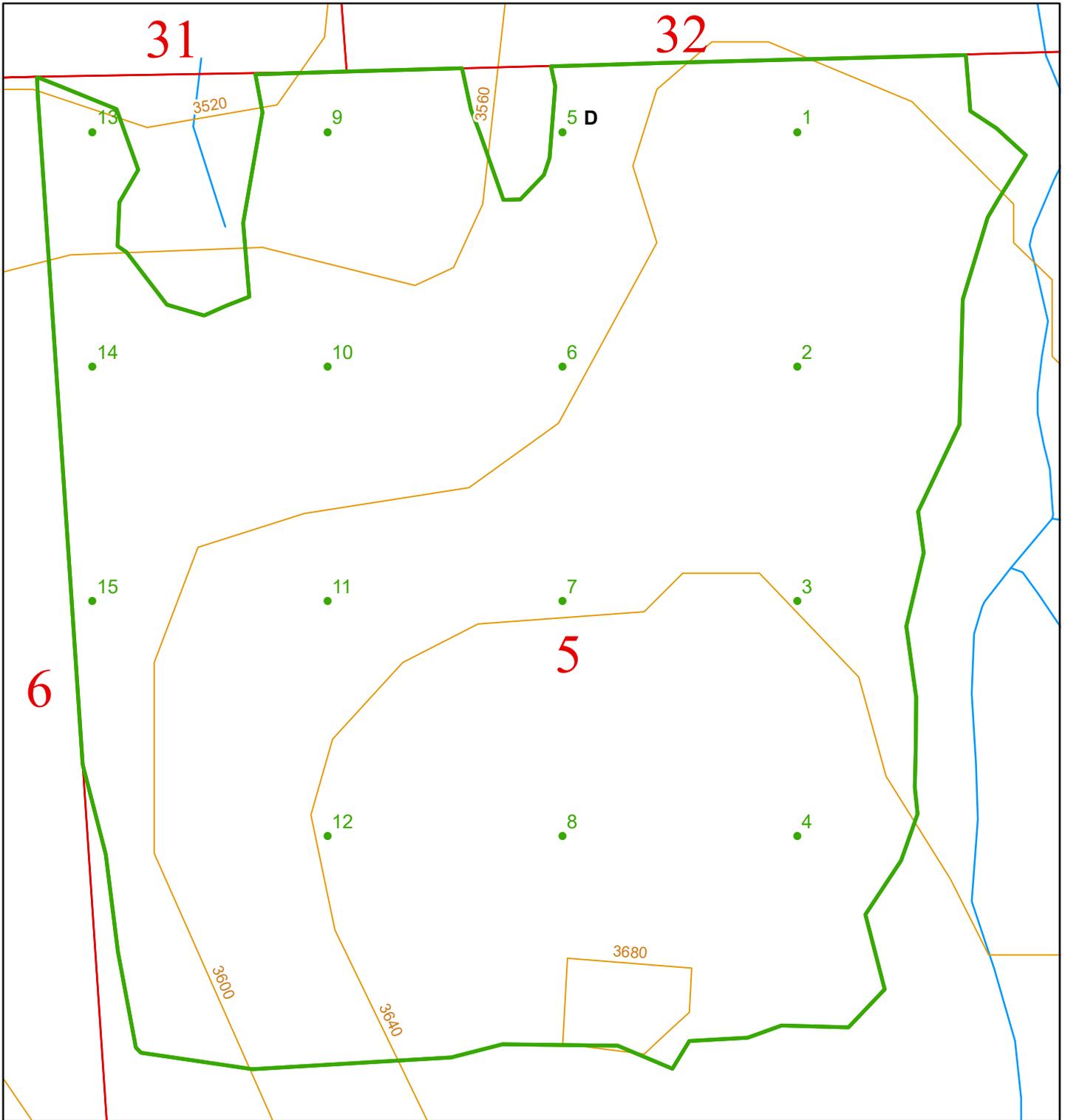
TC TSTATS				STATISTICS				PAGE	1	
PROJECT				BOYCE				DATE	7/15/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	08	BOYCE	00U5	9.20	9	67	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	9	67	7.4							
CRUISE	9	60	6.7	1,959		3.1				
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
GR FIR	38	145.8	14.6	74	44.2	168.9	30,429	28,196	6,050	6,050
WR CEDAR	13	30.9	18.5	66	13.4	57.8	7,894	7,087	1,794	1,794
WHEMLOCK	8	23.5	16.7	71	8.7	35.6	7,543	7,410	1,401	1,401
W LARCH	1	12.7	8.0	65	1.6	4.4	509	509	99	99
TOTAL	60	212.9	15.2	72	68.5	266.7	46,375	43,202	9,343	9,344
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	10	15		
GR FIR	56.1	9.8	328	363	398					
WR CEDAR	82.7	23.8	323	424	525					
WHEMLOCK	88.6	33.4	444	666	889					
W LARCH										
TOTAL	80.0	10.8	371	416	460	256	64	28		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	45.7	7.9	69	75	81					
WR CEDAR	74.6	21.5	85	109	132					
WHEMLOCK	78.8	29.7	82	117	152					
W LARCH										
TOTAL	69.4	9.3	80	88	96	192	48	21		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	119.8	42.3	84	146	207					
WR CEDAR	162.9	57.5	13	31	49					
WHEMLOCK	143.6	50.7	12	23	35					
W LARCH	300.0	105.9		13	26					
TOTAL	85.1	30.1	149	213	277	325	81	36		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	89.2	31.5	116	169	222					
WR CEDAR	110.1	38.8	35	58	80					
WHEMLOCK	131.3	46.3	19	36	52					
W LARCH	300.0	105.9		4	9					
TOTAL	46.8	16.5	223	267	311	98	25	11		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
GR FIR	84.7	29.9	19,769	28,196	36,622					
WR CEDAR	113.1	39.9	4,258	7,087	9,916					
WHEMLOCK	142.1	50.1	3,695	7,410	11,125					
W LARCH	300.0	105.9		509	1,049					
TOTAL	47.6	16.8	35,948	43,202	50,457	102	25	11		

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT	BOYCE		DATE	7/15/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	08	BOYCE	00U5	9.20	9	67	S	E	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
GR FIR		86.7	30.6	4,199	6,050	7,902				
WR CEDAR		107.0	37.7	1,117	1,794	2,471				
WHEMLOCK		138.4	48.8	717	1,401	2,086				
W LARCH		300.0	105.9		99	204				
TOTAL		<i>46.5</i>	<i>16.4</i>	<i>7,812</i>	<i>9,344</i>	<i>10,876</i>	<i>97</i>	<i>24</i>	<i>11</i>	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
GR FIR		84.7	29.9	117	167	217				
WR CEDAR		113.1	39.9	74	123	172				
WHEMLOCK		142.1	50.1	104	208	313				
W LARCH		300.0	105.9		115	236				
TOTAL		<i>47.6</i>	<i>16.8</i>	<i>135</i>	<i>162</i>	<i>189</i>	<i>102</i>	<i>25</i>	<i>11</i>	

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT BOYCE				DATE 7/15/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	08	BOYCE	ROW	0.10	1	3	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	1	3	3.0							
CRUISE	1	3	3.0		3		100.0			
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
P PINE	1	10.0	19.1	67	4.6	19.9	2,500	2,500	565	565
DOUG FIR	1	10.0	9.3	51	1.5	4.7	500	500	93	93
W LARCH	1	10.0	8.6	62	1.4	4.0	400	400	93	93
TOTAL	3	30.0	13.2	60	7.9	28.6	3,400	3,400	750	750
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.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	0				
P PINE										
DOUG FIR										
W LARCH										
TOTAL	104.5	72.3	31	113	195	628	157	70		
CL: 68.1 %	COEFF	SAMPLE TREES - CF					# OF TREES REQ.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	0				
P PINE										
DOUG FIR										
W LARCH										
TOTAL	109.2	75.5	6	25	44	684	171	76		

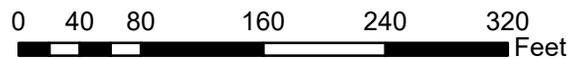
TC TSTATS				STATISTICS				PAGE 1		
PROJECT				BOYCE				DATE 7/15/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	ROW	0.90	4	15	S	E	
				TREES	ESTIMATED TOTAL	PERCENT SAMPLE				
				PER PLOT	TREES	TREES				
TOTAL				4	15	3.8				
CRUISE				3	15	5.0	198	7.6		
DBH COUNT										
REFOREST										
COUNT										
BLANKS				1						
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	6	52.5	13.3	57	13.8	50.4	3,115	3,115	1,179	1,179
WR CEDAR	2	33.6	9.6	19	5.4	16.8	672	473	195	195
ALP FIR	2	52.4	7.7	42	6.1	16.8	1,048	1,048	262	262
LP PINE	2	29.1	10.3	54	5.2	16.8	1,455	1,455	394	394
P PINE	1	17.4	9.4	25	2.7	8.4	349	349	100	105
E SPRUCE	1	23.5	8.1	40	3.0	8.4	470	470	136	136
GR FIR	1	11.3	11.7	70	2.5	8.4	900	900	246	246
TOTAL	15	219.8	10.3	43	39.4	126.0	8,009	7,810	2,511	2,516
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	10	15		
DOUG FIR	33.1	14.7	53	62	71					
WR CEDAR	47.1	44.1	8	15	22					
ALP FIR			20	20	20					
LP PINE			50	50	50					
P PINE										
E SPRUCE										
GR FIR										
TOTAL	58.8	15.7	37	44	51	148	37	16		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	24.3	10.8	21	24	26					
WR CEDAR	37.6	35.2	4	6	8					
ALP FIR	19.7	18.4	4	5	6					
LP PINE	19.7	18.4	11	14	16					
P PINE										
E SPRUCE										
GR FIR										
TOTAL	61.4	16.4	13	15	17	161	40	18		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	129.8	74.2	14	53	92					
WR CEDAR	200.0	114.3		34	72					
ALP FIR	200.0	114.3		52	112					
LP PINE	200.0	114.3		29	62					
P PINE	200.0	114.3		17	37					
E SPRUCE	200.0	114.3		23	50					
GR FIR	200.0	114.3		11	24					
TOTAL	75.3	43.0	125	220	314	296	74	33		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	127.7	72.9	14	50	87					

TC TSTATS				STATISTICS			PAGE	2		
PROJECT				BOYCE			DATE	7/15/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
31N	43E	05	BOYCE	ROW	0.90	4	15	S	E	
CL:	68.1%	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
WR CEDAR		200.0	114.3		17	36				
ALP FIR		200.0	114.3		17	36				
LP PINE		200.0	114.3		17	36				
P PINE		200.0	114.3		8	18				
E SPRUCE		200.0	114.3		8	18				
GR FIR		200.0	114.3		8	18				
TOTAL		<i>66.7</i>	<i>38.1</i>	<i>78</i>	<i>126</i>	<i>174</i>	<i>232</i>	<i>58</i>	<i>26</i>	
CL:	68.1%	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		138.0	78.9	659	3,115	5,571				
WR CEDAR		200.0	114.3		473	1,014				
ALP FIR		200.0	114.3		1,048	2,245				
LP PINE		200.0	114.3		1,455	3,118				
P PINE		200.0	114.3		349	747				
E SPRUCE		200.0	114.3		470	1,006				
GR FIR		200.0	114.3		900	1,929				
TOTAL		<i>69.9</i>	<i>39.9</i>	<i>4,692</i>	<i>7,810</i>	<i>10,927</i>	<i>255</i>	<i>64</i>	<i>28</i>	
CL:	68.1%	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		126.6	72.3	326	1,179	2,031				
WR CEDAR		200.0	114.3		195	417				
ALP FIR		200.0	114.3		262	561				
LP PINE		200.0	114.3		394	845				
P PINE		200.0	114.3		105	224				
E SPRUCE		200.0	114.3		136	291				
GR FIR		200.0	114.3		246	527				
TOTAL		<i>70.1</i>	<i>40.1</i>	<i>1,508</i>	<i>2,516</i>	<i>3,524</i>	<i>257</i>	<i>64</i>	<i>29</i>	
CL:	68.1%	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		138.0	78.9	13	62	111				
WR CEDAR		200.0	114.3		28	60				
ALP FIR		200.0	114.3		62	134				
LP PINE		200.0	114.3		87	186				
P PINE		200.0	114.3		41	89				
E SPRUCE		200.0	114.3		56	120				
GR FIR		200.0	114.3		107	230				
TOTAL		<i>69.9</i>	<i>39.9</i>	<i>37</i>	<i>62</i>	<i>87</i>	<i>255</i>	<i>64</i>	<i>28</i>	



FMA POLYGON AND SAMPLE POINT INFORMATION

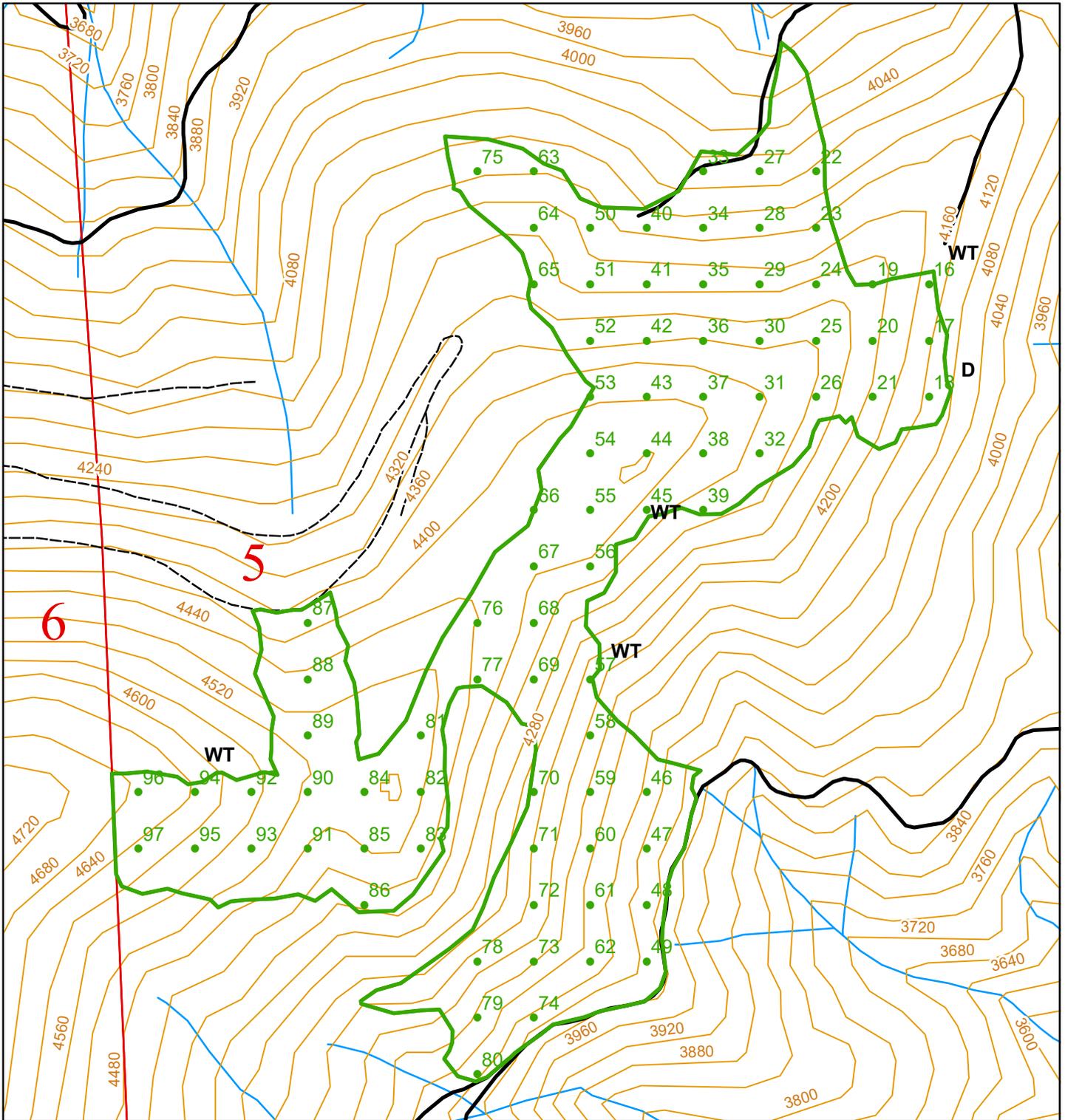
FMA_NM:	BOYCE U1	Township:	T31R43E
FMA_ID:	291707	DNR Region:	NORTHEAST
Acres:	14	Total Sample Points:	15
County:	PEND OREILLE	Spacing Between Points:	Width: 208 Height: 208
		Point Rotation Degrees:	0



Scale 1:1,500

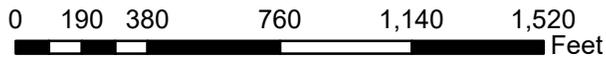
Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

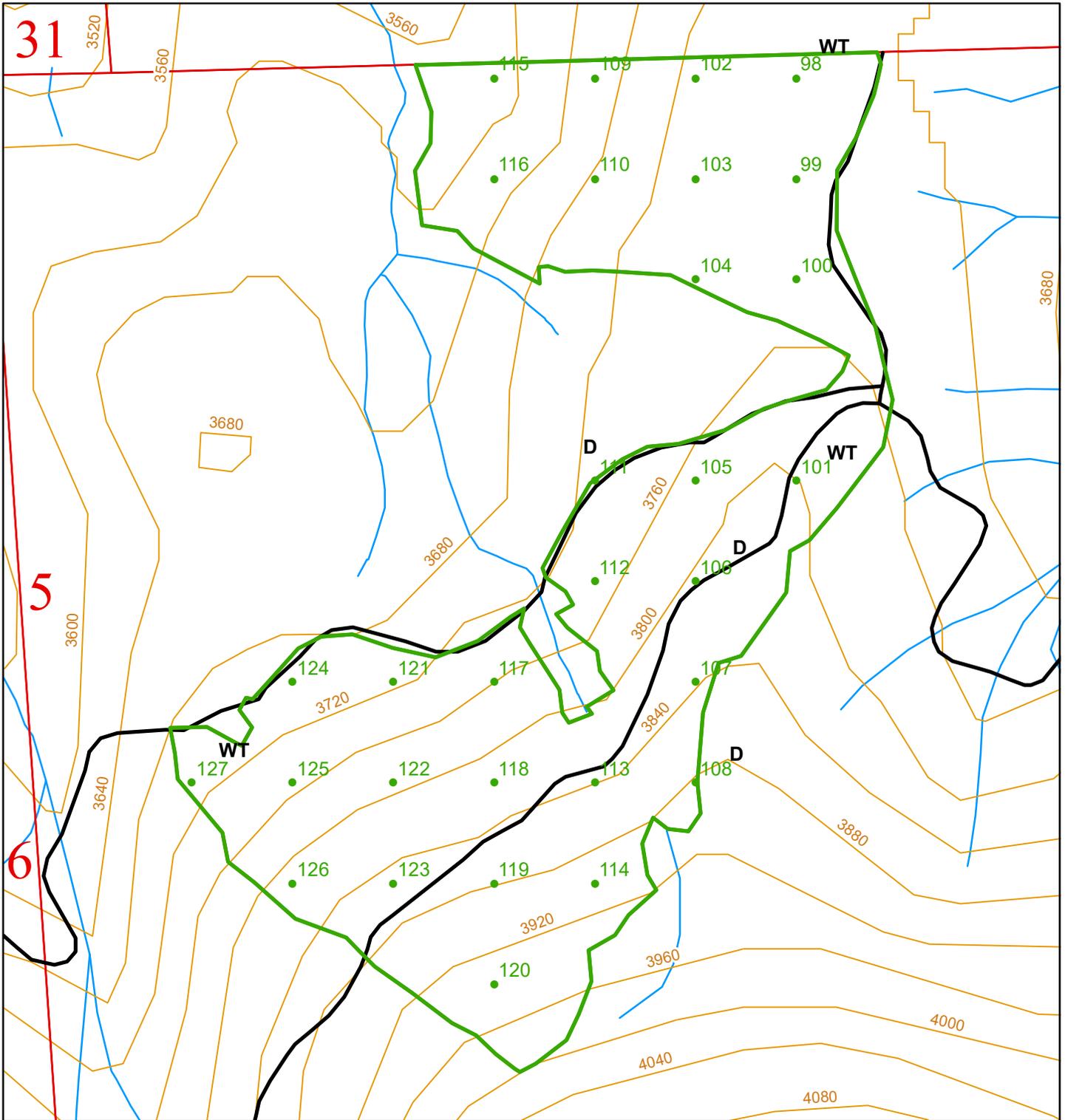
FMA_NM:	BOYCE U2	Township:	T31R43E
FMA_ID:	291708	DNR Region:	NORTHEAST
Acres:	92	Total Sample Points:	82
County:	PEND OREILLE	Spacing Between Points:	Width: 220 Height: 220
		Point Rotation Degrees:	0



Scale 1:6,600

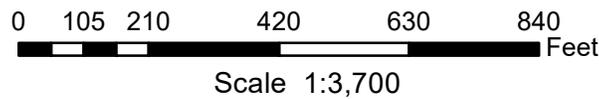
Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



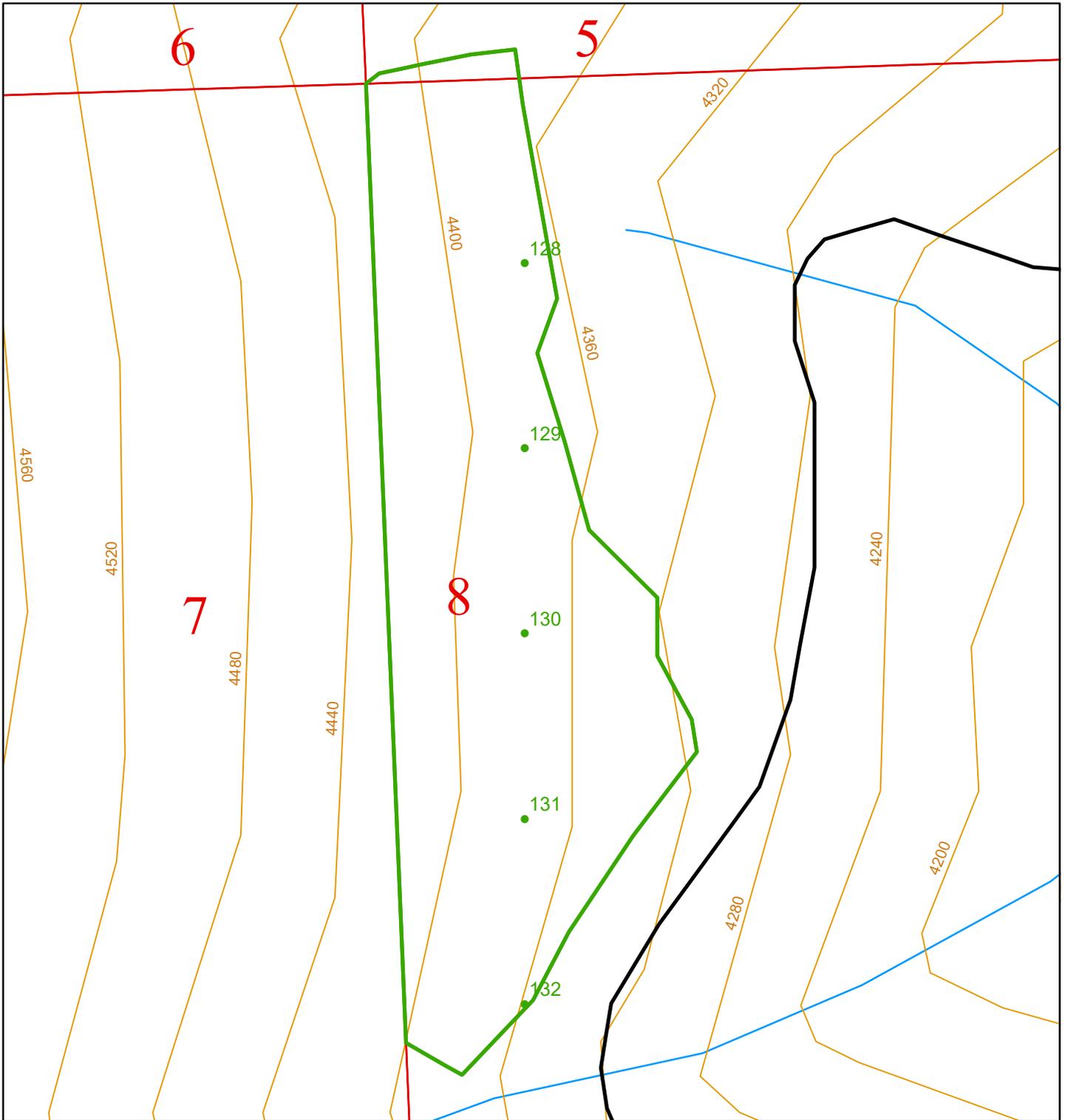
FMA POLYGON AND SAMPLE POINT INFORMATION

FMA_NM:	BOYCE U3	Township:	T31R43E
FMA_ID:	291713	DNR Region:	NORTHEAST
Acres:	33	Total Sample Points:	30
County:	PEND OREILLE	Spacing Between Points:	Width: 220 Height: 220
		Point Rotation Degrees:	0



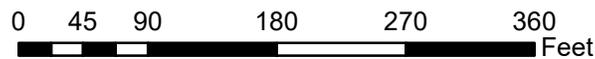
Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

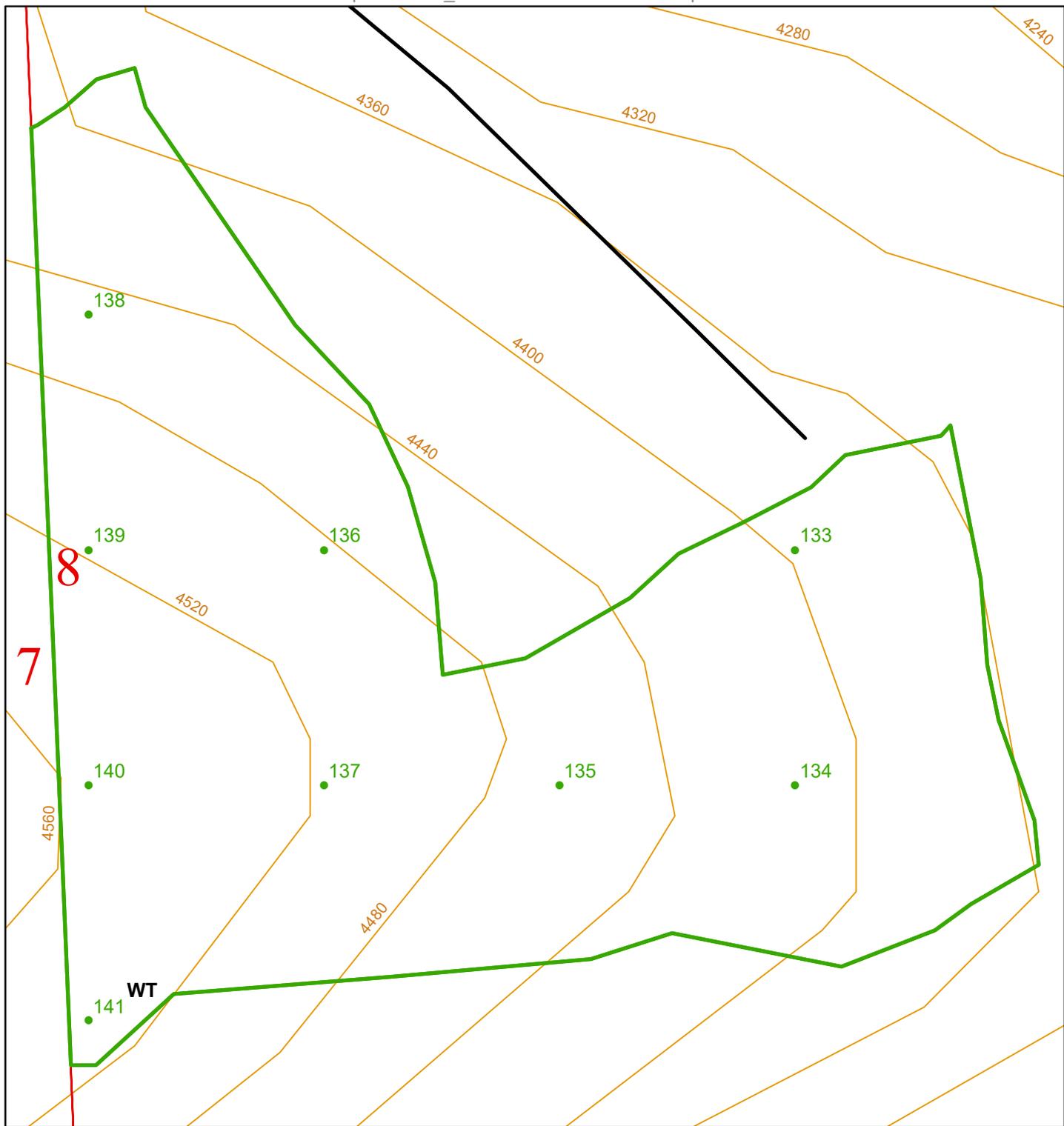
FMA_NM:	BOYCE U4	Township:	T31R43E
FMA_ID:	310737	DNR Region:	NORTHEAST
Acres:	4	Total Sample Points:	5
County:	PEND OREILLE	Spacing Between Points:	175
		Point Rotation Degrees:	0



Scale 1:1,600

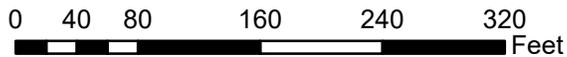
Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

FMA_NM:	BOYCE U5	Township:	T31R43E
FMA_ID:	310744	DNR Region:	NORTHEAST
Acres:	9	Total Sample Points:	9
County:	PEND OREILLE	Spacing Between Points:	Width: 208 Height: 208
		Point Rotation Degrees:	0



Scale 1:1,500

Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot

PRE-CRUISE NARRATIVE

Sale Name: Boyce	Region: Northeast
Agreement #: 30-099988	District: Arcadia
Contact Forester: Clay Chambers Phone / Location: 509.844.7224	County(s): Pend Oreille,
Alternate Contact: Chad Godley Phone / Location: 509.890.8120	Other information:

Type of Sale: Lump Sum	
Harvest System: Ground based	75%
Harvest System: Uphill Cable	25%
Enter % of sale acres	
Harvest System: <i>Select harvest system</i>	

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1	S5 / T31N / R43E	03	14.5	0	0	0	0	14.5	GPS (Garmin)
2	S5 / T31N / R43E	03	92.3	0	2.7	0.7	0	89.6	GPS (Garmin)
3	S5 / T31N / R43E	03	33.1	0	0	0.7	0	32.4	GPS (Garmin)
4	S8 / T31N / R43E	03	4.1	0	0	0	0	4.1	GPS (Garmin)
5	S8 / T31N / R43E	03	9.2	0	0	0	0	9.2	GPS (Garmin)
ROW 6	S5 / T31N / R43E	03	0.4	0	0	0	0	0.4	Combination
ROW 7	S8 / T31N / R43E	03	0.5	0	0	0	0	0.5	Combination
TOTAL ACRES			154.1	0	2.7	0.7	0	150.7	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Unit 1 is bound by white "Timber Sale Boundary" tags and pink flagging, United States Forest Service property. Leave trees are marked with a band of blue paint.	VRH	99 leave trees
2	Unit 2 is bound by white "Timber Sale Boundary" tags and pink flagging, United States Forest Service property. Leave tree clumps are bound by "Leave Tree Area" tags, and scattered leave trees are marked with a band of blue paint.	VRH	577 leave trees
3	Unit 3 is bound by white "Timber Sale Boundary" tags and pink flagging, United State Forest Service property. Leave trees are marked with a band of blue paint.	VRH	201 leave trees
4	Unit 4 is bound by white "Timber Sale Boundary" tags and pink flagging, United State Forest Service property. Leave trees are marked with a band of blue paint.	VRH	
5	Unit 5 is bound by white "Timber Sale Boundary" tags and pink flagging, United State Forest Service property. Leave trees are marked with a band of blue paint.	VRH	
ROW 6	Right-of-way harvest limits are marked with orange "Right-of-way harvest" tags.	ROW	N/A
ROW 7	Right-of-way harvest limits are marked with orange "Right-of-way harvest" tags.	ROW	N/A

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	GF, WRC / 500	Access via Westside Calispel Road, to Middle Fork Road, to the E324321A to the E314330E	

		Road. There is wide area to park. The E314330F Road is accessible by ATV. No road access into the unit.	
2	DF, GF / 2,300	Access via Westside Calispel Road, to Middle Fork Road, to the E324321A Road, to the E314306A Road. Alternate access via E324321A Road, to the E314304A Road. Access through DNR gate with a master 786 key lock.	
3	DF, WRC / 900	Access via Westside Calispel Road, to Middle Fork Road, to the E324321A Road, to the E314330E Road. There is wide area to park.	
4	DF, GF / 100	Access via Westside Calispel Road, to Middle Fork Road, to the E324321A Road, to the E314304A Road. Access through DNR gate with a master 786 key lock.	
5	GF, WRC / 210	Access via Westside Calispel Road, to Middle Fork Road, to the E324321A Road, to the E314304A Road. Access through DNR gate with a master 786 key lock.	
ROW 6	LP, GF / 10	Access via Westside Calispel Road, to Middle Fork Road, to the E324321A to the E314330E Road. There is wide area to park. The E314330F Road is accessible by ATV. No road access into the unit.	
ROW 7	PP, GF / 10	Access via Westside Calispel Road, to Middle Fork Road, to the E324321A Road, to the E314306A Road.	
ROW 8			
TOTAL MBF	4,030		

REMARKS:

No road access into Unit 3. The E314306A Road and the E314304A Road can allow access around both sides of the ridge. DNR gate at the six and half mile up the E324321A Road will have a master 786 key lock. The beginning of the E314306A Road is a fairly steep section of the road. Any snow or ice on road, recommend the use of quads or utilizing a different access point. CB channel 8 is being utilized up Middle Fork and the E324321A Road. ROW 8 is marked but questionable whether volume exists.

