WASHINGTON STATE DEPARTMENT OF Natural Resources

TIMBER NOTICE OF SALE

***SALE NAME**: ALLEN FIRE SALVAGE* ***AGREEMENT NO**: 30-093250*

AUCTION: March 9, 2016 starting at 10:00 a.m., Northeast Region Office, Colville, WA **COUNTY:** Stevens

SALE LOCATION: Sale located approximately 15 miles west of Springdale, WA.

PRODUCTS SOLD AND SALE AREA: All standing fire damaged ponderosa pine 8 inches and greater in diameter at breast height and all other standing fire damaged conifer species 7 inches and greater in diameter at breast height, except leave trees as described in the Schedule A in Units 1, 2, 3, 4 and 5 bounded by white timber sale boundary tags, on part(s) of Sections 4, 6, 7 and 8 all in Township 29 North, Range 38 East, Sections 33 and 34 all in Township 30 North, Range 38 East, W.M., containing 805 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: BV-SFIS-US09000572)

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	Total Tons	Price $/Ton	MBF by Grade P	SM	1S	2S	3S	4S	5S	6S	UT
Douglas fir	14.9		6,343	49,921	$15.50				2,309	3,073	961			
Ponderosa pine	17.4		1,244	8,645	$15.50						472	772		
Grand fir	12.8		1,027	7,978	$15.50				225	626	176			
Larch	13		949	5,067	$15.50				309	470	170			
Red cedar	17.3		54	505	$15.50					41	13			
Lodgepole	7.6		4	41	$15.50						4			
Sale Total			9,621	72,157										

MINIMUM BID: $15.5/ton (est. value $1,118,000.00) **BID METHOD:** Sealed Bids

PERFORMANCE SECURITY: $100,000.00 **SALE TYPE:** Tonnage Scale

EXPIRATION DATE: October 31, 2016 **ALLOCATION:** Export Restricted

BIDDABLE SPECIES: **Bidding to be allowed on all species combined.**

BID DEPOSIT: $111,800.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

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

ROADS: 114.31 stations of required construction. 47.66 stations of required reconstruction. 823.96 stations of required prehaul maintenance. 61.66 stations of optional prehaul maintenance. 47.72 stations of required decommission. Road construction will not be permitted from February 15 to May 1 unless authorized in writing by the Contract Administrator due to spring breakup. The hauling of forest products will not be permitted from February 15 to May 1 unless authorized in writing by the Contract Administrator due to spring breakup.

TIMBER NOTICE OF SALE

ACREAGE DETERMINATION

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

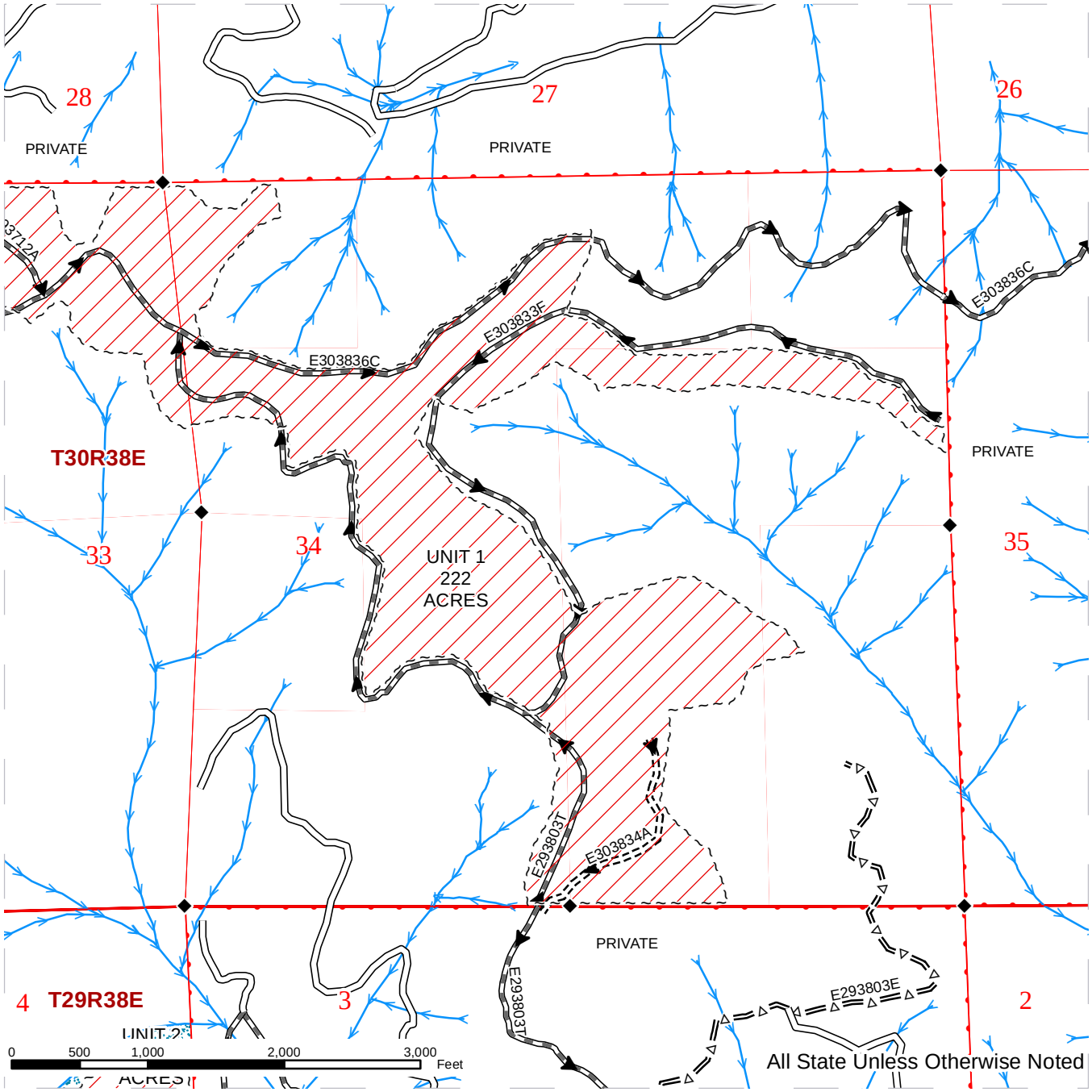
FEES: $170,773.00 is due on day of sale. $1.20 per ton is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: Blue stain ponderosa pine will be optional removal at $2.00 per ton. Locked gates restricts access to Unit 2 and 3. Contact Northeast Region Office at (509) 684-7474 to access.

TIMBER SALE MAP

SALE NAME: ALLEN FIRE SALVAGE
AGREEMENT#: 30-093250
TOWNSHIP(S): T29R38E, T30R38E
TRUST(S): Common School and Indemnity(3), Agricultural School(4), Capitol Grant(7)

REGION: Northeast Region
COUNTY(S): STEVENS
ELEVATION RGE: 2927-4427



Sale Boundary Tags
Ground Skidding
Gate
Existing Road
Required Construction
Required Reconstruction
PreHaul Maintenance
Optional PreHaul Maintenance
Haul Route
RMZ
Streams
Monumented Corners
N

Prepared By: dzei490
Creation Date: 12/10/2015
Modification Date: 01/22/2016

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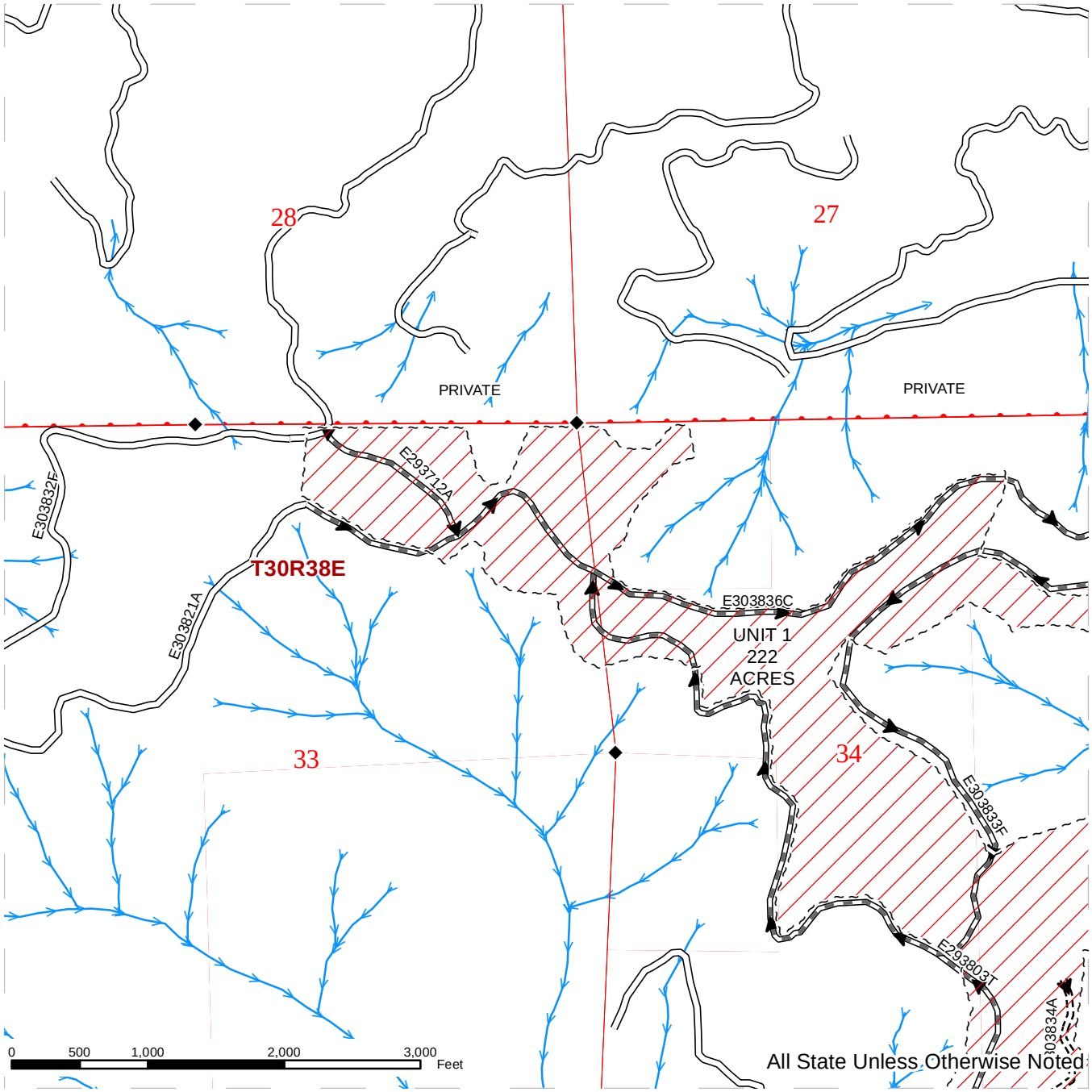

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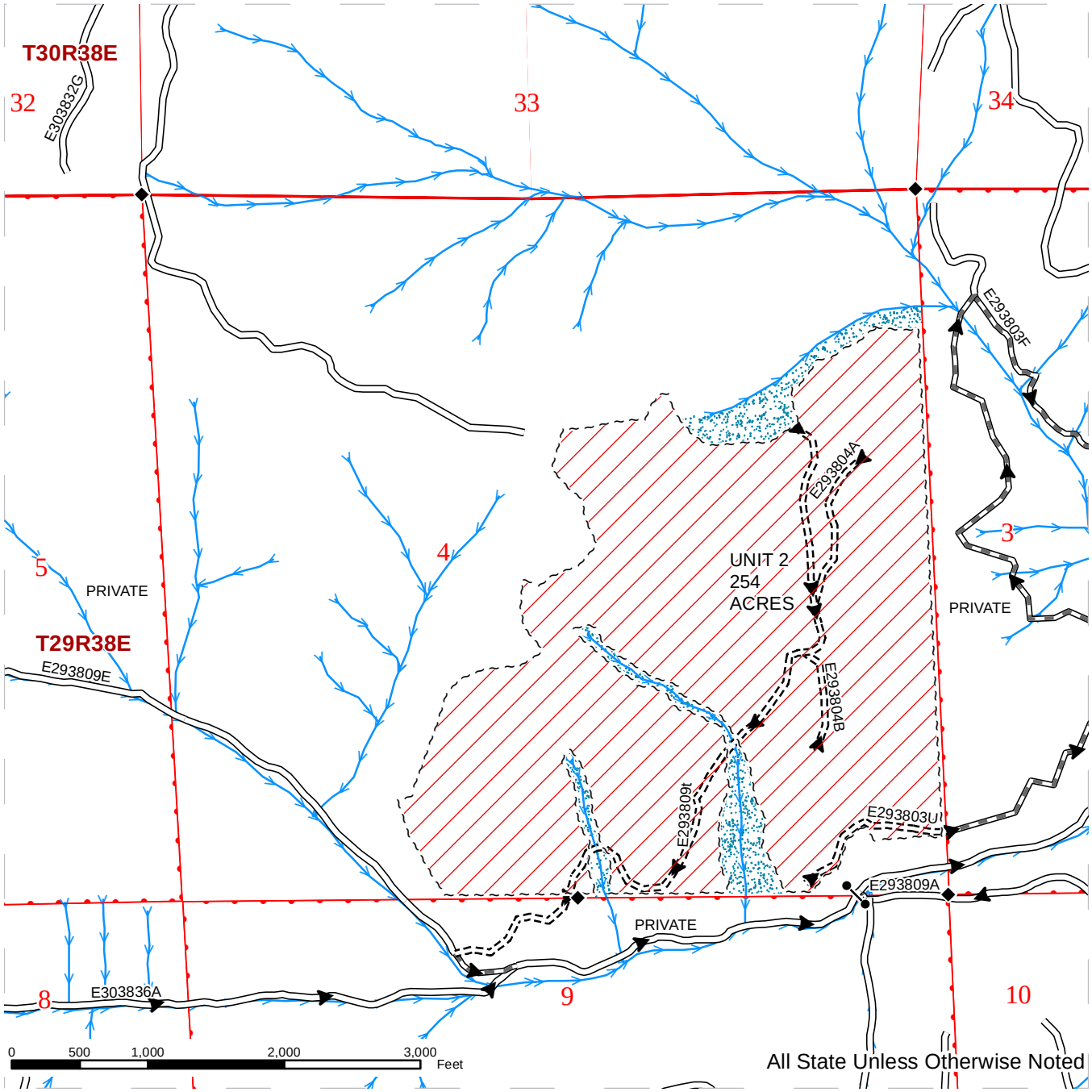

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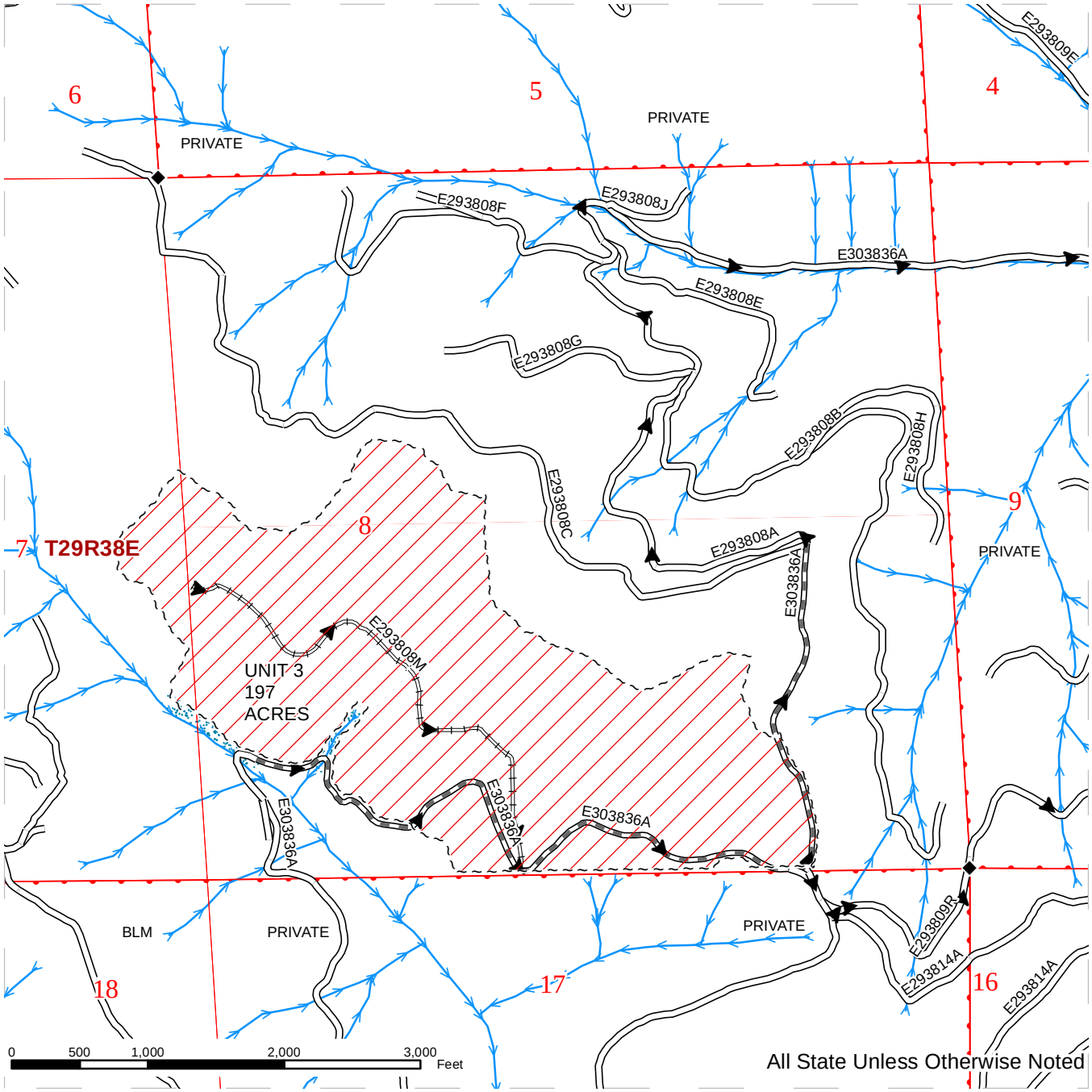

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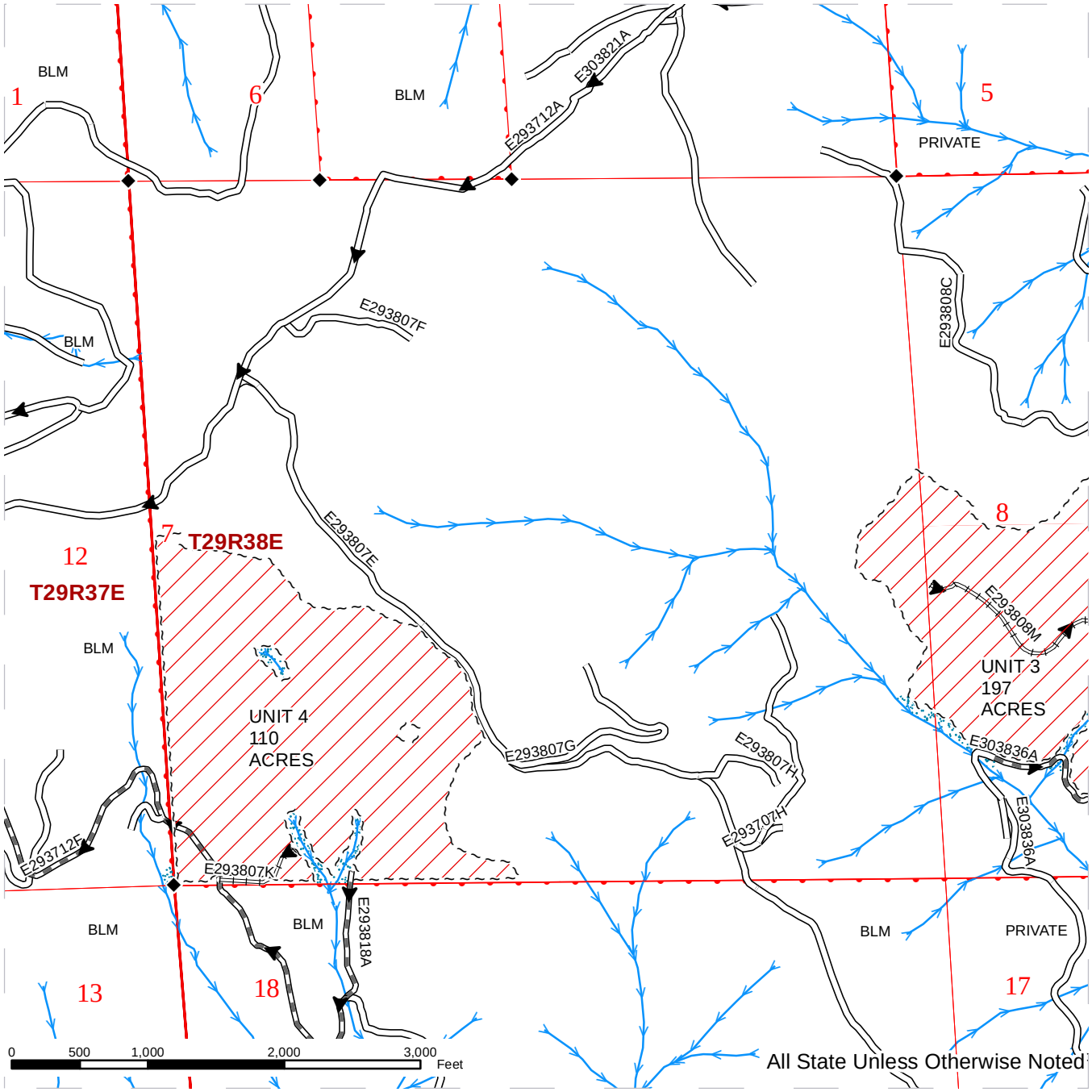

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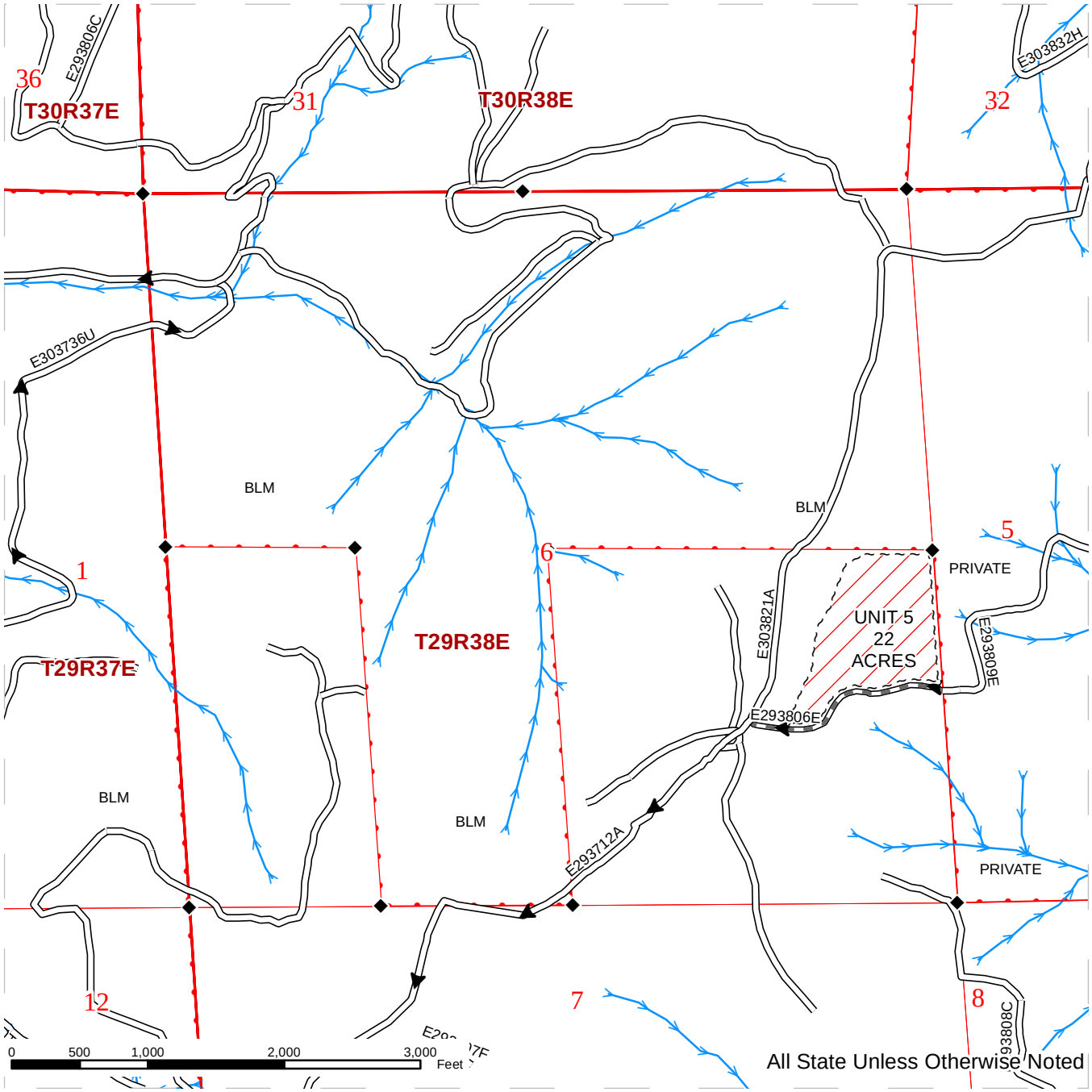