Prepared By: Date: Chad Godley	Title: Forester	CC:
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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
Northeast Region
225 South Silke Rd
Colville, WA 99114

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.

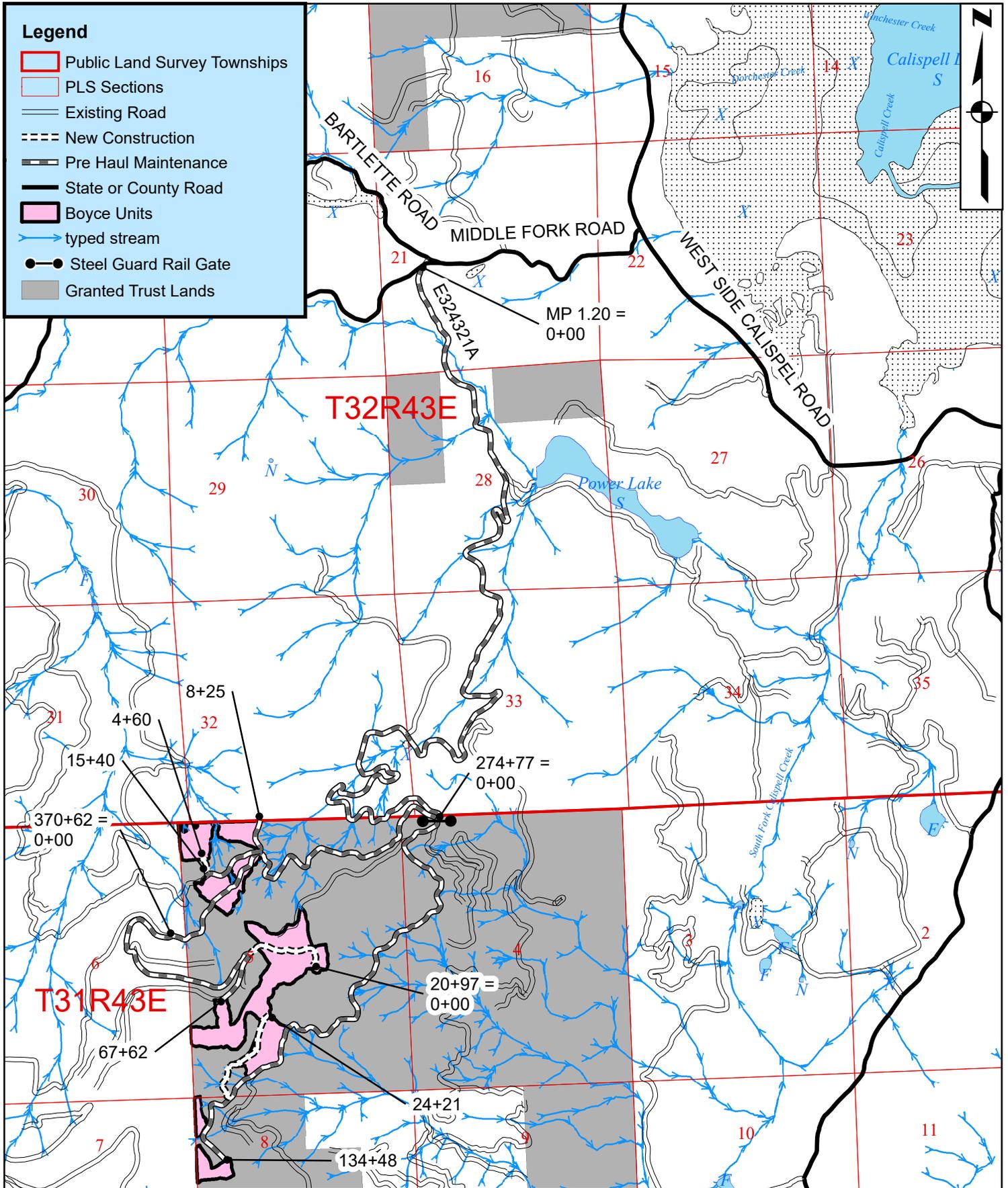
Before the sale or transfer of land or perpetual timber rights subject to continuing forest land obligations, the seller must notify the buyer of such an obligation on a form titled "Notice of Continuing Forest Land Obligation". The seller and buyer must both sign the "Notice of Continuing Forest Land 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.

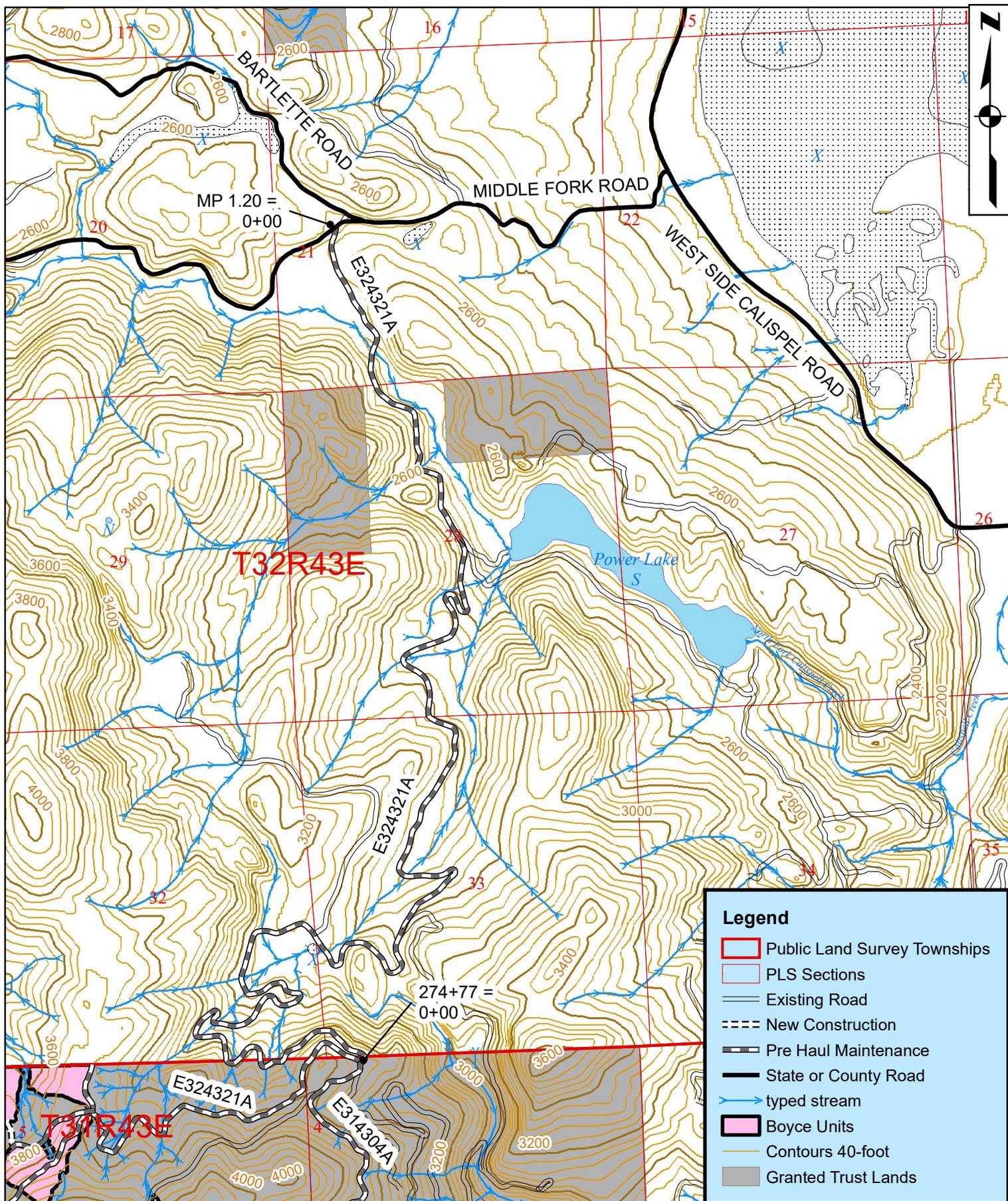
DNR affidavit of mailing:

On this day <u>12-26-19</u>	I placed in the United States mail at <u>Colville</u>	, WA,
(date)	(post office location)	
postage paid, a true and accurate copy of this document. Notice of Decision FPA # <u>3023937</u>		
<u>Galadriel Hook</u>	<u>Galadriel Hook</u>	
(Printed name)	(Signature)	



1 inch = 3,000 feet

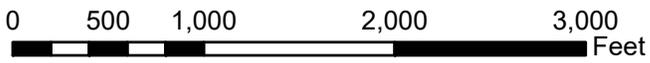
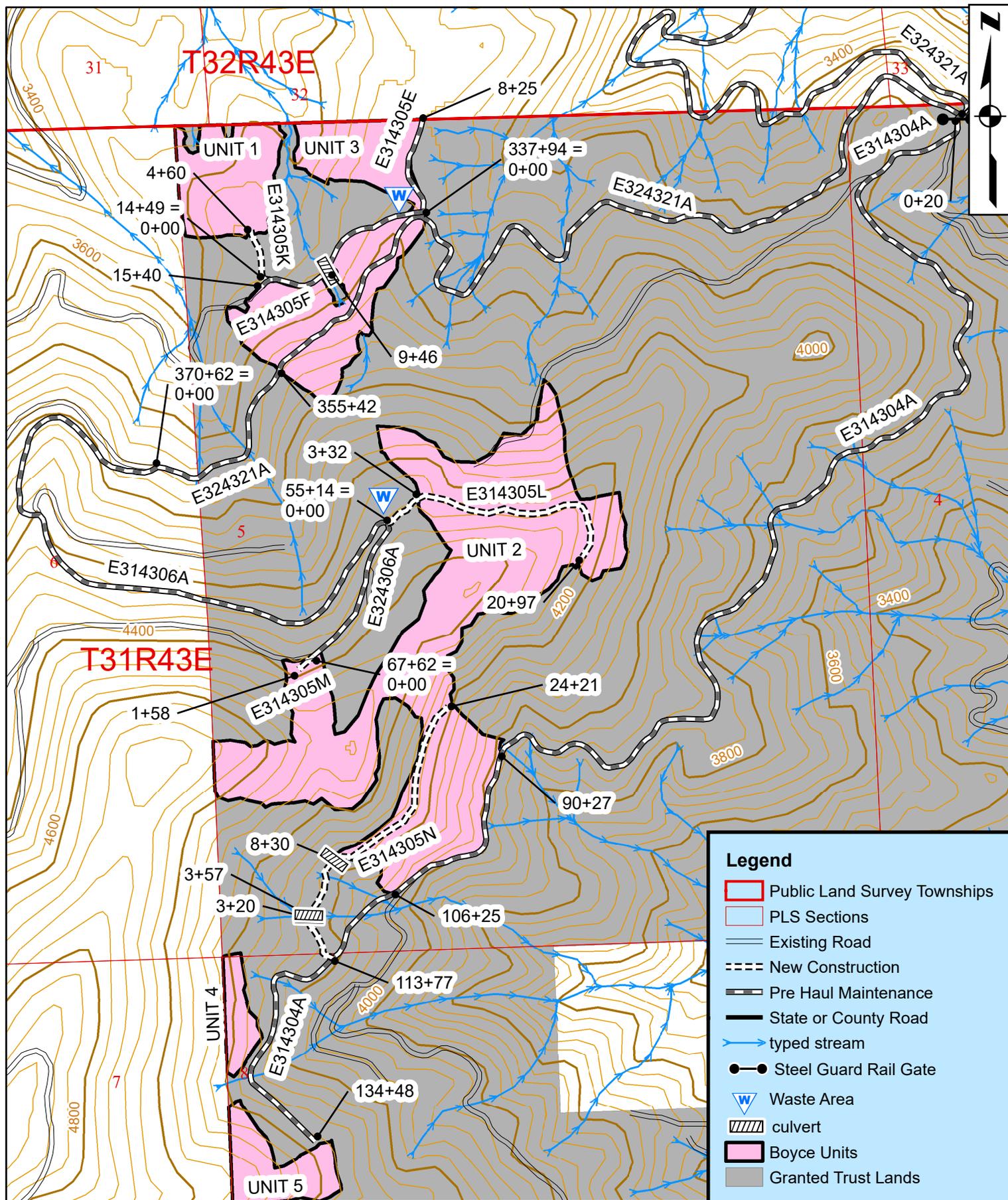
Date: 10/22/19



0 1,000 2,000 4,000 6,000 Feet

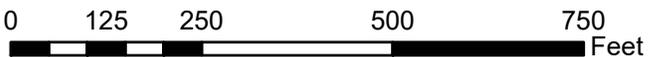
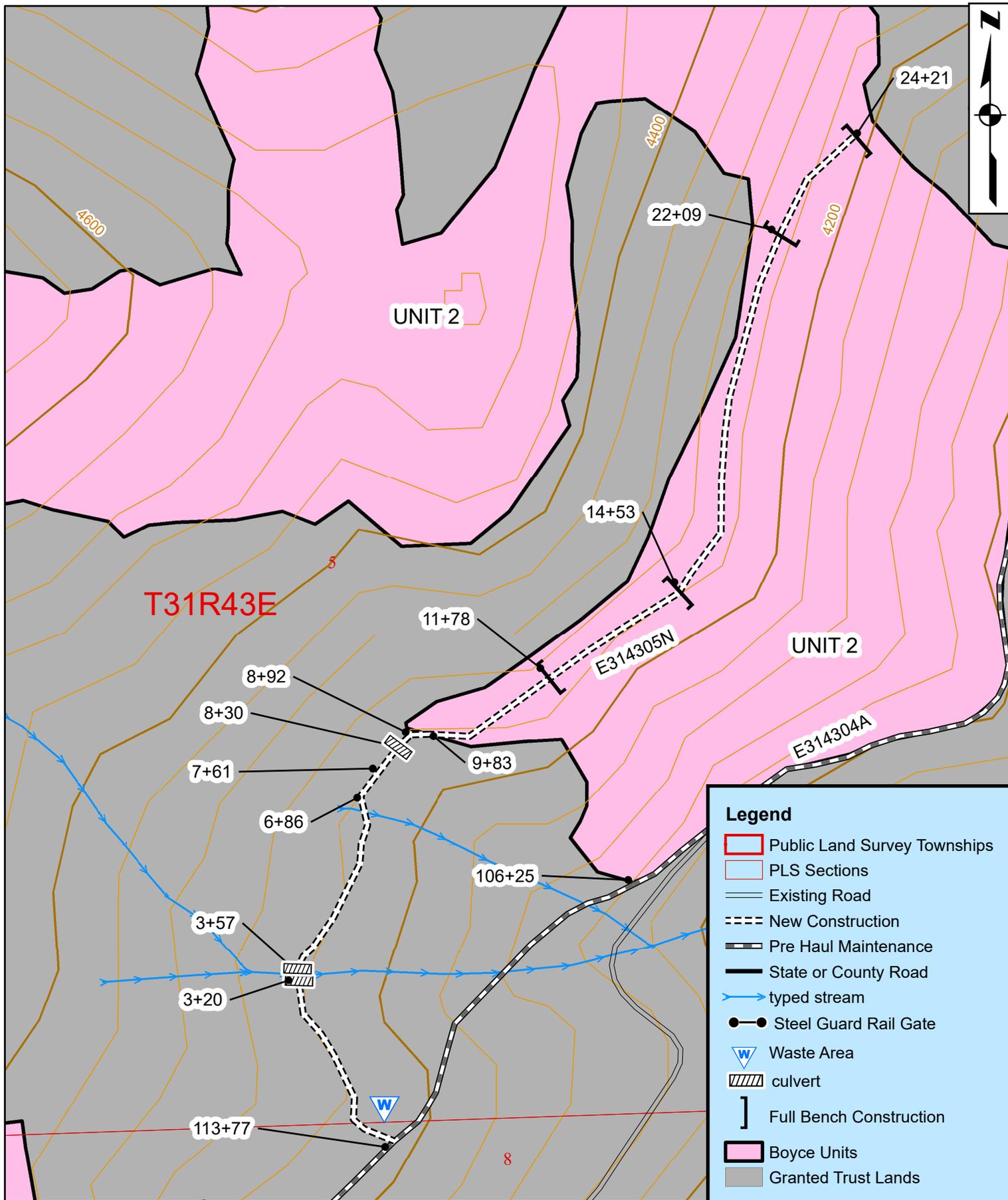
1 inch = 2,000 feet

Date: 10/22/19



1 inch = 1,000 feet

Date: 10/22/19



1 inch = 250 feet

Date: 10/22/19

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BOYCE TIMBER SALE ROAD PLAN
PEND OREILLE COUNTY
ARCADIA DISTRICT
NORTHEAST REGION

AGREEMENT NO.: 30-099988

STAFF ENGINEER: TRAVIS PARRY

DATE: 10/22/2019

DRAWN & COMPILED BY: TRAVIS PARRY

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>
E324321A	0+00 to 370+62	Pre-haul maintenance
E314304A	0+00 to 134+48	Pre-haul maintenance
E314305E	0+00 to 8+25	Pre-haul maintenance
E314305F	0+00 to 15+40	Pre-haul maintenance
E314305K	0+00 to 4+60	New Construction
E314306A	0+00 to 67+62	Pre-haul maintenance
E314305L	0+00 to 20+97	New Construction
E314305M	0+00 to 1+58	New Construction
E314305N	0+00 to 24+21	New Construction

0-4 CONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E314305K	0+00 to 4+60	New construction, construct road in accordance with Typical Section Detail, Rock List, and the Culvert and Drainage List.
E314305L	0+00 to 20+97	New construction, construct road in accordance with Typical Section Detail, Rock List, and the Culvert and Drainage List.
	3+32	Enter Unit 2
E314305M	0+00 to 1+58	New construction, construct road in accordance with Typical Section Detail, Rock List, and the Culvert and Drainage List.
E314305N	0+00 to 24+21	New construction, construct road in accordance with Typical Section Detail, Rock List, and the Culvert and Drainage List.
	3+20	Install 24" x 30' culvert, armor inlet and outlet with 1/2 cy light loose rip rap for each. Spread and compact 10 cy 1-1/4" minus surface rock to road surface.
	3+57	Install 24" x 32' culvert, armor inlet and outlet with 1/2 cy light loose rip rap for each. Spread and compact 10 cy 1-1/4" minus surface rock to road surface.
	6+86	Apply 2' embankment widening to each side of road as specified in clause 4-9 EMBANKMENT WIDENING
	7+61 to 8+92	Apply 7' of curve widening to right side of road as specified in clause 4-8 CURVE WIDENING
	8+30	Install 18" x 36' culvert, armor inlet and outlet with 1/2 cy light loose rip rap for each. Spread and compact 10 cy 1-1/4" minus surface rock to road surface.
	9+83	Enter Unit 2

	11+78 to 14+53	Full bench construction as specified in clause 4-12 FULL BENCH CONSTRUCTION
	22+09 to 25+70	Full bench construction as specified in clause 4-12 FULL BENCH CONSTRUCTION

Construction includes, but is not limited to clearing & grubbing, pioneering & decking logs, subgrade construction and compaction, rolling dip, cross drain, and culvert installation, Fish passage structure installation, cut & fill, embankment construction, riprap and rock application. Construct to the TYPICAL SECTION SHEET, ROCK LIST, and CULVERT & DRAINAGE LIST, for general specifications, unless otherwise specified in design details.

0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E324321A	0+00 to 370+62	Pre-haul maintenance. Reshape road to provide drainage as needed
	274+77	Intersection with existing E314304A on left
	337+94	Intersection with existing E314305E on right and enter Unit 3
	355+42	Leave Unit 3
E314304A	0+00 to 134+48	Pre-haul maintenance. Reshape road to provide drainage as needed
	0+20	Replace existing guard rail gate with tube steel gate. See VEHICLE GATE detail and Clause 7-76 GATE INSTALLATION Close and lock gate after hauling is complete each day per Clause 7-70 GATE CLOSURE
	90+27	Enter Unit 2
	106+25	Leave Unit 2
	113+77	Intersection with new construction E314305N on right
E314305E	0+00 to 8+25	Pre-haul maintenance. Reshape road to provide drainage as needed
E314305F	0+00 to 15+40	Pre-haul maintenance. Reshape road to provide drainage as needed

	9+46	Install temporary 18" x 34' culvert, remove culvert from State Land and construct rolling dip following removal
	14+49	Intersection with new construction E314305K on right
E324306A	0+00 to 67+62	Pre-haul maintenance. Reshape road to provide drainage as needed
	55+14	Intersection with new construction E314305L on left

Maintenance includes, but is not limited to brushing, clearing, grubbing, subgrade reshaping, rolling dip, cross drain, and culvert installation, cleaning culverts and ditches, grading, and riprap and rock application. Reference the TYPICAL SECTION SHEET, ROCK LIST, and CULVERT & DRAINAGE LIST, for general specifications.

0-7 POST-HAUL MAINTENANCE

This project includes post-haul road maintenance listed in Clause 9-5 POST-HAUL MAINTENANCE9-5 .

0-9 DECOMMISSIONING

This project includes decommissioning listed in Clause 9-20ROAD DECOMMISSIONING.

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 shall be submitted, in writing, to the Contract Administrator for consideration. The State must approve the submitted plans before road work begins.

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

1. Addenda.
2. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.
3. Road Plan Clauses.
4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.
7. Road Plan 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, and may not begin without written approval from the Contract Administrator.

1-9 DAMAGED METALLIC COATING

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

1-15 ROAD MARKING

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

- Centerline marked with orange ribbon for new construction.
- Reference points
- Slope stakes

1-18 REFERENCE POINT DAMAGE

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

1-21 HAUL APPROVAL

Purchaser shall not use roads under this road plan for timber hauling, rock 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:

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

1-25 ACTIVITY TIMING RESTRICTION

Construction restrictions apply to this contract. All construction, reconstruction and transportation of heavy equipment and/or trucks is prohibited between the following dates, except as may be authorized in writing by the Contract Administrator.

November 15 to May 31

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTIONS, the Contractor shall provide a maintenance plan to include further protection of state resources. The Contract Administrator must approve the maintenance plan, in writing, before operation in the closure period. The Contractor shall be required to maintain all haul roads including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER.

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Wheel track rutting exceeds 3 inches on jaw run roads.

- Wheel track rutting exceeds 3 inches on crushed rock roads.
- Wheel track rutting exceeds 6 inches on native surface roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- 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 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. The Contract Administrator will immediately inform the Region Engineer, or their designee. Any damage to the surface(s) will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

Snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact Administrator upon request.

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-4 PASSAGE OF LIGHT VEHICLES

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

2-5 MAINTENANCE GRADING – EXISTING ROAD

Purchaser shall use a grader to shape the existing surface before commencement of haul and upon completion of the sale. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

2-6 CLEANING CULVERTS

Purchaser shall clean the inlets and outlets of all culverts and shall obtain written approval from the Contract Administrator before beginning hauling activities or rock application.

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

Purchaser shall clean ditches, headwalls, and catch basins. Work shall be completed before commencement of haul and upon completion of the sale and shall be subject to the written approval of the Contract Administrator. Work shall be done in accordance with the Culvert and Drainage Detail. Pulling ditch material across crushed rock road surfaces or mixing in with the road surface is not allowed.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

Purchaser shall cut vegetative material up to 3 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Contractor shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 3 inches DBH or over 6 feet high between the marked right-of-way boundaries and within waste and debris areas. If not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-7 RIGHT-OF-WAY DECKING

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

3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 35%.
- Against standing trees.

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Those stumps outside the grubbing limits but with undercut roots shall also be removed. Stumps over 22 inches diameter shall be split. Stumps over 40 inches shall be quartered. Grubbing shall be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the clearing limits or as directed by the Contract Administrator and in compliance with all other clauses in this road plan.

3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

Purchaser is not required to remove stumps within waste areas if they are cut flush with the ground.

3-20 ORGANIC DEBRIS DEFINITION

Organic debris is defined as all vegetative material not eligible for removal by Contract Clauses 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, except by burning, before the application of rock or timber haul.

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris shall be located within the cleared right-of-way or in natural openings, or in areas approved in writing by the Contract Administrator.

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, wetland, or within the riparian management zone.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 35%.
- 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

On all new construction, Purchaser shall scatter organic debris outside of the clearing limits, in natural openings, or as directed by the Contract Administrator.

3-30 EXCLUSION OF DOZER BLADES

Purchaser shall not use dozer blades for the piling of organic debris.

3-31 PILING

Purchaser shall pile organic debris no closer than 20 feet from standing timber and no higher than 10 feet. Piles must be free of rock and soil. Debris piles shall be placed within the cleared right-of-way, or in natural openings, as designated by the Contract Administrator. Placement of debris piles outside of the right-of-way limits is subject to the written approval of the Contract Administrator. No piling within the Riparian Management Zone (RMZ).

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

Purchaser shall use a track mounted hydraulic excavator for construction work, unless authorized, in writing, by the Contract Administrator.

4-2 PIONEERING

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

- Drainage shall be provided on all uncompleted construction.
- Road pioneering operations shall not undercut the final cut slope or restrict drainage.
- Culverts at live stream crossings shall 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 14 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.

4-4 SWITCHBACK STANDARDS

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

Purchaser shall follow these standards for switchbacks:

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

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

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

<u>Material Type</u>	<u>Embankment Slope Ratio</u>	<u>Embankment Slope Percent</u>
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:

- 7 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 1 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.

4-10 WIDEN THE EXISTING SUBGRADE

Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the TYPICAL SECTION SHEET. If necessary, Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches.

4-12 FULL BENCH CONSTRUCTION

Where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width except as construction staked or designed. If designated, Purchaser shall end haul waste material to the location specified in Clause 4-37 WASTE AREA LOCATION.

<u>Road</u>	<u>Full Bench Location</u>	<u>Comments</u>
E314305N	11+78 to 14+53 and 22+09 to 24+21	Sidecast up to 55% slopes

4-21 TURNOUTS

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

4-22 TURNAROUNDS

Turnarounds shall be no larger than 30 feet long and 30 feet wide. Locations shall be subject to approval by the Contract Administrator.

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified and as needed and as directed by the Contract Administrator. Ditchouts shall be constructed in a manner that diverts ditch water onto the forest floor and shall 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 55% if the waste material is compacted and free of organic debris. On side slopes greater than 55%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified.

4-37 WASTE AREA LOCATION

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

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.

- Within a riparian management zone.
- On side slopes steeper than 35%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.
- Outside the clearing limits.

4-45 SELECT BORROW

Select borrow consists of granular material, either naturally occurring or processed, and contains no more than 5% clay, organic debris, or trash by volume. Select borrow material must be free of rocks greater than 6 inches in any dimension.

4-46 COMMON BORROW

Common borrow consists of soil, and/or aggregate that is non-plastic and contains no more than 5% clay, organic debris, or trash by volume. The material is considered non-plastic if the fines in the sample cannot be rolled, between the hand and a smooth surface, into a thread at any moisture content. Common borrow material must be free of rocks greater than 6 inches in any dimension.

4-47 BORROW MATERIAL

Borrow material may not contain more than 5% clay, organic debris, or trash by volume. Borrow material must be free of rocks greater than 6 inches in any dimension.

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.

4-49 BORROW SOURCE

Purchaser shall obtain borrow material from borrow sources identified or approved by the Contract Administrator. Development of the borrow source must be in accordance with a written BORROW SOURCE DEVELOPMENT PLAN to be submitted by the Purchaser and approved in writing by the Contract Administrator.

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. Purchaser shall accomplish all shaping using a motor grader with a minimum of 175 horsepower.

4-56 DRY WEATHER SHAPING

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

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material. Minimum acceptable compaction is achieved by placing embankments in 1 foot or shallower lifts, and routing excavation equipment over the entire width of each lift.

Except as otherwise specified in this plan, a vibratory plate compactor or tamper shall be used for areas specifically requiring keyed embankment construction, and for embankment segments too narrow to accommodate equipment. Compaction with a plate compactor shall be made by a minimum of three full coverages; each lift shall not exceed 6 inches in depth.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed or reconstructed subgrades deeper than 3 feet at the road shoulder by routing equipment over the entire width. Contractor shall obtain written approval from the Contract Administrator for subgrade compaction before Rock application.

4-62 DRY WEATHER COMPACTION

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

4-63 EXISTING SURFACE COMPACTION

Purchaser shall compact maintained road surfaces by routing equipment over the entire width.

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Purchaser shall remove berms from road shoulders to permit the escape of runoff. The construction of ditchouts will be required where ponding will result from the effects of sidecast debris.

5-5 CULVERTS

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

5-12 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the CULVERT & DRAINAGE LIST that are not installed will become the property of the state. Contractor shall stockpile materials at Northeast Region Headquarters in Colville.

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.	18" x 34' culvert 18" culvert band

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures" the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings". Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer's recommendations.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

All culverts shall be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts shall be installed with a depth of cover specified in the Engineer's design, or to the minimum depth recommended by the culvert manufacturer for the type of cover material over the pipe, whichever is greater.

5-20 ENERGY DISSIPATERS

Energy dissipaters shall be installed to prevent erosion and are subject to approval by the Contract Administrator. The type of energy dissipater and the amount of material shall be consistent with the specifications listed on the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-21 DOWNSPOUTS AND FLUMES

Downspouts and flumes longer than 5 feet shall be staked on both sides at maximum intervals of 10 feet with 6-foot heavy-duty steel posts, and fastened securely to the posts

with No. 10 galvanized smooth wire or 1/2-inch bolts in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

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 unless specified otherwise on the CULVERT AND DRAINAGE LIST.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts, except for temporary culverts. Headwalls shall also be constructed at all culverts identified on the CULVERT AND DRAINAGE LIST that specifies the placement of rock. Rock shall be placed by zero drop height methods. 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 diameters above the top of the culvert.

5-27 ARMORING FOR CULVERTS

At the following culvert(s), Purchaser shall place Light Loose Rip Rap immediately following construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the DETAIL D1 – CULVERT AND DRAINAGE SPECIFICATIONS DETAIL or as directed by the Contract Administrator. Rock may not restrict the flow of water into culvert inlets or catch basins. Rock must be set in place by machine. Placement must be with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed. Light Loose Rip Rap must meet the specifications in Clause 6-50 LIGHT LOOSE RIP RAP

<u>Road</u>	<u>Stations</u>
E314305F	<u>9+46</u>
E314305N	3+20, 3+57, and 8+30

5-30 DRIVABLE WATERBAR CONSTRUCTION

Purchaser shall construct drivable waterbars in accordance with the DRIVABLE WATERBAR DETAIL and as specified on the CULVERT AND DRAINAGE LIST or as marked in the field. Drivable waterbars must be installed concurrently with construction of the subgrade and must be maintained in an operable condition.

5-31 ROLLING DIP CONSTRUCTION

Purchaser shall construct Rolling dips in accordance with the ROLLING DIP DETAIL and as specified on the CULVERT & DRAINAGE LIST or marked in the field. Rolling dips must be installed concurrently with construction of the subgrade and shall be maintained in an operable condition. Minimum frequency of rolling dips shall be at a maximum spacing of 400 feet horizontal or one for every 10 feet of vertical change or as directed by the Contractor Administrator.

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be water barred by November 15. 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 feet between waterbars or between natural drainage paths, and with a maximum spacing of 300 feet.

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 will be subject to written approval by the Contract Administrator before their use.

6-22 FRACTURE REQUIREMENT FOR ROCK

A minimum of 50% by visual inspection of coarse aggregate must have at least one fractured face. Coarse aggregate is the material greater than 1/4-inch in size.

6-26 5/8-INCH MINUS CRUSHED ROCK

% Passing 5/8" square sieve	100%
% Passing 3/8" square sieve	55 - 75%
% Passing U.S. #4 sieve	40 - 60%

Of the fraction passing the No. 4 sieve, 40% to 60% must pass the No. 10 sieve.

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

6-28 1 ¼-INCH MINUS CRUSHED ROCK

% Passing 1 ¼" square sieve	100%
% Passing 5/8" square sieve	55 - 75%
% Passing U.S. #4 sieve	20 - 50%

Of the fraction passing the No. 4 sieve, 40% to 60% must pass the No. 10 sieve.

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

6-38 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 40 percent of rock may be larger than 8 inches in any dimension and no rock may be larger than 12 inches in any dimension.

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>At Least/Not More Than</u>	<u>Weight Range</u>	<u>Size Range</u>
20% / 90%	300 lbs. to 1 ton	20" - 36"
80% / --	50 lbs. to ½ ton	12" - 30"
10% / 20%	<u>50</u> lbs. max	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. Contractor shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements, and are not subject to reduction.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for before rock application.

6-71 ROCK APPLICATION

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

6-80 WATERING FOR DUST ABATEMENT

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

7-70 GATE CLOSURE

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

<u>Road</u>	<u>Station</u>	<u>Comment</u>
E314304A	0+20	Close and lock gate after hauling is complete each day

7-76 GATE INSTALLATION

Purchaser shall install the listed gate(s).

<u>Road</u>	<u>Station</u>	<u>Type</u>	<u>Provided by</u>
E314304A	0+20	Steel Tube Gate	Purchaser

Tubular gate installation(s) must be in accordance with the VEHICLE GATE DETAIL.

The gate and lock box must be installed plumb and aligned to ensure all mating components match with precision. Each post must be filled with concrete and set in a minimum of 2 cubic yards of poured-in-place concrete. The gate must be installed with a post and locking device to allow the gate to be locked in an open position. The Contract Administrator will provide Purchaser with a padlock.

If Purchaser wishes to install an alternate design, detailed plans for the construction of the gate must be submitted to the Contract Administrator. Purchaser shall obtain written approval for the plans from the Contract Administrator or their designee, before gate installation begins.

Purchaser shall provide and place 10 cubic yards of Light Loose Rip Rap to prevent vehicles driving around the gate.

7-78 GATE SUPPLIED BY PURCHASER

Purchaser shall provide all gates specified for installation in Clause 7-76 GATE INSTALLATION. Purchaser shall obtain written approval for the gates from the Contract Administrator before installation.

8-1 SEDIMENT CONTROL STRUCTURES

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

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

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

<u>Road</u>	<u>Stations</u>
E314305F	4+00
E314305L	0+20

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

Culvert material removed from roads becomes 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>Additional Requirements</u>
E324321A	0+00 to 370+62	Post Haul Grade
E314304A	0+00 to 134+48	Spot Grade as Needed
E314305E	0+00 to 8+25	Post Haul Grade
E314305F	0+00 to 15+40	Spot Grade as Needed
E314305K	0+00 to 4+60	Spot Grade as Needed
E324306A	0+00 to 67+62	Post Haul Grade
E314305L	0+00 to 20+97	Spot Grade as Needed
E314305N	0+00 to 24+21	Spot Grade as Needed

9-10 LANDING DRAINAGE

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

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

9-20 ROAD DECOMMISSIONING

Purchaser shall decommission the following roads at the termination of use.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
E314305F	0+00 to 15+40	Light Decommissioning
E314305K	0+00 to 4+60	Light Decommissioning
E314305L	0+00 to 20+97	Light Decommissioning
E314305M	0+00 to 1+58	Light Decommissioning

9-22 LIGHT DECOMMISSIONING

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN 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
- Cover, concurrently with abandonment, all exposed soils within 100 feet of any live stream, with a 8-inch deep layer of straw.
- Provide and evenly spread a 6-inch layer of straw to all exposed soils associated with stream culvert and puncheon removals, as well as all waste material generated by fill removal that is within 30 feet of excavation limits.
- Scatter woody debris onto abandoned road surfaces.

10-15 CORRUGATED STEEL CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

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

10-20 FLUME AND DOWNSPOUT

Downspouts and flumes shall meet the AASHTO specification designated for the culvert. Plastic downspouts and flumes shall be Type S – double walled with a corrugated exterior and smooth interior.

10-21 METAL BAND

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

10-22 PLASTIC BAND

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

10-23 RUBBER CULVERT GASKETS

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

10-24 GAUGE AND CORRUGATION

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

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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

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

Surface

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

Drainage

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

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.

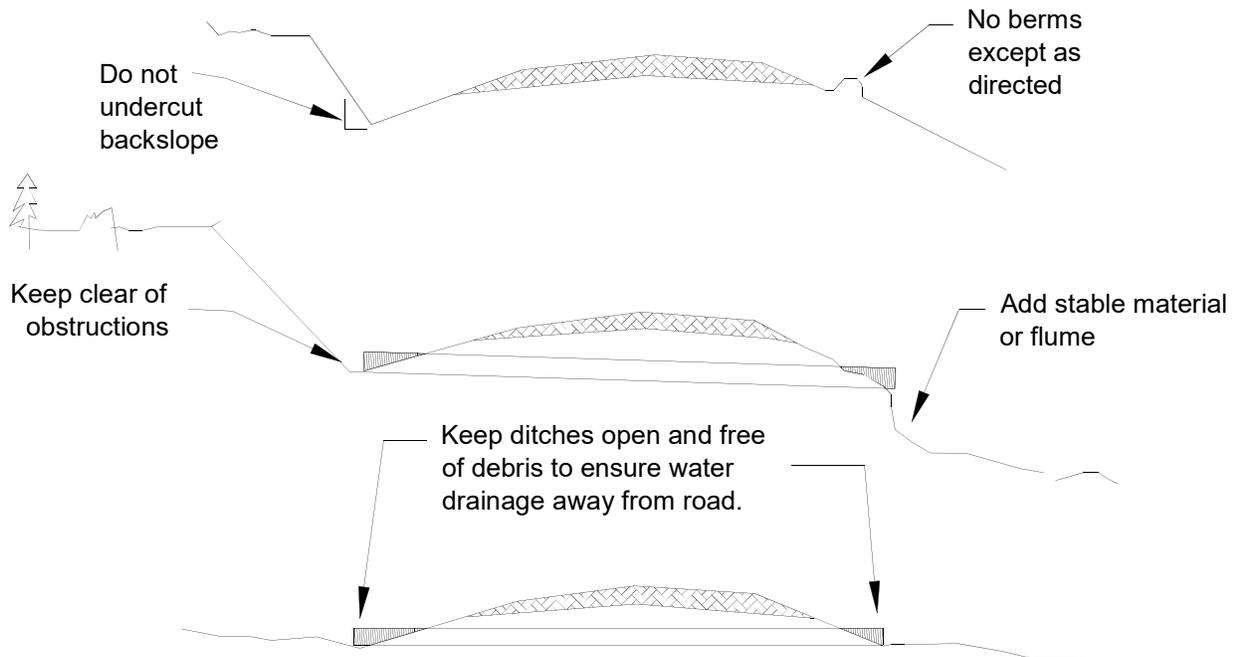
FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

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.

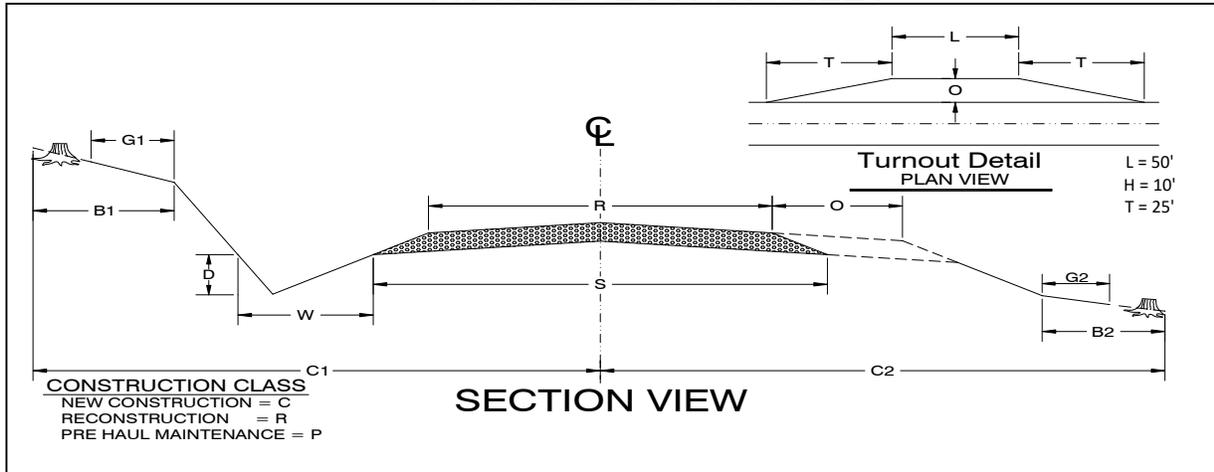


DEPARTMENT OF NATURAL RESOURCES

Application No.: 30-099988

Name of Sale: Boyce

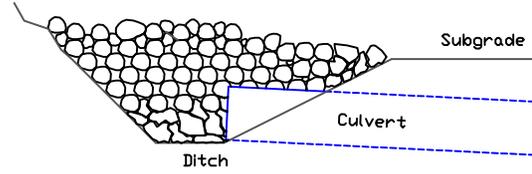
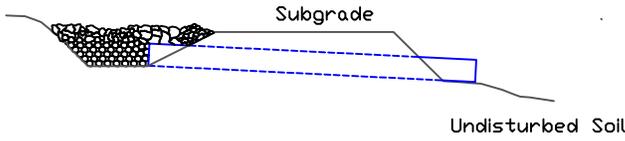
TYPICAL SECTION SHEET



ROAD NAME	START STATION	END STATION	CONSTRUCTION CLASS	FULL BENCH	TOLERANCE CLASS	SUBGRADE WIDTH (S)	ROAD WIDTH (R)	INSLOPE "/10'	OUTSLOPE "/10'	CROWN " AT CL	DITCH WIDTH (W)	DITCH DEPTH (D)	DITCH 2 SIDES	GRUBBING CUT BANK (G1)	GRUBBING FILL TOE (G2)	ROAD CUT CLEARING (B1)	ROAD FILL CLEARING (B2)	R/W CUT CLEARING (C1)	R/W FILL CLEARING (C2)	
E324321A	0+00	370+62	P		C	14'	12'	subgrade shape varies												
E314304A	0+00	134+48	P		C	14'	12'	subgrade shape varies												
E314305E	0+00	8+25	P		C	14'	12'	subgrade shape varies												
E314305F	0+00	15+40	P		C	14'	12'	subgrade shape varies												
E314305K	0+00	4+60	C		C			4						3	3	10	10			
E314306A	0+00	67+62	P		C	14'	12'	subgrade shape varies												
E314305L	0+00	20+97	C		C			4						3	3	10	10			
E314305M	0+00	1+58	C		C			4						3	3	10	10			
E314305N	0+00	24+21	C		C			4						3	3	10	10			

CULVERT AND DRAINAGE SPECIFICATIONS DETAIL - D1

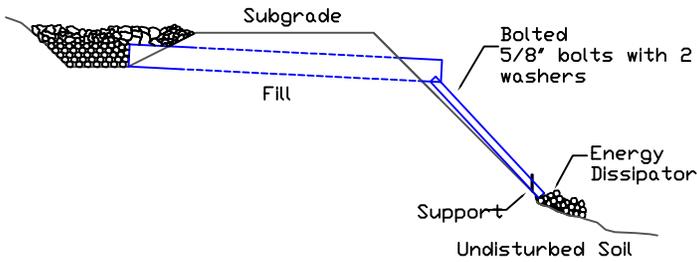
HEADWALLS



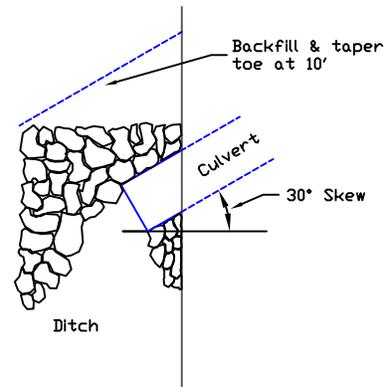
Headwall to be constructed of material that will resist erosion

FLUME

Use where ground conditions are uniform, providing for stability of flume.

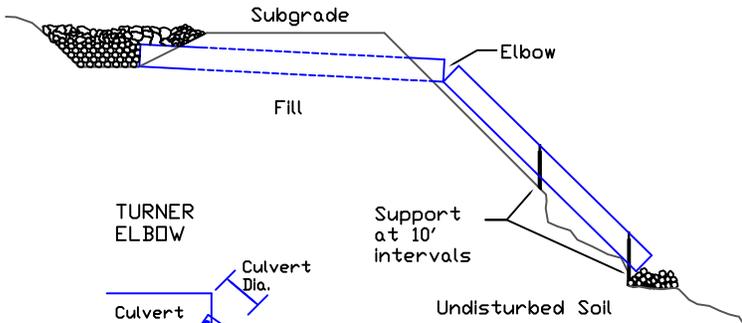


PLAN VIEW

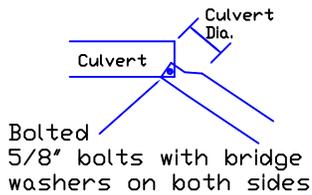


DOWNSPOUT

Use where ground conditions are irregular.



TURNER ELBOW



CULVERT BACKFILL & BASE PREPARATION (For Culverts Less Than 36")

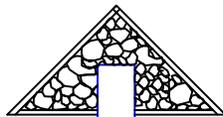
Minimum Cover	Minimum Bed Depth	Min. Trench Width	Nominal Diameter
A	B	C	D
12"	6"	36"	18"
12"	6"	42"	24"
12"	6"	48"	30"
12"	6"	54"	36"

DISSIPATOR SPEC'S Size In Culvert Diameters

Area	2 X 2
Depth	1
Aggregate	1/3

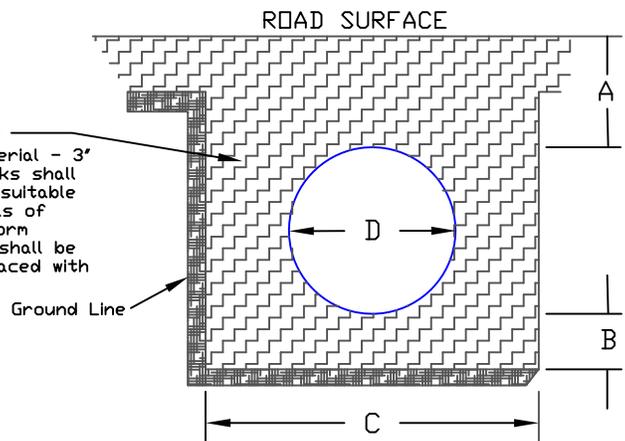


Level



Side Hill

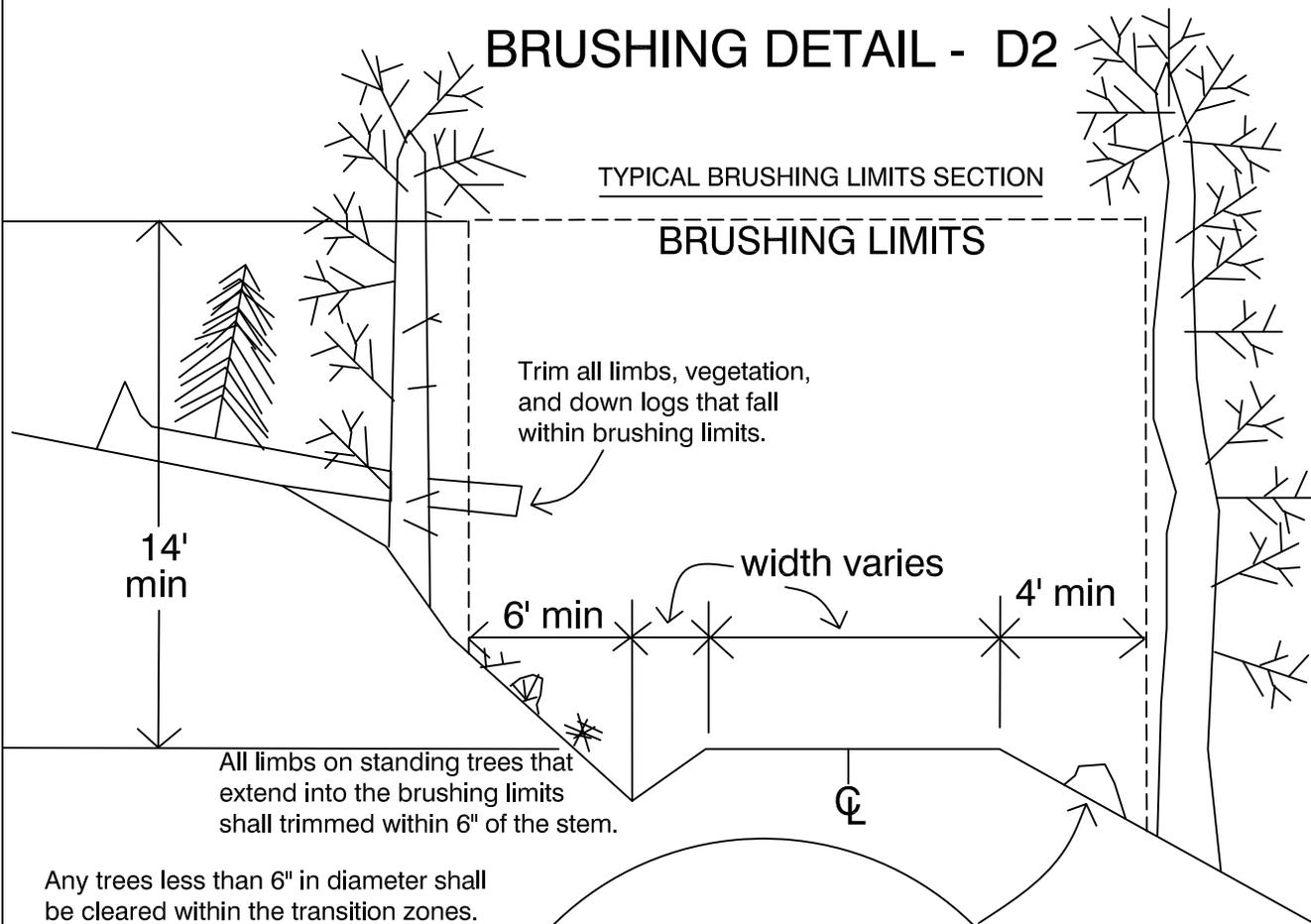
BEDDING MATERIAL:
Use granular material - 3" minus. Large rocks shall be replaced with suitable material. Materials of poor or non-uniform bearing capacity shall be removed and replaced with suitable fill.



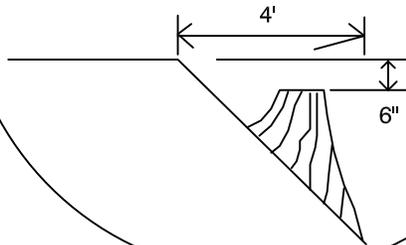
BRUSHING DETAIL - D2

TYPICAL BRUSHING LIMITS SECTION

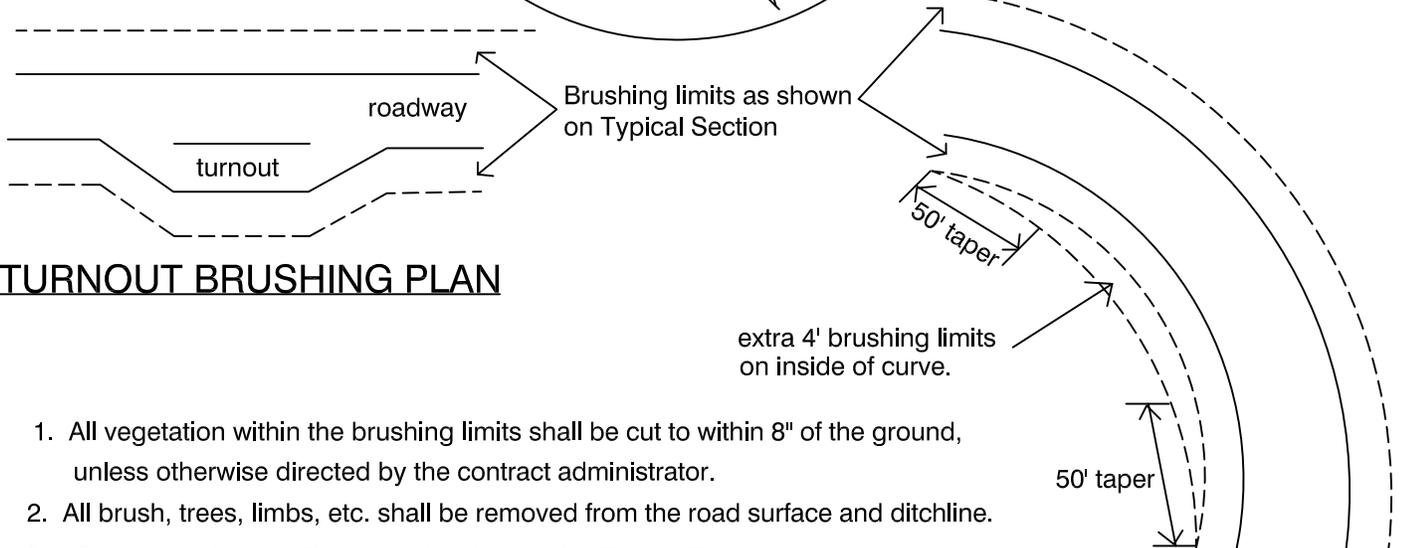
BRUSHING LIMITS



Trim all stumps and vegetation within 4' of edge of road and in ditch to at least 6" below the elevation of the edge of road.