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DRIVING MAP

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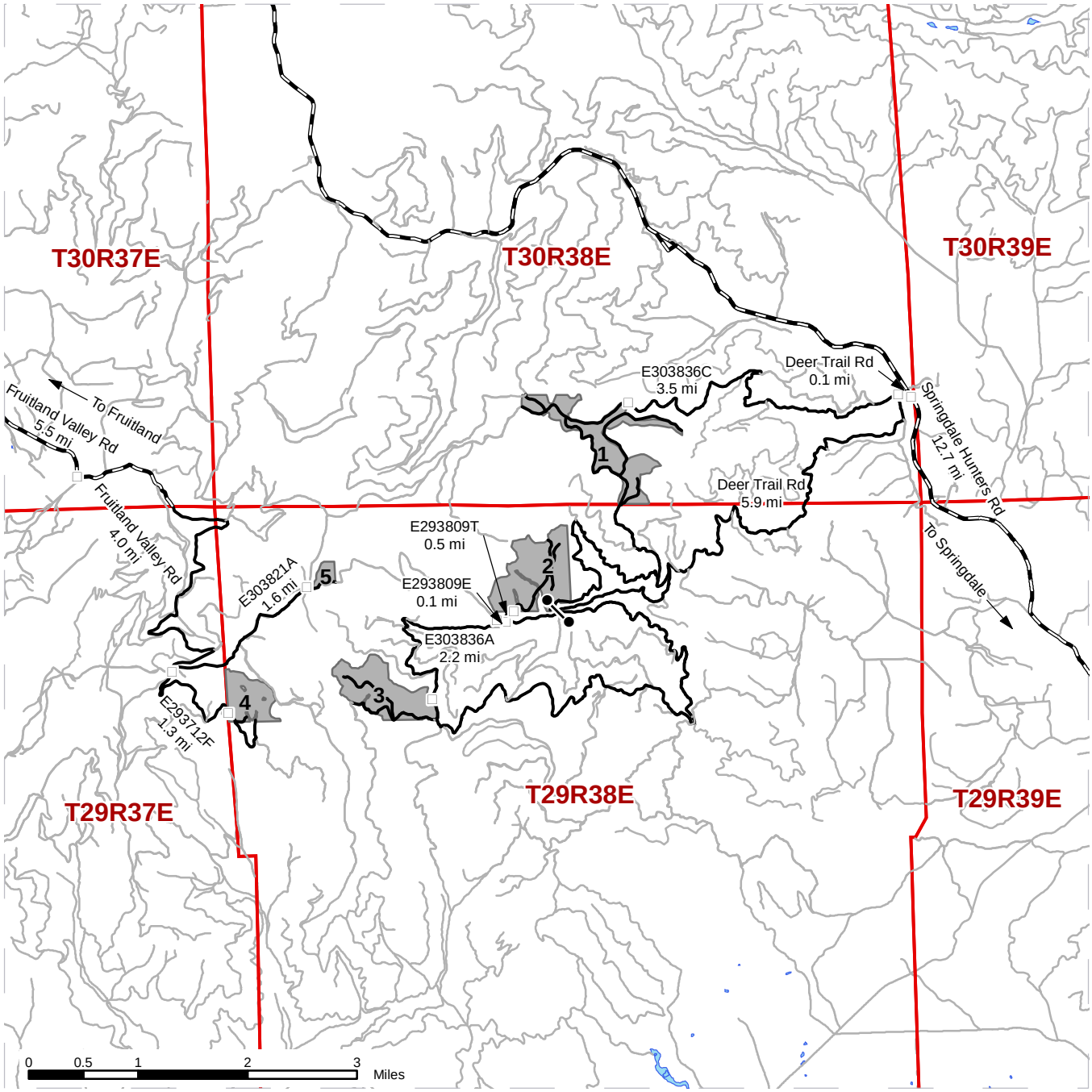

- Timber Sale Unit
- Haul Route
- Other Route
- County Road
- Milepost Marker
- Gate

DRIVING DIRECTIONS:

To access Units 1, 2, and 3, from Springdale WA, travel west on Springdale Hunters Road for approximately 12.7 miles to Deer Trail Road.
To access Unit 1: From the intersection of Deer Trail Road and Springdale Hunters Road, travel west on Deer Trail Road approximately 0.1 miles to the Intersection of E303836C Road. Travel west on E303836C Road approximately 3.5 miles to Unit 1.
To access Unit 2: From the intersection of Deer Trail Road and Springdale Hunters Road, travel west on Deer Trail Road approximately 6.0 miles to the intersection with E293809E Road at the large concrete bridge. Continue west on E293809E Road approximately 0.1 miles, then turn right on E293809T, continue 0.5 miles to Unit 2 access.
To access Unit 3: From the intersection of E293809E Road and Deer Trail Road/E303836A, continue west on E303836A Road for approximately 2.2 miles to Unit 3.
To access Units 4 and 5: From the intersection of Hwy 25 and Fruitland Valley Road in the town of Fruitland WA, turn east on to Fruitland Valley Road and continue on Fruitland Valley Road approximately 5.5 miles to the intersection of Fruitland Valley Road and Turk Road. Continue east on Fruitland Valley Road for approximately 4.0 miles. Fruitland Valley Road becomes a non-maintained county road, past the Deer Trail Mine, to the intersection of the E303821A Road and E293712F Road.
Unit 4:Turn onto E293712F Road and continue for approximately 1.3 miles to Unit 4.
Unit 5: Continue travel northeasterly on the E303821A Road approximately 1.6 miles to Unit 5.

N

Prepared By: dzei490 Creation Date: 12/10/2015 Modification Date: 01/12/2016

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Tonnage Scale AGREEMENT NO. 30-093250

SALE NAME: ALLEN FIRE SALVAGE

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-010 Products Sold and Sale Area

Purchaser was the successful bidder on March 9, 2016 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase, cut, and remove the following forest products: All standing fire damaged ponderosa pine 8 inches and greater in diameter at breast height and all other standing fire damaged conifer species 7 inches and greater in diameter at breast height, except leave trees as described in the Schedule A in Units 1, 2, 3, 4 and 5 bounded by white timber sale boundary tags,, located on approximately 805 acres on part(s) of Sections 4, 6, 7, and 8 all in Township 29 North, Range 38 East, Sections 33, and 34 all in Township 30 North, Range 38 East W.M. in Stevens County(s) as shown on the attached timber sale map and as designated on the sale area.

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

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	Required Leave Trees

G-030 Contract Term

Purchaser shall remove the forest products conveyed and complete all work required by this contract prior to October 31, 2016.

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-050 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 contract value based on the contract payment rate and advertised volume.

For the second extension, not to exceed 1 year, payment of at least 90 percent of the contract value based on the contract payment rate base and advertised volume.

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 timber value of the contract.

   To determine the unpaid portion of the contract, multiply the contract payment rate for each item by the remaining volume for each item based on the volumes from the Timber Notice of Sale. In addition, all cash deposits that can be used for timber payments, except the initial deposit, will be deducted from the unpaid portion of the contract.

e. Payment of $377.00 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-090 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, added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-100 Forest Products Not Designated

Any forest products not designated for removal, which must be removed in the course of operations authorized by the State, shall be approved and designated by the Contract Administrator. Added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-110 Title and Risk of Loss

Title to the forest products conveyed passes at confirmation of the sale. Purchaser bears the risk of loss of or damage to and has an insurable interest in the forest products in this contract from the time of confirmation of the sale of forest products. In the event of loss of or damage to the forest products after passage of title, whether the cause is foreseeable or unforeseeable, the forest products shall be paid for by Purchaser. Breach of this contract shall have no effect on this provision. Title to the forest products not removed from the sale area within the period specified in this contract shall revert to the State as provided in RCW 79.15.100.

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction completed to the point that authorization to haul has been issued;

2. Caused by a single event from forces beyond the control of Purchaser, its employees, agents, or invitees, including independent contractors; and

3. Includes, but is not limited to natural disasters such as earthquakes, volcanic eruptions, landslides, and floods.

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

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

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

G-140 Indemnity

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

G-150 Insurance

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Business Auto Policy (BAP). Purchaser shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit not less than

$1,000,000.00 per accident. Such insurance shall cover liability arising out of "Any Auto". Business auto coverage shall be written on ISO form CA 00 01, or substitute liability form providing equivalent coverage. If necessary the policy shall be endorsed to provide contractual liability coverage and cover a "covered pollution cost or expense" as provided in the 1990 or later editions of CA 00 01. Purchaser waives all rights against State for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

G-160 Agents

The State's rights and duties will be exercised by the Region Manager at 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 post office address:

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

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

G-210 Violation of Contract

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

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

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

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

G-220 State Suspends Operation

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

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

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

If it reasonably appears that the damage that the State is suffering, or can reasonably be expected to suffer if the operation is allowed to continue, will prevent harvest for a period that will exceed 6 months, and Purchaser has complied with this contract, the

provisions of clause G-066 shall govern just as if the harvest was prevented by an applicable foreign or domestic governmental regulation or order.

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

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

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

All equipment owned or in the possession of Purchaser, its employees, agents, or invitees, including independent contractors, shall be removed from the sale area and other State land by the termination date of this contract. Equipment remaining

unclaimed on State land 60 days after the expiration of the contract period is subject to disposition as provided by law. Purchaser shall pay to the State all costs of moving, storing, and disposing of such equipment. The State shall not be responsible for any damages to or loss of the equipment or damage caused by the moving, storing or disposal of the equipment.

G-280 Operating Release

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; E303836A, E293803T, E293803F, E293803U, E293804A, E293804B, E293809E, E293809T, E293712E, E293712A, E293818A, E293712F, E293806E, E293808M, E293808C, E303833F, E303834A, E303836C, E293807K, E293803E, E303736A, E293809A, E293814A, and E293810K. 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 500 pounds of grass seed to a location designated by the Contract Administrator. Seed provided shall meet the following specifications.

25% Smooth Brome, 17% White Dutch Clover, 17% Small Burnett, 25% Mountain Brome, 16% Upland Draylar Bluegrass
Seed shall be certified weed free, premixed and delivered to 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 E303836C and E293712F roads, 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 1009 with Boise Cascade dated June 2, 1976
Easement 1011 with Slate dated July 25, 1975
Easement 1228 with Hasse dated December 5, 1974
Easement 2284 with Inland Empire Paper Co. dated May 30, 1989
Road Use Permit 93294 with BLM pending
Road Use Permit 93481 with Benson dated January 25, 2016
Road Use Permit 93293 with Inland Paper Co. January 19, 2016

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:

DATA MISSING

Section P: Payments and Securities

P-010 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 the 'Payment for Forest Products' clause, 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-024 Payment for Forest Products

Purchaser agrees to pay the following rate per ton for forest products conveyed plus $170,773.00 on day of sale and $1.20 per ton upon removal in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause.

DATA MISSING

Species that are conveyed but are not listed in the table above shall be paid for at a rate to be determined by the State.

P-027 Payment for Removal of Optional Forest Products

Purchaser agrees to pay the rate of $2.00 per ton for forest products approved for removal from the sale area under clause H-157.

P-040 Weighing and Scaling Costs

Purchaser agrees to pay for all scaling and weighing costs for logs and other products sold under this contract. Purchaser also agrees to pay for all costs associated with the transmission and reporting of scale or weight data.

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-052 Payment Procedure

If a third party Log and Load Reporting Service (LLRS) is required by this contract the State will compute and forward to the Purchaser statements of charges provided for in the contract. Purchaser shall deliver payment to the Northeast region office on or before the date shown on the billing statement.

If a third party LLRS is not required by this contract, Purchaser shall pay for forest products removed on a monthly basis. Payments will be submitted to the Northeast region office on or before the fourteenth of the month following the month in which the timber was removed or, according to an alternate payment schedule as approved by the State with at least one payment each month for timber removed. The alternate payment schedule, once approved by the State, shall become part of this contract and may be changed only with written approval of the State.

Payment will be based on the contract rate multiplied by the tons (tonnage contracts) or volume (mbf contracts) removed during the month or payment period. Included with the payment will be a summary report along with all related load tickets and the corresponding certified weight tickets for the payment period. The summary report will be generated using a computer spreadsheet and list the load tickets in ascending numerical order with the corresponding ticket number and weight or volume for each load.

P-070 Payment for Products: Damage, Theft, Loss or Mismanufacture

Forest products included in this agreement which are destroyed, damaged, stolen, lost, or mismanufactured shall be paid for by Purchaser on demand of the State. The rates contained in clause P-024 shall apply.

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 L: Log Definitions and Accountability

L-060 Load Tickets

Purchaser shall complete and use load tickets as directed by the Contract Administrator and, if required, use other identification as directed by the State to ensure accounting of forest products removed from the sale area. A load ticket must be fixed, as designated by the Contract Administrator, to each truck and trailer load prior to leaving the landing.

Purchaser shall account for all load tickets issued by the Contract Administrator. The State may treat load tickets not accounted for as lost forest products. All costs associated with computing the billings for lost loads shall be borne by Purchaser.

L-071 Log and Load Reporting Service

This contract requires the use of a State approved third party Log and Load Reporting Service (LLRS). Purchaser shall ensure log volume measurement data and/or load and weight data is received by the LLRS within 2 business day of logs being measured or weighed. Purchaser agrees to pay the LLRS for log and load data supplied to the State.

If during the term of this contract, the State discontinues use of the LLRS, the State will notify the Purchaser in writing and the Purchaser will then be responsible to send log scale and/or weight information to the State.

L-110 State Approval of Log Scaling and Weighing Locations

Forest Product measurement and weighing facilities required by this contract must be approved by the State. Forest products sold under the contract which require log scaling shall be scaled, measured, or counted by a State approved third party log scaling organization. Forest products sold under the contract which require weighing shall be weighed at a location that meets Washington State Department of Agriculture approval.

Prior to forest products being hauled, the Contract Administrator must authorize in writing the use of State approved measurement and/or weighing facilities that are at or en-route to final destinations. Forest products from this sale shall be measured or weighed at facilities, which are currently approved for use by the State and are currently authorized for this sale. The State reserves the right to verify load volume and weights with State employees or contractors at the State's own expense. The State reserves the right to revoke the authorization of previously approved measurement locations.

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Falling and Yarding will not be permitted from February 15 to May 1 in all Units unless authorized in writing by the Contract Administrator.

H-011 Certification of Fallers and Yarder Operators

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

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

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

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

H-012 Leave Tree Damage Definition

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

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

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

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

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

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

H-015 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

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

b. Skid trails shall not cover more than 10 percent of the total acreage on one unit.

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

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

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

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

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

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 6 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-018 Temporary Stream Crossings

A temporary stream crossing is required to access the southeast corner of Unit 4.

Purchaser shall comply with the following during the yarding operation:

a. Adhere to the approved Hydraulic Permit Application (HPA) or Forest Practice Application (FPA) with approved hydraulic project work, if required, amend a current FPA or obtain a new FPA prior to commencing any new stream crossing construction.

b. Location of the temporary stream crossing must be approved by the Contract Administrator.

c. A temporary stream crossing shall not exceed 20 feet in width, including rub trees.

d. Purchaser shall suspend operations during periods of wet weather when a high potential for sediment delivery into typed waters may occur.

e. Temporary stream crossings shall be removed at the time of completion of yarding as required by the Contract Administrator.

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

H-025 Timing Requirements for Timber Removal

All timber must be removed within 7 days of being felled.

H-030 Timber Falling

Trees shall be felled and logs shall be bucked to obtain the greatest practicable utilization of forest products and other valuable materials conveyed.

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for Units 1, 2, 3, 4, and 5. The plan shall address the harvest operations and be incorporated at the prework conference, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-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-052 Branding and Painting

Forest products shall be branded with a brand furnished by the State prior to removal from the landing. 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-130 Hauling Schedule

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

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

a. On slopes greater than 40%, additional leave trees will be contour felled and left onsite.
b. A minimum of 75% of landing slash will be hauled back and scattered on the skid trails.
c. 100% of landing slash located at the end of the E293818A road will be hauled back and scattered in the unit.

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

H-150 Required Removal of Forest Products

Purchaser shall remove from the sale area and present for scaling or weighing all forest products conveyed in the G-010 clause that meet the following minimum dimensions:

Species	Net bd ft	Log length (ft)	Log dib
Red Cedar	10	12	5.6
PP non blue stain	10	12	5.6
All other species	10	12	4.6

The State may treat failure to remove forest products left on the sale area that meet the above specifications as a breach of this contract. At the State's option, forest products that meet the above specifications and are left on the sale area may be scaled for volume or measured and converted to weight by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling, measuring and computing the billing will be borne by the Purchaser.

H-157 Optional Removal of Forest Products Not Designated

If in the course of operations, Purchaser decides to remove forest products that are below the minimum designated removal specifications per the 'Required Removal of Forest Products' (H-150), the payment rates in clause P-027 shall apply.

Forest products designated as optional shall be decked separately from forest products designated as required for removal. Prior to removal from the sale area, optional forest products as described in this clause must be inspected and approved by the Contract Administrator. Optional forest products may not be mixed with forest products that are required for removal by this contract and shall be removed from the sale area in separate truck loads using load tickets specified by the Contract Administrator.

All material removed under this clause is subject to the same log and load accountability rules as defined in the Log Definitions and Accountability section of this contract. Purchaser shall follow the payment procedures as required in the P-052 clause and will submit a separate summary report for all forest products removed from the sale area under the authority of this clause.

H-160 Mismanufacture

Mismanufacture is defined as forest products remaining on the sale area that would have met the specifications in clause H-150 if bucking lengths had been varied to include such products.

The State may treat mismanufacture as a breach of this contract. At the State's option, forest products that are left on the sale area may be scaled for volume by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling and computing the billing will be borne by Purchaser.

H-180 Removal of Specialized Forest Products or Firewood

Prior to the removal of conveyed specialized forest products or firewood from the sale area, Purchaser and the State shall agree in writing to the method of accounting for/and removal of such products.

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 12/15/2015 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on E293803F, E293803U, E293804A, E293804B, E293809E, E293809T, E293818A, E293712F, E293806E, E293808M, E303834A, E303836C, E293807K and E293803E roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on E303736A, E293712E, E293712A, E293810K, E293814A, E293809A, E303836A, E303833F and E293803T roads. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the State current Equipment Rate Schedule on file at the region and Olympia offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-080 Landing Locations Approved Prior to Construction

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

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 and Riparian Management Zone 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 the Riparian Management Zone 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 and Riparian Management Zone.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

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

d. Hazardous Material Release Reporting

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

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

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

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

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

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

S-131 Refuse Disposal

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

Section D: Damages

D-010 Liquidated Damages

The clauses in the DAMAGES section of this contract provide for payments by Purchaser to the State for certain breaches of the terms of this contract. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State 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.

D-021 Failure to Remove Forest Products

Purchaser's failure to remove all or part of the forest products sold in this agreement prior to the expiration of the contract term results in substantial injury to the State. The value of the forest products sold at the time of breach is not readily ascertainable. Purchaser's failure to perform disrupts the State's management plans, the actual cost of which is difficult to assess. A resale involves additional time and expense and is not an adequate remedy. Therefore, Purchaser agrees to pay the State as liquidated damages a sum calculated using the following formula:

LD = .35V-ID-P+C+A

Where:

LD = Liquidated Damage value.

V = The unremoved value at the date of breach of contract. The value is determined by subtracting the removal tonnage to date from the cruised tonnage multiplied by the contract bid rates.

ID = Initial Deposit paid at date of contract that has not been applied to timber payments.

P = Advance payments received but not yet applied to specific contract requirements.

C = Charges assessed for contract requirements completed prior to breach of contract but not paid for.

A = Administrative Fee = $2,500.00.

The above formula reflects the Purchaser's forfeiture of the initial deposit in accordance with clause P-010 by deducting the initial deposit from the amount owed. In no event shall the liquidated damages be less than zero. Interest on the liquidated damage is owed from the date of breach until final payment, calculated using the following formula: Interest = r x LD x N.

Where:

r = daily equivalent of an annual interest at current interest rate as established by WAC 332-100-030.

LD = Liquidated damage value.

N = Number of days from date of breach to date payment is received.

D-030 Inadequate Log Accountability

Removal of forest products from the sale area without adequate branding and/or valid load tickets attached to the load and scaling forest products in a location other than the facility approved by the State can result in substantial injury to the State. Failure to properly account for loads and scaling and/or weighing information can result in loss to the State. The potential loss from not having proper branding, ticketing, scaling and/or weighing location and accountability is not readily ascertainable. Purchaser's failure to perform results in a loss of log weight and scale accountability, increases the potential for unauthorized removal of forest products, and increases the State's administration costs, the actual costs of which are difficult to assess.

Enforcement actions for unauthorized removal of forest products for each improperly branded load, improperly ticketed load, lost or unaccounted for tickets, or use of a facility not authorized for this sale or improper submission of scaling data are impractical, expensive, time consuming and are not an adequate remedy. Therefore, Purchaser agrees to pay the State, as liquidated damages, a sum of $100 each time a load of logs does not have branding as required in the contract, $250 each time a load of logs does not have a load ticket as required by the contract, $250 each time a load ticket has not been filled out as required by the plan of operations, $250 each time a load is weighed or scaled at a location not approved as required under this contract, $250 each time a log ticket summary report is not submitted properly, and if a third party Log and Load Reporting Service is required, $250 each time scaling or weight data is not properly submitted to the Log and Load Reporting Service within 24 hours of log removal, and $250 each time a ticket is either lost or otherwise unaccounted for.

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of $500.00 per tree for all damaged trees in Units 1, 2, 3, 4, and 5.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

_____	_____
Purchaser	Loren D. Torgerson Northeast Region Manager
Date: _____	Date: _____
Address:	

CORPORATE ACKNOWLEDGEMENT

STATE OF _____)
)
COUNTY OF _____)

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

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

Schedule A
Required Leave Trees

A. Leave all ponderosa pine and Douglas-fir greater than twenty eight inches (28") dbh.

B. Leave all ponderosa pine greater than twenty inches (20") dbh with at least 30% live crown.

C. Leave all Douglas-fir greater than twenty inches (20") dbh with at least 50% live crown.

D. If the above criteria does not yield at least six (6) leave tree per acre THEN

E. A minimum of six (6) trees per acre are required to be left in each unit in a scattered arrangement.

1. All leave trees must be at least ten inches (10") in diameter at breast height (dbh). However, leave trees shall be chosen from the larger dominant/co-dominant diameter classes where they are available.
2. For scattered trees, an average spacing of eight-five (85') feet will be maintained.
3. Preferred species for retention: 1) ponderosa pine 2) Douglas-fir
4. Where no suitable green trees are available, standing dead will be left as a substitute.

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

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Northeast

Timber Sale Name: Allen Fire Salvage

Application Number: 30- 093250

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 11,431 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 4,766 **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: 4,772 **linear feet**
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 88,562 **linear feet**
Existing road to receive maintenance work (specifically required by the contract) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Optional Construction: 0 **linear feet**
Optional roads to be constructed and then abandoned

Temporary Optional Reconstruction: 0 **linear feet**
Optional roads to be reconstructed and then abandoned

New Abandonment: 0 **linear feet**
Abandonment of roads constructed or reconstructed under the contract

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contact. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.
(Revised 4/09)

PRE-CRUISE NARRATIVE

Sale Name: Allen Fire Salvage	Region: **Northeast**
Agreement #: 30-	District: Arcadia
Contact Forester: Chris Pearson Phone / Location: (509) 844-7225, DPWC	County(s): Stevens,
Alternate Contact: Clay Chambers Phone / Location: (509) 844-7224, DPWC	Other information: Click here to enter text.

Type of Sale: Weight Scale	
Harvest System: Ground based	100
Harvest System: Click here to enter text. Enter % of sale acres	Click here to enter percent sale acres.

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	S33,34, T30N, R38E	03,07	231.06			8.39		222.67	GPS (Garmin)
2	S4, T29N, R38E	04	253.90					253.90	GPS (Garmin)
3	S7,8, T29N, R38E	03,04	203.06			6.08		196.98	GPS (Garmin)
4	S7, T29N, R38E	03	110.94			1.21		109.73	GPS (Garmin)
5	S6, T29N, R38E	07	22.40			0.57		21.83	GPS (Garmin)
TOTAL ACRES			821.36			16.25		805.11	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Even-aged salvage harvest. Schedule A prescription.	.	
2	Even-aged salvage harvest. Schedule A prescription.		
3	Even-aged salvage harvest. Schedule A prescription.		
4	Even-aged salvage harvest. L Schedule A prescription.		
5	Even-aged salvage harvest. L Schedule A prescription.		

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF, PP 3,340 MBF		
2	DF, PP 3,809MBF	2 gates on IEP, Combo 0906 on Deer Trail, (786 key) on gate at 6mile bridge	
3	DF,PP 2,955 MBF	Gate on Deer Trail, combo 0906	
4	DF,PP 1,646 MBF		
5	WL, WRC 327 MBF		
TOTAL MBF	12,077		

REMARKS:

We are working on the Schedule A prescriptions and will get those to you ASAP.