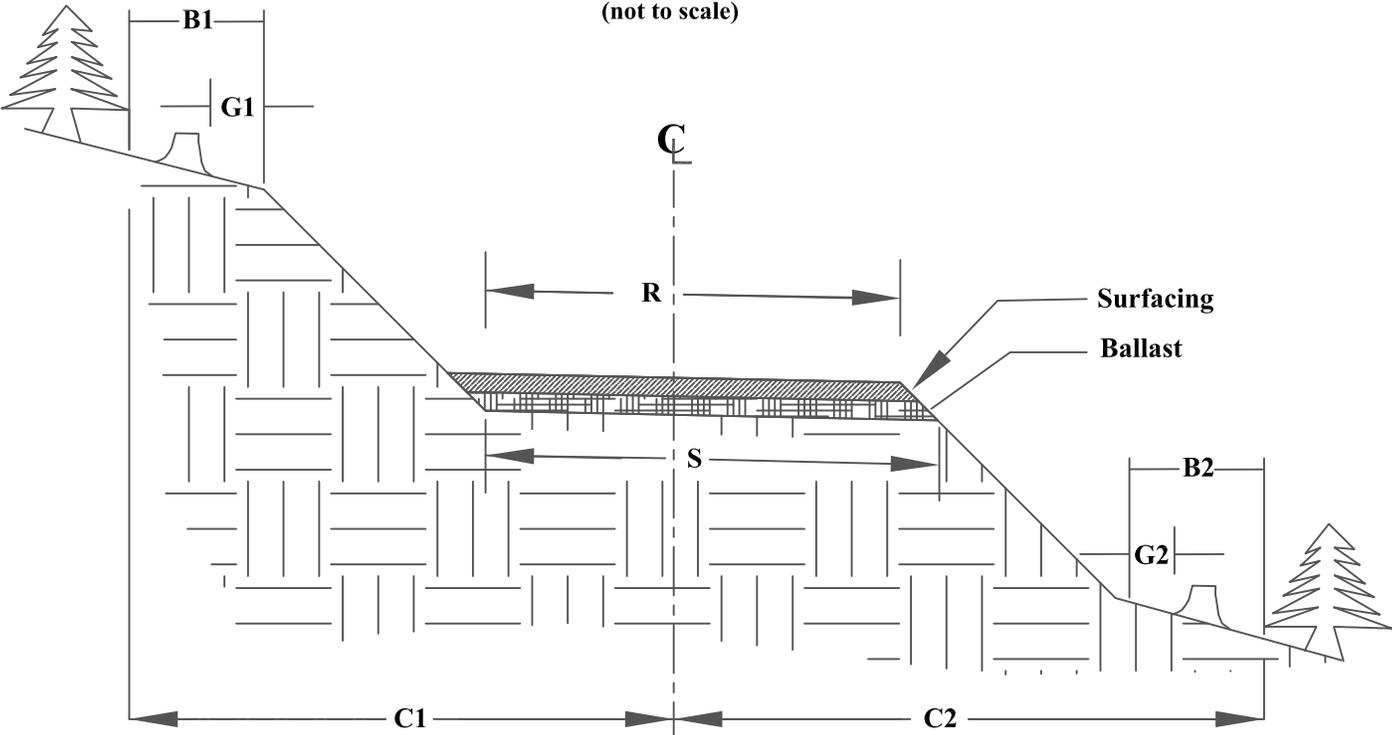
CURVE BRUSHING PLAN



TURNOUT BRUSHING PLAN

1. All vegetation within the brushing limits shall be cut to within 8" of the ground, unless otherwise directed by the contract administrator.
2. All brush, trees, limbs, etc. shall be removed from the road surface and ditchline.
3. All debris that may roll or migrate into the ditchline shall be removed.

OUTSLOPED ROAD CROSS-SECTION DETAIL D3



Drawn by: JBB 2/18/03
Revised: JE 01/14/20162

STANDARD 30° ROLLING DIP - D5

Note: Plan of dip shown is for an outsloped rolling dip. Dips may be either insloped or outsloped. When insloped, dips shall discharge into a culvert, drop inlet, overside drain, or drainage ditch. When outsloped, they shall discharge into an overside drain or on to natural ground. Minimum skew is 30°, and the maximum skew is 45°.

The minimum cross grade from "B" to "E" is 1% greater than the original road grade.

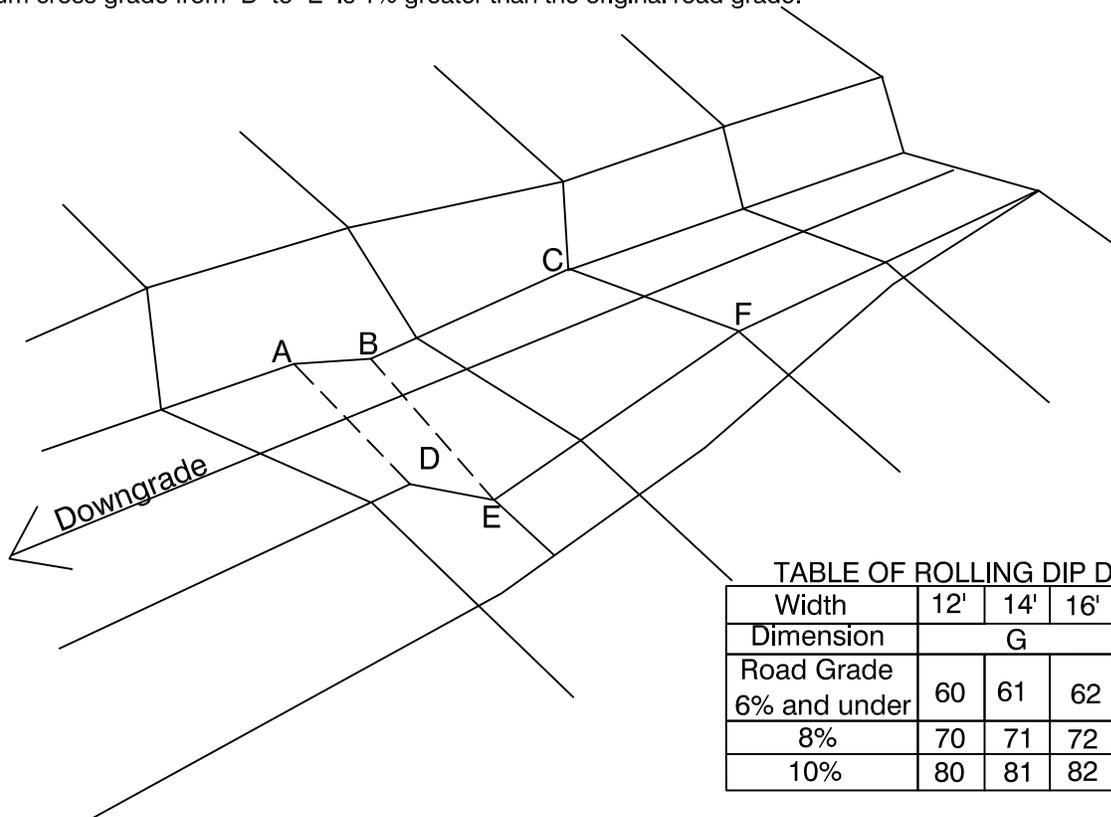
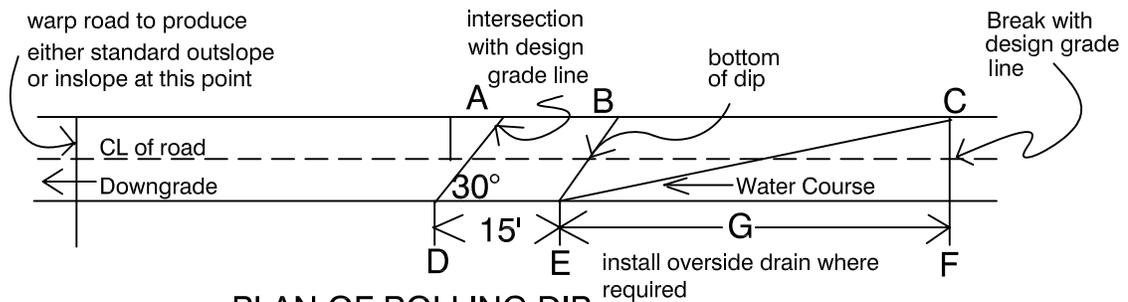
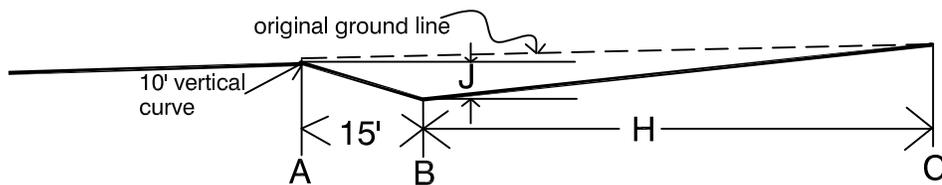


TABLE OF ROLLING DIP DEMENSIONS

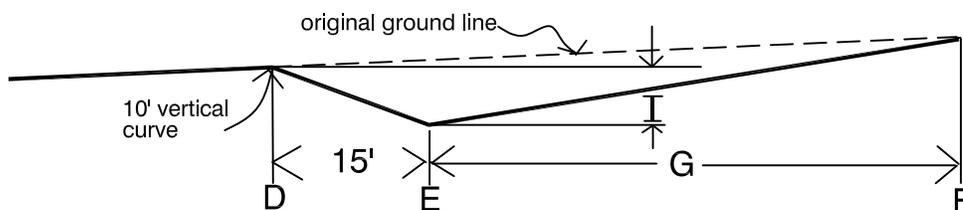
Width	12'	14'	16'	ALL		
Dimension	G			H	I	J
Road Grade 6% and under	60	61	62	52	.8	0.3
8%	70	71	72	62	1.0	0.2
10%	80	81	82	72	1.1	0.1



PLAN OF ROLLING DIP



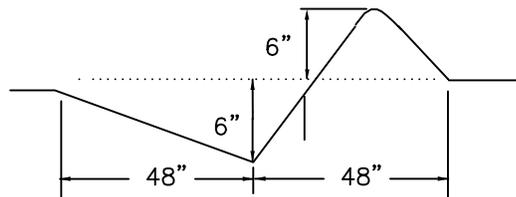
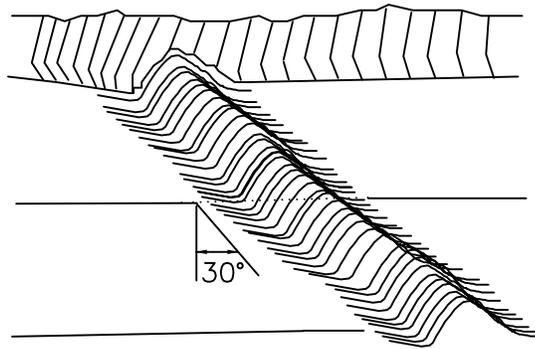
ROAD PROFILE ALONG A-B-C OF ROLLING DIP



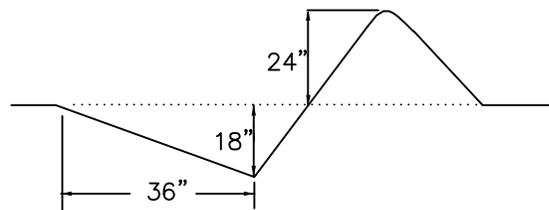
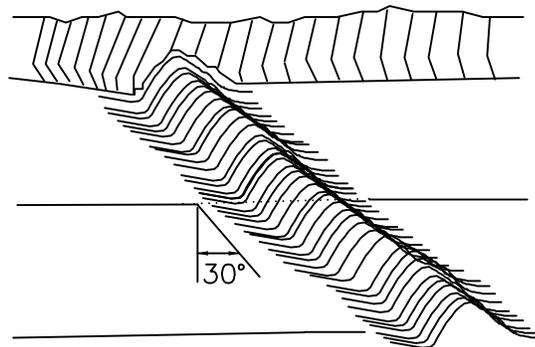
ROAD PROFILE ALONG D-E-F OF ROLLING DIP

WATERBAR DETAIL—D6

DRIVABLE WATERBAR



NON DRIVABLE WATERBAR

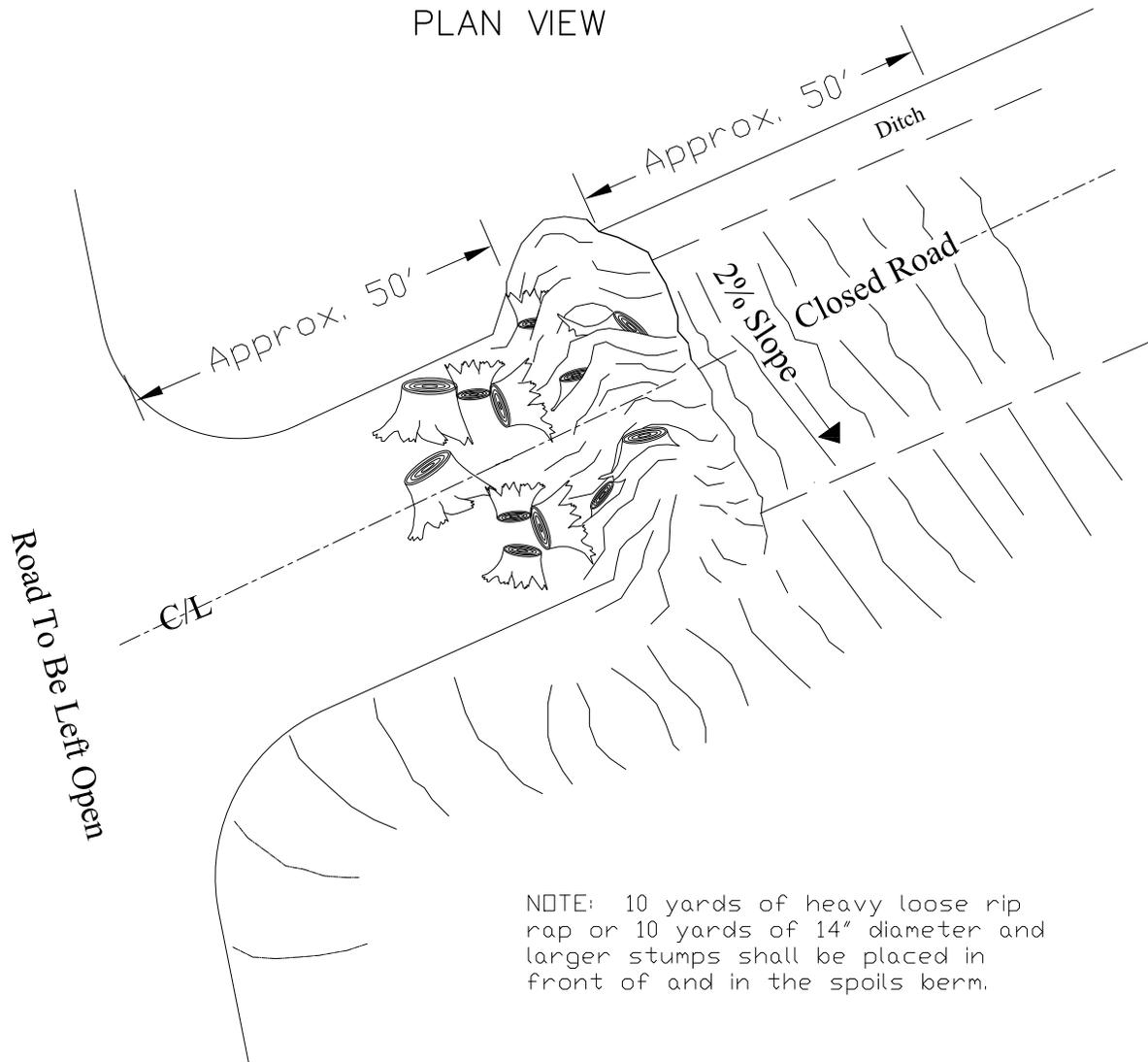


1. Waterbar construction for forest roads Specifications are average and may be adjusted to conditions.
2. Waterbar shall keyed into the bank.
3. The waterbar shall be outsloped for proper drainage.
4. Rock outlet if fill slope is present.

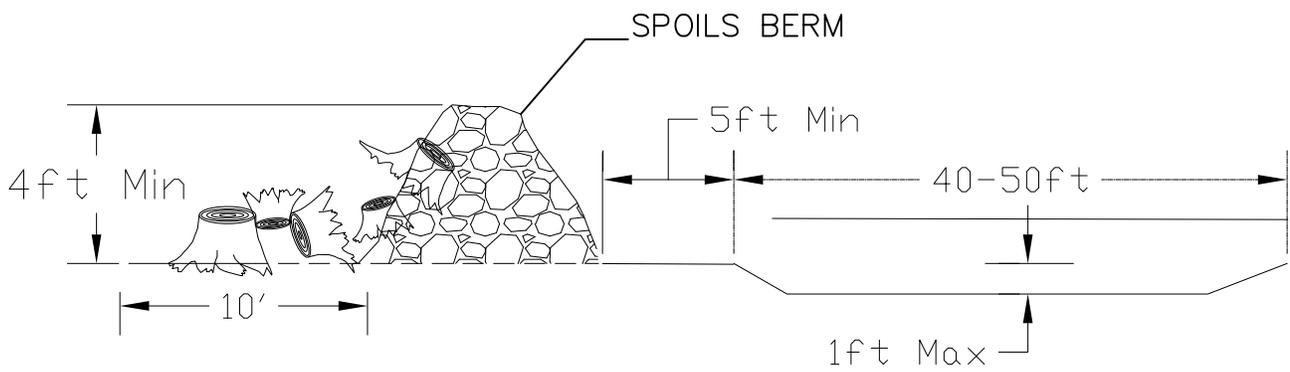
Revised: 05/21/2012

SPOILS BERM DETAIL-D8

PLAN VIEW

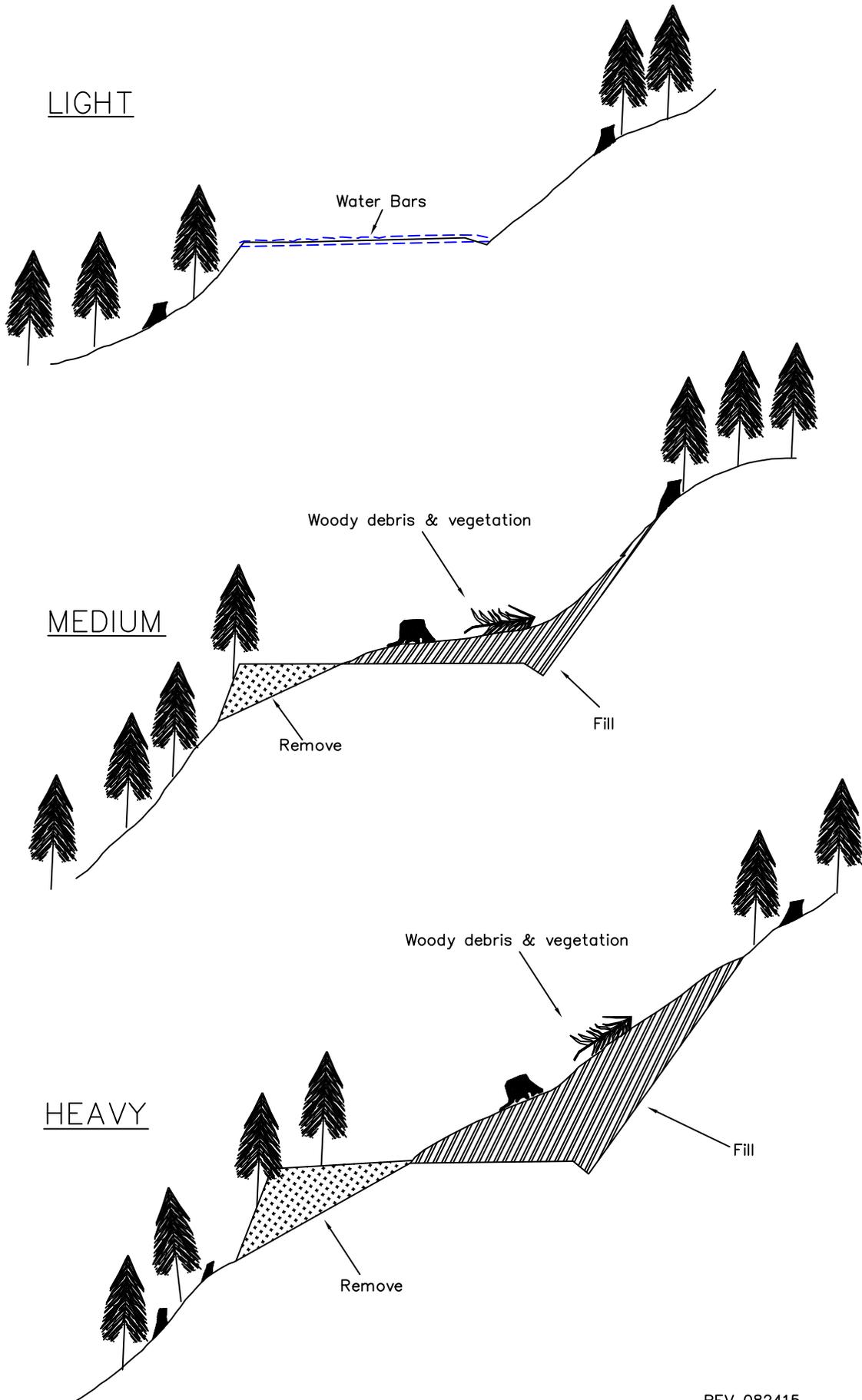


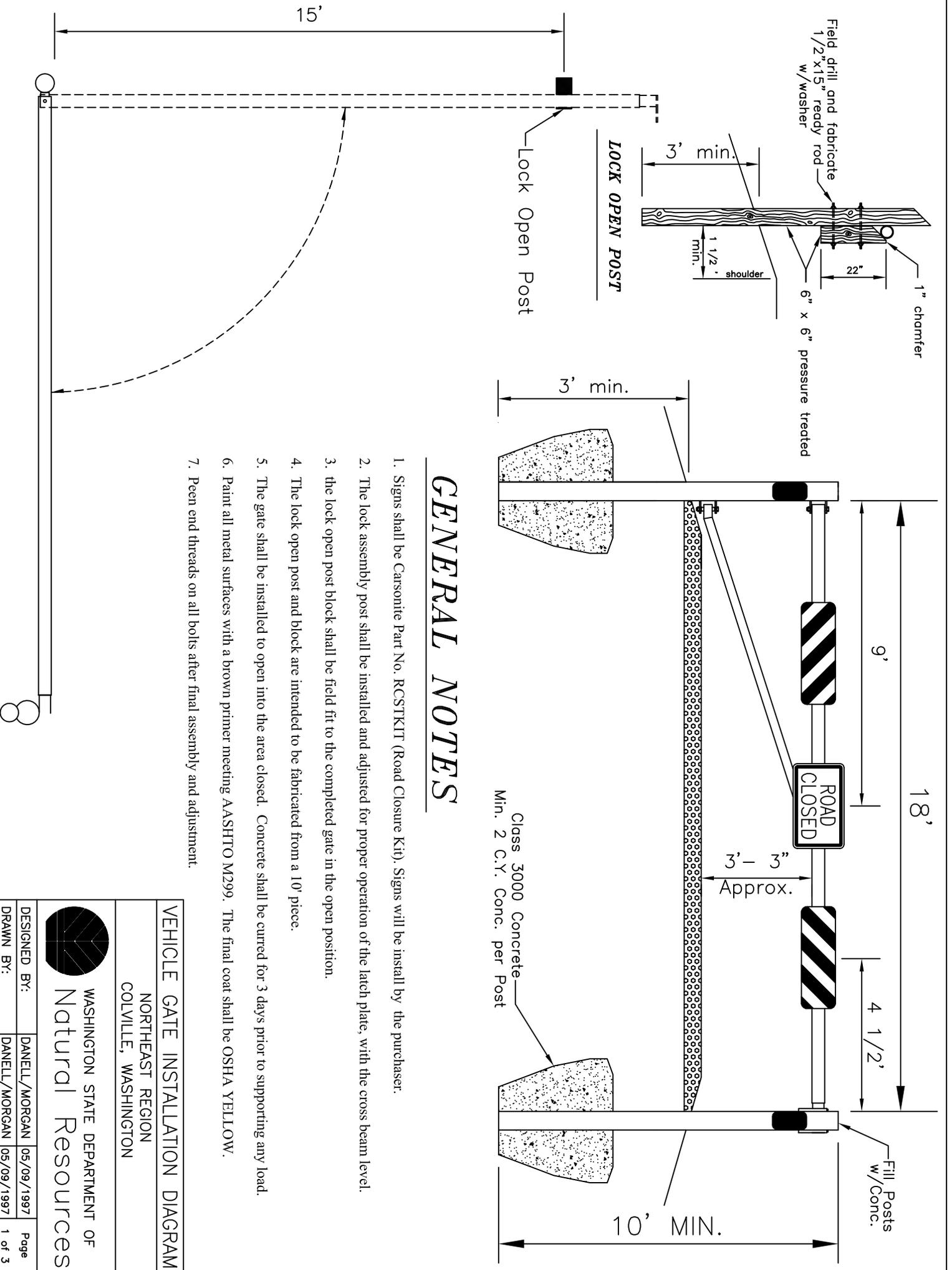
NOTE: 10 yards of heavy loose rip rap or 10 yards of 14" diameter and larger stumps shall be placed in front of and in the spoils berm.



Note: $\frac{1}{3}$ of stumps or rip rap shall be partially buried in the spoils berm and/or road surface.

ROAD ABANDONMENT DETAIL-D12
CROSS SECTIONS





GENERAL NOTES

1. Signs shall be Carsonite Part No. RCSTKIT (Road Closure Kit). Signs will be install by the purchaser.
2. The lock assembly post shall be installed and adjusted for proper operation of the latch plate, with the cross beam level.
3. the lock open post block shall be field fit to the completed gate in the open position.
4. The lock open post and block are intended to be fabricated from a 10' piece.
5. The gate shall be installed to open into the area closed. Concrete shall be cured for 3 days prior to supporting any load.
6. Paint all metal surfaces with a brown primer meeting AASHTO M299. The final coat shall be OSHA YELLOW.
7. Peen end threads on all bolts after final assembly and adjustment.

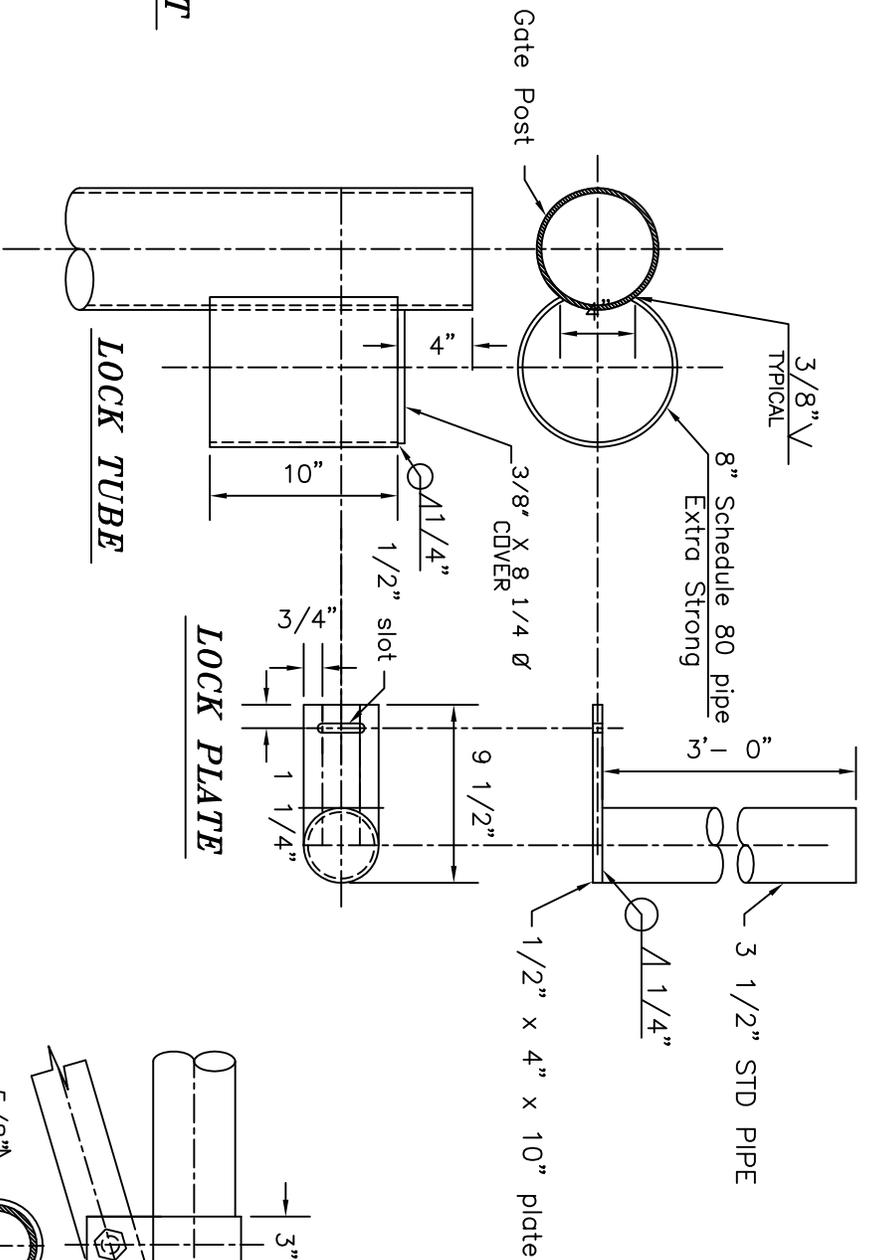
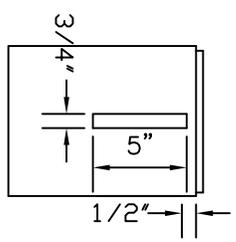
VEHICLE GATE INSTALLATION DIAGRAM

NORTHEAST REGION
COLVILLE, WASHINGTON

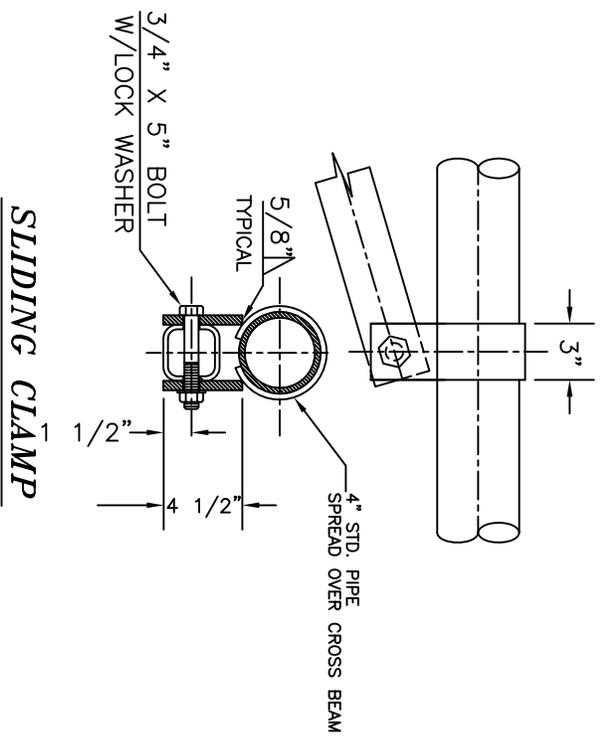


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DRAWN BY:	DANELL/MORGAN	05/09/1997	1 of 3

LOCK TUBE SLOT



LOCK PLATE

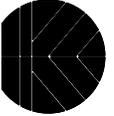


SLIDING CLAMP

- NOTES:**
1. Pipe sizes are nominal unless otherwise noted.
 2. Fabricate sliding clamp with 1/4 " thick spacer washers against each side of brace tubing to provide for clamping compression for final assembly.

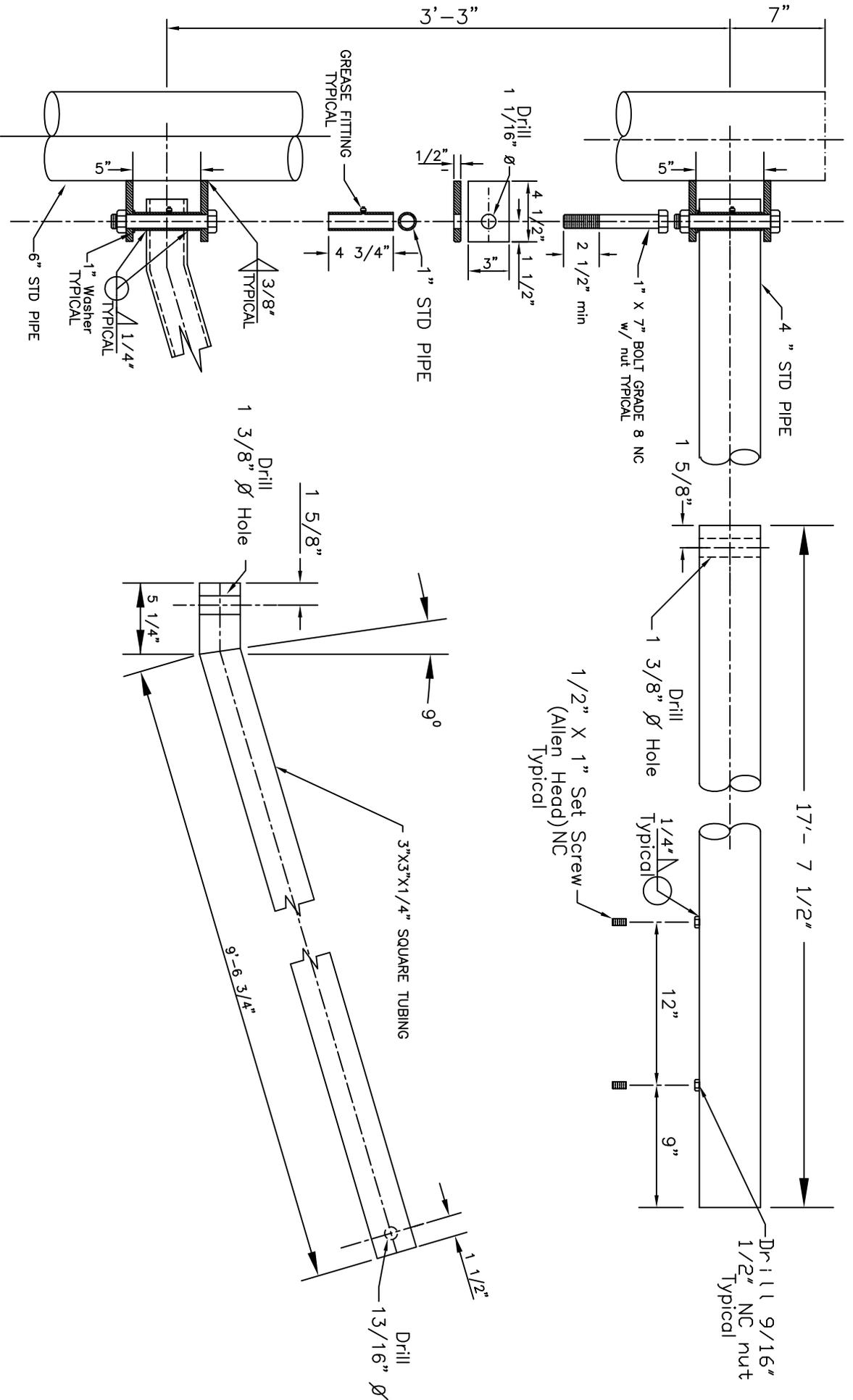
VEHICLE GATE FABRICATION DETAILS

NORTHEAST REGION
COLVILLE, WASHINGTON



WASHINGTON STATE DEPARTMENT OF
Natural Resources

DESIGNED BY: DANELL/MORGAN	05/09/1997
DRAWN BY: DANELL/MORGAN	05/09/1997

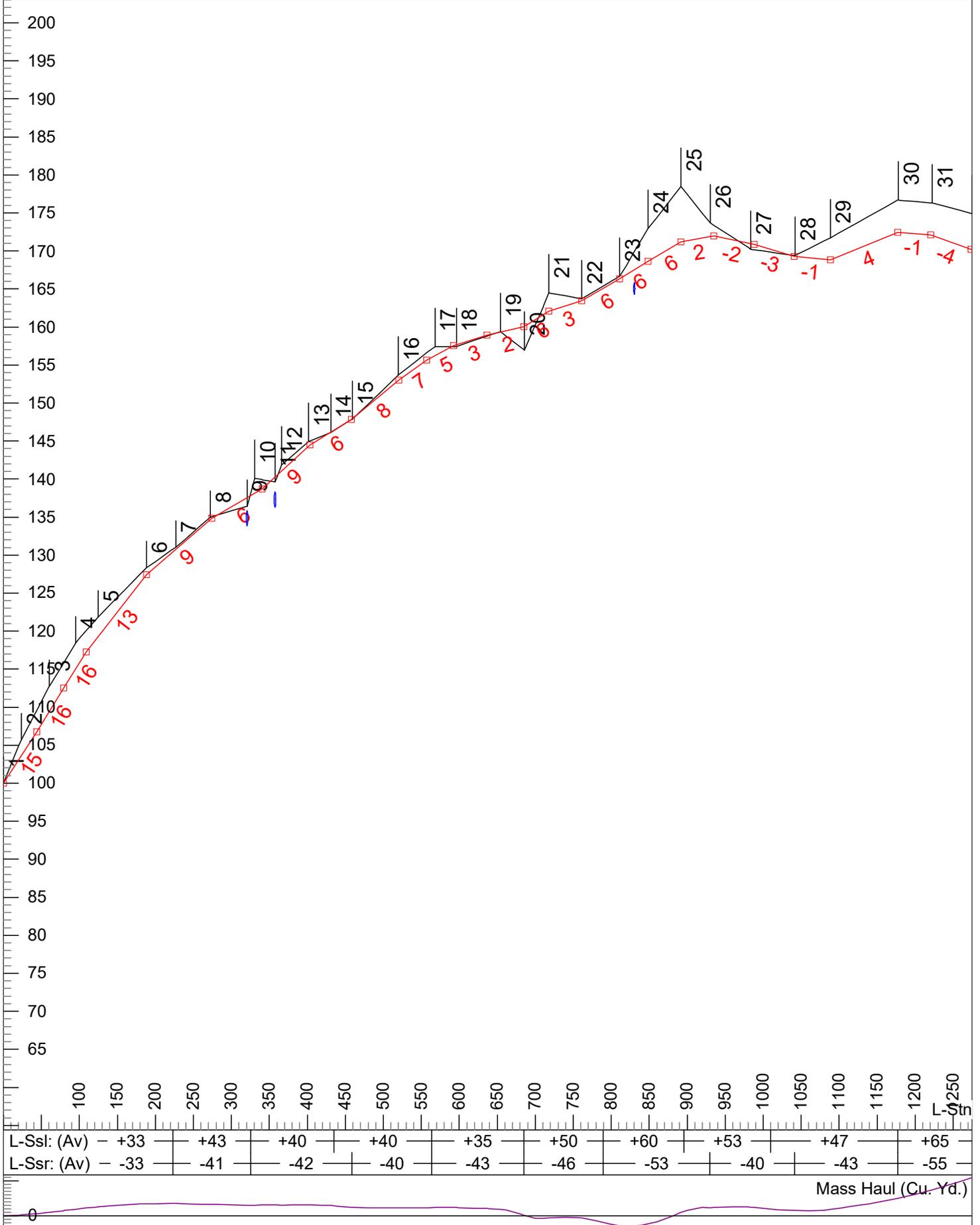


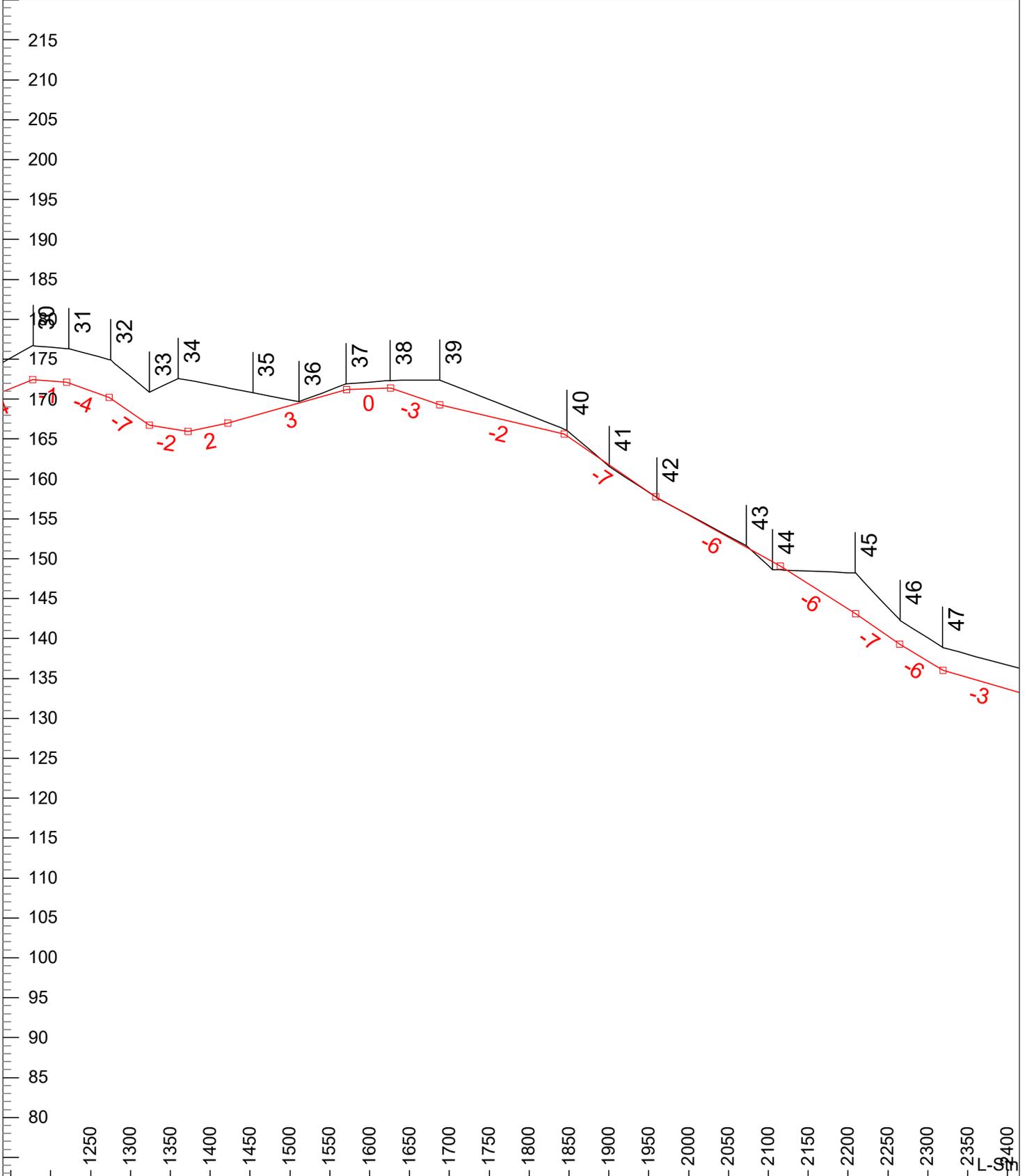
NOTES:

1. Pipe sizes are nominal unless otherwise noted.
2. Fabricate sliding clamp with 1/4" thick spacer washers against each side of brace tubing to provide for clamping compression for final assembly.

VEHICLE GATE FABRICATION DETAILS			
NORTHEAST REGION COLVILLE, WASHINGTON			
WASHINGTON STATE DEPARTMENT OF Natural Resources			
DESIGNED BY:	DANELL/MORGAN	05/09/1997	
DRAWN BY:	DANELL/MORGAN	05/09/1997	Page 3 of 3



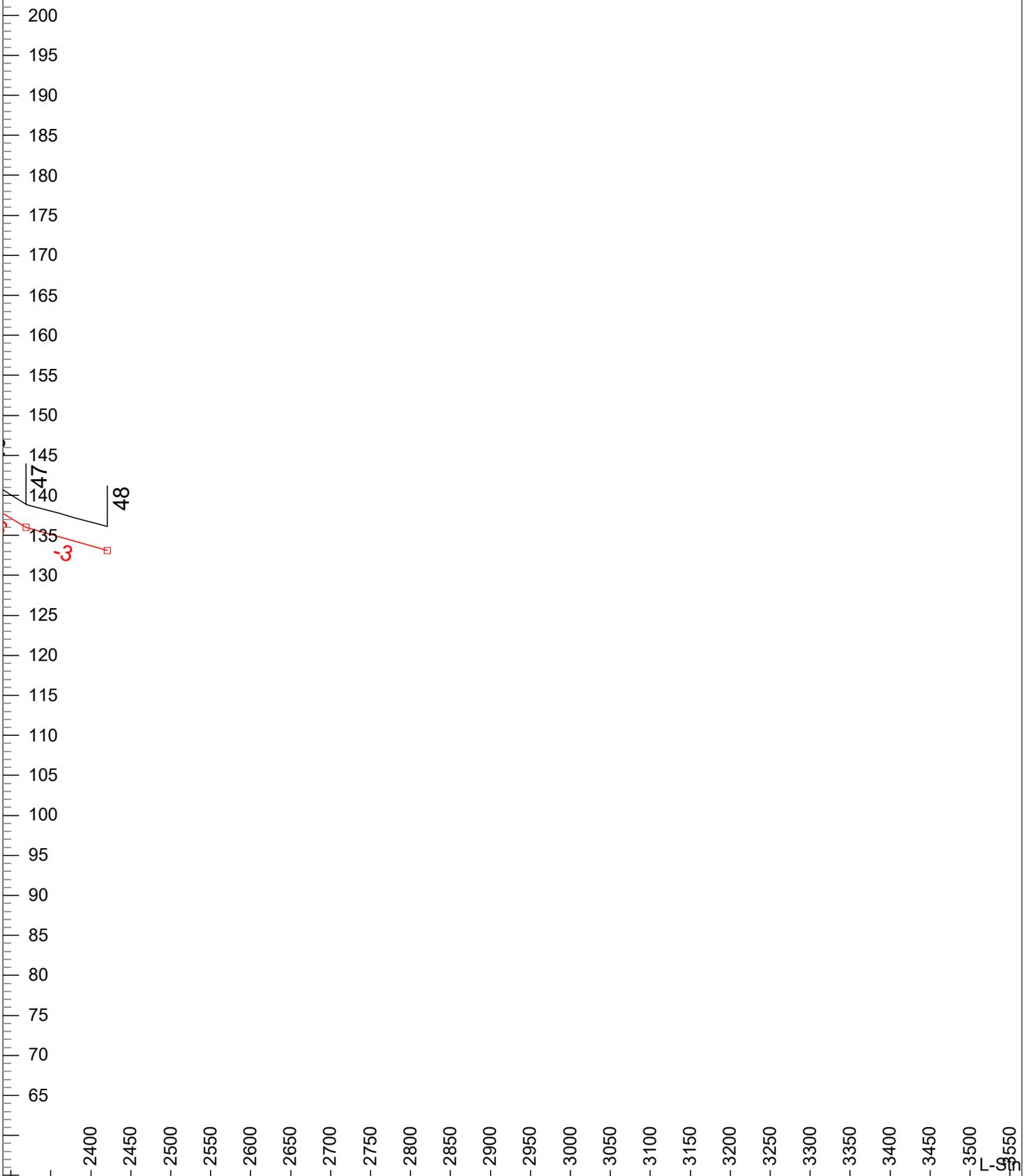




L-Ssl: (Av)	-	+65	-	+53	-	+43	-	+38	-	+47	-	+47	-	+44	-	+40	-	+50
L-Ssr: (Av)	-	-53	-	-50	-	-45	-	-38	-	-47	-	-33	-	-35	-	-40	-	-47

Mass Haul (Cu. Yd.)

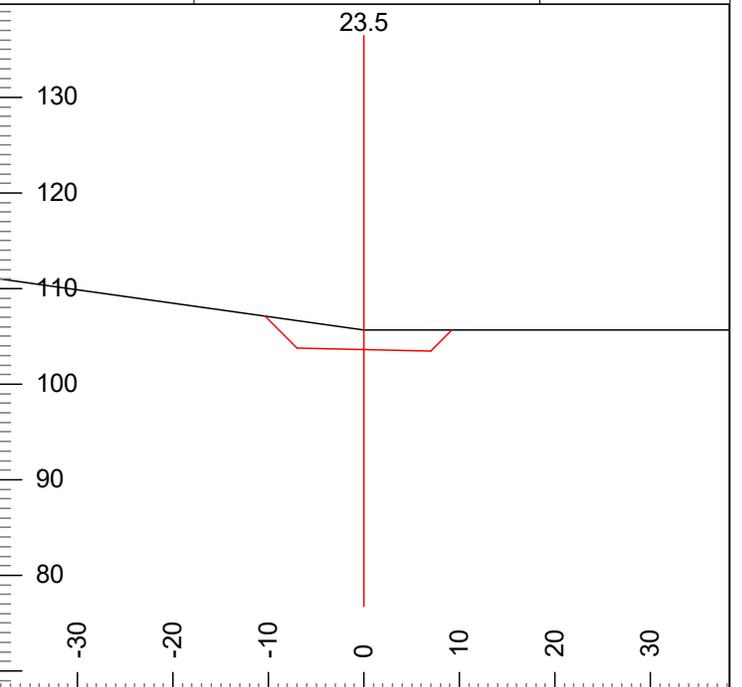
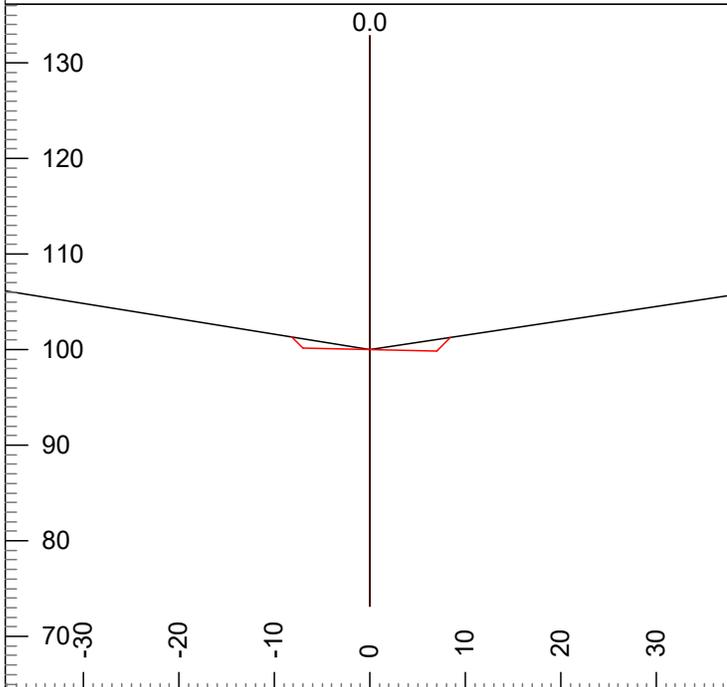




L-Ssl: (Av) +50
L-Ssr: (Av) -47

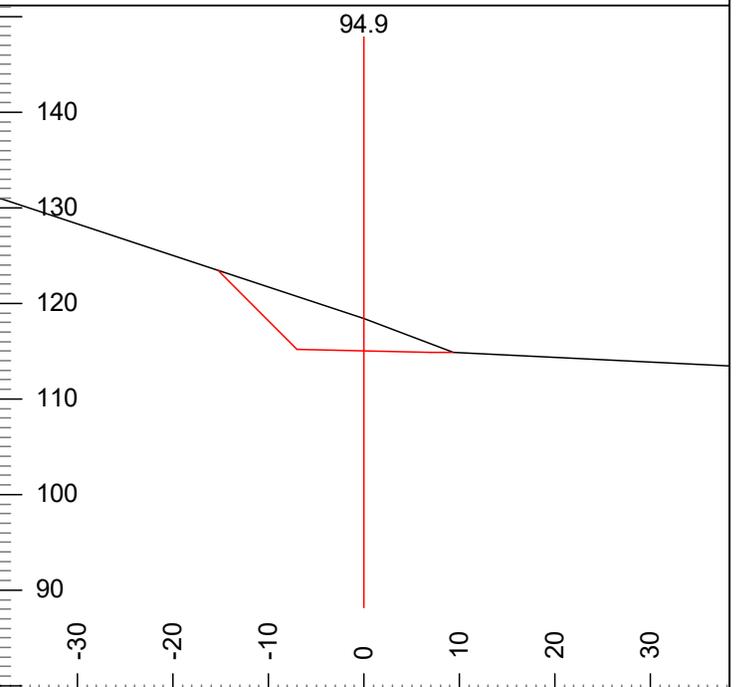
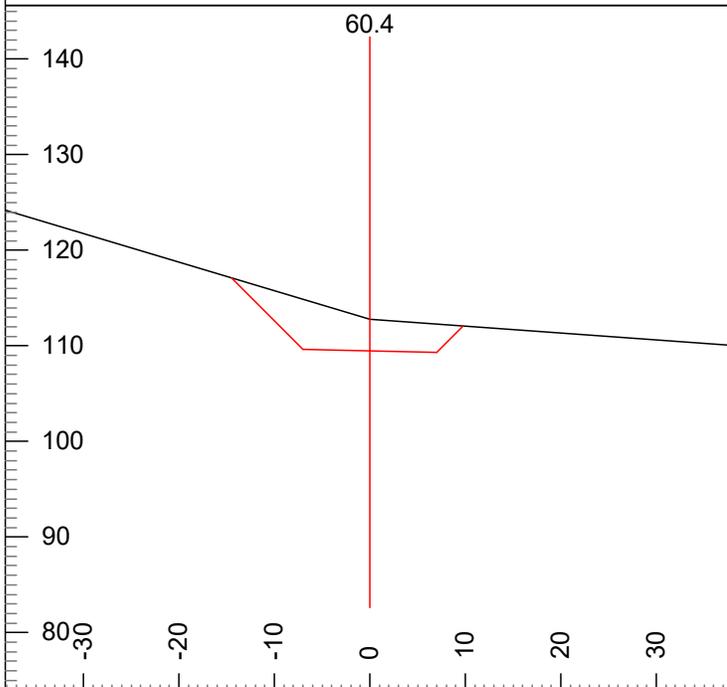
3000

Mass Haul (Cu. Yd.)



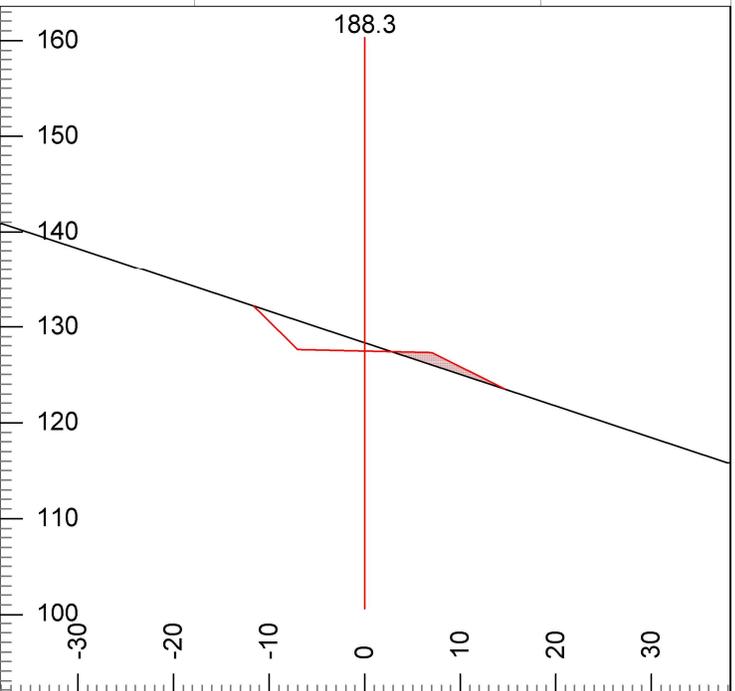
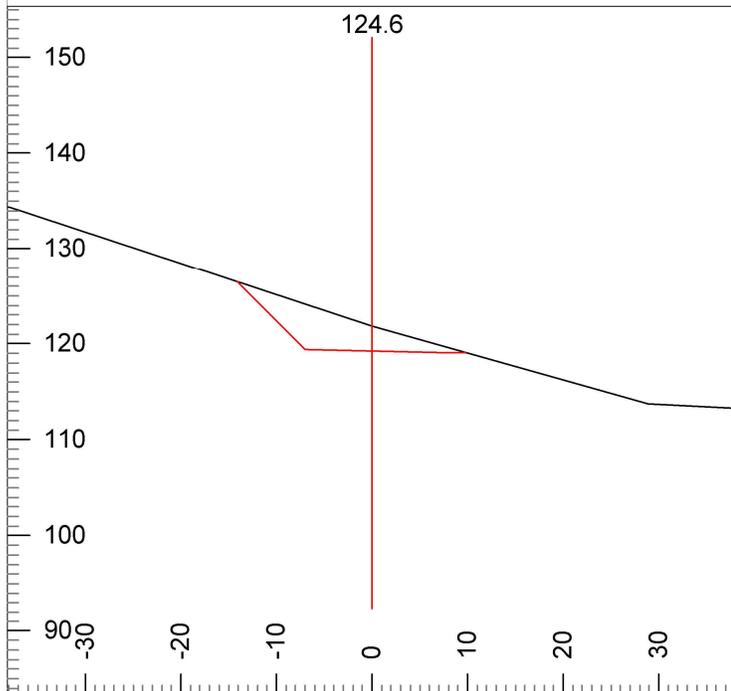
Index:	1	L-Ssr:	15.0
Trav.Cmnt:	Edge of exit road	Cut Dp:	0.0
L-Stn :	0.0	Cul DIA:	
Grd.Nxt.:	15.4	Cul Length:	
Grd.Lst:	n/a	Rd. Wd. L:	7.0
L-Ssl:	16.0	Rd. Wd. R:	7.0

Index:	2	L-Ssr:	0.0
Trav.Cmnt:	GPS 1051	Cut Dp:	2.1
L-Stn :	23.5	Cul DIA:	
Grd.Nxt.:	15.4	Cul Length:	
Grd.Lst:	15.4	Rd. Wd. L:	7.0
L-Ssl:	14.0	Rd. Wd. R:	7.0



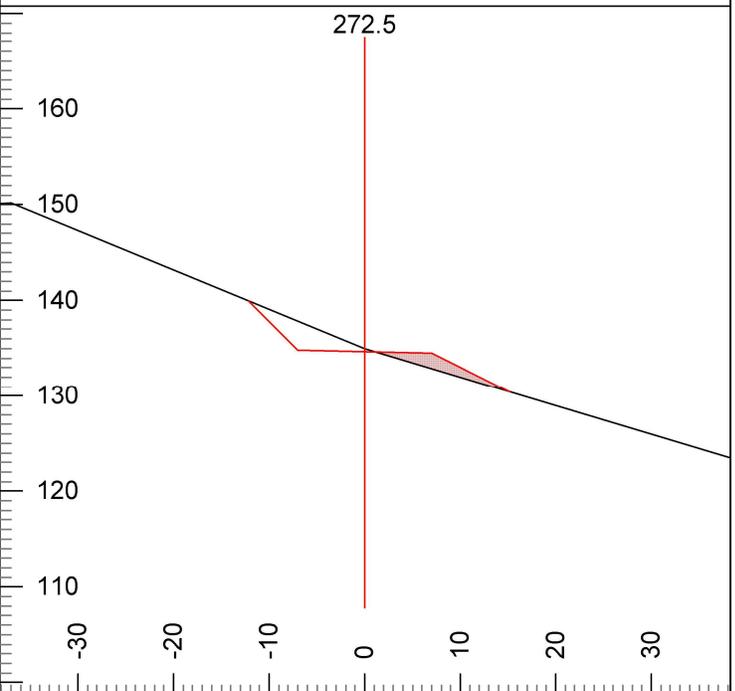
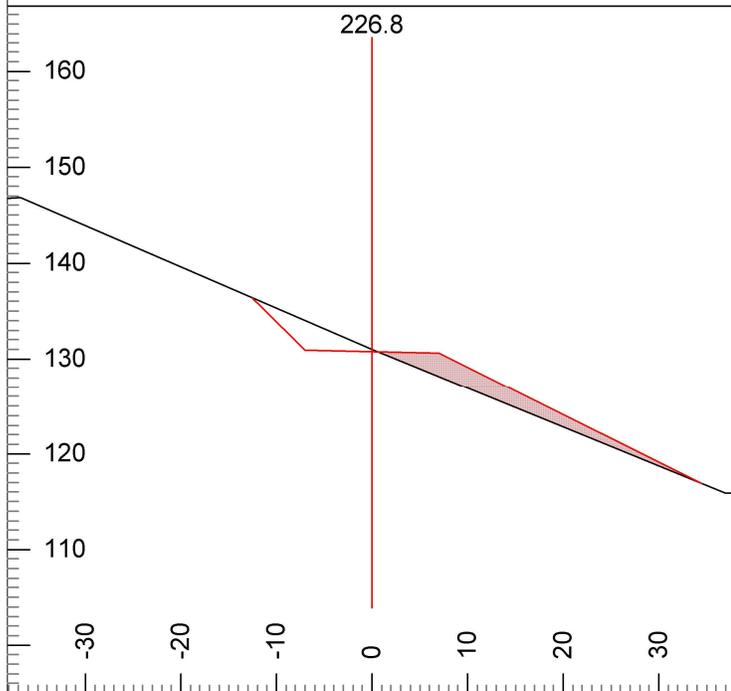
Index:	3	L-Ssr:	-7.0
Trav.Cmnt:	GPS 474	Cut Dp:	3.3
L-Stn :	60.4	Cul DIA:	
Grd.Nxt.:	16.4	Cul Length:	
Grd.Lst:	16.4	Rd. Wd. L:	7.0
L-Ssl:	30.0	Rd. Wd. R:	7.0