Prepared By: Chris Pearson Date: 12/02/2015	Title: Forester	CC:

R2301295

Cruise Narrative

Sale Name: Allen Fire Salvage	**Region:** Northeast
Agreement Number: 30-093250	**District:** Arcadia
Lead Cruiser: Dan Griggs	**Completion Date:** 12/15/2015
Other Cruisers on sale: Jim Putnam, Nathan Simpkins	**Legal:** Sections 33 and 34, T30N, R38E WM; Sections 4, 6, 7 and 8, T29N, R38E WM.

Unit Acreage Specifications:

Unit #	Gross Acres	Net Acres	Total Deletions	RMZ/WMZ Acres	Leave Tree Acres	Existing Road Acres	Other
1	231.05	222.66	8.39			8.39	
2	253.90	253.90	0.00				
3	203.06	196.98	6.08			6.08	
4	110.94	109.73	1.21			1.21	
5	22.40	21.83	0.57			0.57	
Total	821.35	805.10	16.25	0.00	0.00	16.25	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	33.61	134.44	D4H	400 x 400	25%	25.7%	61
2	33.61	134.44	D4H	400 x 400	25%	27.2%	67
3	33.61	134.44	D4H	400 x 400	25%	25.4%	55
4	33.61	134.44	D4H	400 x 400	25%	19.8%	30
5	33.61	33.61	D4H	400 x 400	100%	100.0%	5
Total						27.5%	218

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:	**Ponderosa pine and red cedar:** 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. **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.
Minimum dbh:	Ponderosa pine: 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:	**Leave trees are defined as follows:** **A minimum of six (6) trees per acre are required to be left in each unit in a scattered arrangement.** 1. All leave trees must be at least ten inches (10") in diameter at breast height (DBH). **However, leave trees shall be chosen from the larger dominant/co-dominant diameter classes where they are available**. 2. For scattered trees, an average spacing of eighty-five feet (85') will be maintained. 3. Preferred species for retention: **(#1) Ponderosa pine, (#2) Douglas-fir.** A. **Ponderosa pine:** All ponderosa pine greater than twenty inches (20") DBH with thirty percent (30%) live crown will be left. B. **Douglas-fir:** All Douglas-fir greater than twenty inches (20") DBH with fifty percent (50%) live crown will be left. C. **All ponderosa pine, and Douglas-fir: All ponderosa pine, and Douglas-fir greater than twenty-eight inches (28") DBH will be retained as leave trees.** D. **Where no suitable green trees are available**, standing dead will be left as a substitute. The largest-diameter snags will be retained if the operator can safely work in the vicinity.
Utility wood:	None
Status codes used	None
Sort codes used	D – saw log
Species table used:	NE 2 inch
Grade table used:	Eastgrad
Other tables used (cruise adjustment):	Cruise Adjustment Table: ALLEN

Field Observations:

Location:	61 road miles south of Colville, WA in southern Stevens County.
Aspect:	North, East, South and West
Elevation:	2880 to 4440
Slope:	Unit 1 – 0% to 40%, Average 25% Unit 2 – 0% to 60%, Average 35% Unit 3 – 0% to 65%, Average 35% Unit 4 – 0% to 55%, Average 30% Unit 5 – 0% to 50%, Average 30%
Harvest Methods:	100% Ground base yarding with the longest skidding of 1200 feet.
Stand Composition:	The stands are fire damaged second growth Douglas-fir and ponderosa pine with larger residual trees. There is a minor component of grand fir, western larch, western red cedar and lodgepole pine.
Stand Health:	The trees in this sale were killed by the Carpenter Road Fire which burned in August, 2015. Bark beetles are active and the woodpeckers are working on those trees.
Timber Quality:	This sale is a mix of poor quality Douglas-fir (66%), ponderosa pine (13%), grand fir (11%), western larch (10%) red cedar (1%) and lodgepole pine (less than 1%). We made the following cruise adjustment to the volume for additional leave trees and hidden defect due to fire damage. Douglas-fir – 15% Ponderosa pine – 20% Grand fir – 10% Western larch – 5%
Non-board Foot Volume:	None cruised
Other Considerations:	This sale will be sold on the tons of logs removed from the sale area.

Trust and Counties:

	Based on mbf Volume				Based on Acres
Unit #	Trust 03 Vol.	Trust 04 Vol.	Trust 07 Vol.	Combined Vol.	Stevens Co
1	1153		899	2052	222.66
2		4006		4006	253.9
3	247	1788		2035	196.98
4	1182			1182	109.73
5			346	346	21.83
Total	2582	5794	1245	9621	805.1
% of Total	26.84%	60.22%	12.94%	100.00%	100.00%

Prepared by: Dan Griggs

Title: Check Cruiser 1

CC: Timber Sales Document Center & File #30-093250

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T29N R38E S04 Ty00U2
THRU
T30N R38E S34 Ty00U1

Project: **ALLENFS**

Acres **805.10**

Page **1**
Date **12/17/2015**
Time **9:29:53AM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-32	33-55	56-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	D	2		36	16.4	3,430	2,868	2,309			76	24	2	98			32	14	242	1.61	11.9
DF	D	3		48	19.9	4,763	3,817	3,073		93	7		0	100			32	9	87	0.66	43.9
DF	D	4		16	24.1	1,574	1,194	961	50	50			33	67			22	6	25	0.33	47.3
DF	**Totals**			66	19.3	9,767	7,879	6,343	8	53	31	9	6	94			27	8	76	0.67	103.1
GF	D	2		21	29.1	394	279	225			30	70		100			32	16	279	1.77	1.0
GF	D	3		61	17.8	946	778	627		76	24			100			32	9	92	0.64	8.4
GF	D	4		18	44.4	393	218	176	27	73			29	71			23	6	22	0.30	9.8
GF	**Totals**			11	26.4	1,733	1,276	1,027	5	59	21	15	5	95			27	8	66	0.56	19.3
WL	D	2		32	10.1	427	383	309			60	40		100			32	15	296	1.87	1.3
WL	D	3		50	6.0	620	583	469		100				100			32	8	72	0.52	8.1
WL	D	4		18	10.3	236	212	170	64	36			31	69			23	5	28	0.23	7.6
WL	**Totals**			10	8.1	1,283	1,178	949	11	56	20	13	6	94			28	7	69	0.53	17.0
LP	D	4		100	50.0	10	5	4	100				100				18	5	10	0.22	.5
LP	**Totals**			0	50.0	10	5	4	100				100				18	5	10	0.22	.5
PP	D	4		37	26.1	793	586	472			100			100			32	13	186	1.34	3.1
PP	D	5		63	26.2	1,299	959	772		95	5		13	87			26	8	57	0.51	16.9
PP	**Totals**			13	26.2	2,092	1,545	1,244		59	41		8	92			27	9	77	0.67	20.1
RC	D	3		76	24.0	68	52	42		66	34			100			32	10	119	1.58	.4
RC	D	4		24		16	16	13	13	87			56	44			21	6	28	0.40	.6
RC	**Totals**			1	19.5	84	68	54	3	71	26		13	87			26	8	68	1.04	1.0
Totals					20.2	14,968	11,950	9,621	7	55	30	9	6	94			27	8	74	0.64	160.9

TC PSTATS

PROJECT STATISTICS

PROJECT ALLENFS

DATE 12/17/2015

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
29N	38E	04	ALLEN FIRE	00U2	THR	805.10	218	706	S	E
30N	38E	34	ALLEN FIRE	00U1						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	218	706	3.2		
CRUISE	125	194	1.6	73,958	.3
DBH COUNT					
REFOREST					
COUNT	68	174	2.6		
BLANKS	25				
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	121	60.4	14.9	64	19.0	73.2	9,767	7,879	2,176	1,867
GR FIR	28	12.1	12.8	66	3.0	10.9	1,733	1,276	346	297
P PINE	27	9.8	17.4	68	3.9	16.1	2,092	1,545	447	357
W LARCH	14	8.5	13.0	85	2.2	7.8	1,283	1,178	262	252
WR CEDAR	3	.6	17.3	49	0.2	.9	84	68	27	27
LP PINE	1	.5	7.6	50	0.1	.2	10	5	2	2
TOTAL	*194*	*91.9*	*14.8*	*66*	*28.4*	*109.1*	*14,968*	*11,950*	*3,260*	*2,801*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	SAMPLE TREES - BF LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
DOUG FIR	82.5	7.5	207	223	240			
GR FIR	113.1	21.8	162	208	253			
P PINE	57.5	11.5	172	194	216			
W LARCH	109.3	30.3	185	265	345			
WR CEDAR	89.0	61.7	59	153	248			
LP PINE								
TOTAL	*88.3*	*6.4*	*204*	*218*	*232*	*312*	*159*	*78*

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	76.7	5.2	57	60	64			
GR FIR	243.1	16.5	10	12	14			
P PINE	188.0	12.7	9	10	11			
W LARCH	320.6	21.7	7	8	10			
WR CEDAR	769.6	52.1	0	1	1			
LP PINE	1476.5	100.0	0	0	1			
TOTAL	*40.6*	*2.7*	*89*	*92*	*94*	*66*	*34*	*16*

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	BASAL AREA/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	72.9	4.9	70	73	77			
GR FIR	217.7	14.7	9	11	12			
P PINE	175.1	11.9	14	16	18			
W LARCH	287.9	19.5	6	8	9			
WR CEDAR	687.7	46.6	0	1	1			
LP PINE	1476.5	100.0	0	0	0			
TOTAL	*32.4*	*2.2*	*107*	*109*	*111*	*42*	*21*	*10*

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	81.9	5.5	7,442	7,879	8,316			
GR FIR	253.1	17.1	1,057	1,276	1,495			
P PINE	177.3	12.0	1,359	1,545	1,730			

PROJECT STATISTICS

PROJECT ALLENFS

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
29N	38E	04	ALLEN FIRE	00U2	THR	805.10	218	706	S	E
30N	38E	34	ALLEN FIRE	00U1						

NET BF/ACRE

CL 68.1 SD: .00

	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
W LARCH	282.5	19.1	953	1,178	1,404			
WR CEDAR	692.0	46.9	36	68	99			
LP PINE	1476.5	100.0	0	5	10			
TOTAL	*44.1*	*3.0*	*11,593*	*11,950*	*12,307*	*78*	*40*	*19*

V BAR/ACRE

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR			102	108	114			
GR FIR	98.7	6.7	97	117	137			
P PINE			85	96	108			
W LARCH	66.1	4.5	122	150	179			
WR CEDAR	417.2	28.3	39	74	109			
LP PINE	1476.5	100.0	0	32	63			
TOTAL	*44.1*	*3.0*	*106*	*110*	*113*	*78*	*40*	*19*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

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T30N R38E S34 T00U1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	38E	34	ALLEN FIRE	00U1	222.66	61	43	S	E

T30N R38E S34 T00U1

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-32	33-55	56-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		D	2	25	18.6	1,694	1,378	307			100			100			32	13	199	1.33	6.9
DF		D	3	48	20.3	3,333	2,657	592		100				100			32	8	80	0.64	33.3
DF		D	4	27	18.2	1,781	1,457	325	59	41			32	68			21	5	25	0.30	58.5
DF	**Totals**			60	19.3	6,809	5,492	1,223	16	59	25		8	92			26	7	56	0.53	98.8
PP		D	4	48	29.6	1,050	739	165			100			100			32	14	191	1.27	3.9
PP		D	5	52	25.4	1,072	800	178		100			12	88			26	8	67	0.62	11.9
PP	**Totals**			17	27.5	2,122	1,539	343		52	48		6	94			27	10	98	0.81	15.7
GF		D	2	10	20.0	183	146	33			100			100			32	14	216	1.28	.7
GF		D	3	77	17.5	1,249	1,031	230		78	22			100			32	9	91	0.62	11.3
GF		D	4	13	57.0	383	165	37	53	47			14	86			24	6	20	0.40	8.1
GF	**Totals**			15	26.1	1,815	1,342	299	6	66	28		2	98			29	8	67	0.57	20.2
WL		D	2	37	8.5	304	278	62			100			100			32	13	208	1.38	1.3
WL		D	3	27	20.8	242	192	43		100				100			32	9	93	0.88	2.1
WL		D	4	36	5.0	276	262	58	38	62			30	70			23	5	32	0.24	8.3
WL	**Totals**			8	11.0	822	732	163	14	48	38		11	89			26	7	62	0.54	11.7
RC		D	3	93	20.0	130	104	23		39	61			100			32	11	140	1.57	.7
RC		D	4	7		7	7	2	100				100				16	5	20	0.29	.4
RC	**Totals**			1	18.9	138	112	25	7	37	57		7	93			27	9	100	1.31	1.1
Type Totals					21.3	11,706	9,217	2,052	11	58	31		7	93			26	7	62	0.57	147.5

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

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T29N R38E S04 T00U2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
29N	38E	04	ALLEN FIRE	00U2	253.90	67	67	S	E

T29N R38E S04 T00U2

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-32	33-55	56-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	D		2	48	19.4	6,066	4,887	1,241			73	27	3	97			32	14	237	1.48	20.6
DF	D		3	45	22.4	5,789	4,491	1,140		91	9		1	99			31	8	80	0.61	56.5
DF	D		4	7	40.4	1,096	653	166	34	66			53	47			21	6	23	0.31	28.3
DF	**Totals**			64	22.6	12,951	10,031	2,547	2	45	39	13	5	95			29	9	95	0.74	105.4
PP	D		4	31	23.7	1,032	788	200			100			100			32	14	193	1.23	4.1
PP	D		5	69	27.9	2,413	1,738	441		100			12	88			26	8	53	0.46	32.8
PP	**Totals**			16	26.7	3,445	2,526	641		69	31		8	92			27	8	69	0.56	36.9
GF	D		2	36	35.0	864	562	143			18	82		100			32	17	271	1.78	2.1
GF	D		3	55	17.0	1,016	844	214		76	24			100			32	8	88	0.55	9.6
GF	D		4	9	10.0	149	134	34		100			100				17	6	19	0.26	7.2
GF	**Totals**			10	24.1	2,030	1,540	391		50	20	30	9	91			26	8	82	0.65	18.9
WL	D		2	46	12.9	889	775	197			38	62		100			32	17	390	2.21	2.0
WL	D		3	43	5.0	751	714	181		100				100			32	9	98	0.62	7.3
WL	D		4	11	5.0	182	173	44	82	18			18	82			28	5	37	0.25	4.6
WL	**Totals**			11	8.8	1,823	1,662	422	9	45	18	29	2	98			30	9	120	0.75	13.9
RC	D		4	100		22	22	5		100			100				20	7	30	0.46	.7
RC	**Totals**			0		22	22	5		100			100				20	7	30	0.46	.7
Type Totals					22.2	20,270	15,779	4,006	2	49	34	14	6	94			28	9	90	0.69	175.7

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

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T29N R38E S08 T00U3

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
29N	38E	08	ALLEN FIRE	00U3	196.98	55	50	S	E

T29N R38E S08 T00U3

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-32	33-55	56-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	D		2	12	22.3	1,291	1,004	198			100			100			32	13	187	1.52	5.4
DF	D		3	63	22.0	6,251	4,876	960		100				100			32	9	93	0.69	52.3
DF	D		4	25	20.4	2,393	1,905	375	45	55			31	69			23	6	28	0.35	67.7
DF	**Totals**			75	21.6	9,936	7,785	1,533	11	76	13		8	92			27	7	62	0.58	125.4
PP	D		4	20	49.5	363	184	36			100			100			32	12	96	1.28	1.9
PP	D		5	80	21.9	907	709	140		70	30		8	92			25	8	58	0.54	12.2
PP	**Totals**			9	29.8	1,270	892	176		56	44		6	94			26	8	63	0.66	14.1
GF	D		3	54	10.0	414	372	73		45	55			100			32	9	97	0.68	3.8
GF	D		4	46	55.7	701	311	61	15	85			15	85			23	6	21	0.19	15.1
GF	**Totals**			7	38.7	1,115	683	135	7	63	30		7	93			25	7	36	0.31	18.9
WL	D		3	76	5.0	679	645	127		100				100			32	7	55	0.37	11.6
WL	D		4	24	26.2	274	202	40	67	33			57	43			20	5	17	0.21	11.6
WL	**Totals**			8	11.1	952	847	167	16	84			14	86			26	6	36	0.31	23.3
RC	D		3	76	28.6	132	94	19		100				100			32	10	100	1.59	.9
RC	D		4	24		28	28	6		100				100			24	6	30	0.37	.9
RC	**Totals**			1	23.5	160	122	24		100				100			28	8	65	1.07	1.9
Type Totals					23.1	13,433	10,329	2,035	10	74	16		8	92			27	7	56	0.53	183.6

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

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T29N R38E S07 T00U4

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
29N	38E	07	ALLEN FIRE	00U4	109.73	30	16	S	E

T29N R38E S07 T00U4

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-32	33-55	56-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	D		2	57	4.9	4,233	4,023	441			61	39		100			32	15	330	2.30	12.2
DF	D		3	33	.9	2,275	2,254	247		66	34			100			29	9	114	0.84	19.8
DF	D		4	10	25.4	909	678	74	63	37			7	93			18	5	19	0.43	34.8
DF	**Totals**			65	6.2	7,417	6,956	763	6	25	46	23	1	99			24	8	104	1.04	66.8
WL	D		2	25		456	456	50			100			100			32	13	210	1.78	2.2
WL	D		3	60	2.0	1,102	1,080	119		100				100			32	7	62	0.51	17.3
WL	D		4	15	.0	257	257	28	83	17			17	83			25	5	34	0.25	7.5
WL	**Totals**			17	1.2	1,815	1,794	197	12	63	25		2	98			30	7	66	0.56	27.0
GF	D		3	73	15.7	1,062	895	98		100				100			32	10	107	0.80	8.3
GF	D		4	27		323	323	35	55	45				100			29	5	39	0.33	8.3
GF	**Totals**			11	12.0	1,384	1,218	134	15	85				100			31	7	73	0.58	16.7
PP	D		4	84		647	647	71			100			100			32	14	270	2.11	2.4
PP	D		5	16	16.7	144	120	13		100			100				18	10	50	0.83	2.4
PP	**Totals**			7	3.0	790	767	84		16	84		16	84			25	12	160	1.65	4.8
LP	D		4	100	50.0	71	36	4	100				100				18	5	10	0.22	3.6
LP	**Totals**			0	50.0	71	36	4	100				100				18	5	10	0.22	3.6
Type Totals					6.2	11,478	10,769	1,182	8	37	40	15	2	98			26	8	91	0.84	118.8

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

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T29N R38E S05 T00U5

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
29N	38E	05	ALLEN FIRE	00U5	21.83	5	19	S	E

T29N R38E S05 T00U5

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-32	33-55	56-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		D	2	44	2.6	5,735	5,587	122			73	27		100			32	15	316	2.30	17.7
DF		D	3	48	5.6	6,491	6,130	134		84	16			100			32	10	121	0.99	50.8
DF		D	4	8		972	972	21	83	17			18	82			24	5	31	0.35	31.8
DF	**Totals**			80	3.9	13,198	12,689	277	6	42	40	12	1	99			29	9	127	1.08	100.2
GF		D	2	71	12.7	2,604	2,273	50			20	80		100			32	17	387	2.29	5.9
GF		D	3	16	59.3	1,279	521	11		28	72			100			30	11	72	1.24	7.2
GF		D	4	13	57.0	894	385	8		100			31	69			28	7	22	0.66	17.9
GF	**Totals**			20	33.5	4,777	3,178	69		17	26	57	4	96			29	10	103	1.14	31.0
Type Totals					11.7	17,975	15,867	346	5	37	37	21	2	98			29	9	121	1.09	131.2

TC PSPCTLTCM

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

T29N R38E S04 Ty00U2	253.9
T29N R38E S05 Ty00U5	21.8
T30N R38E S34 Ty00U	222.6

Project ALLENFS
Acres 805.10

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Species	S T	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
DOUG FIR		48,643	82,974	49,921	30.89	18.11	0.69	17,516	15,028	7,863	6,343
P PINE		7,873	16,169	8,645	36.52	17.78	0.65	3,602	2,875	1,684	1,244
GR FIR		9,764	15,512	7,978	24.46	15.40	0.57	2,785	2,389	1,395	1,027
W LARCH		6,837	13,678	5,067	29.70	14.85	0.53	2,111	2,031	1,033	949
WR CEDAR		451	802	505	47.61	26.77	1.04	215	215	68	54
LP PINE		390	390	41	4.00	4.00	0.22	17	16	8	4
Totals		73,958	129,524	72,155	30.49	17.41	0.66	26,245	22,553	12,051	9,621

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
C	73,958	129,524	72,155	30.49	17.41	0.66	26,245	22,553	12,051	9,621
Totals	73,958	129,524	72,155	30.49	17.41	0.66	26,245	22,553	12,051	9,621

TC PLOGSTVB

Log Stock Table - MBF

T29N R38E S04 Ty00U2
THRU
T30N R38E S34 Ty00U1

Project: ALLENFS
Acres 805.10

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Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches: 2-4	5-6	7-10	11-12	13-14	15-16	17-18	19-20	21-23	24-29	30-39	40+
DF		D	2	20	51	15.0	43	.7								43				
DF		D	2	32	2,711	16.4	2,266	35.7				425	646	691	409	93				
DF		D	3	20	14	36.2	9	.1				9								
DF		D	3	24	80	8.6	73	1.1		20	53									
DF		D	3	28	38	7.1	36	.6		20	15									
DF		D	3	30	39	15.0	33	.5		33										
DF		D	3	32	3,664	20.2	2,923	46.1		217	1891	706	76	33						
DF		D	4	12	61	59.0	25	.4		16	9									
DF		D	4	14	20	15.0	17	.3		10	7									
DF		D	4	16	191	17.1	158	2.5		131	27									
DF		D	4	18	28	11.8	25	.4		10	14									
DF		D	4	20	106	14.7	90	1.4		85	6									
DF		D	4	24	101	13.7	87	1.4		87										
DF		D	4	26	4		4	.1		4										
DF		D	4	28	34	4.9	32	.5		9	23									
DF		D	4	32	723	27.6	523	8.2		397	100	26								
DF		Totals			7,863	19.3	6,343	65.9		1040	2145	1166	723	724	409	137				
GF		D	2	32	317	29.1	225	21.9					68		100	20	36			
GF		D	3	24	9	10.0	8	.8			8									
GF		D	3	26	3		3	.3			3									
GF		D	3	32	750	17.9	615	59.9		61	292	198	36	28						
GF		D	4	12	3	100.0														
GF		D	4	14	1		1	.1			1									
GF		D	4	16	57	43.7	32	3.1		32										
GF		D	4	18	3	10.0	3	.2		3										
GF		D	4	20	17	9.1	16	1.5		12	3									
GF		D	4	24	11	10.0	10	1.0		10										
GF		D	4	28	27	2.8	26	2.5		26										
GF		D	4	32	197	55.1	88	8.6		69	19									
GF		Totals			1,395	26.4	1,027	10.7		213	327	198	104	28	100	20	36			
WL		D	2	32	344	10.1	309	32.5					112	74		122				
WL		D	3	26	12	5.0	11	1.2			11									
WL		D	3	32	488	6.0	459	48.3		101	260	97								
WL		D	4	12	10	5.0	9	1.0		9										

TC PLOGSTVB

Log Stock Table - MBF

T29N R38E S04 Ty00U2
THRU
T30N R38E S34 Ty00U1

Project: ALLENFS
Acres 805.10

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Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches: 2-4	5-6	7-10	11-12	13-14	15-16	17-18	19-20	21-23	24-29	30-39	40+
WL		D	4	14	5		5	.5		5										
WL		D	4	16	19	5.0	18	1.9		18										
WL		D	4	20	22	5.0	21	2.2		21										
WL		D	4	26	5	5.0	5	.5		5										
WL		D	4	30	23		23	2.5		23										
WL		D	4	32	106	15.8	89	9.4		89										
WL		Totals			1,033	8.1	949	9.9		271	271	97	112	74		122				
LP		D	4	18	8	50.0	4	100.0		4										
LP		Totals			8	50.0	4	.0		4										
PP		D	4	32	639	26.1	472	37.9				135	189	148						
PP		D	5	12	4	20.0	3	.3		3										
PP		D	5	14	22	20.0	18	1.4		18										
PP		D	5	16	56	20.0	44	3.6		10	34									
PP		D	5	18	21	17.6	18	1.4		5	13									
PP		D	5	20	19	20.0	15	1.2		10	5									
PP		D	5	24	54	62.2	20	1.6		20										
PP		D	5	30	19	20.0	15	1.2		15										
PP		D	5	32	851	25.0	638	51.3		37	394	207								
PP		Totals			1,684	26.2	1,244	12.9		118	447	342	189	148						
RC		D	3	32	55	24.0	42	76.7			28		14							
RC		D	4	16	2		2	3.0		2										
RC		D	4	20	5		5	10.1			5									
RC		D	4	24	6		6	10.2		6										
RC		Totals			68	19.5	54	.6		7	33		14							
Total		All Species			12,051	20.2	9,621	100.0		1653	3223	1803	1142	975	509	279	36			

TC PLOGSTVT_SED

Project Log Stock Table - TONS(SED)