Index:	4	L-Ssr:	-20.4
Trav.Cmnt:	GPS 475	Cut Dp:	3.4
L-Stn :	94.9	Cul DIA:	
Grd.Nxt.:	15.7	Cul Length:	
Grd.Lst:	15.7	Rd. Wd. L:	7.0
L-Ssl:	33.0	Rd. Wd. R:	7.0



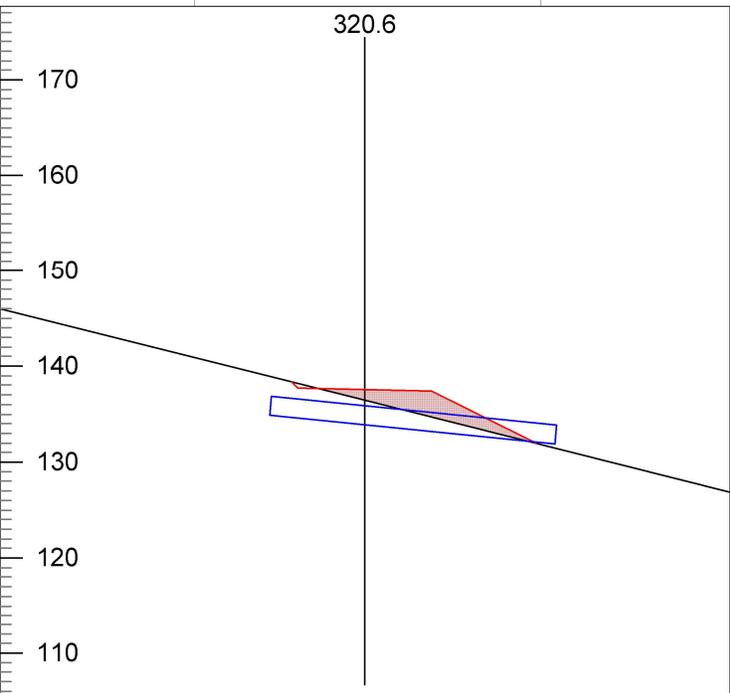
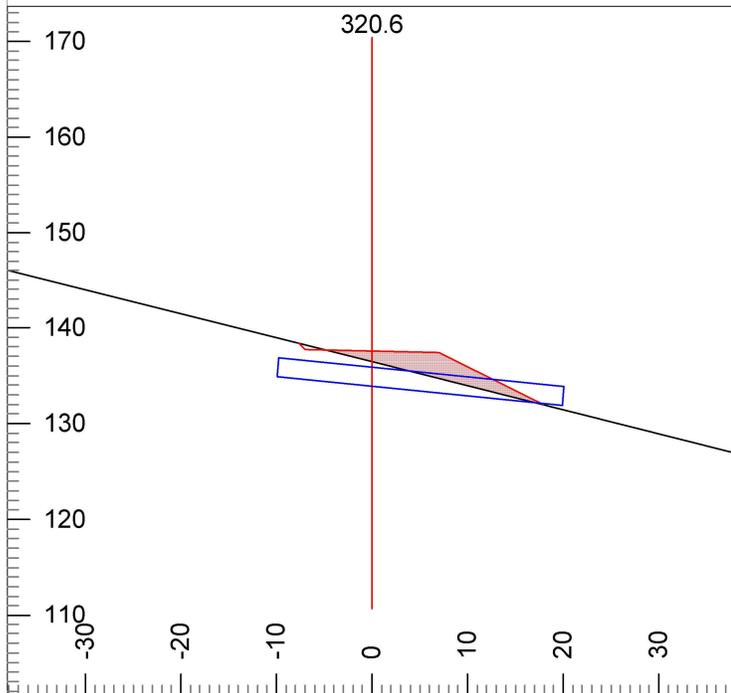
Index:	5	L-Ssr:	-28.0
Trav.Cmnt:	GPS 476	Cut Dp:	2.6
L-Stn :	124.6	Cul DIA:	
Grd.Nxt.:	12.9	Cul Length:	
Grd.Lst:	12.9	Rd. Wd. L:	7.0
L-Ssl:	33.0	Rd. Wd. R:	7.0

Index:	6	L-Ssr:	-33.0
Trav.Cmnt:	GPS 477	Cut Dp:	0.9
L-Stn :	188.3	Cul DIA:	
Grd.Nxt.:	8.6	Cul Length:	
Grd.Lst:	8.6	Rd. Wd. L:	7.0
L-Ssl:	33.0	Rd. Wd. R:	7.0



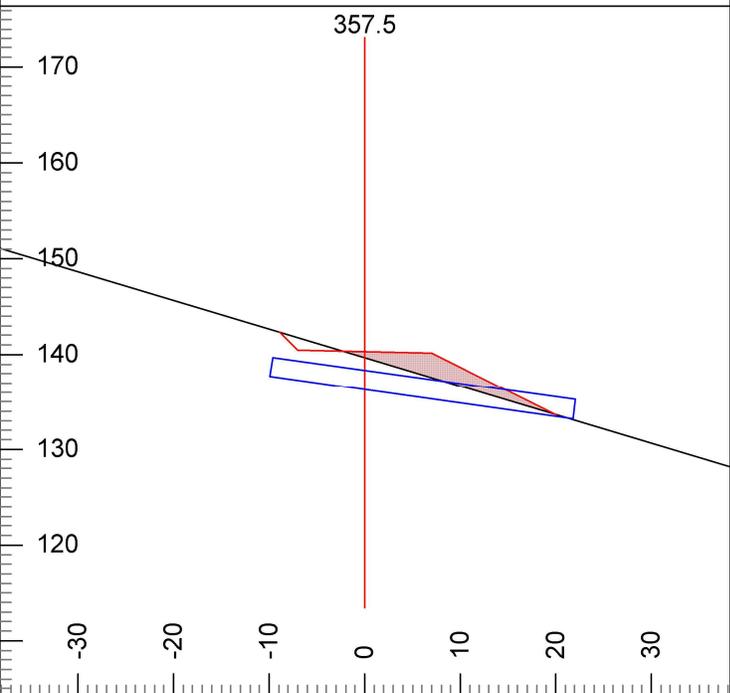
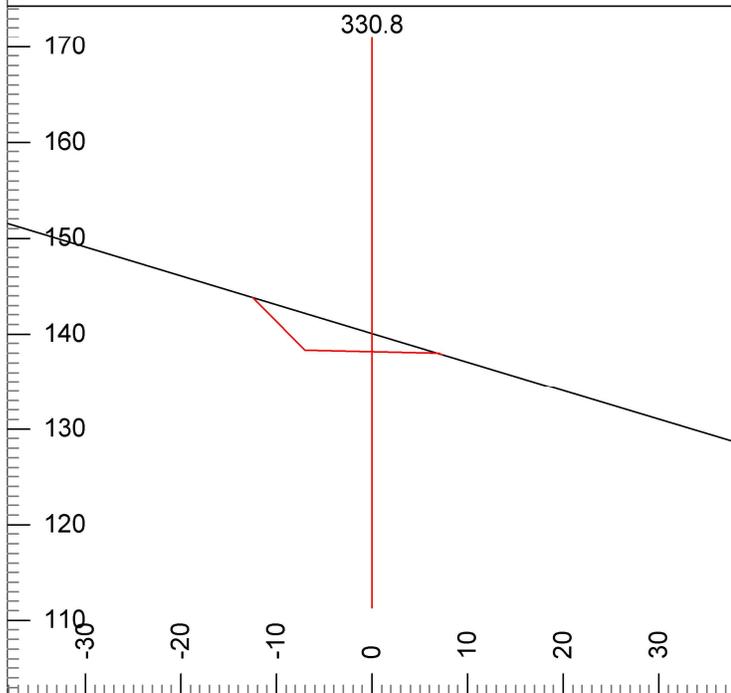
Index:	7	L-Ssr:	-41.0
Trav.Cmnt:	GPS 478	Cut Dp:	0.3
L-Stn :	226.8	Cul DIA:	
Grd.Nxt.:	8.6	Cul Length:	
Grd.Lst:	8.6	Rd. Wd. L:	7.0
L-Ssl:	43.0	Rd. Wd. R:	7.0

Index:	8	L-Ssr:	-30.0
Trav.Cmnt:	GPS 479	Cut Dp:	0.3
L-Stn :	272.5	Cul DIA:	
Grd.Nxt.:	8.6	Cul Length:	
Grd.Lst:	8.6	Rd. Wd. L:	7.0
L-Ssl:	41.0	Rd. Wd. R:	7.0



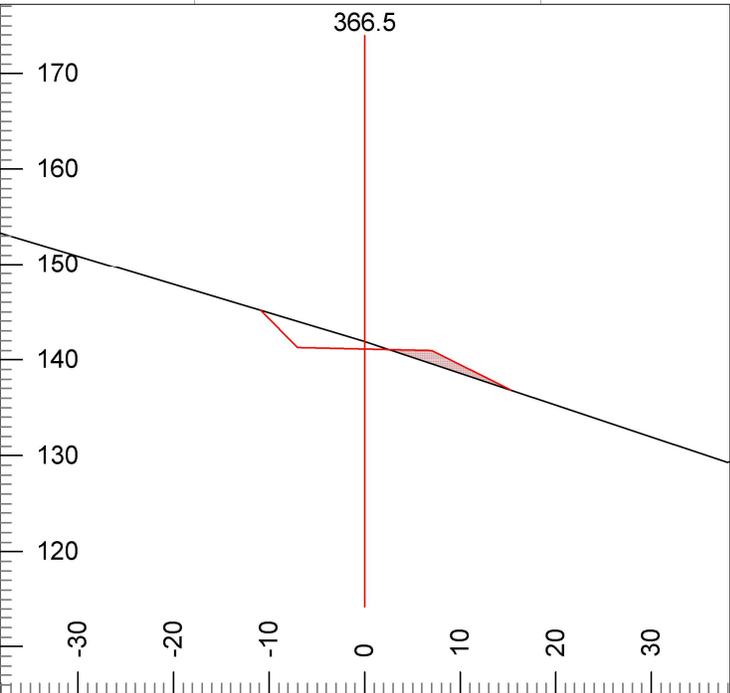
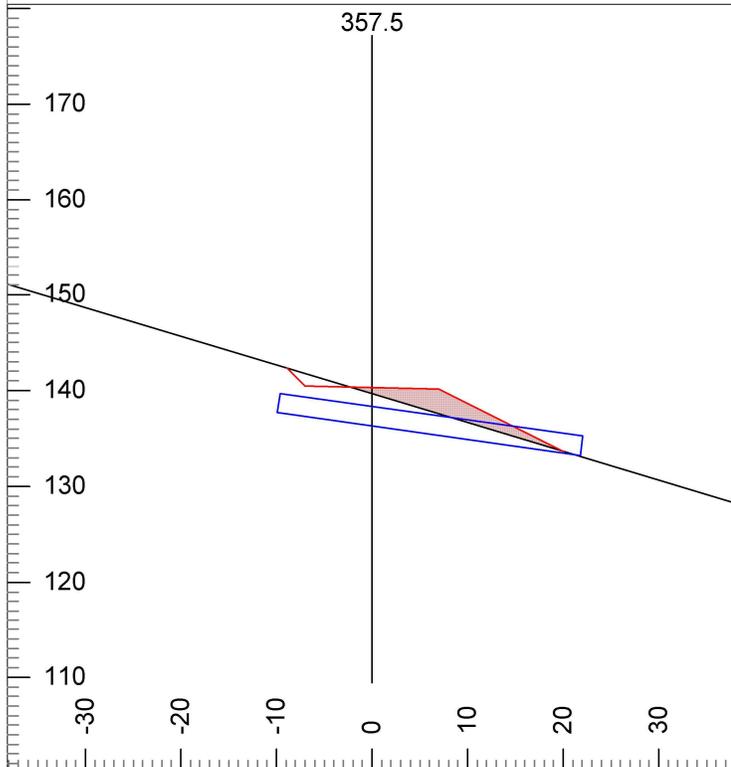
Index:	9	L-Ssr:	-25.0
Trav.Cmnt:	GPS 480	Cut Dp:	-1.1
L-Stn :	320.6	Cul DIA:	24in
Grd.Nxt.:	5.9	Cul Length:	30.0
Grd.Lst:	5.9	Rd. Wd. L:	7.0
L-Ssl:	25.0	Rd. Wd. R:	7.0

Index:	Grd.Lst:	5.9	Cul DIA:	24in	
Trav.Cmnt:	L-Ssl:	25.0	Cul Length:	30.0	
L-Stn :	320.6	L-Ssr:	-25.0	Rd. Wd. L:	7.0
Grd.Nxt.:	5.9	Cut Dp:	-1.1	Rd. Wd. R:	7.0



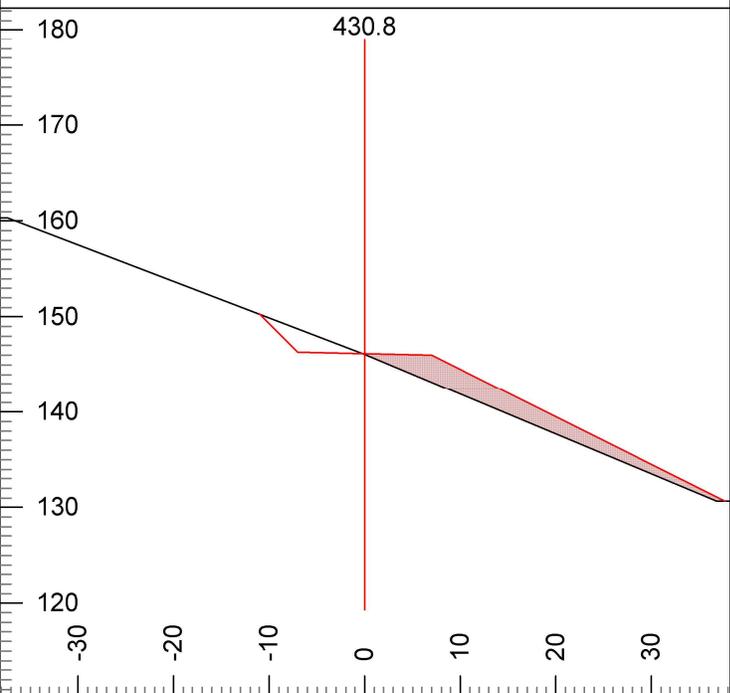
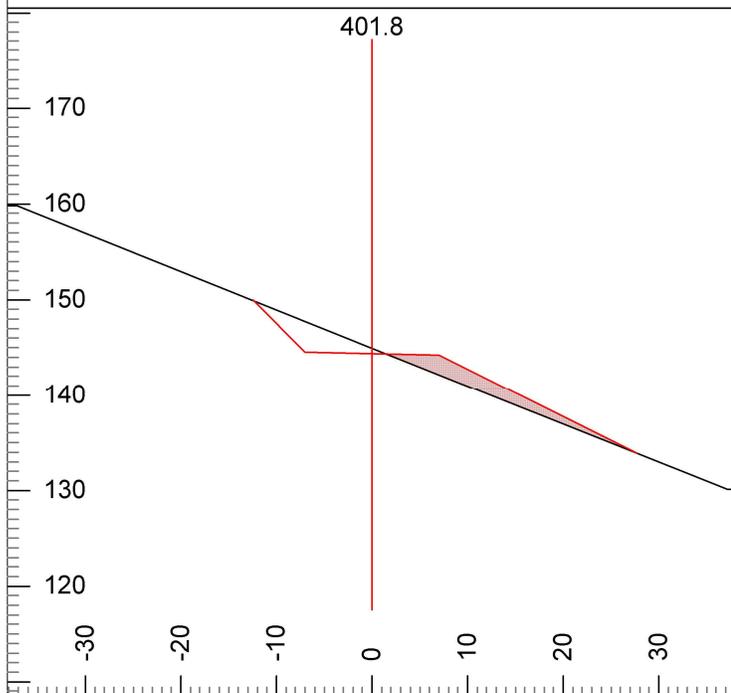
Index:	10	L-Ssr:	-30.0
Trav.Cmnt:	GPS 481	Cut Dp:	1.9
L-Stn :	330.8	Cul DIA:	
Grd.Nxt.:	5.9	Cul Length:	
Grd.Lst:	5.9	Rd. Wd. L:	7.0
L-Ssl:	30.0	Rd. Wd. R:	7.0

Index:	11	L-Ssr:	-30.0
Trav.Cmnt:	GPS 482	Cut Dp:	-0.7
L-Stn :	357.5	Cul DIA:	24in
Grd.Nxt.:	9.2	Cul Length:	32.0
Grd.Lst:	9.2	Rd. Wd. L:	7.0
L-Ssl:	30.0	Rd. Wd. R:	7.0



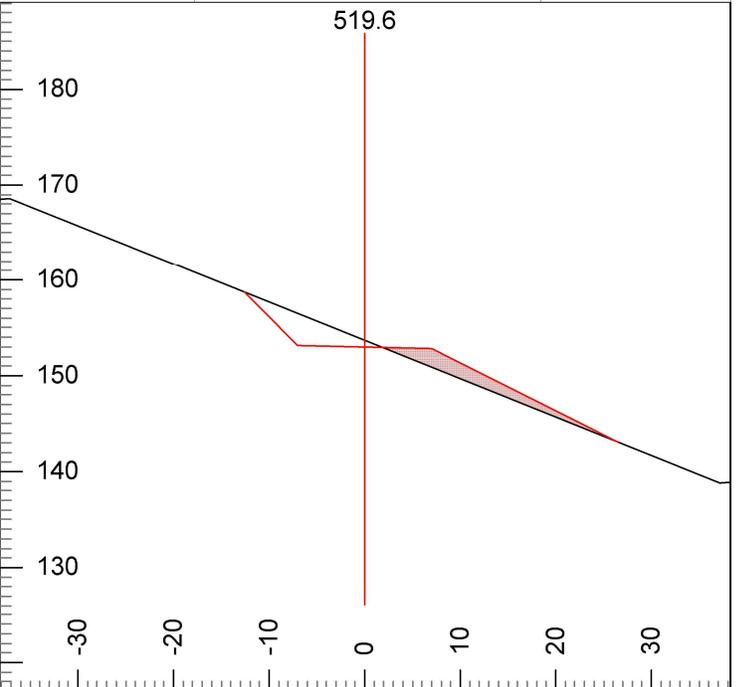
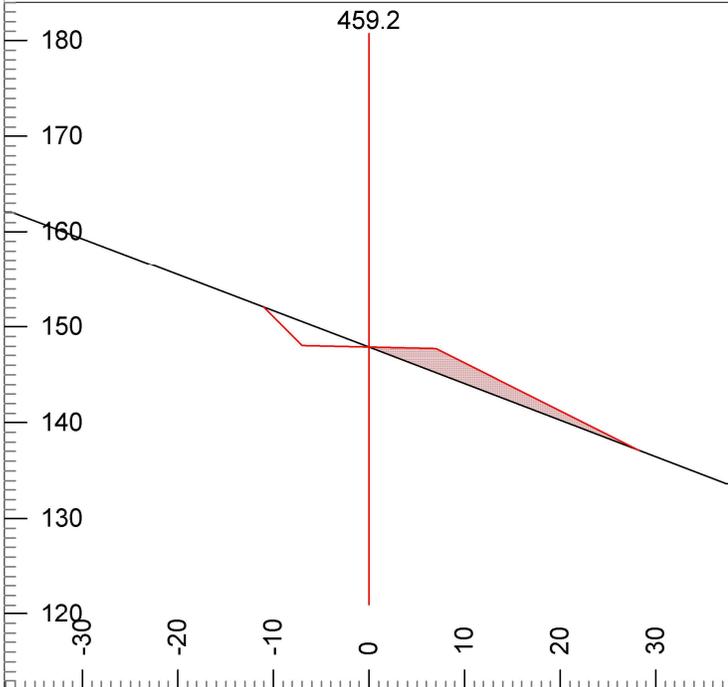
Index:	12	L-Ssr:	-33.0
Trav.Cmnt:	GPS 483	Cut Dp:	0.8
L-Stn :	366.5	Cul DIA:	
Grd.Nxt.:	9.2	Cul Length:	
Grd.Lst:	9.2	Rd. Wd. L:	7.0
L-Ssl:	30.0	Rd. Wd. R:	7.0

Index:	Grd.Lst:	9.2	Cul DIA:	24in	
Trav.Cmnt:	L-Ssl:	30.0	Cul Length:	32.0	
L-Stn :	357.5	L-Ssr:	-30.0	Rd. Wd. L:	7.0
Grd.Nxt.:	9.2	Cut Dp:	-0.6	Rd. Wd. R:	7.0



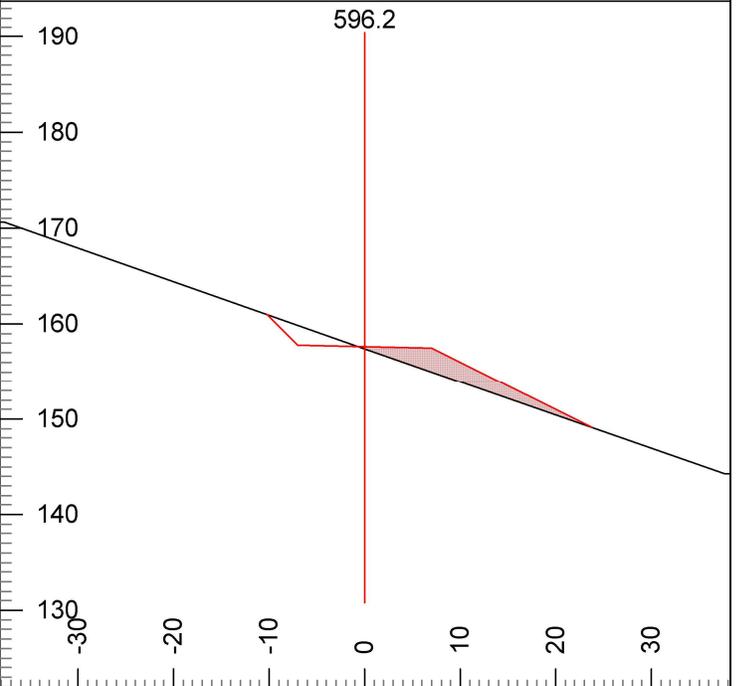
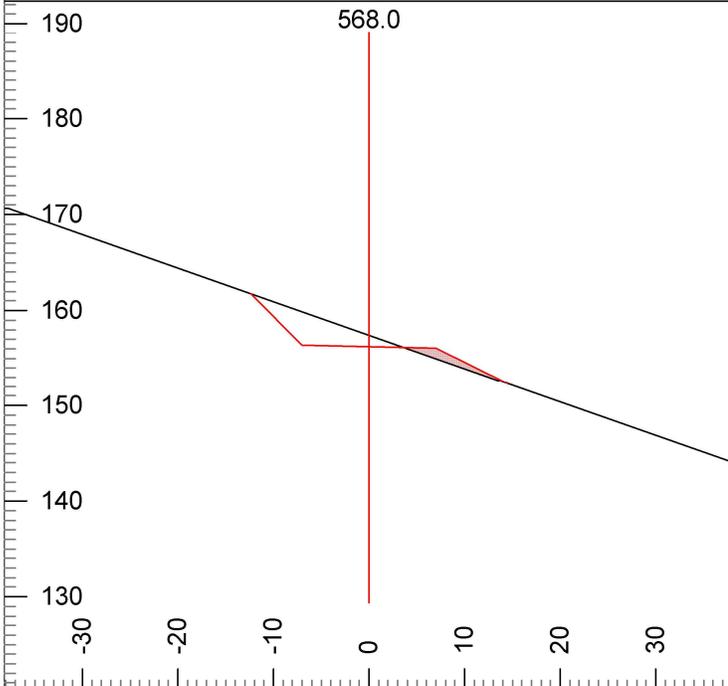
Index:	14	L-Ssr:	-42.0
Trav.Cmnt:	GPS 485	Cut Dp:	0.0
L-Stn :	430.8	Cul DIA:	
Grd.Nxt.:	6.0	Cul Length:	
Grd.Lst:	6.0	Rd. Wd. L:	7.0
L-Ssl:	38.0	Rd. Wd. R:	7.0

Index:	13	L-Ssr:	-40.0
Trav.Cmnt:	GPS 484	Cut Dp:	0.6
L-Stn :	401.8	Cul DIA:	
Grd.Nxt.:	9.2	Cul Length:	
Grd.Lst:	9.2	Rd. Wd. L:	7.0
L-Ssl:	40.0	Rd. Wd. R:	7.0



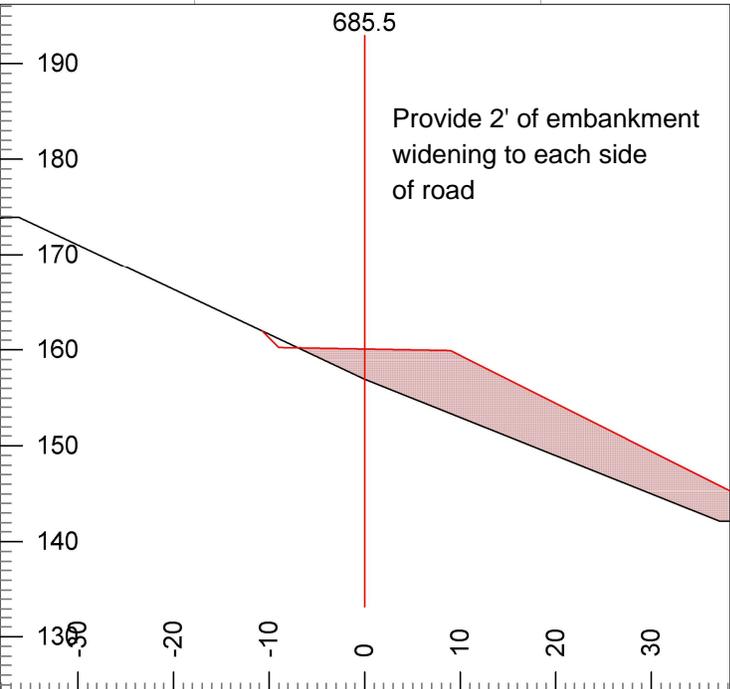
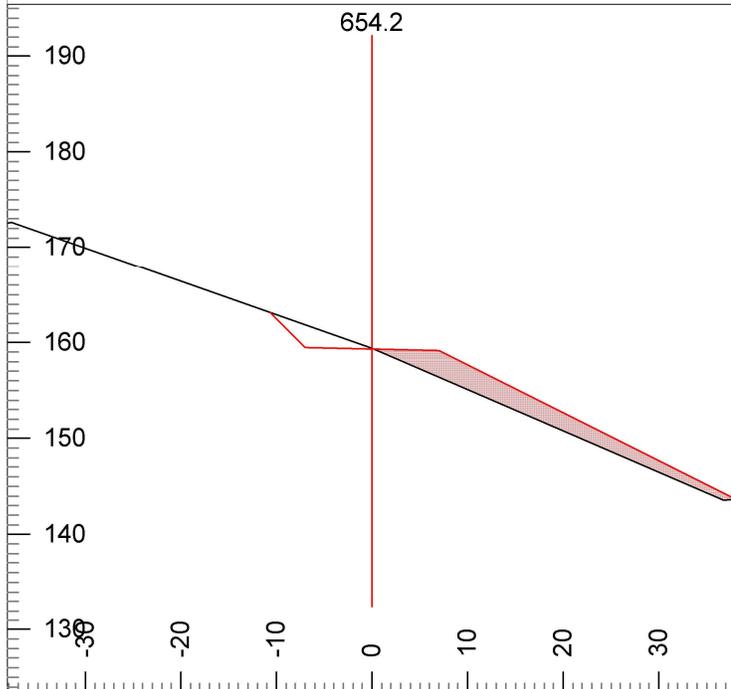
Index:	15	L-Ssr:	-38.0
Trav.Cmnt:	GPS 486	Cut Dp:	0.0
L-Stn :	459.2	Cul DIA:	
Grd.Nxt.:	8.4	Cul Length:	
Grd.Lst:	8.4	Rd. Wd. L:	7.0
L-Ssl:	38.0	Rd. Wd. R:	7.0

Index:	16	L-Ssr:	-40.0
Trav.Cmnt:	GPS 487	Cut Dp:	0.7
L-Stn :	519.6	Cul DIA:	
Grd.Nxt.:	8.4	Cul Length:	
Grd.Lst:	8.4	Rd. Wd. L:	7.0
L-Ssl:	40.0	Rd. Wd. R:	7.0



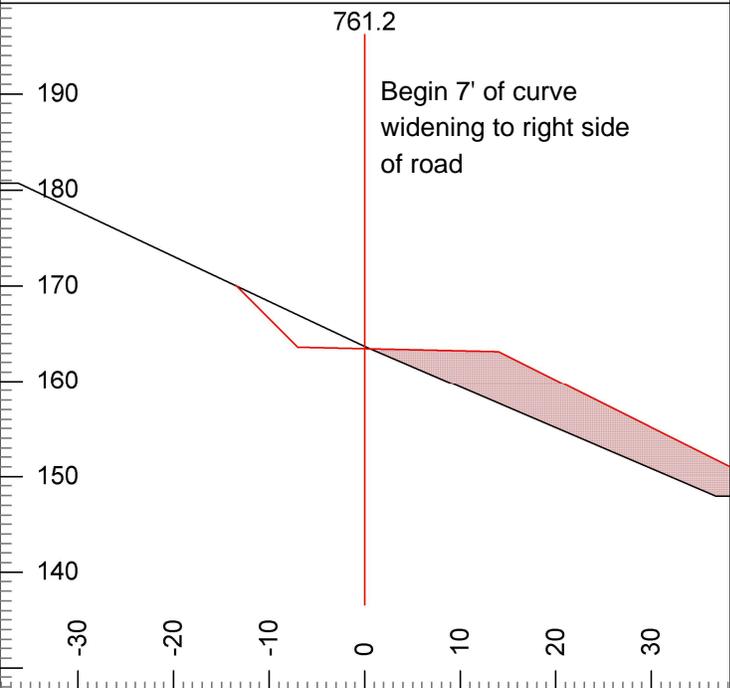
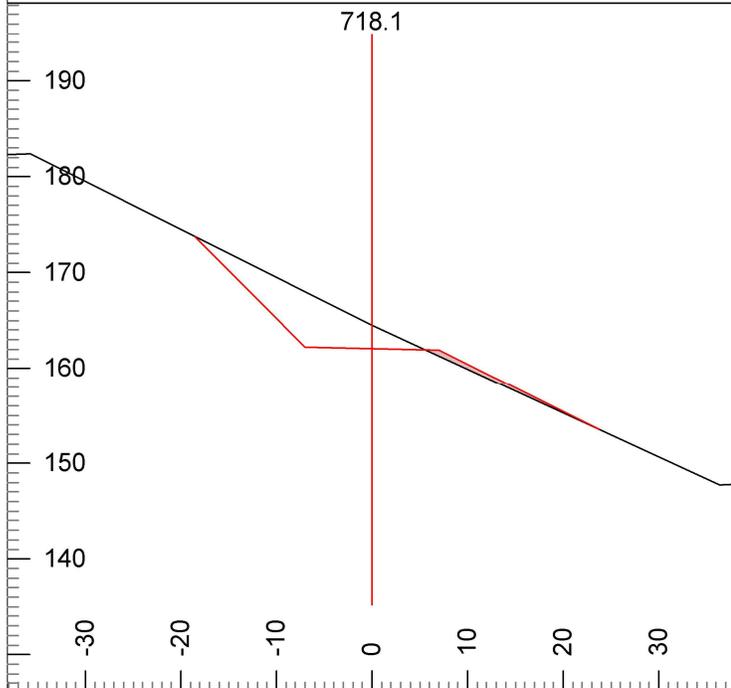
Index:	17	L-Ssr:	-35.0
Trav.Cmnt:	GPS 488	Cut Dp:	1.2
L-Stn :	568.0	Cul DIA:	
Grd.Nxt.:	5.3	Cul Length:	
Grd.Lst:	5.3	Rd. Wd. L:	7.0
L-Ssl:	35.0	Rd. Wd. R:	7.0

Index:	18	L-Ssr:	-35.0
Trav.Cmnt:	GPS 489	Cut Dp:	-0.2
L-Stn :	596.2	Cul DIA:	
Grd.Nxt.:	3.1	Cul Length:	
Grd.Lst:	3.1	Rd. Wd. L:	7.0
L-Ssl:	35.0	Rd. Wd. R:	7.0



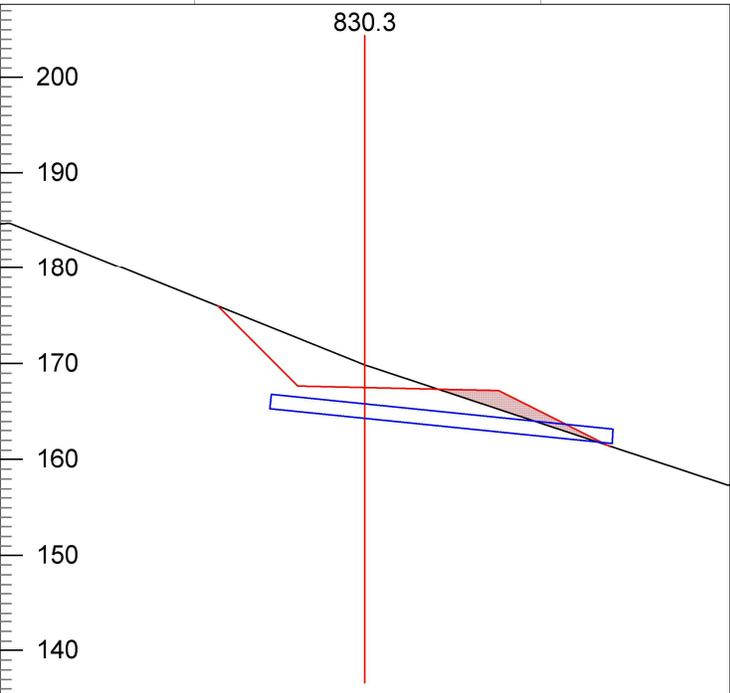
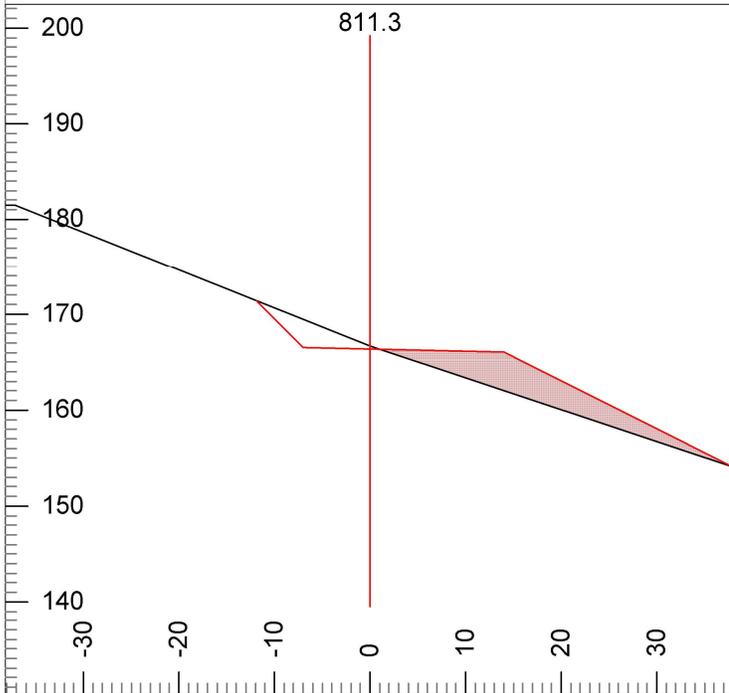
Index:	19	L-Ssr:	-43.0
Trav.Cmnt:	GPS 490	Cut Dp:	0.1
L-Stn :	654.2	Cul DIA:	
Grd.Nxt.:	2.4	Cul Length:	
Grd.Lst:	2.4	Rd. Wd. L:	7.0
L-Ssl:	35.0	Rd. Wd. R:	7.0

Index:	20	L-Ssr:	-40.0
Trav.Cmnt:	GPS 491	Cut Dp:	-3.1
L-Stn :	685.5	Cul DIA:	
Grd.Nxt.:	6.1	Cul Length:	
Grd.Lst:	6.1	Rd. Wd. L:	9.0
L-Ssl:	47.0	Rd. Wd. R:	9.0



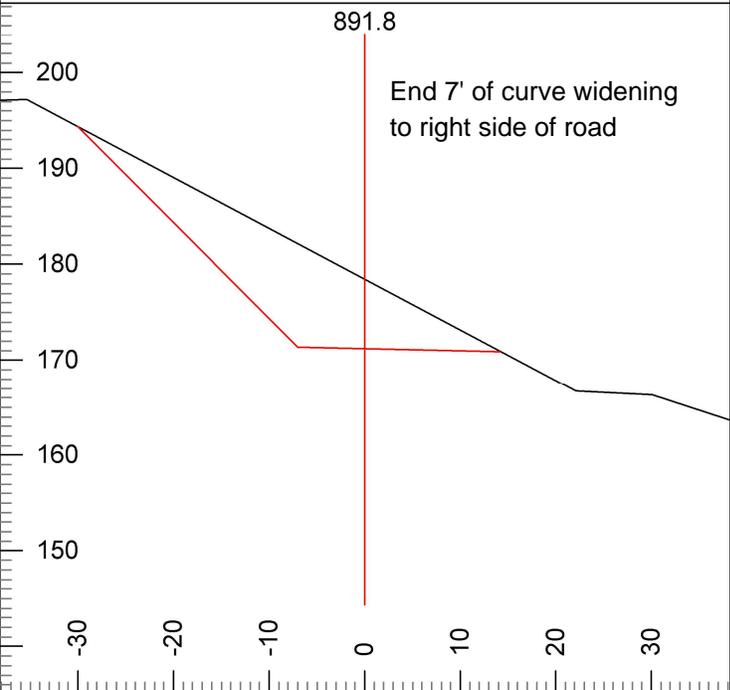
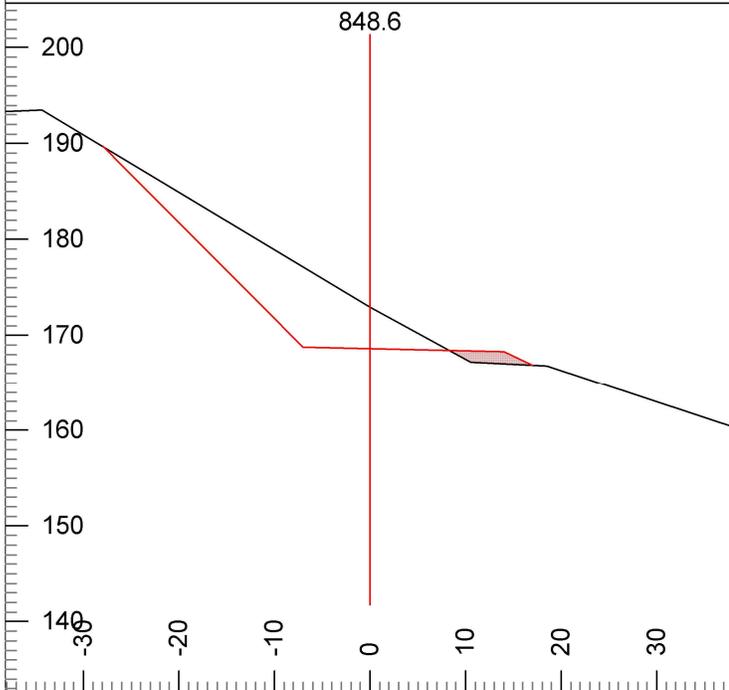
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L-Stn :	718.1	Cul DIA:	
Grd.Nxt.:	3.2	Cul Length:	
Grd.Lst:	3.2	Rd. Wd. L:	7.0
L-Ssl:	50.0	Rd. Wd. R:	7.0

Index:	22	L-Ssr:	-43.0
Trav.Cmnt:	GPS 1033	Cut Dp:	0.3
L-Stn :	761.2	Cul DIA:	
Grd.Nxt.:	5.8	Cul Length:	
Grd.Lst:	3.2	Rd. Wd. L:	7.0
L-Ssl:	47.0	Rd. Wd. R:	14.0



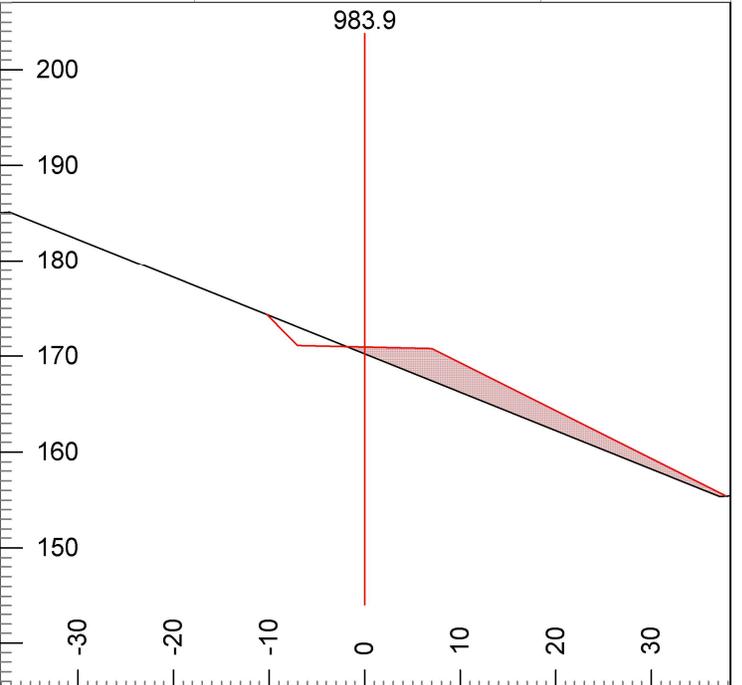
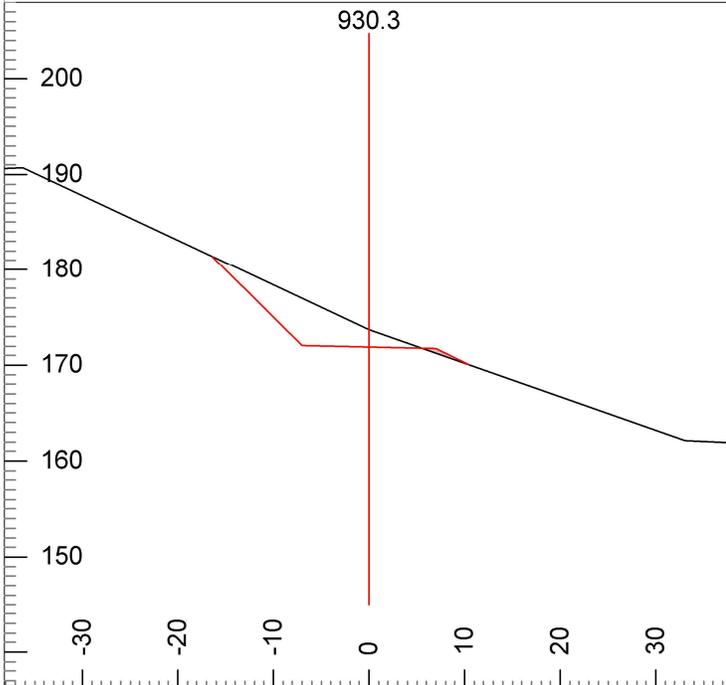
Index:	23	L-Ssr:	-33.0
Trav.Cmnt:	GPS 1032	Cut Dp:	0.3
L-Stn :	811.3	Cul DIA:	
Grd.Nxt.:	6.0	Cul Length:	
Grd.Lst:	5.8	Rd. Wd. L:	7.0
L-Ssl:	40.0	Rd. Wd. R:	14.0

Index:	Grd.Lst:	6.0	Cul DIA:	18in	
Trav.Cmnt:	L-Ssl:	40.0	Cul Length:	36.0	
L-Stn :	830.3	L-Ssr:	-33.0	Rd. Wd. L:	7.0
Grd.Nxt.:	6.0	Cut Dp:	2.4	Rd. Wd. R:	14.0



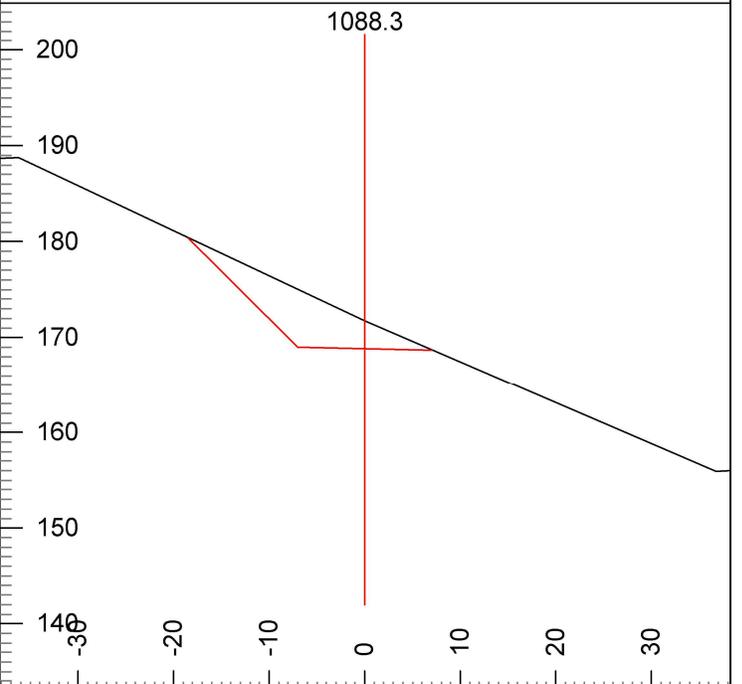
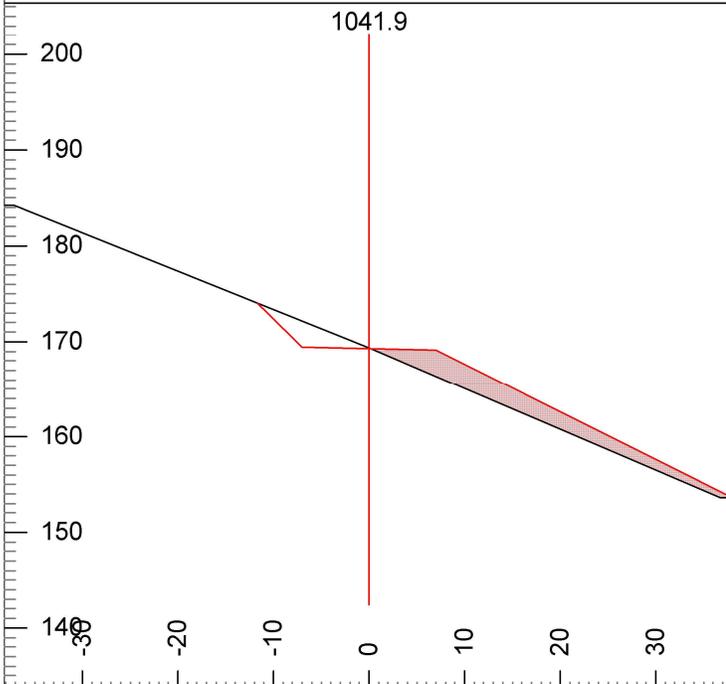
Index:	24	L-Ssr:	-33.4
Trav.Cmnt:	GPS 1031	Cut Dp:	4.3
L-Stn :	848.6	Cul DIA:	
Grd.Nxt.:	6.0	Cul Length:	
Grd.Lst:	6.0	Rd. Wd. L:	7.0
L-Ssl:	60.0	Rd. Wd. R:	14.0

Index:	25	L-Ssr:	-53.0
Trav.Cmnt:	GPS 1030	Cut Dp:	7.3
L-Stn :	891.8	Cul DIA:	
Grd.Nxt.:	1.7	Cul Length:	
Grd.Lst:	6.0	Rd. Wd. L:	7.0
L-Ssl:	53.0	Rd. Wd. R:	14.0



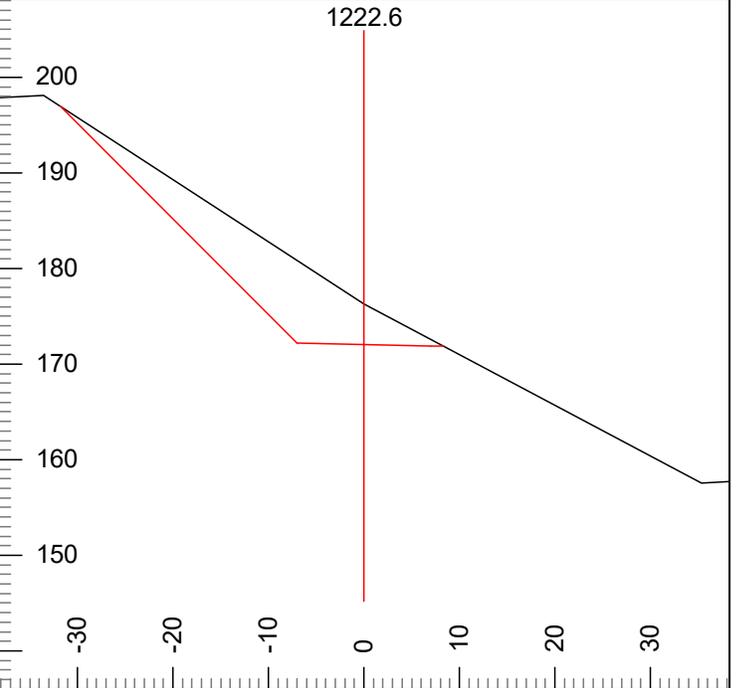
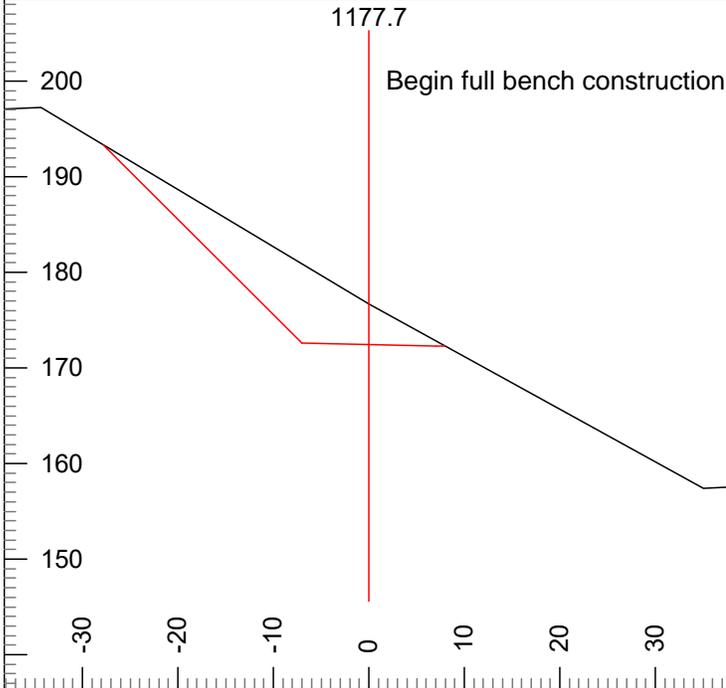
Index:	26	L-Ssr:	-35.0
Trav.Cmnt:	GPS 1029	Cut Dp:	1.8
L-Stn :	930.3	Cul DIA:	
Grd.Nxt.:	1.7	Cul Length:	
Grd.Lst:	1.7	Rd. Wd. L:	7.0
L-Ssl:	47.0	Rd. Wd. R:	7.0

Index:	27	L-Ssr:	-40.0
Trav.Cmnt:	GPS 492	Cut Dp:	-0.7
L-Stn :	983.9	Cul DIA:	
Grd.Nxt.:	-2.1	Cul Length:	
Grd.Lst:	-2.1	Rd. Wd. L:	7.0
L-Ssl:	40.0	Rd. Wd. R:	7.0



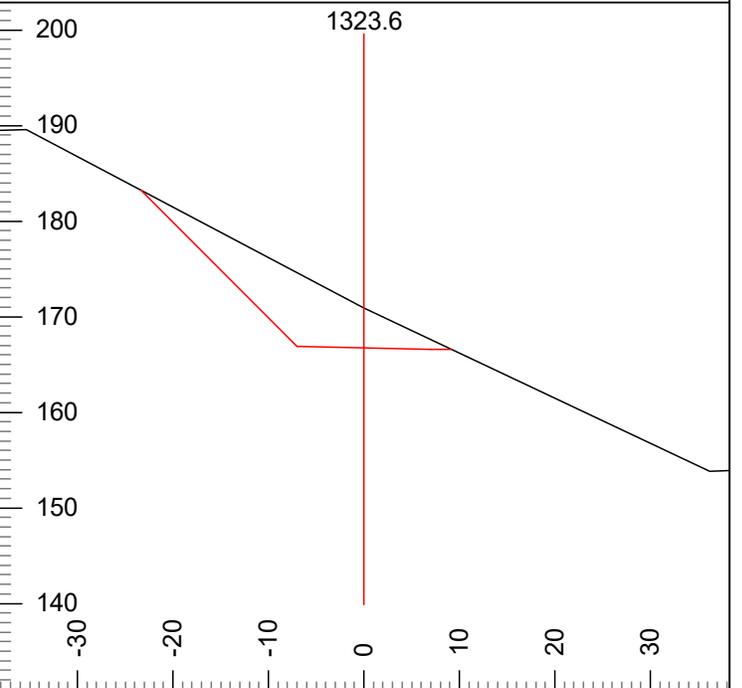
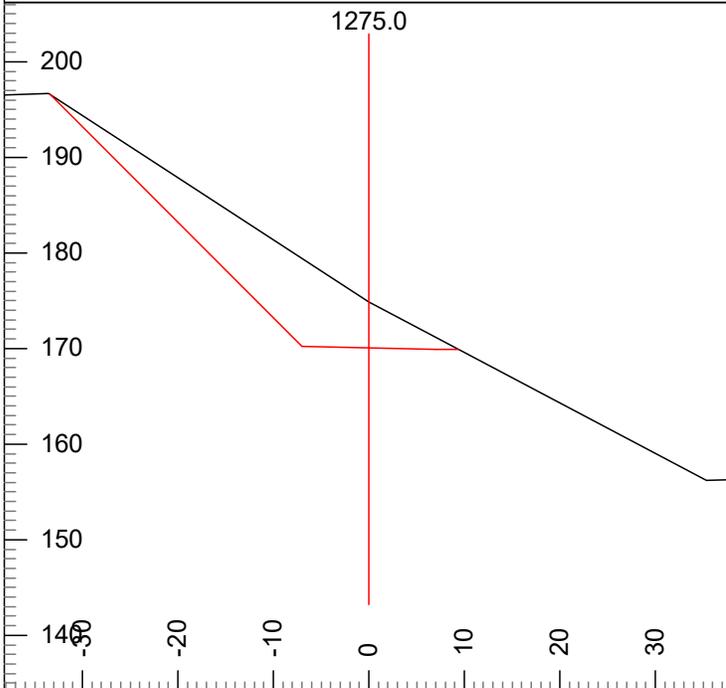
Index:	28	L-Ssr:	-43.0
Trav.Cmnt:	GPS 1028	Cut Dp:	0.1
L-Stn :	1041.9	Cul DIA:	
Grd.Nxt.:	-1.0	Cul Length:	
Grd.Lst:	-1.0	Rd. Wd. L:	7.0
L-Ssl:	40.0	Rd. Wd. R:	7.0

Index:	29	L-Ssr:	-43.0
Trav.Cmnt:	GPS 1027	Cut Dp:	2.9
L-Stn :	1088.3	Cul DIA:	
Grd.Nxt.:	4.0	Cul Length:	
Grd.Lst:	-1.0	Rd. Wd. L:	7.0
L-Ssl:	47.0	Rd. Wd. R:	7.0



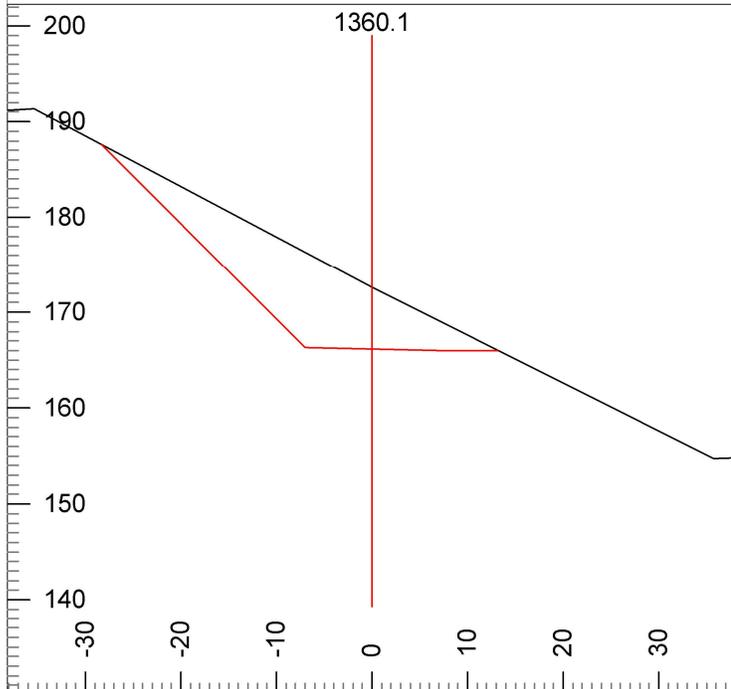
Index:	30	L-Ssr:	-55.0
Trav.Cmnt:	GPS 1026	Cut Dp:	4.2
L-Stn :	1177.7	Cul DIA:	
Grd.Nxt.:	-0.8	Cul Length:	
Grd.Lst:	-0.8	Rd. Wd. L:	7.0
L-Ssl:	60.0	Rd. Wd. R:	7.0

Index:	31	L-Ssr:	-53.0
Trav.Cmnt:	GPS 1025	Cut Dp:	4.3
L-Stn :	1222.6	Cul DIA:	
Grd.Nxt.:	-3.7	Cul Length:	
Grd.Lst:	-3.7	Rd. Wd. L:	7.0
L-Ssl:	65.0	Rd. Wd. R:	7.0