T29N R38E S04 Ty00U2
THRU
T30N R38E S34 Ty00U1

Project: ALLENFS
Acres 805.10

Date 12/17/2015
Time 9:29:53AM

Spp	ST	Sort	Grade	Log Len	SED	TONS	Tons by Scaling Diameter in Inches 2-4	5-6	7-10	11-12	13-14	15-16	17-18	19-20	21-23	24-29	30-39	40+
DF		D	2	20	19.0	234								234				
DF		D	2	32	14.4	15,513				3071	4989	4539	2470	444				
DF		D	3	20	11.0	91				91								
DF		D	3	24	7.0	568		189	379									
DF		D	3	28	6.2	272		138	134									
DF		D	3	30	6.0	241		241										
DF		D	3	32	9.0	23,482		1937	15520	5185	593	247						
DF		D	4	12	5.2	498		409	90									
DF		D	4	14	5.5	182		111	71									
DF		D	4	16	5.5	1,216		1004	212									
DF		D	4	18	6.8	237		76	160									
DF		D	4	20	5.8	1,014		937	77									
DF		D	4	24	5.3	829		829										
DF		D	4	26	5.0	35		35										
DF		D	4	28	7.3	258		82	176									
DF		D	4	32	5.8	5,251		3045	1511	327	368							
Graded						49921		9032	18330	8675	5950	4786	2470	678				
DF		Totals			8.1	49,921		9032	18330	8675	5950	4786	2470	678				
GF		D	2	32	16.5	1,418					424		626	105	263			
GF		D	3	24	8.0	65			65									
GF		D	3	26	8.0	22			22									
GF		D	3	32	9.2	4,227		418	1893	1490	254	172						
GF		D	4	12	5.0	23		23										
GF		D	4	14	9.0	10			10									
GF		D	4	16	5.8	337		337										
GF		D	4	18	6.0	23		23										
GF		D	4	20	6.0	167		128	38									
GF		D	4	24	5.0	61		61										
GF		D	4	28	5.0	218		218										
GF		D	4	32	6.7	1,407		629	473		304							
Graded						7978		1838	2501	1490	982	172	626	105	263			
GF		Totals			8.2	7,978		1838	2501	1490	982	172	626	105	263			
WL		D	2	32	14.7	1,560					659	328		572				
WL		D	3	26	8.0	63			63									
WL		D	3	32	7.4	2,610		515	1546	549								

TC PLOGSTVT_SED

Project Log Stock Table - TONS(SED)

T29N R38E S04 Ty00U2
THRU
T30N R38E S34 Ty00U1

Project: ALLENFS
Acres 805.10

Date 12/17/2015
Time 9:29:53AM

Spp	ST	Sort	Grade	Log Len	SED	TONS	Tons by Scaling Diameter in Inches 2-4	5-6	7-10	11-12	13-14	15-16	17-18	19-20	21-23	24-29	30-39	40+
WL		D	4	12	5.0	48		48										
WL		D	4	14	6.0	26		26										
WL		D	4	16	5.0	65		65										
WL		D	4	20	6.0	141		141										
WL		D	4	26	5.0	40		40										
WL		D	4	30	5.0	102		102										
WL		D	4	32	5.4	413		413										
Graded						5067		1349	1609	549	659	328		572				
WL		Totals			7.1	5,067		1349	1609	549	659	328		572				
LP		D	4	18	5.0	41		41										
Graded						41		41										
LP		Totals			5.0	41		41										
PP		D	4	32	13.5	3,152				1172	1194	787						
PP		D	5	12	6.0	33		33										
PP		D	5	14	6.0	96		96										
PP		D	5	16	6.8	309		80	229									
PP		D	5	18	8.6	131		39	92									
PP		D	5	20	6.3	154		99	55									
PP		D	5	24	7.2	320		169				151						
PP		D	5	30	6.0	109		109										
PP		D	5	32	8.8	4,341		268	2826	1247								
Graded						8645		892	3202	2419	1194	937						
PP		Totals			8.8	8,645		892	3202	2419	1194	937						
RC		D	3	32	10.4	417			264		153							
RC		D	4	16	5.0	9		9										
RC		D	4	20	7.0	40			40									
RC		D	4	24	6.0	39		39										
Graded						505		48	304		153							
RC		Totals			8.1	505		48	304		153							
Total		All Species				72,155		13200	25946	13133	8938	6224	3097	1356	263			

STATISTICS

PROJECT ALLENFS

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	**38E**	**34**	**ALLEN FIRE**	**00U1**	222.66	61	167	S	E

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	61	167	2.7		
CRUISE	33	43	1.3	19,396	.2
DBH COUNT					
REFOREST					
COUNT	17	36	2.1		
BLANKS	11				
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	24	63.4	13.1	61	16.3	59.0	6,809	5,492	1,586	1,347
P PINE	5	7.4	19.5	69	3.5	15.4	2,122	1,539	437	349
GR FIR	9	10.4	13.9	78	3.0	11.0	1,815	1,342	371	330
W LARCH	4	5.5	13.6	89	1.5	5.5	822	732	173	164
WR CEDAR	1	.4	23.3	80	0.2	1.1	138	112	39	39
TOTAL	*43*	*87.1*	*13.9*	*65*	*24.7*	*92.0*	*11,707*	*9,217*	*2,606*	*2,230*

CONFIDENCE LIMITS OF THE SAMPLE

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

SAMPLE TREES - BF

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
DOUG FIR	74.1	15.5	117	138	159			
P PINE	59.0	29.4	158	224	290			
GR FIR	70.0	24.7	120	160	200			
W LARCH	60.1	34.4	133	202	271			
WR CEDAR								
TOTAL	*68.1*	*10.4*	*146*	*162*	*179*	*186*	*95*	*46*

TREES/ACRE

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	94.1	12.0	56	63	71			
P PINE	198.4	25.4	6	7	9			
GR FIR	168.8	21.6	8	10	13			
W LARCH	292.7	37.5	3	5	8			
WR CEDAR	547.6	70.1	0	0	1			
TOTAL	*54.1*	*6.9*	*81*	*87*	*93*	*117*	*60*	*29*

BASAL AREA/ACRE

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	91.1	11.7	52	59	66			
P PINE	197.2	25.2	12	15	19			
GR FIR	164.4	21.1	9	11	13			
W LARCH	276.9	35.4	4	6	7			
WR CEDAR	547.6	70.1	0	1	2			
TOTAL	*45.7*	*5.8*	*87*	*92*	*97*	*83*	*43*	*21*

NET BF/ACRE

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	93.3	12.0	4,836	5,492	6,149			
P PINE	197.6	25.3	1,149	1,539	1,928			
GR FIR	177.1	22.7	1,038	1,342	1,646			
W LARCH	285.8	36.6	464	732	1,000			
WR CEDAR	547.6	70.1	33	112	190			
TOTAL	*43.8*	*5.6*	*8,699*	*9,217*	*9,734*	*77*	*39*	*19*

V-BAR/ACRE

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR			82	93	104			

STATISTICS

PROJECT ALLENFS

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	**38E**	**34**	**ALLEN FIRE**	**00U1**	222.66	61	167	S	E

CL: 68.1 %
SD: 1.0

	COEFF VAR.	S.E.%	V-BAR/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
P PINE			75	100	125			
GR FIR	105.8	13.6	94	122	149			
W LARCH	179.0	22.9	84	133	181			
WR CEDAR	380.6	48.7	30	101	172			
TOTAL	*399.5*	*51.2*	*95*	*100*	*106*	*6,386*	*3,258*	*1,596*

TC TSTATS

STATISTICS

PAGE 1

PROJECT ALLENFS

DATE 12/17/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	**38E**	**04**	**ALLEN FIRE**	**00U2**	253.90	67	246	S	E

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	67	246	3.7		
CRUISE	41	67	1.6	22,450	.3
DBH COUNT					
REFOREST					
COUNT	20	54	2.7		
BLANKS	6				
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	39	51.3	16.9	75	19.4	79.8	12,951	10,031	2,681	2,220
P PINE	16	18.0	16.0	67	6.3	25.1	3,445	2,526	714	552
GR FIR	7	12.9	12.0	66	2.9	10.0	2,030	1,540	352	318
W LARCH	4	5.6	16.2	107	2.0	8.0	1,823	1,662	330	314
WR CEDAR	1	.7	11.3	23	0.1	.5	22	22	7	7
TOTAL	*67*	*88.4*	*16.0*	*74*	*30.9*	*123.4*	*20,270*	*15,779*	*4,084*	*3,410*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	69.5	11.1	241	272	302			
P PINE	66.7	17.2	152	184	215			
GR FIR	91.2	37.2	191	303	416			
W LARCH	77.1	44.1	305	546	787			
WR CEDAR								
TOTAL	*80.7*	*9.9*	*240*	*267*	*293*	*261*	*133*	*65*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	66.6	8.1	47	51	55			
P PINE	128.3	15.7	15	18	21			
GR FIR	322.2	39.4	8	13	18			
W LARCH	254.1	31.0	4	6	7			
WR CEDAR	818.5	100.0	0	1	1			
TOTAL	*29.5*	*3.6*	*85*	*88*	*92*	*35*	*18*	*9*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	61.7	7.5	74	80	86			
P PINE	115.1	14.1	22	25	29			
GR FIR	303.1	37.0	6	10	14			
W LARCH	242.7	29.7	6	8	10			
WR CEDAR	818.5	100.0	0	1	1			
TOTAL			*123*	*123*	*123*			

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	62.9	7.7	9,259	10,030	10,802			
P PINE	120.1	14.7	2,155	2,526	2,896			
GR FIR	302.1	36.9	971	1,540	2,108			
W LARCH	243.0	29.7	1,169	1,662	2,155			
WR CEDAR	818.5	100.0	0	22	43			
TOTAL	*14.3*	*1.7*	*15,503*	*15,779*	*16,055*	*8*	*4*	*2*

STATISTICS

PROJECT ALLENFS

DATE 12/17/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	**38E**	**04**	**ALLEN FIRE**	**00U2**	253.90	67	246	S	E

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR			116	126	135			
P PINE			86	101	115			
GR FIR	67.4	8.2	97	153	210			
W LARCH	24.5	3.0	146	207	269			
WR CEDAR	818.5	100.0	0	43	86			
TOTAL	*364.7*	*44.6*	*126*	*128*	*130*	*5,319*	*2,714*	*1,330*

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	38E	08	ALLEN FIRE	00U3	196.98	55	193	S	E

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	55	193	3.5		
CRUISE	33	49	1.5	22,041	.2
DBH COUNT					
REFOREST					
COUNT	17	49	2.9		
BLANKS	5				
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	35	77.9	14.3	62	23.1	87.4	9,936	7,785	2,374	1,974
P PINE	5	7.1	17.4	71	2.8	11.6	1,270	892	305	244
GR FIR	5	14.4	11.5	52	3.1	10.4	1,115	683	262	150
W LARCH	3	11.6	10.3	76	2.1	6.7	952	847	196	186
WR CEDAR	1	.9	18.9	62	0.4	1.8	160	122	56	56
TOTAL	*49*	*111.9*	*13.9*	*63*	*31.6*	*117.9*	*13,433*	*10,329*	*3,192*	*2,610*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	54.4	9.3	119	131	144			
P PINE			166	166	166			
GR FIR	132.4	65.9	24	70	116			
W LARCH	25.0	17.3	63	76	89			
WR CEDAR								
TOTAL	*56.3*	*8.2*	*114*	*124*	*134*	*127*	*65*	*32*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	45.8	6.2	73	78	83			
P PINE	242.3	32.7	5	7	9			
GR FIR	185.3	25.0	11	14	18			
W LARCH	325.9	44.0	7	12	17			
WR CEDAR	548.7	74.0	0	1	2			
TOTAL	*11.2*	*1.5*	*110*	*112*	*114*	*5*	*3*	*1*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	42.3	5.7	82	87	92			
P PINE	244.2	32.9	8	12	15			
GR FIR	174.7	23.6	8	10	13			
W LARCH	324.9	43.8	4	7	10			
WR CEDAR	548.7	74.0	0	2	3			
TOTAL	*5.1*	*.7*	*117*	*118*	*119*	*1*	*1*	*0*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	44.0	5.9	7,323	7,785	8,246			
P PINE	243.3	32.8	599	892	1,185			
GR FIR	193.1	26.0	505	683	861			
W LARCH	324.9	43.8	476	847	1,218			
WR CEDAR	548.7	74.0	32	122	213			
TOTAL	*19.6*	*2.6*	*10,056*	*10,329*	*10,602*	*15*	*8*	*4*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR			84	89	94			

STATISTICS

PROJECT ALLENFS

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	**38E**	**08**	**ALLEN FIRE**	**00U3**	196.98	55	193	S	E

CL: 68.1 %
SD: 1.0

	COEFF VAR.	S.E.%	V-BAR/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
P PINE	15.2	2.1	52	77	102			
GR FIR	79.2	10.7	49	66	83			
W LARCH	61.0	8.2	71	126	181			
WR CEDAR	228.2	30.8	17	67	116			
TOTAL	*393.7*	*53.1*	*85*	*88*	*90*	*6,200*	*3,163*	*1,550*

STATISTICS

PROJECT ALLENFS

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	**38E**	**07**	**ALLEN FIRE**	**00U4**	109.73	30	81	S	E

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	30	81	2.7		
CRUISE	14	16	1.1	8,673	.2
DBH COUNT					
REFOREST					
COUNT	14	35	2.5		
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
DOUG FIR	9	47.5	14.9	49	14.8	57.1	7,417	6,956	1,652	1,654
W LARCH	3	17.3	12.9	77	4.4	15.7	1,815	1,794	457	457
GR FIR	2	8.3	14.0	80	2.4	9.0	1,384	1,218	295	295
P PINE	1	2.4	24.5	50	1.6	7.8	790	767	196	197
LP PINE	1	3.6	7.6	50	0.4	1.1	71	36	16	14
TOTAL	*16*	*79.0*	*14.5*	*58*	*23.8*	*90.7*	*11,478*	*10,769*	*2,616*	*2,618*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	74.1	26.2	270	366	461			
W LARCH	90.3	62.5	61	163	265			
GR FIR	38.6	36.2	105	165	225			
P PINE								
LP PINE								
TOTAL	*85.3*	*22.0*	*216*	*278*	*339*	*311*	*159*	*78*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	105.3	19.6	38	47	57			
W LARCH	252.8	47.0	9	17	25			
GR FIR	222.6	41.4	5	8	12			
P PINE	216.0	40.1	1	2	3			
LP PINE	547.7	101.8		4	7			
TOTAL	*59.4*	*11.0*	*70*	*79*	*88*	*146*	*75*	*37*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	97.9	18.2	47	57	68			
W LARCH	250.0	46.4	8	16	23			
GR FIR	218.7	40.6	5	9	13			
P PINE	216.0	40.1	5	8	11			
LP PINE	547.7	101.8		1	2			
TOTAL	*47.8*	*8.9*	*83*	*91*	*99*	*95*	*48*	*24*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	99.4	18.5	5,671	6,956	8,240			
W LARCH	250.2	46.5	960	1,794	2,627			
GR FIR	219.3	40.8	721	1,218	1,714			
P PINE	216.0	40.1	459	767	1,074			
LP PINE	547.7	101.8		36	72			
TOTAL	*52.8*	*9.8*	*9,713*	*10,769*	*11,825*	*115*	*59*	*29*

CL: 68.1 % COEFF — **V-BAR/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR			99	122	144			

STATISTICS

PROJECT **ALLENFS**

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	**38E**	**07**	**ALLEN FIRE**	**00U4**	109.73	30	81	S	E

CL: 68.1 %
SD: 1.0

	COEFF VAR.	S.E.%	V-BAR/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
W LARCH			61	114	168			
GR FIR			81	136	191			
P PINE			59	98	137			
LP PINE	547.7	101.8		32	64			
TOTAL	*589.9*	*109.6*	*107*	*119*	*130*	*14,418*	*7,356*	*3,605*

STATISTICS

PROJECT ALLENFS

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	38E	05	ALLEN FIRE	00U5	21.83	5	19	S	E

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	5	19	3.8		
CRUISE	4	19	4.8	1,399	1.4
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	14	44.1	19.8	76	21.2	94.1	13,198	12,689	3,155	3,155
GR FIR	5	20.0	17.6	56	8.0	33.6	4,777	3,178	1,032	1,033
TOTAL	*19*	*64.1*	*19.1*	*70*	*29.2*	*127.7*	*17,975*	*15,867*	*4,187*	*4,187*

CONFIDENCE LIMITS OF THE SAMPLE

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

SAMPLE TREES - BF

CL: 68.1 %	COEFF					# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	61.3	17.0	306	369	431			
GR FIR	128.6	64.0	113	314	515			
TOTAL	*76.7*	*18.1*	*290*	*354*	*418*	*248*	*127*	*62*

TREES/ACRE

CL: 68.1 %	COEFF					# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	127.9	63.6	16	44	72			
GR FIR	133.2	66.2	7	20	33			
TOTAL	*112.0*	*55.7*	*28*	*64*	*100*	*620*	*317*	*155*

BASAL AREA/ACRE

CL: 68.1 %	COEFF					# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	127.3	63.3	35	94	154			
GR FIR	100.0	49.7	17	34	50			
TOTAL	*91.9*	*45.7*	*69*	*128*	*186*	*418*	*213*	*105*

NET BF/ACRE

CL: 68.1 %	COEFF					# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	138.5	68.9	3,947	12,689	21,432			
GR FIR	119.2	59.3	1,294	3,178	5,062			
TOTAL	*100.1*	*49.8*	*7,969*	*15,867*	*23,766*	*496*	*253*	*124*

V-BAR/ACRE

CL: 68.1 %	COEFF					# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	138.5	68.9	42	135	228			
GR FIR	119.2	59.3	39	95	151			
TOTAL	*100.1*	*49.8*	*62*	*124*	*186*	*496*	*253*	*124*

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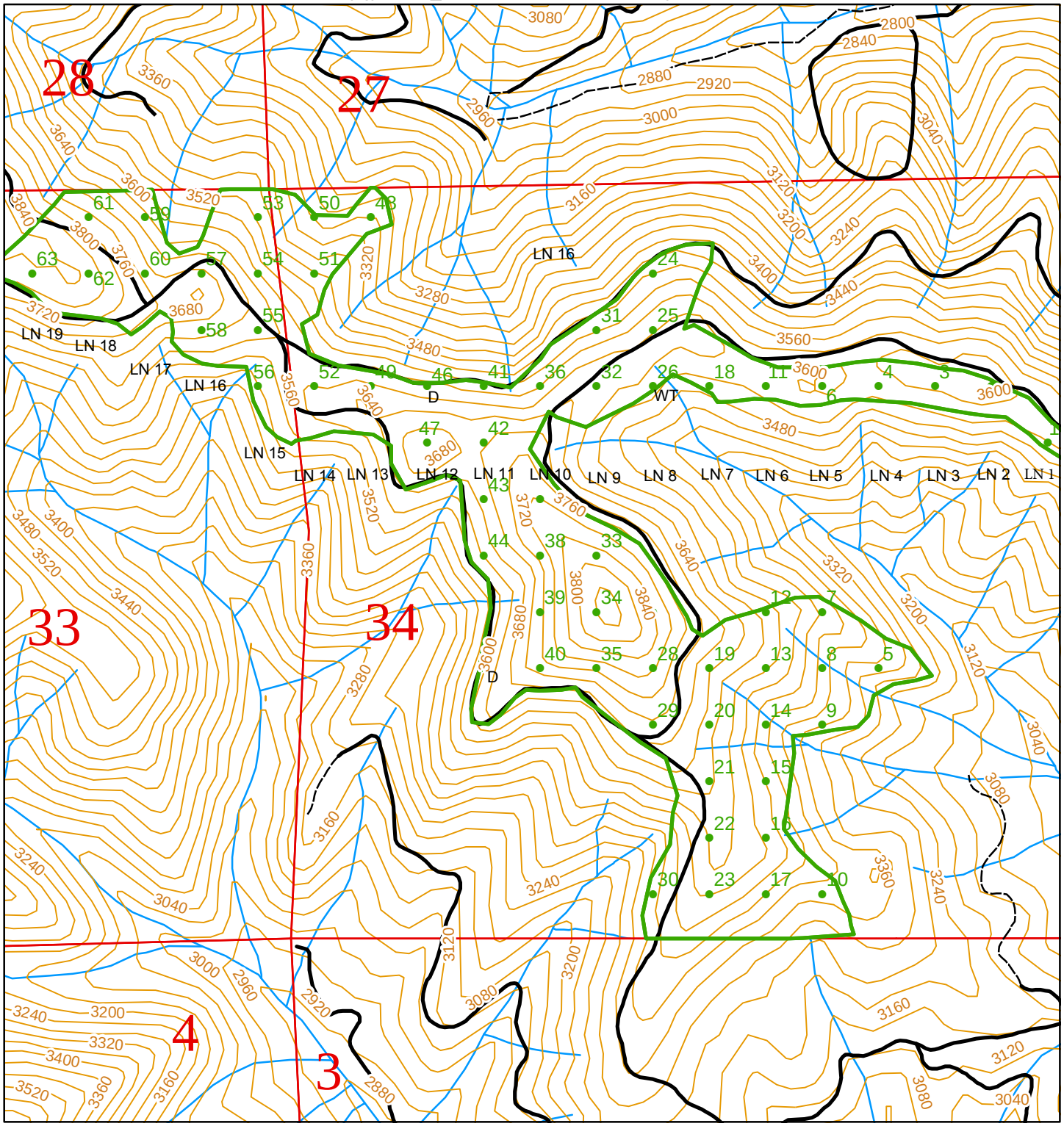

FMU POLYGON AND SAMPLE POINT INFORMATION

FMU_NM:	ALLEN FSALV U1	Township:	T30R38E
FMU_ID:	93796	DNR Region:	NORTHEAST
Acres:	223	Total Sample Points:	63
County:	STEVENS	Spacing Between Points:	Width: 400 Height: 400
Walk Through Plot	WT	Point Rotation Degrees:	0
Deleted Plot	D		

0 350 700 1,400 2,100 2,800 Feet

Scale 1:12,000

N

Legend
- Sample Points
- FMU polys
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Peter Goldmark, Commissioner of Public Lands

Dec 07, 2015 02:00 PM

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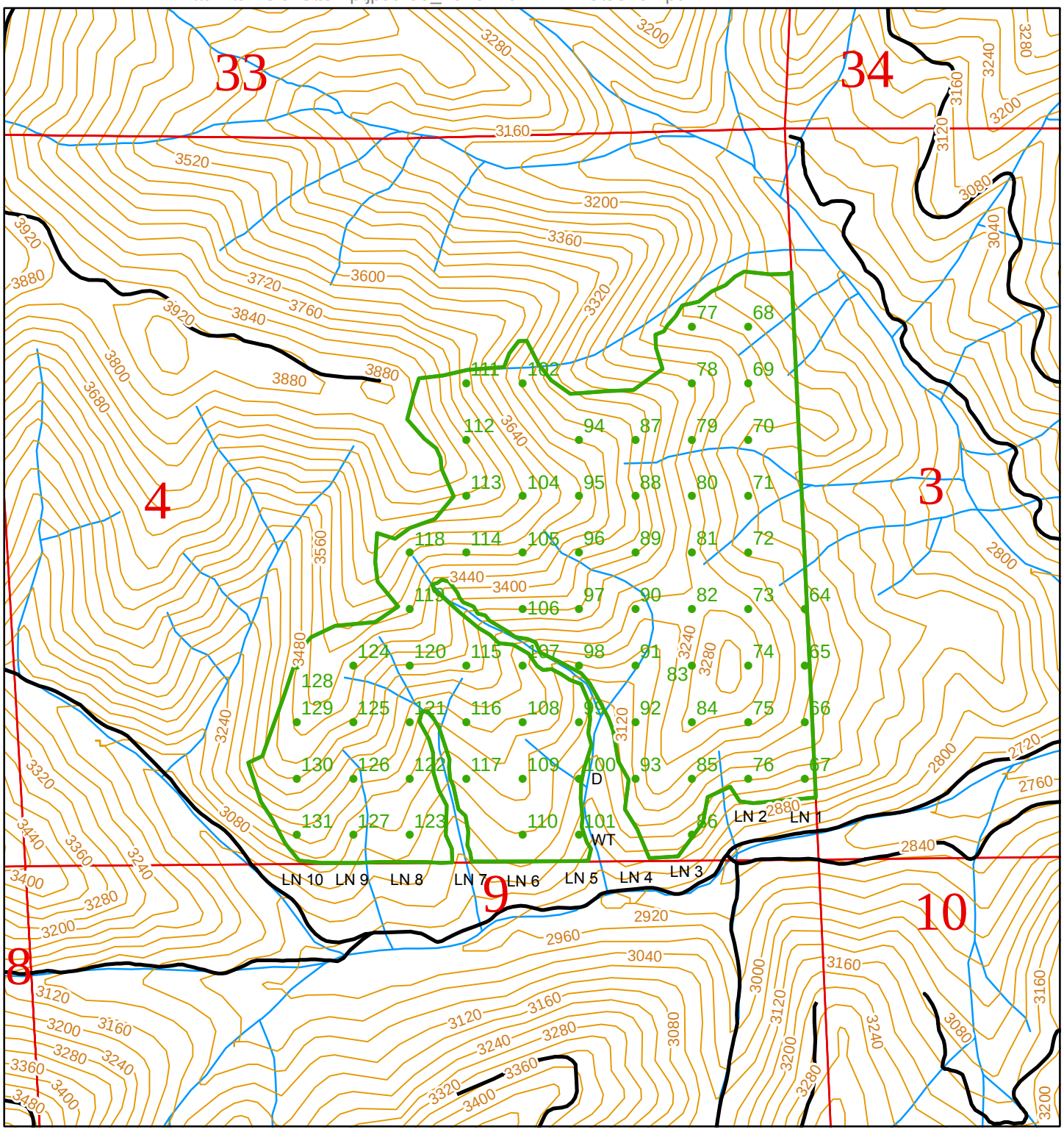