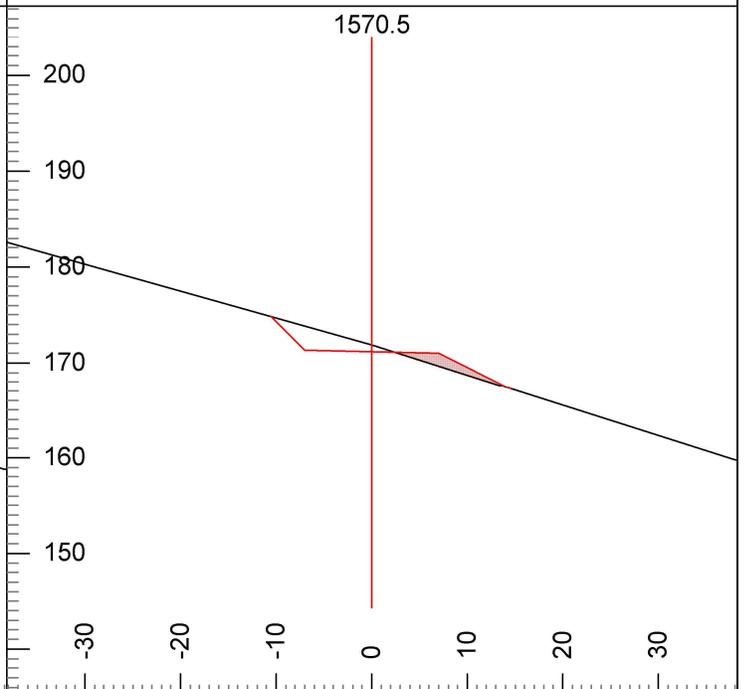
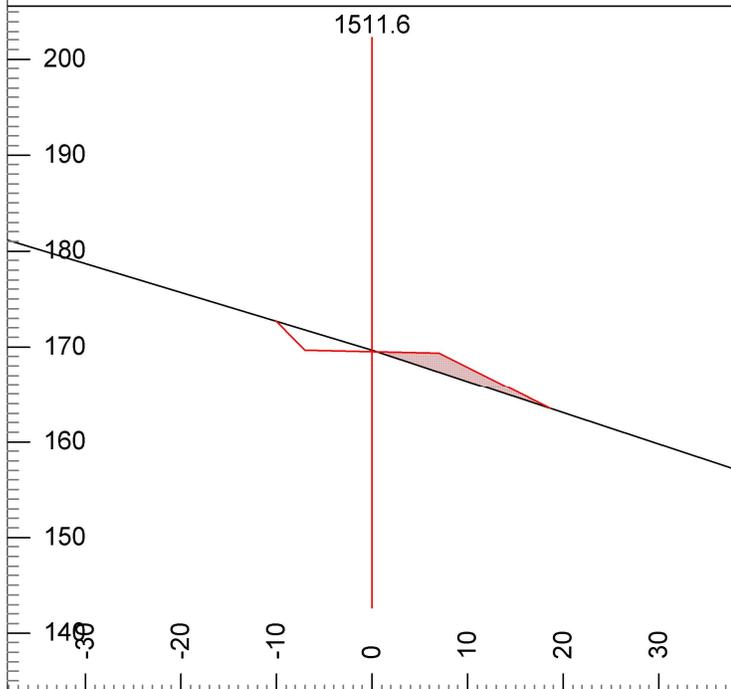
Index:	32	L-Ssr:	-53.0
Trav.Cmnt:	GPS 493	Cut Dp:	4.8
L-Stn :	1275.0	Cul DIA:	
Grd.Nxt.:	-6.9	Cul Length:	
Grd.Lst:	-6.9	Rd. Wd. L:	7.0
L-Ssl:	65.0	Rd. Wd. R:	7.0

Index:	33	L-Ssr:	-47.0
Trav.Cmnt:	GPS 1024	Cut Dp:	4.1
L-Stn :	1323.6	Cul DIA:	
Grd.Nxt.:	-1.6	Cul Length:	
Grd.Lst:	-6.9	Rd. Wd. L:	7.0
L-Ssl:	53.0	Rd. Wd. R:	7.0



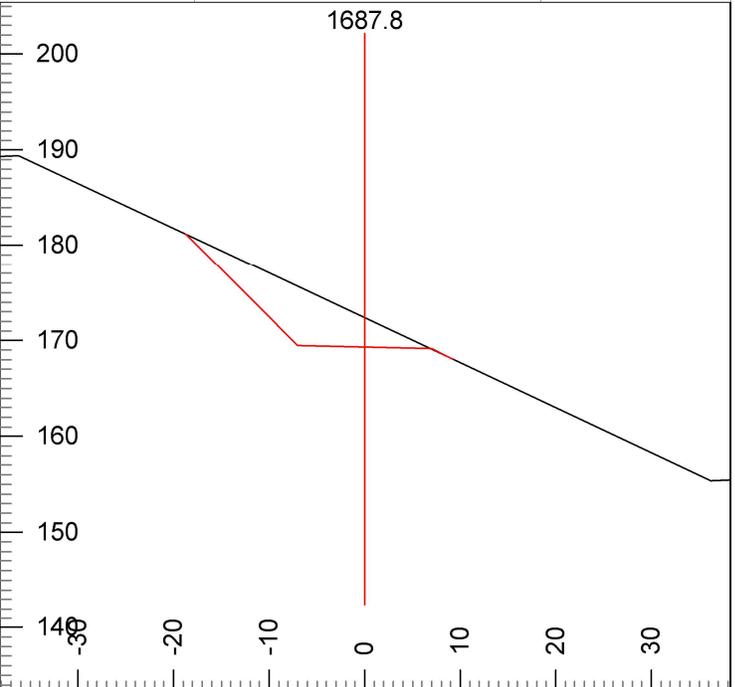
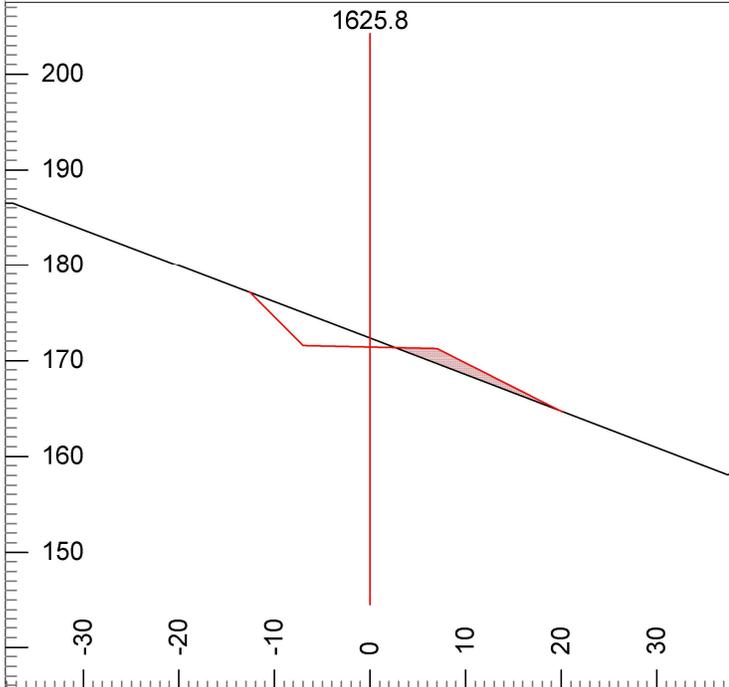
Index:	34	L-Ssr:	-50.0
Trav.Cmnt:	GPS 494	Cut Dp:	6.4
L-Stn :	1360.1	Cul DIA:	
Grd.Nxt.:	-1.6	Cul Length:	
Grd.Lst:	-1.6	Rd. Wd. L:	7.0
L-Ssl:	53.0	Rd. Wd. R:	7.0

Index:	35	L-Ssr:	-45.0
Trav.Cmnt:	GPS 1023	Cut Dp:	3.0
L-Stn :	1453.4	Cul DIA:	
Grd.Nxt.:	2.8	Cul Length:	
Grd.Lst:	2.8	Rd. Wd. L:	7.0
L-Ssl:	43.0	Rd. Wd. R:	7.0



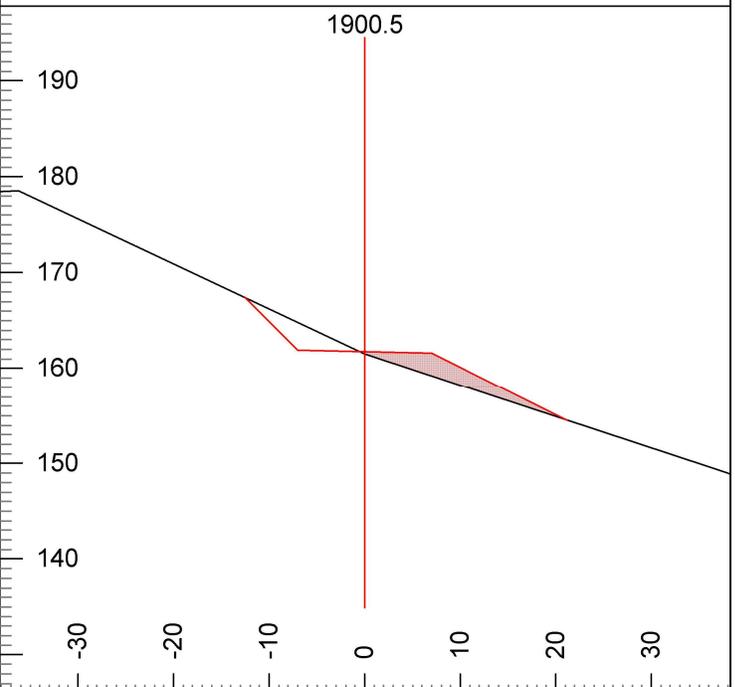
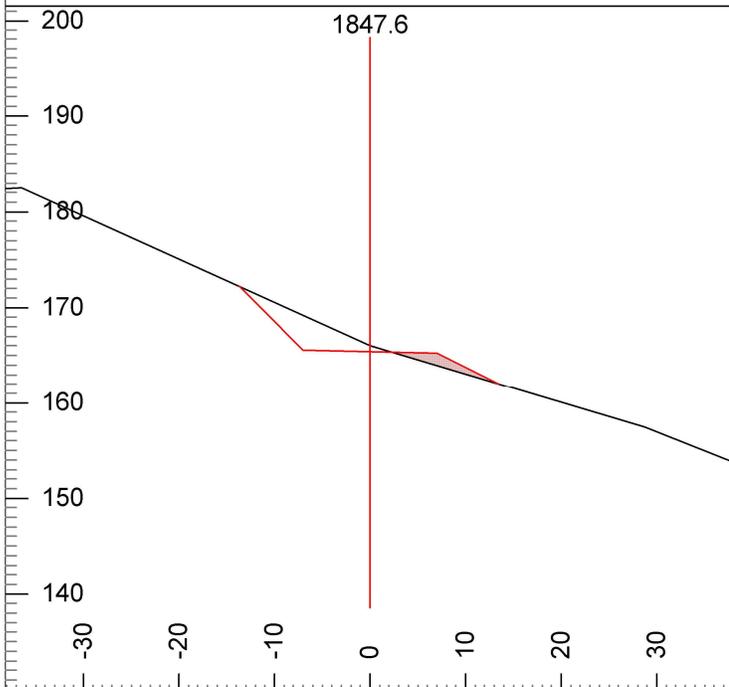
Index:	36	L-Ssr:	-33.0
Trav.Cmnt:	GPS 495	Cut Dp:	0.2
L-Stn :	1511.6	Cul DIA:	
Grd.Nxt.:	2.8	Cul Length:	
Grd.Lst:	2.8	Rd. Wd. L:	7.0
L-Ssl:	30.0	Rd. Wd. R:	7.0

Index:	37	L-Ssr:	-32.0
Trav.Cmnt:	GPS 1022	Cut Dp:	0.7
L-Stn :	1570.5	Cul DIA:	
Grd.Nxt.:	2.8	Cul Length:	
Grd.Lst:	2.8	Rd. Wd. L:	7.0
L-Ssl:	28.0	Rd. Wd. R:	7.0



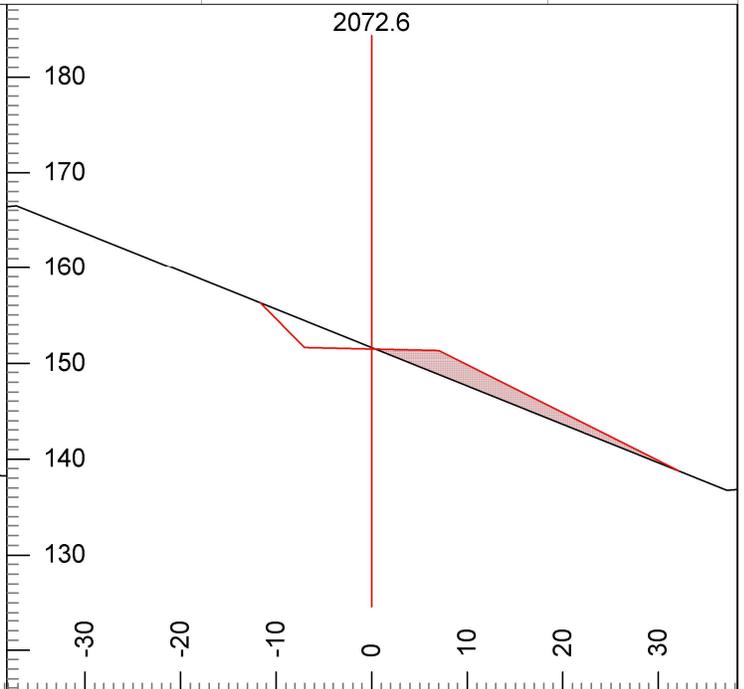
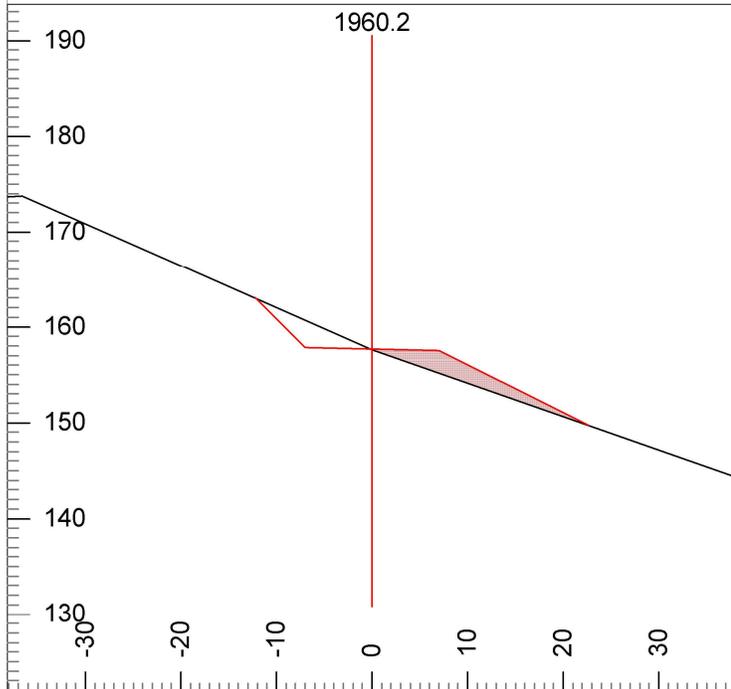
Index:	38	L-Ssr:	-38.0
Trav.Cmnt:	GPS 496	Cut Dp:	0.9
L-Stn :	1625.8	Cul DIA:	
Grd.Nxt.:	0.4	Cul Length:	
Grd.Lst:	0.4	Rd. Wd. L:	7.0
L-Ssl:	38.0	Rd. Wd. R:	7.0

Index:	39	L-Ssr:	-47.0
Trav.Cmnt:	GPS 1021	Cut Dp:	3.1
L-Stn :	1687.8	Cul DIA:	
Grd.Nxt.:	-2.4	Cul Length:	
Grd.Lst:	-3.4	Rd. Wd. L:	7.0
L-Ssl:	47.0	Rd. Wd. R:	7.0



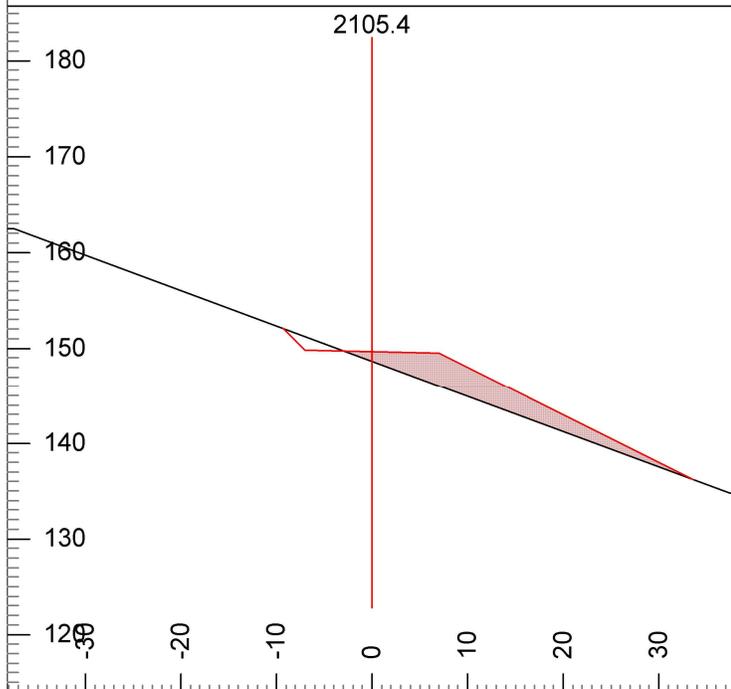
Index:	40	L-Ssr:	-30.0
Trav.Cmnt:	GPS 1019	Cut Dp:	0.7
L-Stn :	1847.6	Cul DIA:	
Grd.Nxt.:	-6.9	Cul Length:	
Grd.Lst:	-6.9	Rd. Wd. L:	7.0
L-Ssl:	45.0	Rd. Wd. R:	7.0

Index:	41	L-Ssr:	-33.0
Trav.Cmnt:	GPS 497	Cut Dp:	-0.2
L-Stn :	1900.5	Cul DIA:	
Grd.Nxt.:	-6.9	Cul Length:	
Grd.Lst:	-6.9	Rd. Wd. L:	7.0
L-Ssl:	47.0	Rd. Wd. R:	7.0



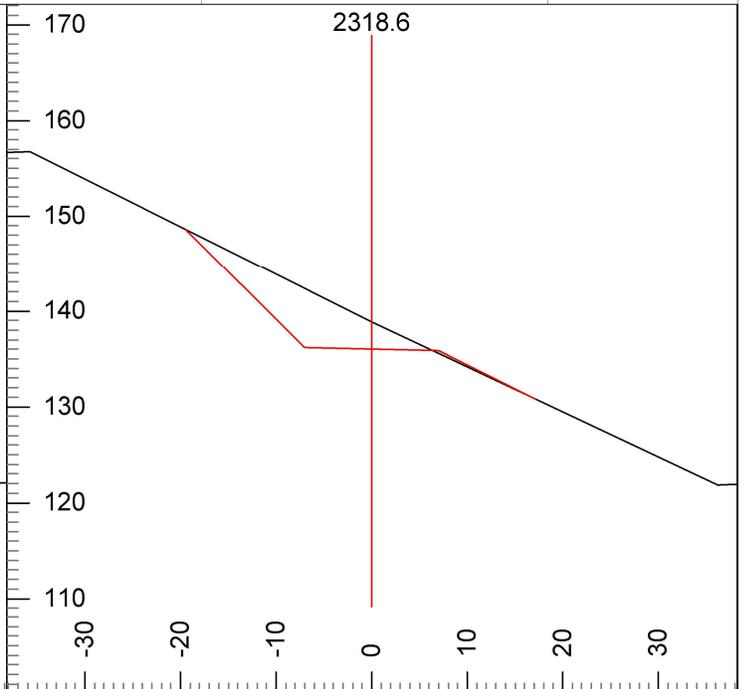
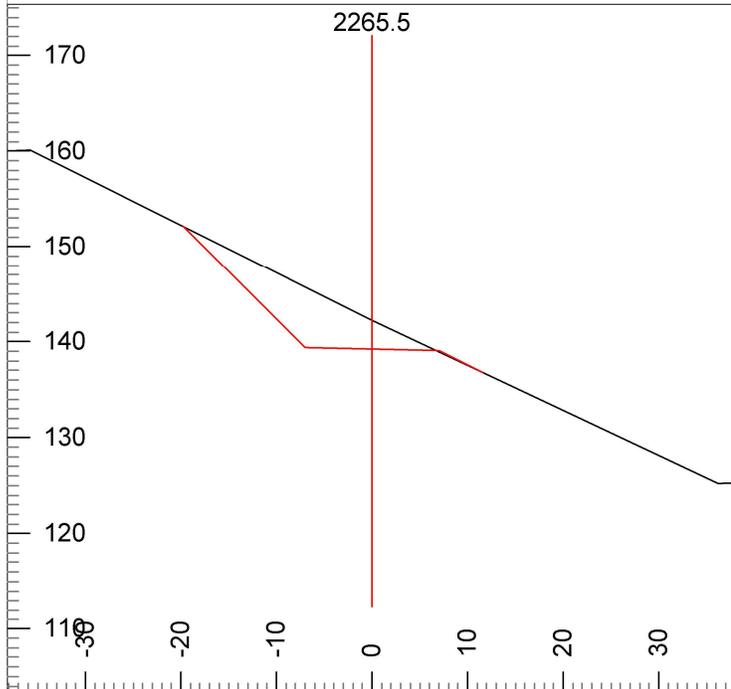
Index:	42	L-Ssr:	-35.0
Trav.Cmnt:	GPS 1018	Cut Dp:	0.0
L-Stn :	1960.2	Cul DIA:	
Grd.Nxt.:	-5.5	Cul Length:	
Grd.Lst:	-5.5	Rd. Wd. L:	7.0
L-Ssl:	44.0	Rd. Wd. R:	7.0

Index:	43	L-Ssr:	-40.0
Trav.Cmnt:	GPS 1017	Cut Dp:	0.1
L-Stn :	2072.6	Cul DIA:	
Grd.Nxt.:	-5.5	Cul Length:	
Grd.Lst:	-5.5	Rd. Wd. L:	7.0
L-Ssl:	40.0	Rd. Wd. R:	7.0



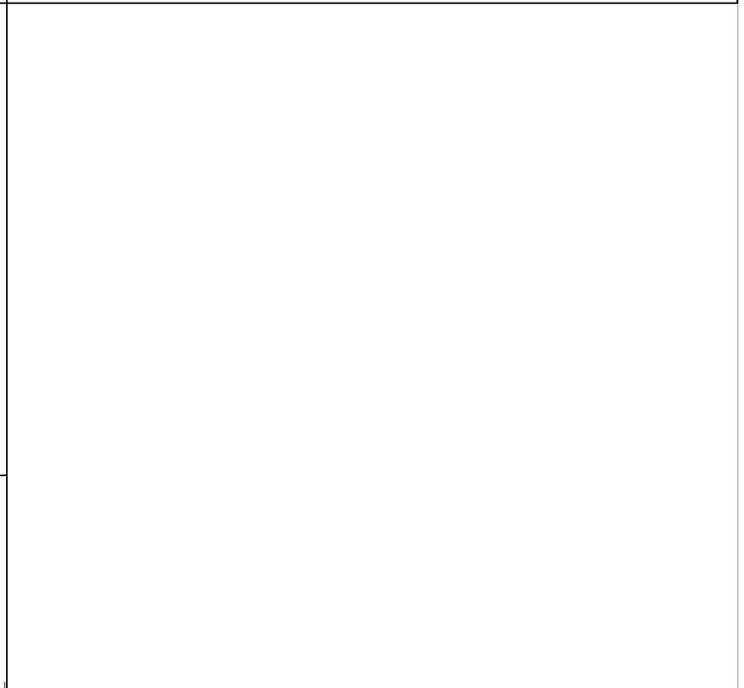
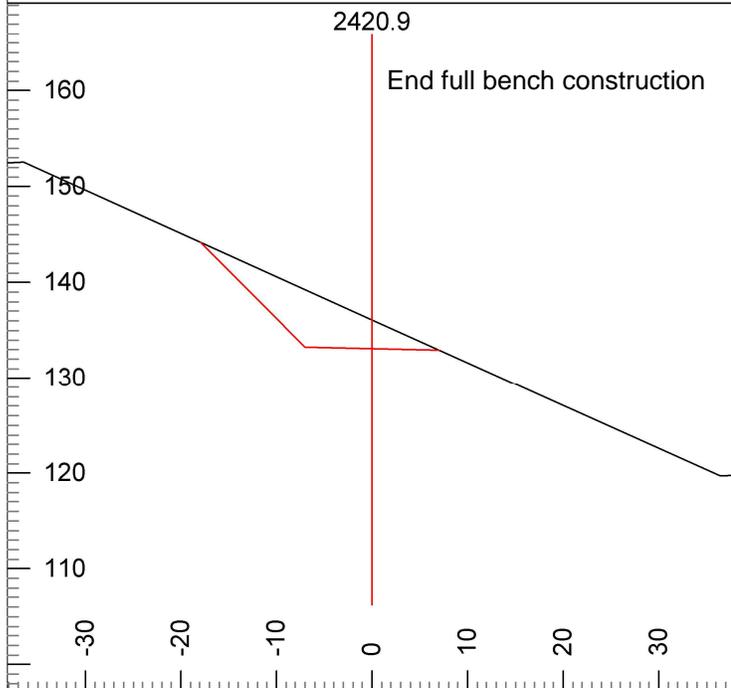
Index:	44	L-Ssr:	-37.0
Trav.Cmnt:	GPS 498	Cut Dp:	-1.0
L-Stn :	2105.4	Cul DIA:	
Grd.Nxt.:	-5.5	Cul Length:	
Grd.Lst:	-5.5	Rd. Wd. L:	7.0
L-Ssl:	37.0	Rd. Wd. R:	7.0

Index:	45	L-Ssr:	-47.0
Trav.Cmnt:	GPS 499	Cut Dp:	5.1
L-Stn :	2209.1	Cul DIA:	
Grd.Nxt.:	-6.4	Cul Length:	
Grd.Lst:	-6.4	Rd. Wd. L:	7.0
L-Ssl:	45.0	Rd. Wd. R:	7.0



Index:	46	L-Ssr:	-47.0
Trav.Cmnt:	GPS 1015	Cut Dp:	3.0
L-Stn :	2265.5	Cul DIA:	
Grd.Nxt.:	-6.0	Cul Length:	
Grd.Lst:	-6.0	Rd. Wd. L:	7.0
L-Ssl:	50.0	Rd. Wd. R:	7.0

Index:	47	L-Ssr:	-47.0
Trav.Cmnt:	GPS 500	Cut Dp:	2.8
L-Stn :	2318.6	Cul DIA:	
Grd.Nxt.:	-6.0	Cul Length:	
Grd.Lst:	-6.0	Rd. Wd. L:	7.0
L-Ssl:	50.0	Rd. Wd. R:	7.0



Index:	48	L-Ssr:	-45.0
Trav.Cmnt:	GPS 1013 - END	Cut Dp:	3.0
L-Stn :	2420.9	Cul DIA:	
Grd.Nxt.:	n/a	Cul Length:	
Grd.Lst:	-2.9	Rd. Wd. L:	7.0
L-Ssl:	45.0	Rd. Wd. R:	7.0

Index:	48	L-Ssr:	-45.0
Trav.Cmnt:	GPS 1013 - END	Cut Dp:	3.0
L-Stn :	2420.9	Cul DIA:	
Grd.Nxt.:	n/a	Cul Length:	
Grd.Lst:	-2.9	Rd. Wd. L:	7.0
L-Ssl:	45.0	Rd. Wd. R:	7.0

Sale Name: Boyce SUMMARY - Road Development Costs

REGION: Northeast
DISTRICT: Arcadia

CONTRACT #: 30-099988

ENGINEER: Travis Parry
DATE: 10/22/2019

	<i>Construction</i>	<i>Reconstruction</i>	<i>Maintenance</i>	<i>Decommission</i>	<i>Abandonment</i>
ROAD NUMBERS: Comments:	E314305K, E314305L, E314305M, E314305N		E324321A, E314304A, E314305E, E314305F, E324306A,	E314305F, E314305K, E314305L, E314305M	
ROAD STANDARD:	<i>Construction</i>	<i>Reconstruction</i>	<i>Maintenance</i>	<i>Decommission</i>	<i>Abandonment</i>
NUMBER OF STATIONS:	51.36	0.00	596.37	42.55	
CLEARING & GRUBBING:	\$3,082	\$0	\$1,193	\$0	
EXCAVATION AND FILL:	\$18,526	\$0	-\$389	\$638	
MISC. MAINTENANCE:	\$1,027	\$0	\$6,560	\$1,277	
ROAD ROCK:	\$2,400	\$0	\$400	\$0	
ADDITIONAL ROCK:	\$0	\$0	\$0	\$0	
CULVERTS AND FLUMES:	\$3,070	\$0	\$850	\$0	
STRUCTURES/MATERIALS:	\$0	\$0	\$0	\$0	\$0
	\$28,104	\$0	\$8,614	\$1,915	\$0

TOTAL COSTS:	\$28,104	\$0	\$8,614	\$1,915	\$0
<i>COST PER STATION:</i>	\$547.20	\$0.00	\$14.44	\$45.00	\$0

	\$/per move	# of moves	Total
MOBILIZATION:	\$1,700	1	\$1,700

additional rock, tax

\$14,257

TOTAL (All Roads) =	\$54,590
SALE VOLUME mbf =	5,582
TOTAL \$/MBF =	<u>\$9.78</u>