FMU POLYGON AND SAMPLE POINT INFORMATION

FMU_NM:	ALLEN FSALV U2	Township:	T29R38E
FMU_ID:	93797	DNR Region:	NORTHEAST
Acres:	254	Total Sample Points:	68
County:	STEVENS	Spacing Between Points:	Width: 400 Height: 400
Walk Through Plot	WT	Point Rotation Degrees:	0
Deleted Plot	D		

0 350 700 1,400 2,100 2,800 Feet

Scale 1:12,000

N

Legend
- Sample Points
- FMU polys
- Public Land Survey Sections
- Contours 40-foot

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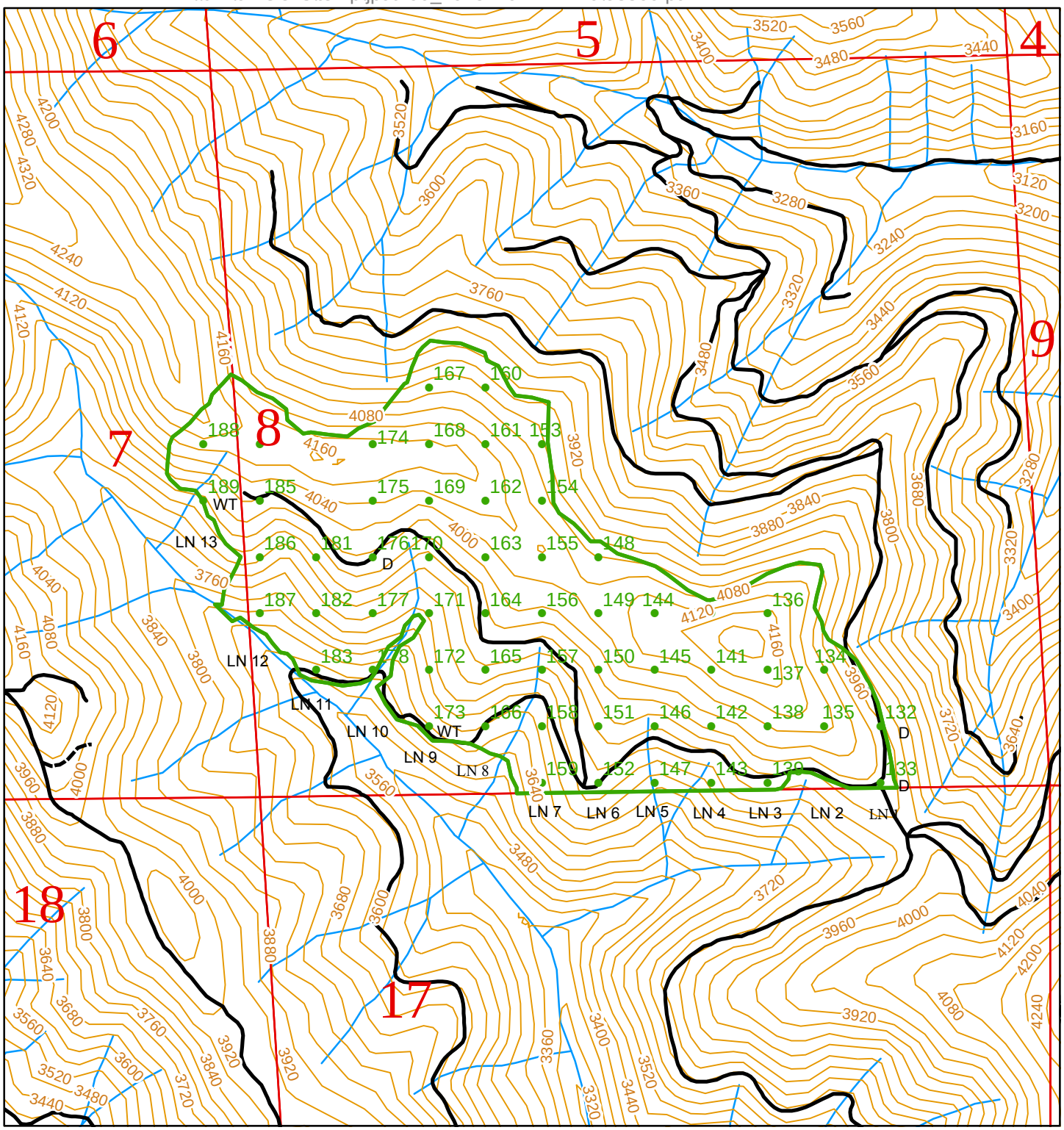
Dec 07, 2015 02:16 PM



FMU POLYGON AND SAMPLE POINT INFORMATION

FMU_NM:	ALLEN FSALV U3	Township:	T29R38E
FMU_ID:	93800	DNR Region:	NORTHEAST
Acres:	197	Total Sample Points:	58
County:	STEVENS	Spacing Between Points:	Width: 400 Height: 400
Walk Through Plot	WT	Point Rotation Degrees:	0
Deleted Plot	D		

N

0 350 700 1,400 2,100 2,800 Feet

Scale 1:12,000

Legend
- Sample Points
- FMU polys
- Public Land Survey Sections
- Contours 40-foot

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Peter Goldmark, Commissioner of Public Lands

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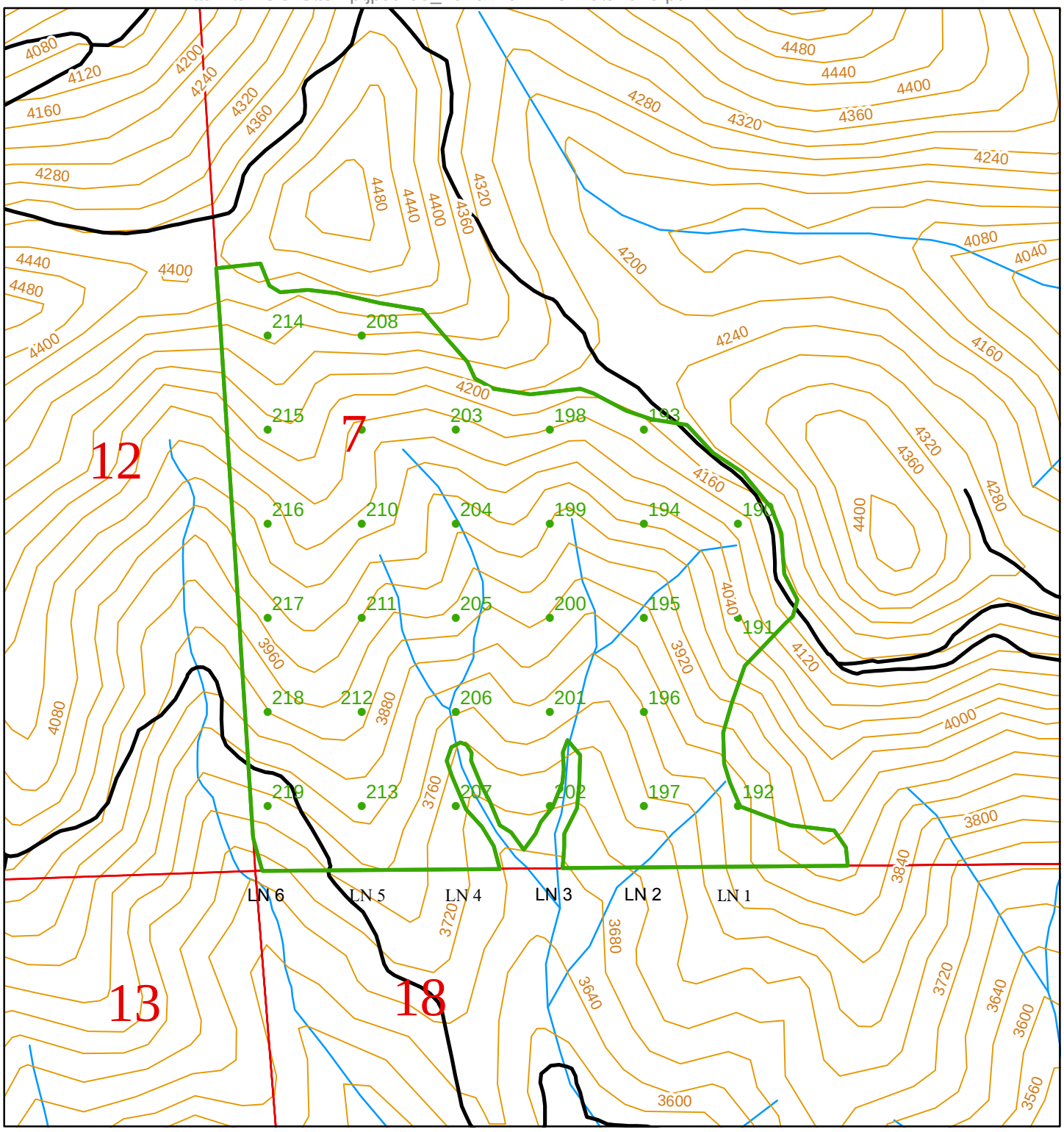

FMU POLYGON AND SAMPLE POINT INFORMATION

FMU_NM:	ALLEN FSALV U4	Township:	T29R38E
FMU_ID:	94015	DNR Region:	NORTHEAST
Acres:	110	Total Sample Points:	30
County:	STEVENS	Spacing Between Points:	Width: 400 Height: 400
		Point Rotation Degrees:	0

N

0 210 420 840 1,260 1,680 Feet

Scale 1:7,200

Legend
- Sample Points
- FMU polys
- Public Land Survey Sections
- Contours 40-foot

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Dec 07, 2015 02:34 PM

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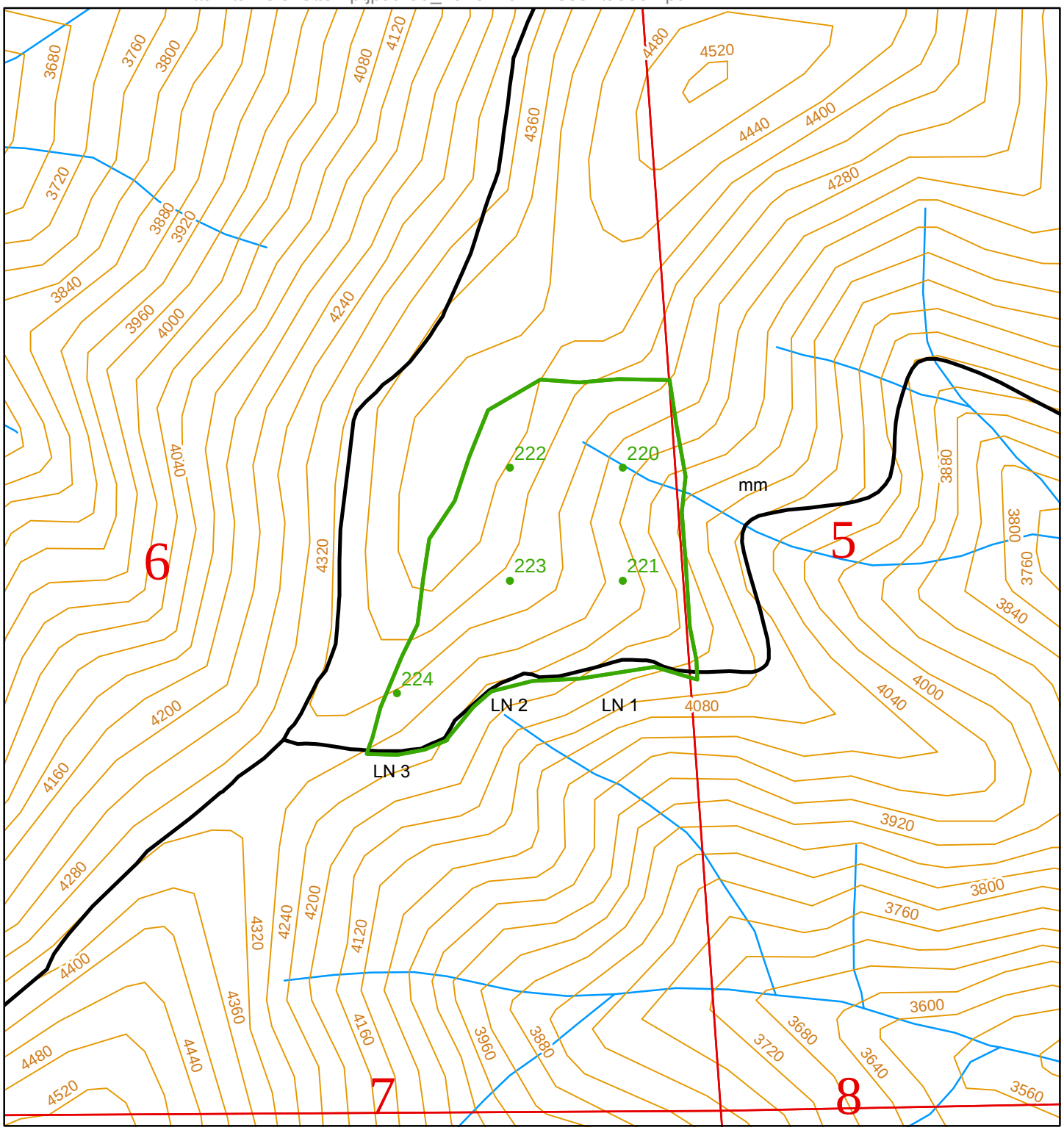


FMU POLYGON AND SAMPLE POINT INFORMATION

FMU_NM:	ALLEN FSALV U5	Township:	T29R38E
FMU_ID:	93801	DNR Region:	NORTHEAST
Acres:	22	Total Sample Points:	5
County:	STEVENS	Spacing Between Points:	Width: 400 Height: 400
		Point Rotation Degrees:	0

N

0 175 350 700 1,050 1,400 Feet

Scale 1:6,000

Legend
- Sample Points
- FMU polys
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Peter Goldmark, Commissioner of Public Lands

Dec 07, 2015 02:40 PM

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

Forest Practices Application/Notification
Notice of Decision

FPA/N No: 3020678
Effective Date: 01/12/16
Expiration Date: 01/12/19
Shut Down Zone: 687
EARR Tax Credit: [x] Eligible [ ] Non-eligible
Reference: DNR
Allen Fire Salavage

Decision

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

[x] Approved This Forest Practices Application is subject to the conditions listed below.

[ ] Disapproved This Forest Practices Application is disapproved for the reasons listed below.

[ ] Closed Applicant has withdrawn FPA/N.

FPA/N Classification

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

Number of Years Granted on Multi-Year Request

[ ] 4 years [ ] 5 years

Conditions on Approval / Reasons for Disapproval

Conditions:

1. Streams and wetlands may have been identified within this harvest area. If changes occur to streams or wetlands during the time of this activity, notify the forest practice forester immediately for correct protection measures.

2. When harvesting on slopes that have the potential to deliver sediment to a public resource, use best management practices to minimize the potential. This could include: progressive water barring of skid trails, slash placement or grass seeding. Leaving small trees or logs on the ground that are perpendicular to the slope can also be helpful in minimizing erosion or delivering sediment to a public resource.

Reminders:

1. For each acre harvested, two green recruitment trees (grt), two wildlife reserve trees (wrt) and two down logs are required to be left, see WAC 222-30-020(12)(b).

2. For each acre harvested, reforestation is required, see WAC 222-34-020.

Issued By: Bernie Jones **Region:** Northeast

Title: Forest Practices Forester **Date:** 01/12/16

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

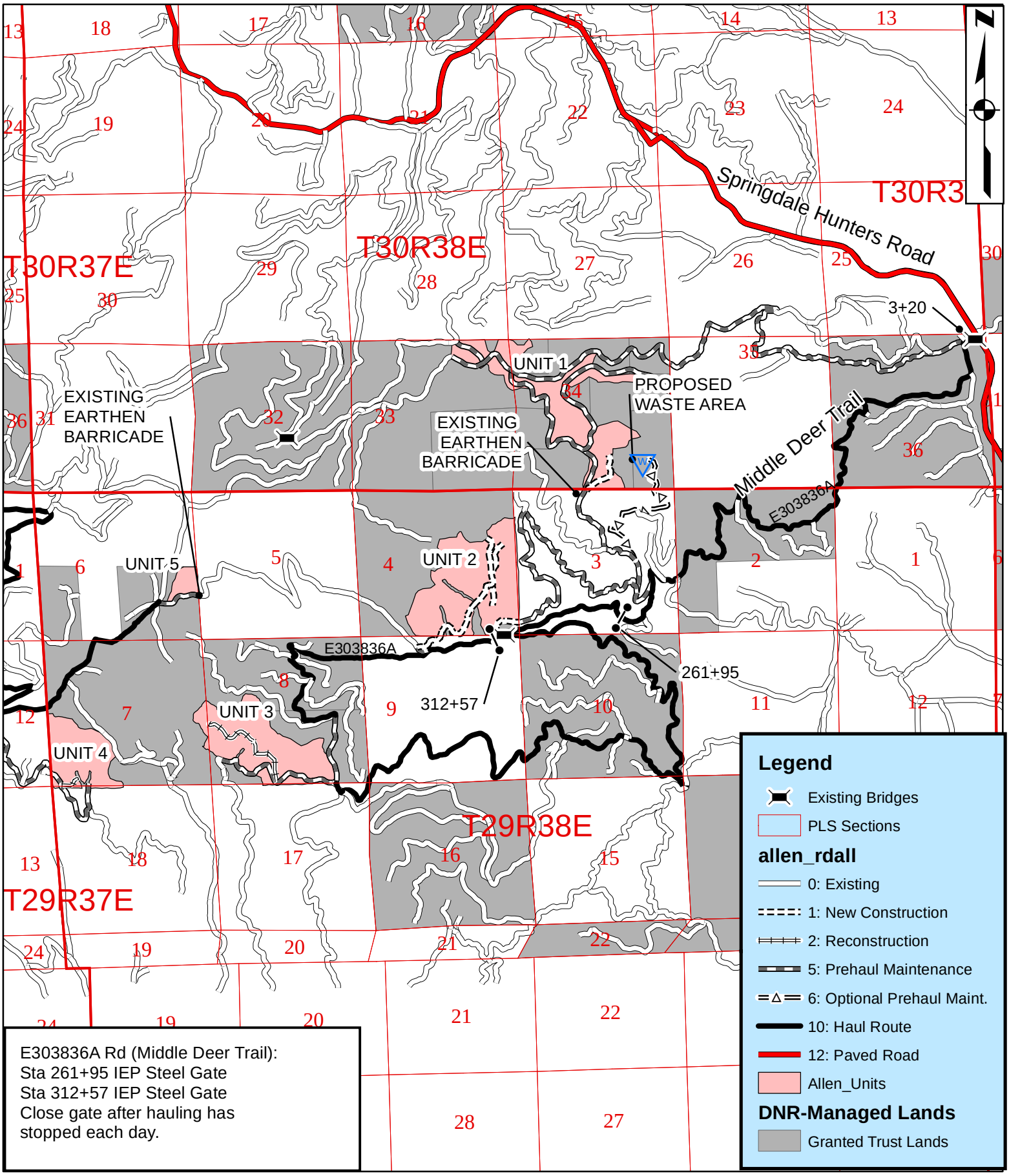
Issued in person: **[N] Landowner [N] Timber Owner [N] Operator By:** JJ

Washington State Department of Natural Resources

Sale Name: Allen Fire Salvage
Agreement No.: 30-093250

Road Plan Map
Page 1 of 7

Region: Northeast
County.: Stevens



E303836A Rd (Middle Deer Trail):
Sta 261+95 IEP Steel Gate
Sta 312+57 IEP Steel Gate
Close gate after hauling has stopped each day.

0 2,500 5,000 10,000 15,000 Feet

1 inch = 4,400 feet

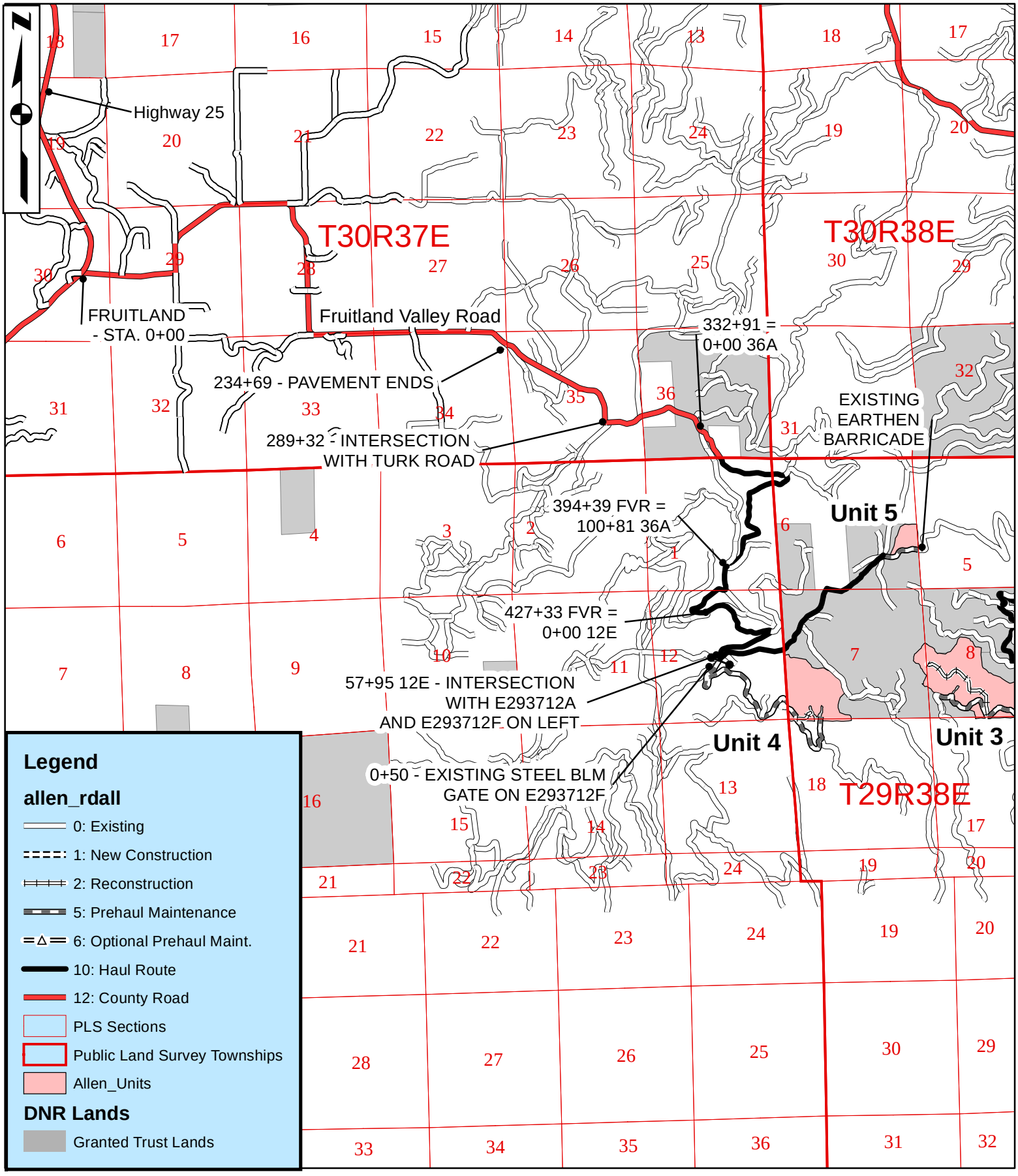
Date: 12/15/15

Washington State Department of Natural Resources

Sale Name: Allen Fire Salvage
Agreement No.: 30-093250

Road Plan Map

Region: Northeast
County.: Stevens



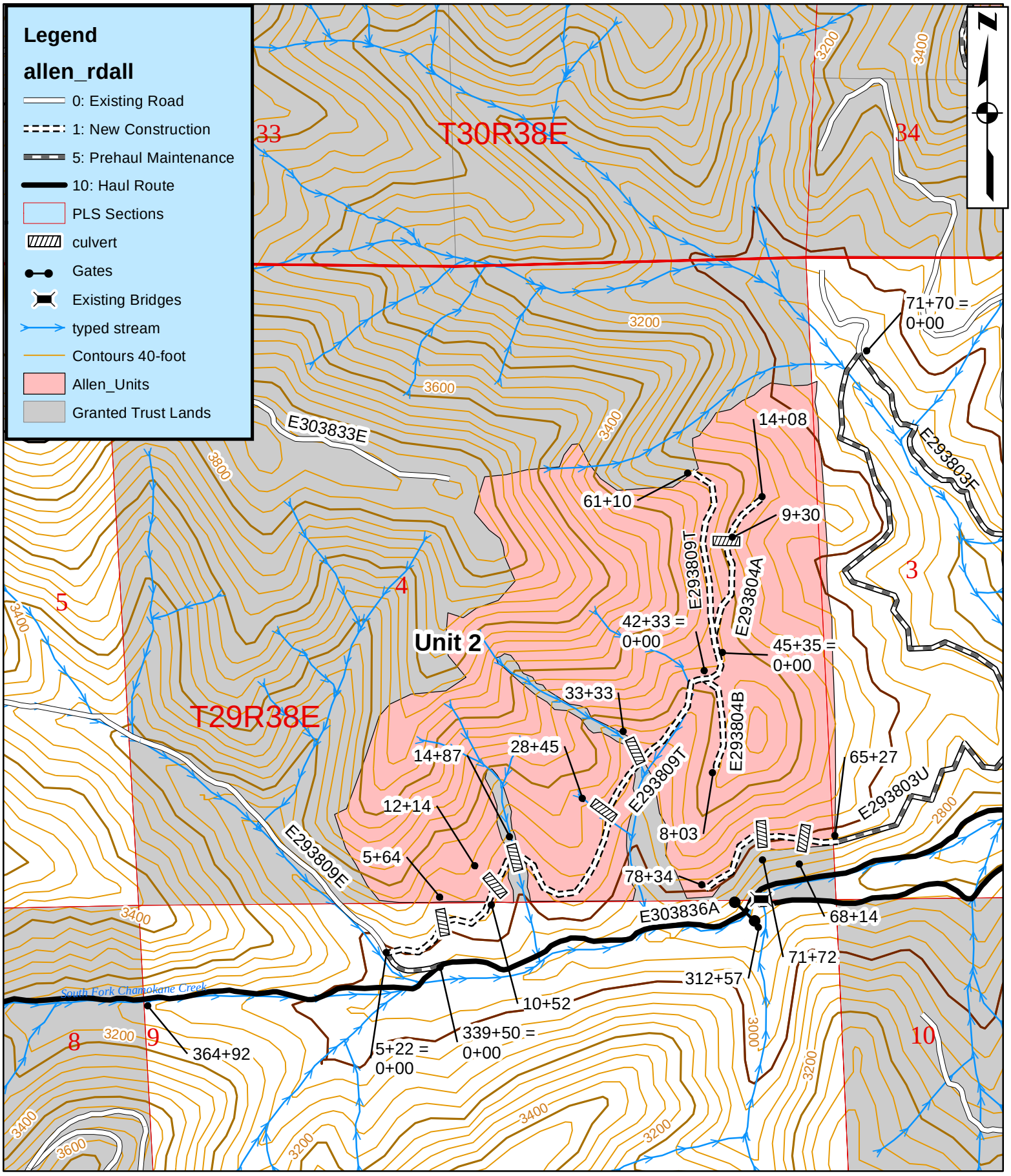
Date: 12/15/15

Washington State Department of Natural Resources

Sale Name: Allen Fire Salvage
Agreement No.: 30-093250

Road Plan Map
Page 4 of 7

Region: Northeast
County.: Stevens



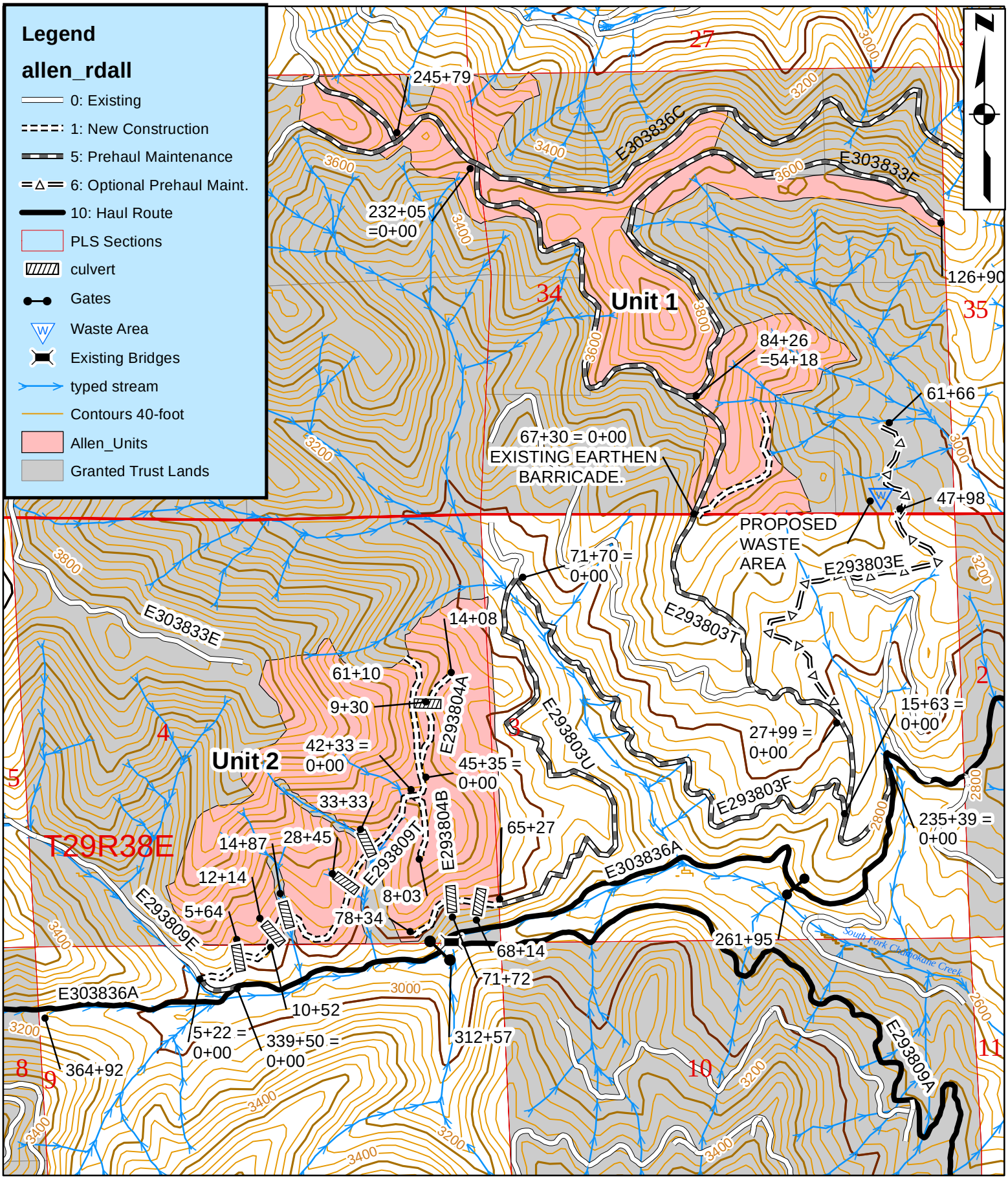
Date: 12/15/15

Washington State Department of Natural Resources

Sale Name: Allen Fire Salvage
Agreement No.: 30-093250

Road Plan Map
Page 3 of 7

Region: Northeast
County.: Stevens



0 500 1,000 2,000 3,000 Feet

1 inch = 1,500 feet

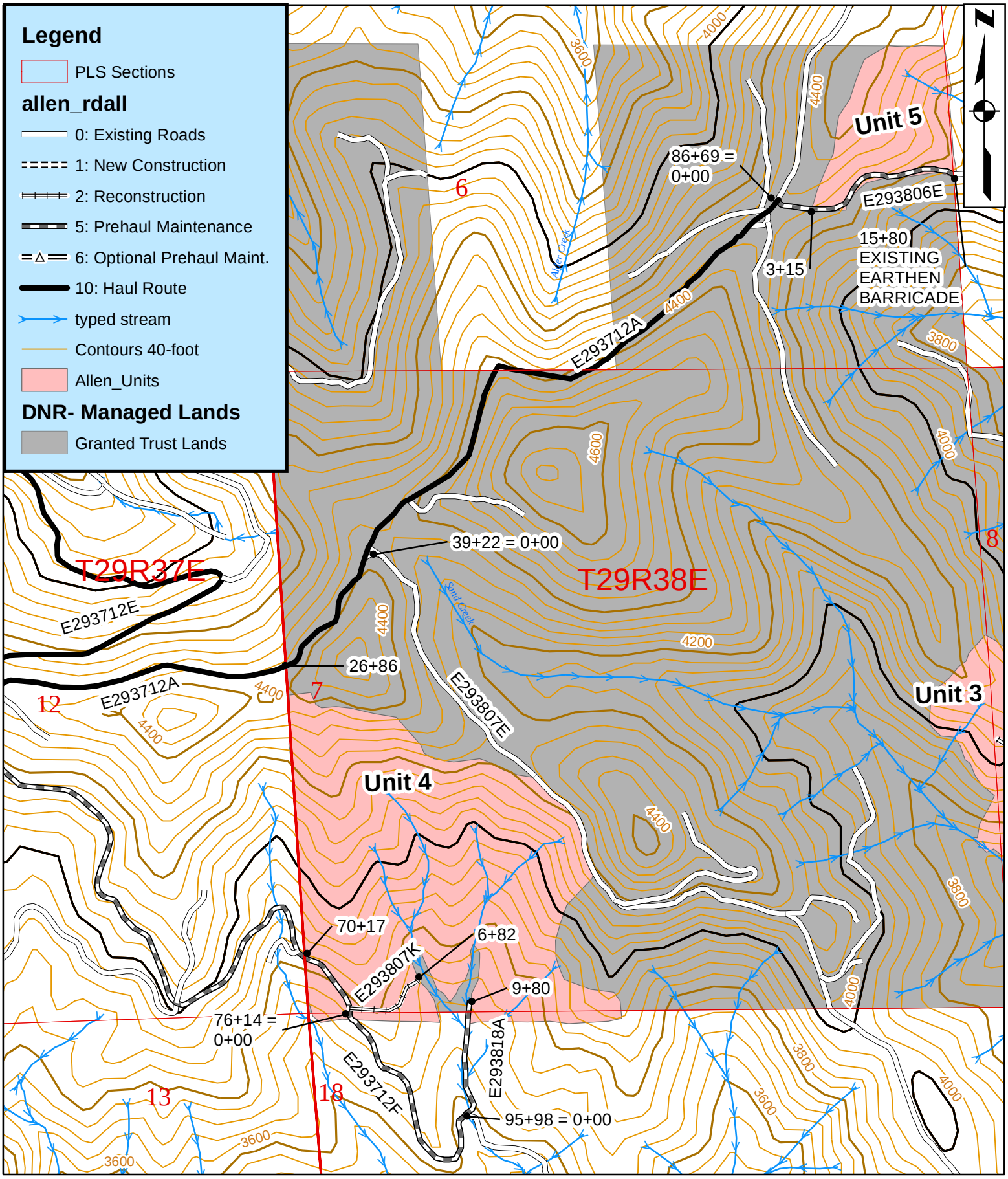
Date: 12/15/15

Washington State Department of Natural Resources

Sale Name: Allen Fire Salvage
Agreement No.: 30-093250

Road Plan Map
Page 5 of 7

Region: Northeast
County.: Stevens



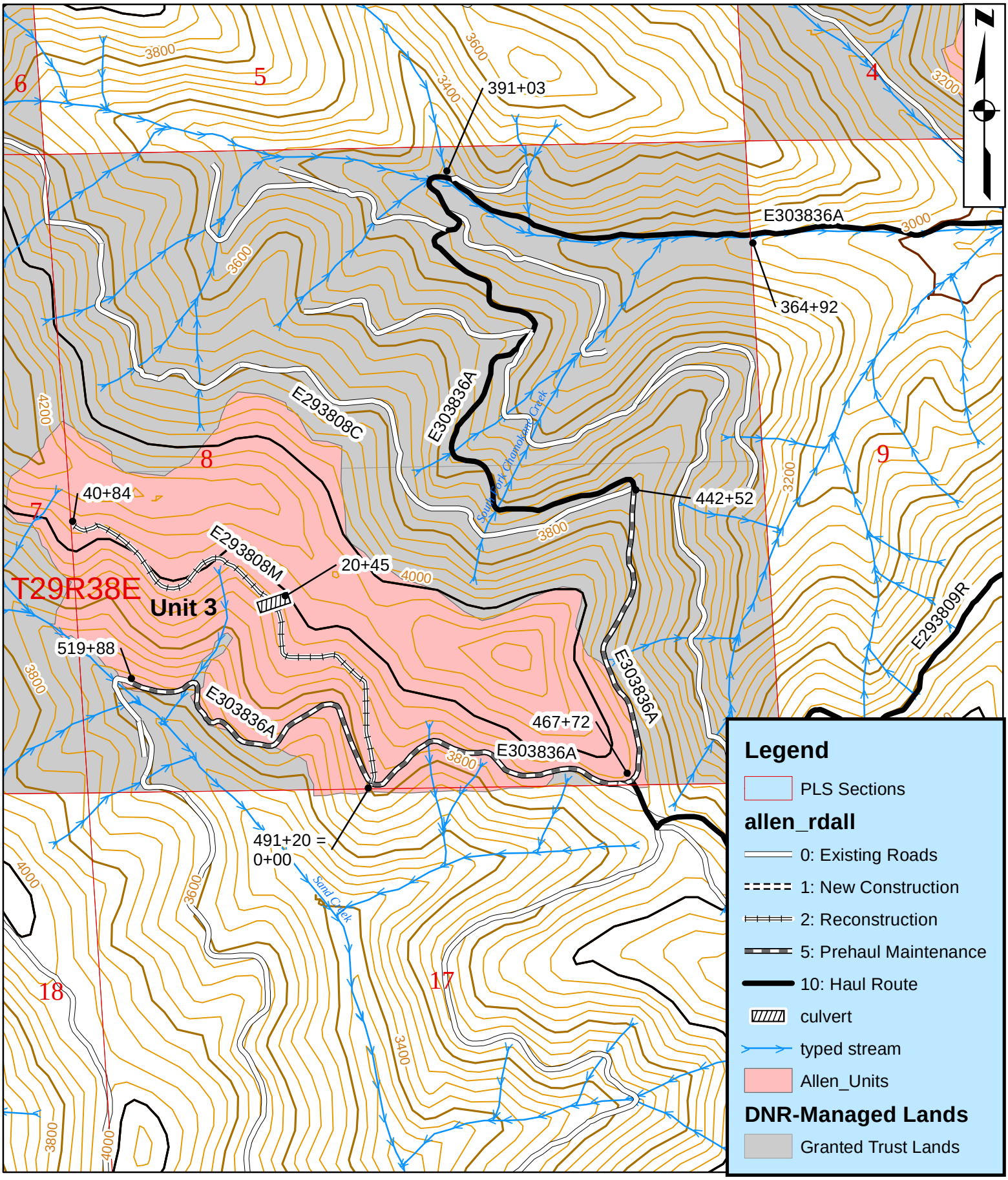
Date: 12/15/15

Washington State Department of Natural Resources

Sale Name: Allen Fire Salvage
Agreement No.: 30-093250

Road Plan Map
Page 6 of 7

Region: Northeast
County.: Stevens



1 inch = 1,000 feet

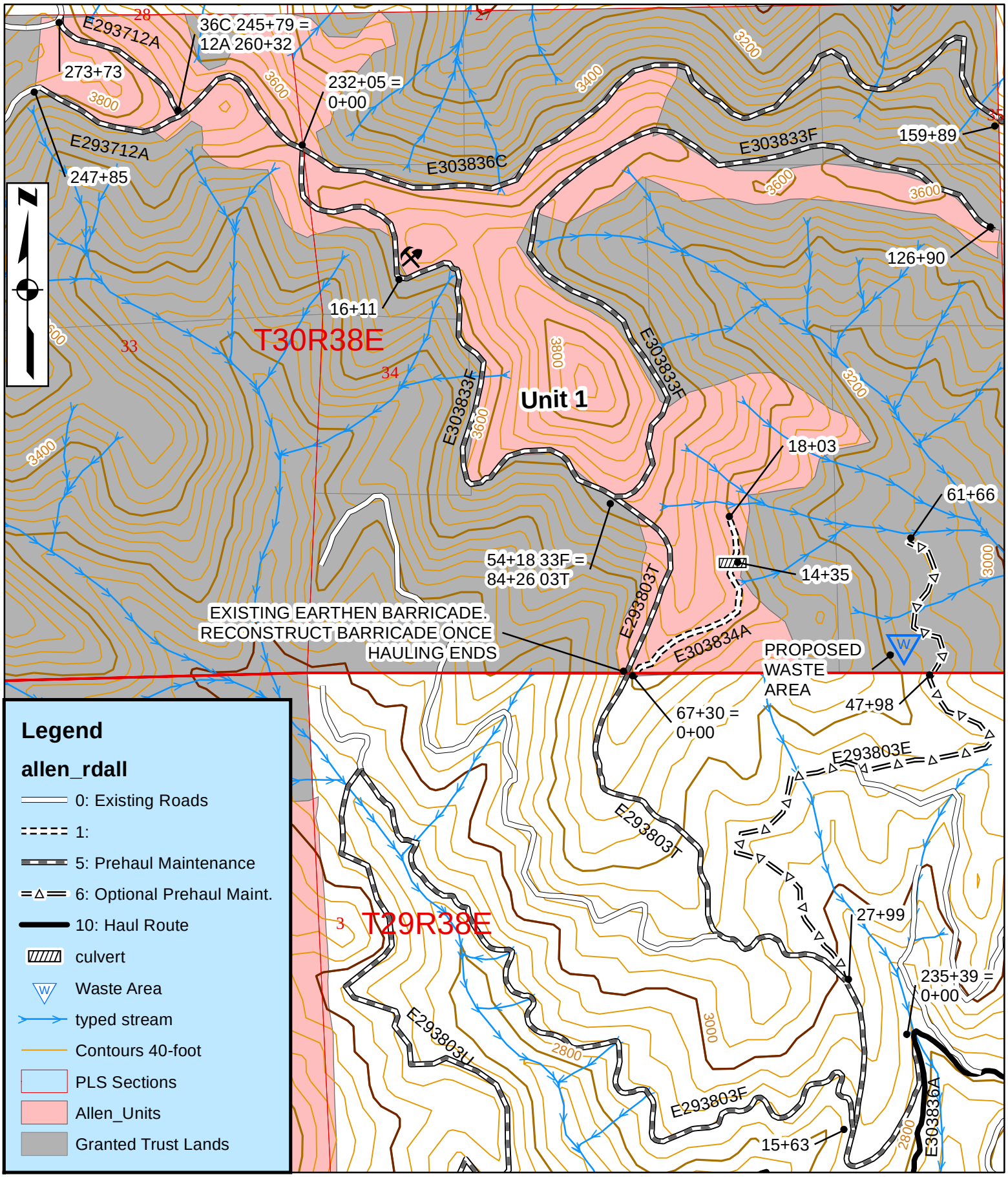
Date: 12/15/15

Washington State Department of Natural Resources

Sale Name: Allen Fire Salvage
Agreement No.: 30-093250

Road Plan Map
Page 7 of 7

Region: Northeast
County.: Stevens



1 inch = 1,000 feet

Date: 12/15/15

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

ALLEN FIRE SALVAGE TIMBER SALE ROAD PLAN
PEND OREILLE COUNTY
NORTHEAST REGION – ARCADIA DISTRICT

AGREEMENT NO.: 30-093250 STAFF ENGINEER: TRAVIS PARRY

DATE: 12/15/2015 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.

Road	Stations	Type
E303836A	442+52 to 519+88	Pre-haul maintenance
E293803T	0+00 to 84+26	Pre-haul maintenance
E293803F	0+00 to 71+70	Pre-haul maintenance
E293803U	0+00 to 65+27	Pre-haul maintenance
	65+27 to 78+34	Construction
E293804A	0+00 to 14+08	Construction
E293804B	0+00 to 8+03	Construction
E293809E	0+00 to 5+22	Pre-haul maintenance
E293809T	0+00 to 61+10	Construction
E293712A	247+85 to 273+73	Pre-haul maintenance
E293818A	0+00 to 9+80	Pre-haul maintenance
E293807K	0+00 to 6+82	Reconstruction
E293712F	0+00 to 95+98	Pre-haul maintenance
E293806E	0+00 to 15+80	Pre-haul maintenance
E293808M	0+00 to 40+84	Reconstruction
E303833F	0+00 to 126+90	Pre-haul maintenance
E303834A	0+00 to 18+03	Construction
E303836C	0+00 to 245+79	Pre-haul maintenance

0-3 OPTIONAL ROADS

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

Road	Stations	Type
E293803E	0+00 to 61+66	Optional pre-haul maintenance
	47+98	Enter DNR managed land and proposed waste area

0-4 CONSTRUCTION

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

Road	Stations	Requirements
E293809T	0+00 to 61+10	New construction
	5+64	Install 24” x 35’ culvert, armor headwall, catch basin, and apply 10cy rock.
	10+52	Enter DNR managed land and Unit 2
	12+14	Install 18” x 35’ culvert, armor headwall, catch basin, and apply 10cy rock.
	14+87	Install 36” x 35’ culvert, armor headwall, catch basin, and apply 10cy rock to road surface. Armor fill slopes with Light Loose Rip Rap. Remove fill material from original stream channel.
	28+45	Install 24” x 35’ culvert, armor headwall, catch basin, and apply 10cy rock.
	33+33	Install 36” x 35’ culvert, armor headwall, catch basin, and apply 10cy rock to road surface. Armor fill slopes with Light Loose Rip Rap.
	42+33	Intersection with E293804B on right
	45+35	Intersection with E293804A on right
E293803U	65+27 to 78+34	New construction
	68+14	Install 24” x 35’ culvert, armor headwall, catch basin, and apply 10cy rock.
	71+72	Install 24” x 35’ culvert, armor headwall, catch basin, and apply 10cy rock.

E293804A	0+00 to 14+08	New construction
	9+30	Install 24” x 35’ culvert, armor headwall, catch basin and apply 10cy rock.
E293804B	0+00 to 8+03	New construction
E303834A	0+00 to 18+03	New construction
	14+35	Install 18” x 35’ culvert, armor headwall, catch basin and apply 10cy rock.

Construction includes, but is not limited to clearing & grubbing, pioneering & decking logs, subgrade construction and compaction, rolling dip, cross drain, culvert installation, fish passage structure installation, cut & fill, embankment construction, and 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.

0-5 RECONSTRUCTION

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

Road	Stations	Requirements
E293807K	0+00 to 6+82	Widen and reshape road to TYPCAL SECTION SHEET specifications. Light to Medium reconstruction. Landing construction.
E293808M	0+00 to 40+84	Widen and reshape road to TYPCAL SECTION SHEET specifications. Light to Medium reconstruction. Landing construction.
	20+45	Install 18” x 30’ culvert, armor headwall, catch basin and apply 10 cy rock.

Reconstruction includes, but is not limited to clearing & grubbing, subgrade reconstruction, rolling dip, cross drain, and culvert installation, cut & fill, embankment construction, culvert and ditch cleaning, riprap and rock application. Reference the TYPICAL SECTION SHEET, ROCK LIST, and CULVERT & DRAINAGE LIST, for general specifications.

0-6 PRE-HAUL MAINTENANCE

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

Road	Stations	Requirements
E303836A	442+52 to 519+88	Pre-haul maintenance
	235+39	Intersection with E293803T on right
	261+95	Existing Inland Empire Paper steel tube gate, close gate after hauling is completed each day.
	339+50	Intersection with E293809E on right
	312+57	Existing Inland Empire Paper steel tube gate, close gate after hauling is completed each day.
	442+52	Intersection with E293808C on right
	491+20	Intersection with E293808M on right
E293803T	0+00 to 84+26	Pre-haul maintenance
	15+63	Intersection with E293803F on left
	27+99	Intersection with E293803E on right
	67+30	Enter DNR managed land and Unit 1 Intersection with E303834A on right Remove existing earthen barricades prior to hauling. Reconstruct barricades once hauling is completed.
E293803F	0+00 to 71+70	Pre-haul maintenance
	71+70	End of pre-haul maintenance and intersection with E293803U on left
E293803U	0+00 to 65+27	Pre-haul maintenance
	65+27	Enter DNR managed land and Unit 2. End pre-haul maintenance begin new construction.
E293809E	0+00 to 5+22	Pre-haul maintenance
	5+22	End pre-haul maintenance and intersection with E293809T on right.
E293712A	247+85 to 273+73	Pre-haul maintenance
	260+32	Intersection with E303836C on right.
E293712F	0+00 to 95+98	Pre-haul maintenance
	70+17	Enter DNR managed land and Unit 4
	76+14	Exit DNR managed land and Unit 4. Intersection with E293807K on left.
	95+98	End pre-haul maintenance and intersection with E293818A on right
E293818A	0+00 to 9+80	Pre-haul maintenance

E293806E	0+00 to 15+80	Pre-haul maintenance
	3+15	Enter Unit 5
E303833F	0+00 to 126+90	Pre-haul maintenance
	16+11	Diggable rock source
	54+18	Intersection with E293803T on right
E303836C	0+00 to 245+79	Pre-haul maintenance
	232+05	Intersection with E303833F on left
	245+79	End of pre-haul maintenance and intersection with E293712A

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 MAINTENANCE

0-9 DECOMMISSIONING

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

0-10 ABANDONMENT

This project includes abandonment listed in Clause **Error! Reference source not found.**.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

If the Contractor 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 Contractor's choice of construction season or techniques will be at the Contractor's expense. Unforeseen conditions include, but are not limited to, solid subsurface rock, subsurface springs, saturated ground, and unstable soils.

1-3 ROAD DIMENSIONS

Contractor 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

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

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

1-6 ORDER OF PRECEDENCE

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

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

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

1-7 TEMPORARY ROAD CLOSURE

Contractor shall notify the Contract Administrator a minimum of 5 calendar days before the closure of any road. Construction may not close any road for more than 21 consecutive days.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-15 ROAD MARKING

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

- Centerline flagging for new construction.
- Stationing marked with tags/stakes/paint/flagging for maintenance, construction and reconstruction.

1-18 REFERENCE POINT DAMAGE

Contractor 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 Contractor resets all moved or damaged RPs.

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

Contractor shall notify the Contract Administrator a minimum of 10 calendar days before work begins.

1-23 ROAD WORK PHASE APPROVAL

Contractor 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.

<u>February 15 to May 1</u>

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

Contractor 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 4 inches on jaw run roads.
- Wheel track rutting exceeds 4 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, the Contractor will be required to cease operations, or perform corrective maintenance or repairs, subject to specifications within this road plan. Before and during any suspension, Contractor shall protect the work from damage or deterioration.

1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION

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

If tracked equipment is used on bridges or asphalt, Contractor shall immediately cease all road construction and hauling operations. Contractor shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt and have surface(s) evaluated for any damage caused by transporting equipment. Any damage to the surface(s) will be repaired, at the Contractor's expense, as directed by the Contract Administrator.

Contractor shall have bridges load rated by a Registered Professional Engineer licensed in the State of Washington. All load rating reports, calculations, or drawings must be stamped by the licensed engineer and submitted to the Contract Administrator prior to allowing any work to continue. All damage to the bridge from transporting equipment will be repaired at the Contractor's expense.

Contractor shall have asphalt surfaces reviewed by a third party, specializing in asphalt construction and repair. The third party's scope of the damage and repairs must be agreed upon between the Contractor and the Contract Administrator. Damage to the asphalt from transporting equipment will be repaired at the Contractor's expense.

1-33 SNOW PLOWING RESTRICTION

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

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

Contractor 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 Contractor's expense, as directed by the Contract Administrator when authorized by the county or WSDOT.

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

Contractor 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 – CONTRACTOR MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-4 PASSAGE OF LIGHT VEHICLES

Contractor shall maintain all roads in a condition that will allow the passage of light administrative vehicles.

2-6 CLEANING CULVERTS

Contractor shall clean the inlets and outlets of all culverts and shall obtain written approval from the Contract Administrator before beginning work.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

Contractor 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

Contractor 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, or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-7 RIGHT-OF-WAY DECKING

On the following road(s), Contractor 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.

Road	Stations
E293809T	0+00 to 61+10
E293804B	0+00 to 8+03
E293804A	0+00 to 14+08
E293803U	65+27 to 78+34
E303834A	0+00 to 18+03

3-8 PROHIBITED DECKING AREAS

Contractor 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 40%.
- Against standing trees.

3-10 GRUBBING

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.

3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

Contractor 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

Contractor shall remove organic debris from the road surface, ditchlines, and culvert inlets and outlets. Contractor 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

Contractor 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 embankments.
- On slopes greater than 40%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush will fall into the ditch or onto the road surface.
- Against standing timber.
- Organic debris may be used as mulch or in slash filter windrows to prevent sediment delivery

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

On the following roads the Contractor shall scatter stumps and organic debris outside of the grubbing limits unless otherwise directed by the Contract Administrator.

Road	Stations
E293809T	0+00 to 61+10
E293804B	0+00 to 8+03
E293804A	0+00 to 14+08
E293803U	65+27 to 78+34
E303834A	0+00 to 18+03

3-30 EXCLUSION OF DOZER BLADES

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

3-31 PILING

Right-of-way debris shall be piled. Debris piles shall be made to be burnable, clean, tight, and free of rock or soil. Piles shall be made no closer than 20 feet from standing timber, and no higher than 10 feet. 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.

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

Contractor 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

Contractor shall follow these standards for road grade and alignment except as designed**.**

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-4 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. Contractor 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

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

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

Contractor 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.

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

4-12 FULL BENCH CONSTRUCTION

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

4-21 TURNOUTS

Contractor 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

Contractor 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

Contractor shall construct ditchouts as identified, 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

Contractor 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 in Clause 4-37 WASTE AREA LOCATION.

4-37 WASTE AREA LOCATION

Waste material shall be deposited in areas designated or approved by the Contract Administrator. The amount of material to be contained in a waste area shall be at the discretion of the Contract Administrator**.**

Road	Waste Area Location
E293803E	STA. 47+98

4-38 PROHIBITED WASTE DISPOSAL AREAS

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

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

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.

4-47 NATIVE MATERIAL

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

4-48 BORROW MATERIAL

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

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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

4-60 FILL COMPACTION

Contractor 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

Contractor 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

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

4-63 EXISTING SURFACE COMPACTION

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

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Berms shall be removed 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

Contractor 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.

5-11 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 as directed by the Contract Administrator and at locations determined by the Contract Administrator.

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.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Contractor shall obtain written approval from the Contract Administrator for the installation of culverts 30 inches in diameter and over before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

Cross drain culverts 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. Rock used for energy dissipaters should be specified in the ROCK LIST

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

Contractor 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

Contractor shall construct headwalls in 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 STREAM CROSSING CULVERTS

Riprap shall be set in place in conjunction with or immediately following construction of the embankment. Rock shall be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the CULVERT LIST or as directed by the Contract Administrator. Rock shall not restrict the flow of water into culvert inlets or catch basins. Placement shall be by zero-drop-height method only. No placement by end dumping or dropping of rock shall be allowed.

Road	Stations	Rock Type
E293809T	14+87 and 33+33	Light Loose Rip Rap

5-30 DRIVABLE WATERBAR CONSTRUCTION

Contractor shall construct drivable waterbars in accordance with the DRIVABLE WATERBAR DETAIL, as specified on the CULVERT & 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. Contractor shall install drivable waterbars using a crawler tractor. Use of any other equipment is not allowed without written approval from the Contract Administrator.

5-31 ROLLING DIP CONSTRUCTION

Rolling dips shall be constructed in accordance with the ROLLING DIP DETAIL and as specified on the CULVERT & DRAINAGE LIST. Rolling dips shall 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.

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

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

Source	Location	Rock Type
Diggable Source	E303833F – STA. 16+11	3” minus shale

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 Contractor's expense. Rock sources will be subject to written approval by the Contract Administrator before their use.

6-12 ROCK SOURCE SPECIFICATIONS

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

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

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

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

6-20 ROCK GRADATION TYPES

Contractor shall provide or manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock shall meet the following specifications for gradation and uniform quality. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

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	50 - 80%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	3 - 18%
% Passing U.S. #200 sieve	6-12% max.

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

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

At Least/Not More Than	Weight Range	Size Range
20% / 90%	300 lbs. to 1 ton	20”- 36”
80% / --	50 lbs. to ½ ton	12”- 30”
10% / 20%	50 lbs. max	3”- 8”

6-51 HEAVY LOOSE RIP RAP

Rip rap must consist of angular, hard, sound, and durable stone. It must be free from segregation, seams, cracks, and other defects. Heavy loose riprap must be free of rock fines, soil, organic debris or other extraneous material, and must meet the following requirements:

At Least/Not More Than	Weight Range	Size Range
30% / 90%	1 ton to 3 ton	36”- 54”
70% / 90%	500 lbs. to 1 ½ ton	24”- 42”
10% / 30%	50 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

Contractor shall obtain written approval from the Contract Administrator for approved completion of subgrade and drainage installations before rock application.

6-71 ROCK APPLICATION

Contractor 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

Contractor shall apply rock to turnarounds, turnouts, and areas with curve widening to the same depth and specifications as the traveled way unless otherwise specified in the ROCK LIST.

6-80 WATERING FOR DUST ABATEMENT

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

SECTION 7 – STRUCTURES

7-57 CULVERT SHAPE CONTROL

Contractor shall monitor the culvert shape during backfill and compaction. Special attention must be paid to maintaining the structure's rise dimensions, concentricity, and smooth uniform curvature. If compaction methods are resulting in peaking or deflection of the culvert, Contractor shall modify the compaction method to achieve the appropriate end result.

7-70 GATE CLOSURE

On the following road(s), Contractor 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.

Road	Station	Comment
E303836A	312+57	Close and lock gate after hauling has stopped each day
E303836A	261+95	Close and lock gate after hauling has stopped each day
E293712F	0+50	Leave gate in position found when hauling begins

SECTION 8 – EROSION CONTROL

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.

8-2 PROTECTION FOR EXPOSED SOIL

Contractor shall provide and evenly spread a 6-inch layer of straw to all exposed soils at within 50 feet of a live stream or wetland. Soils may not sit exposed during any rain event.

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the NE SPOILS BERM DETAIL.

Road	Stations
E293803T	67+30

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

Culvert material removed from roads becomes the property of the Contractor and must be removed from state land.

9-5 POST-HAUL MAINTENANCE

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

Road	Stations	Additional Requirements
E303836A	442+52 to 519+88	Post haul grade
E293803T	0+00 to 84+26	Spot grade as needed
E293803F	0+00 to 71+70	Spot grade as needed
E293803U	0+00 to 65+27	Spot grade as needed
E293804A	0+00 to 14+08	Spot grade as needed
E293804B	0+00 to 8+03	Spot grade as needed
E293809E	0+00 to 5+22	Spot grade as needed
E293809T	0+00 to 61+10	Spot grade as needed
E293712A	247+85 to 273+73	Post haul grade
E293712F	0+00 to 95+98	Post haul grade
E293806E	0+00 to 15+80	Spot grade as needed
E293808M	0+00 to 40+84	Spot grade as needed
E303833F	0+00 to 126+90	Spot grade as needed
E303836C	0+00 to 245+79	Post haul grade

9-10 LANDING DRAINAGE

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

9-11 LANDING EMBANKMENT

Contractor shall slope landing embankments to the original construction specifications.

9-20 ROAD DECOMMISSIONING

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

Road	Stations	Type
E293818A	0+00 to 9+80	Light Decommissioning
E293803U	65+27 to 78+34	Light Decommissioning
E303834A	0+00 to 18+03	Light Decommissioning
E293807K	0+00 to 6+82	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 according to the attached NE SPOILS BERM DETAIL.
- Remove culverts
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1
- Apply grass seed concurrently with decommissioning and in accordance with Section 8 EROSION CONTROL.
- Cover, concurrently with decommissioning, all exposed soils within 100 feet of any live stream, with a 6-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 shall meet AASHTO M-36 (ASTM A-760) specifications. Culverts shall be galvanized (zinc coated meeting AASHTO M-218).

10-16 CORRUGATED ALUMINUM CULVERT

Aluminum culverts must meet AASHTO M-196 (ASTM A-745) specifications.

10-17 CORRUGATED PLASTIC CULVERT

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

10-18 CORRUGATED STEEL STRUCTURAL PLATE

Structural plate culverts must be galvanized steel meeting AASHTO M-167 (ASTM A-761) specifications.

10-19 CORRUGATED ALUMINUM STRUCTURAL PLATE

Structural plate culverts must be aluminum alloy meeting AASHTO M-219 (ASTM A-746) specifications.

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 GAGE 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.

Diameter	Gage	Corrugation
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"	14 (0.079")	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 shape the road surface, turnouts, and shoulders to the original shape as directed, to provide a smooth, rut-free traveled surface and maintain surface water runoff in an even, unconcentrated manner.
- Blading shall not undercut the backslope or cut into geotextile fabric on the road.
- If required by the Contract Administrator, water shall be applied as necessary to control dust and retain fine surface rock.
- Surface material shall not be bladed off the roadway. Replace surface material when lost or worn away , or as directed by the Contract Administrator.
- Remove shoulder berms, created by grading, to facilitate drainage, except as marked or directed by the Contract Administrator.
- For roads with geotextile fabric: spread surface aggregate to fill in soft spots and wheel ruts (barrel spread) to prevent damage to the geotextile fabric.

Drainage

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

Structures

- Repair culverts, bridges, gates, fences, cattle guards, signs, and other road structures as required because of timber haul or other hauling activites. Repairs shall be subject to Contract Administrator's approval.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Preventative Maintenance

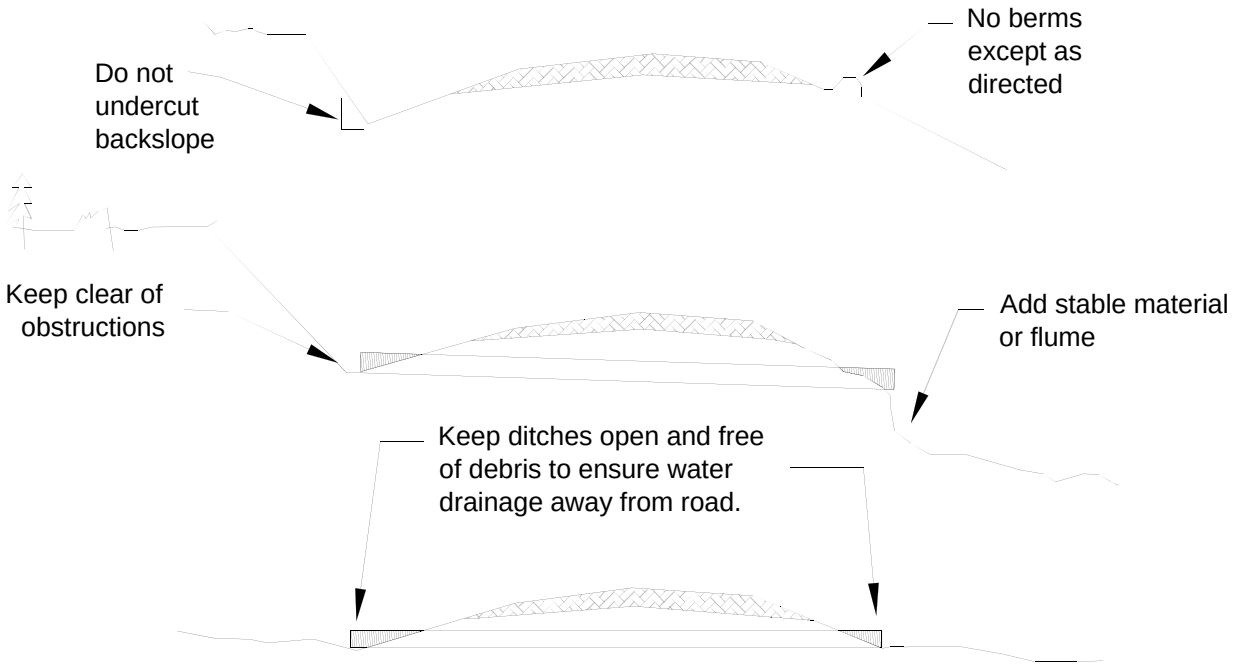
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

Debris

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

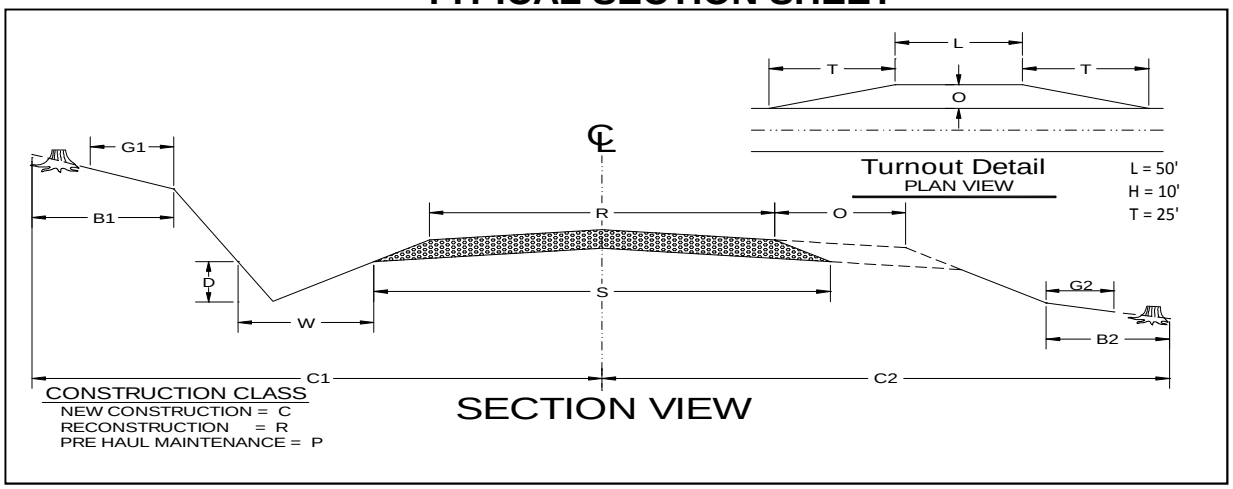


STATE OF WASHINGTON

DEPARTMENT OF NATURAL RESOURCES

Application No.: 30-093250 **Name of Sale: Allen Fire Salvage**

TYPICAL SECTION SHEET



MAINTENANCE=M

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)
E303836A	442+52	519+88	P		C	14'	12'	subgrade shape varies											
E293803T	0+00	84+26	P		C	14'	12'	subgrade shape varies											
E293803F	0+00	71+70	P		C	14'	12'	subgrade shape varies											
E293803U	0+00	65+27	P		C	14'	12'	subgrade shape varies											
	65+27	78+34	C		C	14'	12'		4					2	2	10	10		
E293804A	0+00	14+08	C		C	14'	12'		4					2	2	10	10		
E293804B	0+00	8+03	C		C	14'	12'		4					2	2	10	10		
E293809E	0+00	5+22	P		C	14'	12'	subgrade shape varies											
E293809T	0+00	61+10	C		C	14'	12'		4					2	2	10	10		
E293712A	247+85	273+73	P		C	14'	12'	subgrade shape varies											
E293818A	0+00	9+80	P		C	14'	12'		4					2	2	10	10		
E293807K	0+00	6+82	R		C	14'	12'		4					2	2	10	10		
E293712F	0+00	95+98	P		C	14'	12'	subgrade shape varies											
E293806E	0+00	15+80	P		C	14'	12'	subgrade shape varies											
E293808M	0+00	40+84	R		C	14'	12'		4					2	2	10	10		
E303833F	0+00	126+90	P		C	14'	12'	subgrade shape varies											
E303834A	0+00	18+03	C		C	14'	12'		4					2	2	10	10		
E303836C	0+00	245+79	P		C	14'	12'	subgrade shape varies											
E293803E	0+00	61+66	P		C	14'	12'	subgrade shape varies, optional maint. road											

DATE: 12-15-2015 *Optional Page One of One DRAWN BY: RK

STATE OF WASHINGTON

DEPARTMENT OF NATURAL RESOURCES

Application No.: 30-93250 **Name of Sale: Allen Fire Salvage** **Date: 12/15/2015**

CULVERT & DRAINAGE LIST

Road Name	Station	CULVERT			LENGTH			RIPRAP			Ditch	Staked	Rolling Dip	Notes
		Diameter (in)	Gauge	Skew (deg)	Culvert (ft)	Downspout	Flume	Inlet C.Y.	Outlet C.Y.	Catchbasin				
E303836A	442+52 to 519+88			Reshape or install rolling dips.									2	9,13
E293803T	0+00 to 84+26			Reshape or install rolling dips.									2	9,13
E293803F	0+00 to 71+70			Reshape or install rolling dips.									2	9,13
E293803U	0+00 to 65+27			Reshape or install rolling dips.									2	9,13
	65+27 to 78+34			Install rolling dips.									3	9
	68+14	24	16		35			1/4	1/4	X				1,2,3,10,11
	71+72	24	16		35			1/4	1/4	X				1,2,3,10,11
E293804A	0+00 to 14+08			Install rolling dips.									3	9
	9+30	24	16		35			1/4	1/4	X				1,2,3,10,11
E293804B	0+00 to 8+03			Install rolling dips.									2	9
E293809E	0+00 to 5+22			Reshape or install rolling dips.									1	9,13
E293809T	0+00 to 61+10			Install rolling dips.									10	9
	5+64	24	16		35			1/4	1/4	X				1,2,3,10,11
	12+14	18	16		30			1/4	1/4	X				1,2,3,10,11
	14+87	36	16		35			1/4	1/4	X				1,2,3,10,11
	28+45	24	16		35			1/4	1/4	X				1,2,3,10,11
	33+33	36	16		35			1/4	1/4	X				1,2,3,10,11
E293712A	247+85 to 273+73			Reshape or install rolling dips.									2	9,13
E293818A	0+00 to 9+80			Reshape or install rolling dips.									2	9,13
E293807K	0+00 to 6+82			Install rolling dips.									2	9
E293712F	0+00 to 95+98			Reshape or install rolling dips.									2	9,13
E293806E	0+00 to 15+80			Reshape or install rolling dips.									1	9,13
E293808M	0+00 to 40+84			Reshape or install rolling dips.									2	9,13
	20+45	18	16		30			1/4	1/4	X				1,2,3,10,11
E303833F	0+00 to 126+90			Reshape or install rolling dips.									2	9,13
E303834A	0+00 to 18+03			Install rolling dips.									4	9
	14+35	18	16		35			1/4	1/4	X				1,2,3,10,11
E303836C	0+00 to 245+79			Reshape or install rolling dips.									2	9,13
E293803E	0+00 to 61+66			Reshape or install rolling dips.									2	9,13
				Optional maintenance road.										
	One additional 18"x35' CMP culverts to be installed at													
	location to be determined by the Contract Administrator													

STRUCTURE NOTES

1. Install Headwall - See Detail D1
2. Install Catchbasin - See Detail D1
3. Armor Catchbasin - See Detail D1
4. Armor Ditch
5. Heavy Loose Riprap
6. Light Loose Riprap
7. Step Bevel Pipe Ends
8. Remove Existing Pipe
9. See Rolling Dip Detail D5
10. See Pipe Installation Detail D1
11. Install Energy dissipater - See D1
13. Reshape Rolling Dip
14. Install additional rolling dips as directed in section 9-5 Post Haul Maint.

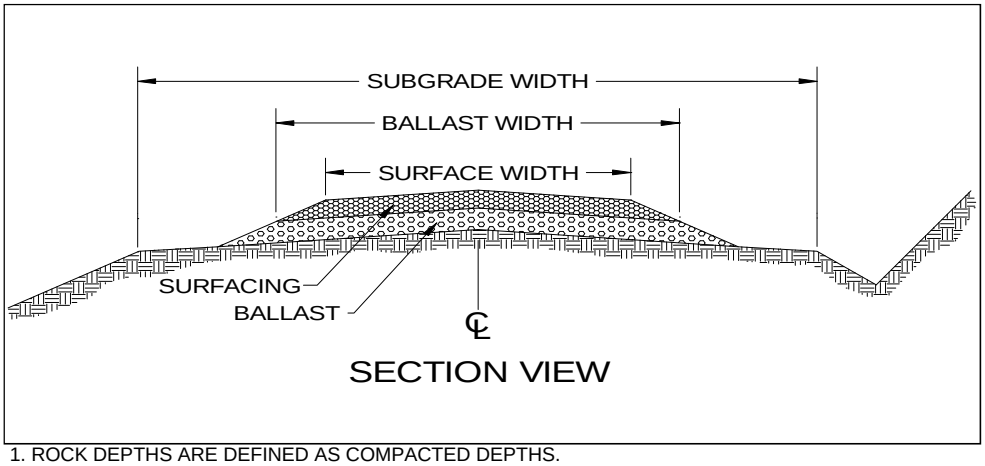
Additional Rolling Dips shall be installed at the discretion of the Contract Administrator

rev 082613

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Application No.: 30-093250 **Name of Sale: Allen Fire Salvage**

ROCK LIST



SECTION VIEW

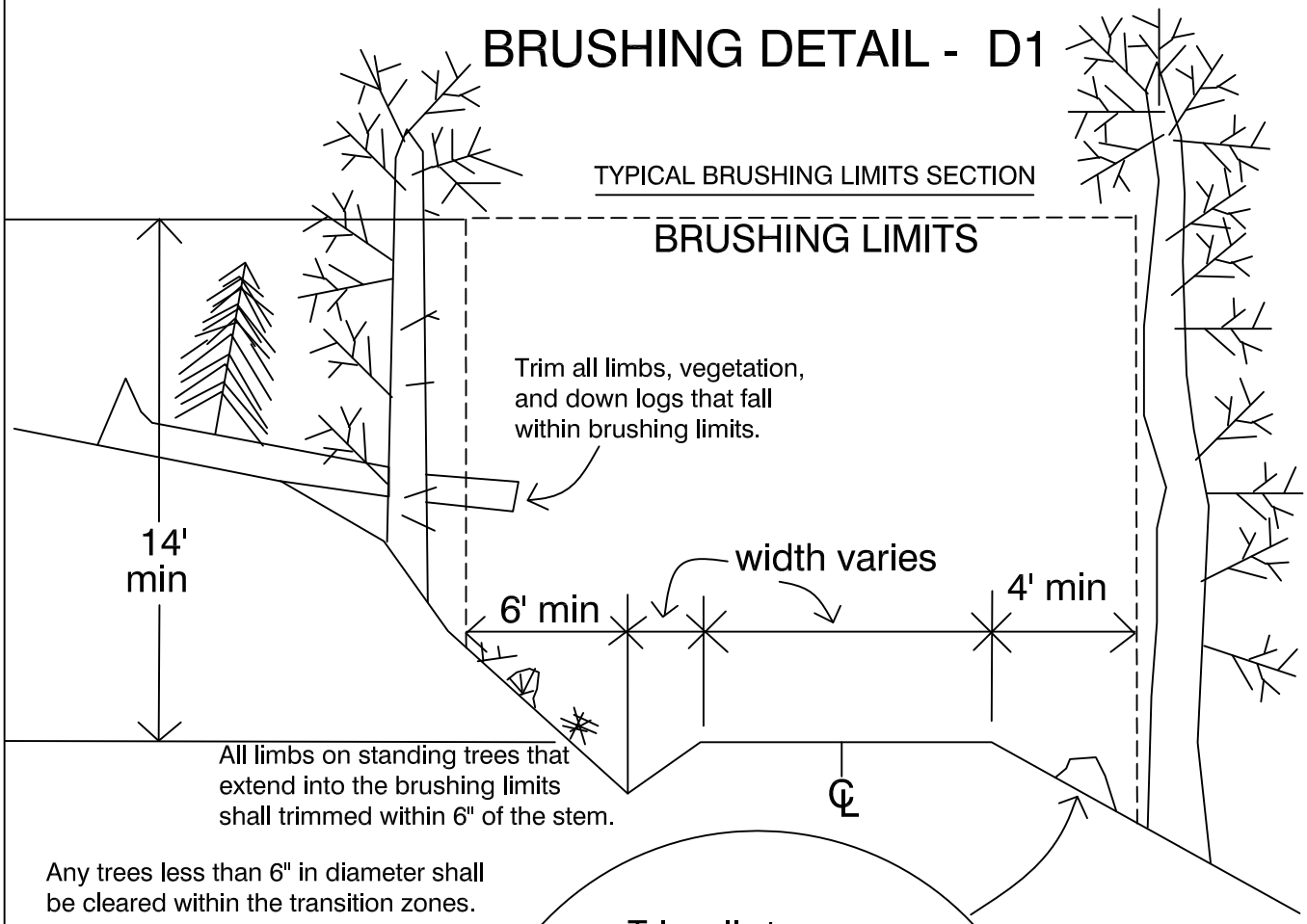
1. ROCK DEPTHS ARE DEFINED AS COMPACTED DEPTHS.
2. LOOSE YARD QUANTITIES ARE DEPENDANT ON SOURCE.
3. ROCK SLOPES SHALL BE 1.5(H) : 1(V).
4. ALL ROCK SOURCES ARE SUBJECT TO APPROVAL BY THE CONTRACT ADMINISTRATOR.
5. THE ROCK QUANITIES SHOWN ASSUME AN EXPANSION FACTOR OF 25%

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	BALLAST SOURCE	BALLAST WIDTH (ft)	BALLAST DEPTH (in)	BALLAST QUANTITY (cu.yd./sta)	SURFACE SOURCE	SURFACE WIDTH (ft)	SURFACE DEPTH (in)	SURFACE QUANTITY (cu.yd./sta)	FABRIC WIDTH (ft)
E303836A	442+52	519+88	14	Spot patch 80 cy surface rock				D/C			0	
E293803T	0+00	84+26	14	Spot patch 25 cy surface rock				D/C			0	
E293803F	0+00	71+70	14	Spot patch 20 cy surface rock				D/C			0	
E293803U	0+00	65+27	14	Spot patch 15 cy surface rock				D/C			0	
	68+14		14		Surface rock over cmp 10 cy.			D/C			0	
	71+72		14		Surface rock over cmp 10 cy.			D/C			0	
E293804A	0+00	14+08	14	Spot patch 5 cy surface rock				D/C			0	
	9+30		14		Surface rock over cmp 10 cy.			D/C			0	
E293804B	0+00	8+03	14	Spot patch 5 cy surface rock				D/C			0	
E293809E	0+00	5+22	14	Spot patch 5 cy surface rock				D/C			0	
E293809T	0+00	61+10	14	Spot patch 10 cy surface rock				D/C			0	
	5+64		14		Surface rock over cmp 10 cy.			D/C			0	
	12+14		14		Surface rock over cmp 10 cy.			D/C			0	
	14+87		14		Surface rock over cmp 10 cy.			D/C			0	
	28+45		14		Surface rock over cmp 10 cy.			D/C			0	
	33+33		14		Surface rock over cmp 10 cy.			D/C			0	
E293712A	247+85	273+73	14	Spot patch 5 cy surface rock				D/C			0	
E293818A	0+00	9+80	14	Spot patch 5 cy surface rock				D/C			0	
E293712F	0+00	95+98	14	Spot patch 20 cy surface rock				D/C			0	
E293806E	0+00	15+80	14	Spot patch 5 cy surface rock				D/C			0	
E293808M	0+00	40+84	14	Spot patch 15 cy surface rock				D/C			0	
	20+45		14		Surface rock over cmp 10 cy.			D/C			0	
E303833F	0+00	126+90	14	Spot patch 30 cy surface rock				D/C			0	
E303834A	0+00	18+03	14	Spot patch 5 cy surface rock				D/C			0	
	14+35		14		Surface rock over cmp 10 cy.			D/C			0	
E303836C	0+00	245+79	14	Spot patch 50 cy surface rock				D/C			0	
E293807K	0+00	6+82	14	Spot patch 5 cy surface rock				D/C			0	
Additional surface rock for spot patching			200	cy				D/C				
placed as directed by the Contract Administrator												
Light Loose Rip Rap for culvert armoring			20	cy				C				
C: Commercial source per contractor												
D: Diggable rock source on E303833F												
cy = cubic yards												

DATE: December 15, 2015

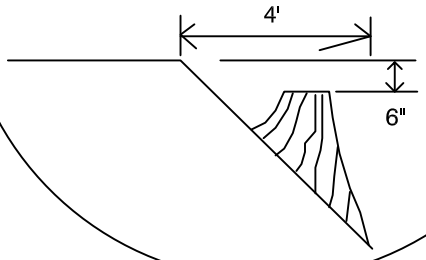
BRUSHING DETAIL - D1

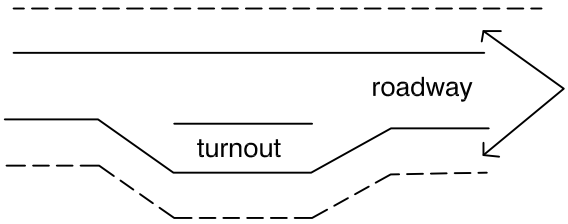
TYPICAL BRUSHING LIMITS SECTION



Any trees less than 6" in diameter shall be cleared within the transition zones.

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.

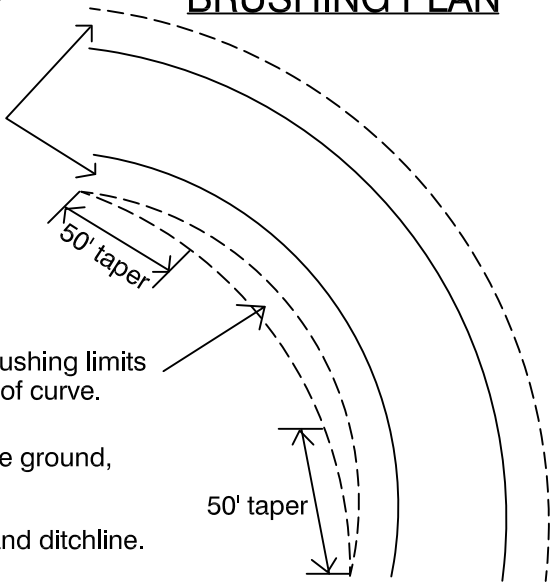




Brushing limits as shown on typical section

TURNOUT BRUSHING PLAN

CURVE BRUSHING PLAN

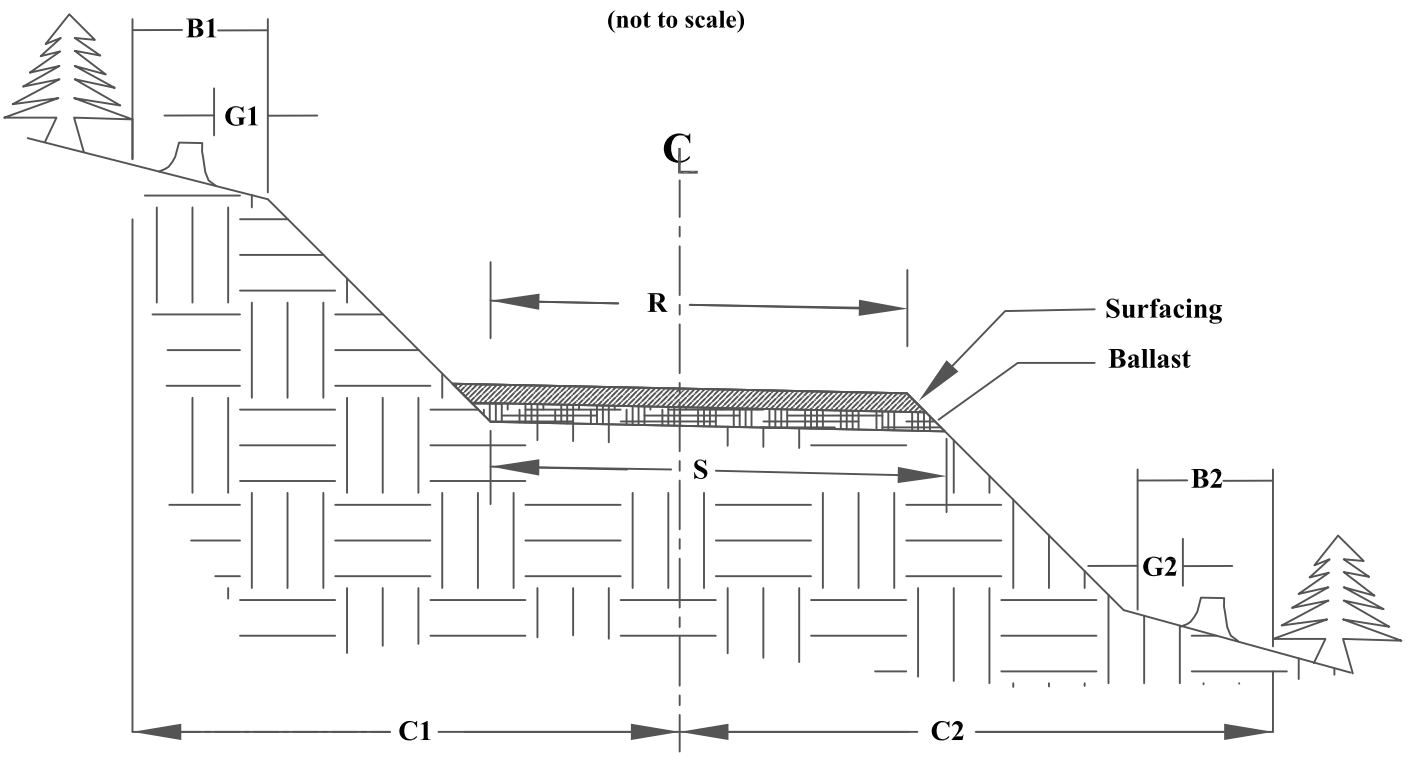


1. All vegetation within the brushing limits shall be cut to within 8" of the ground, unless otherwise directed by the contract administrator.
2. All brush, trees, limbs, etc. shall be removed from the road surface and ditchline.
3. All debris that may roll or migrate into the ditchline shall be removed.

Drawn by: GP. Rev. 01-14-2016 by: JE

OUTSLOPED ROAD CROSS-SECTION

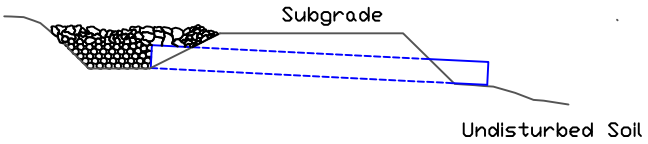
DETAIL D2



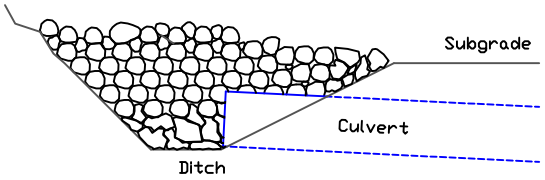
Drawn by: JBB 2/18/03

Revised: JE 01/14/20162

CULVERT AND DRAINAGE SPECIFICATIONS DETAIL - D3



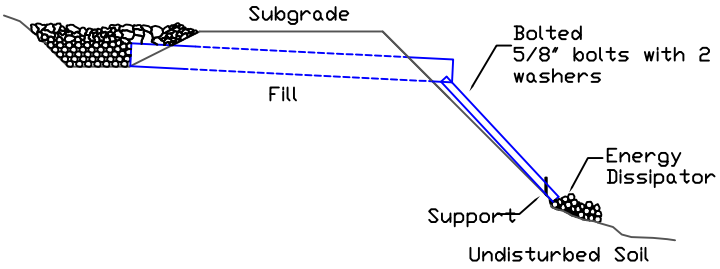
HEADWALLS



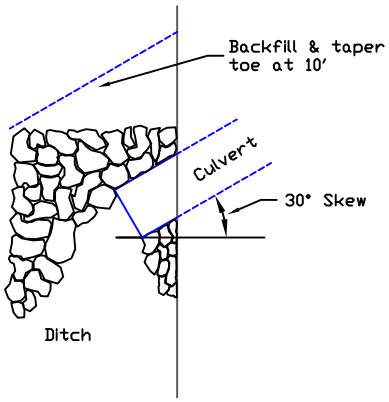
Headwall to be constructed of material that will resist erosion

FLUME

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

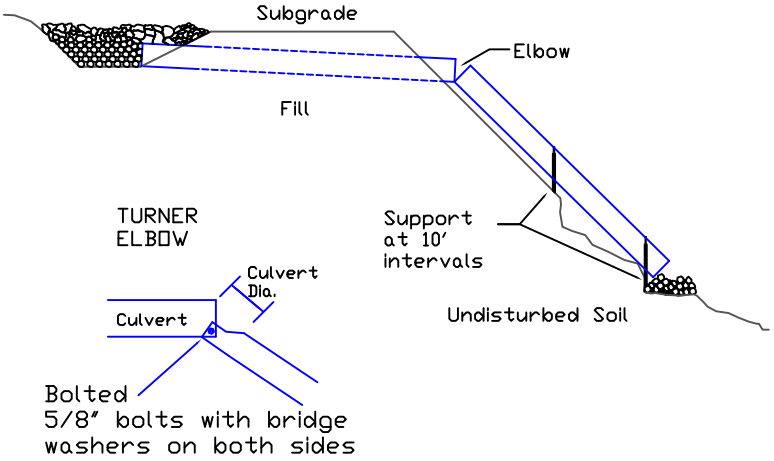


PLAN VIEW



DOWNSPOUT

Use where ground conditions are irregular.

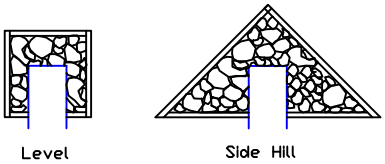


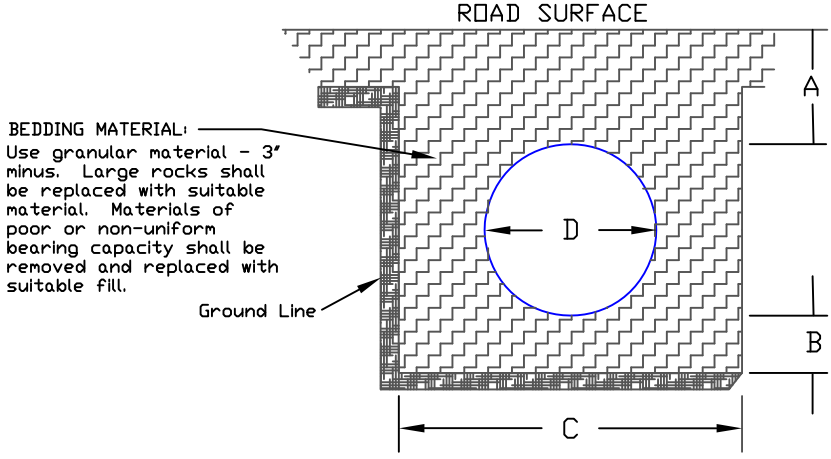
CULVERT BACKFILL & BASE PREPARATION
(For Culverts Less Than 36")

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
Aggragate	1/3





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.

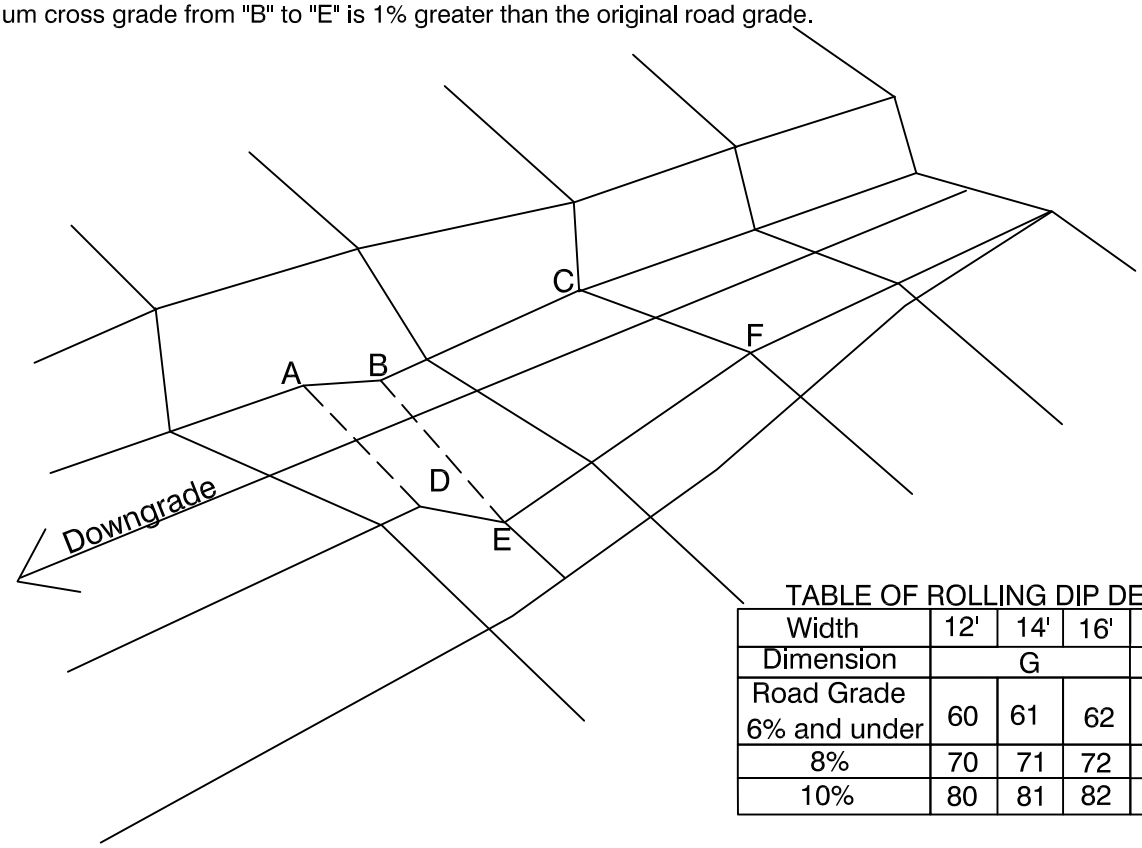
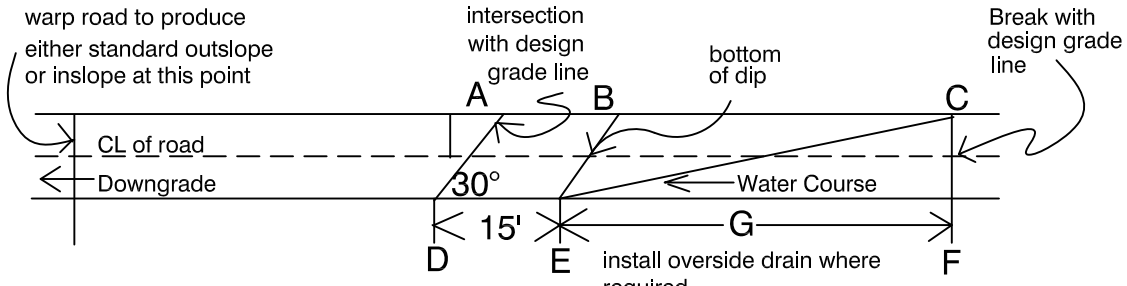
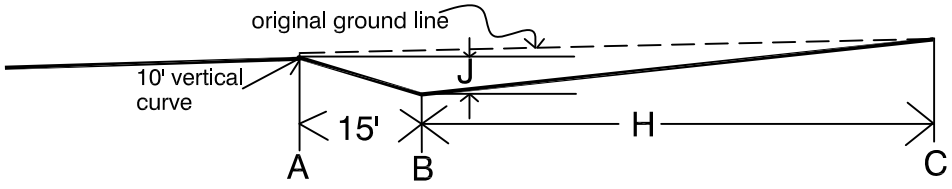


TABLE OF ROLLING DIP DEMENSIONS

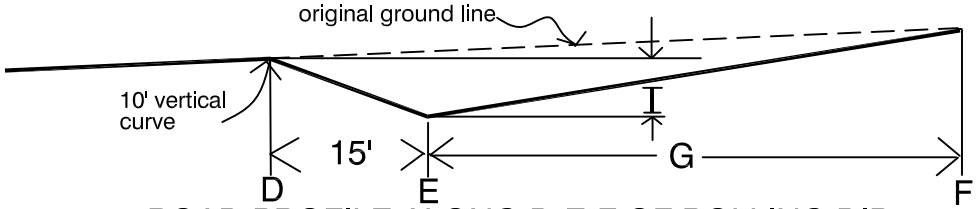
Width	12'	14'	16'	ALL		
Dimension	G			H	I	J
Road Grade 6% and under	60	61	62	52	.8	0.3
8%	70	71	72	62	1.0	0.2
10%	80	81	82	72	1.1	0.1



PLAN OF ROLLING DIP



ROAD PROFILE ALONG A-B-C OF ROLLING DIP

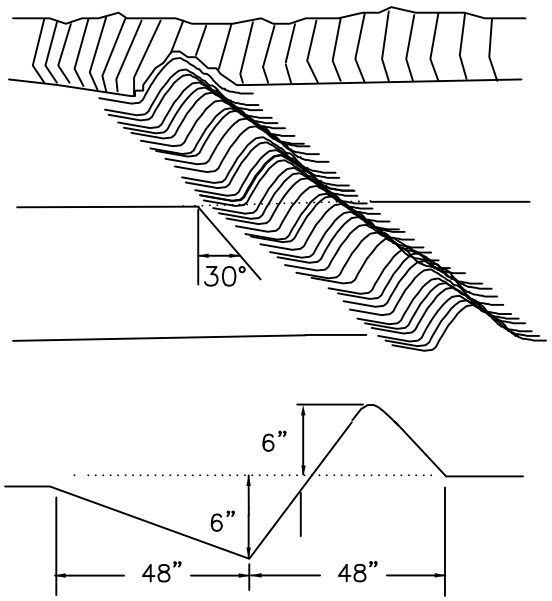


ROAD PROFILE ALONG D-E-F OF ROLLING DIP

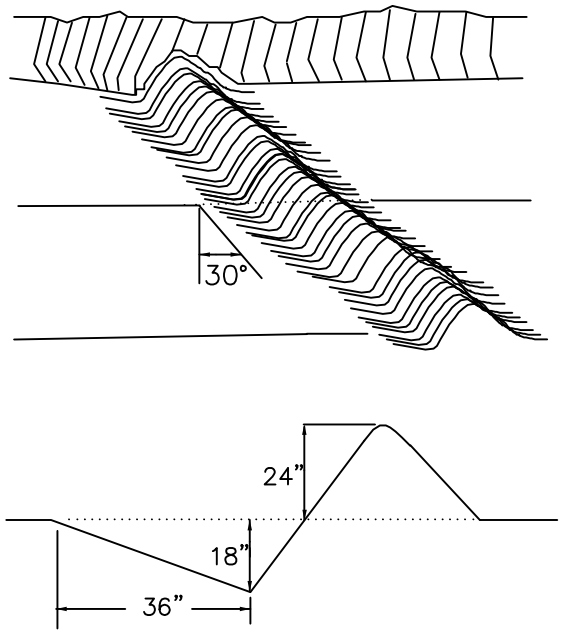
Drawn by: GP

WATERBAR DETAIL–D6

DRIVABLE WATERBAR



NON DRIVABLE WATERBAR

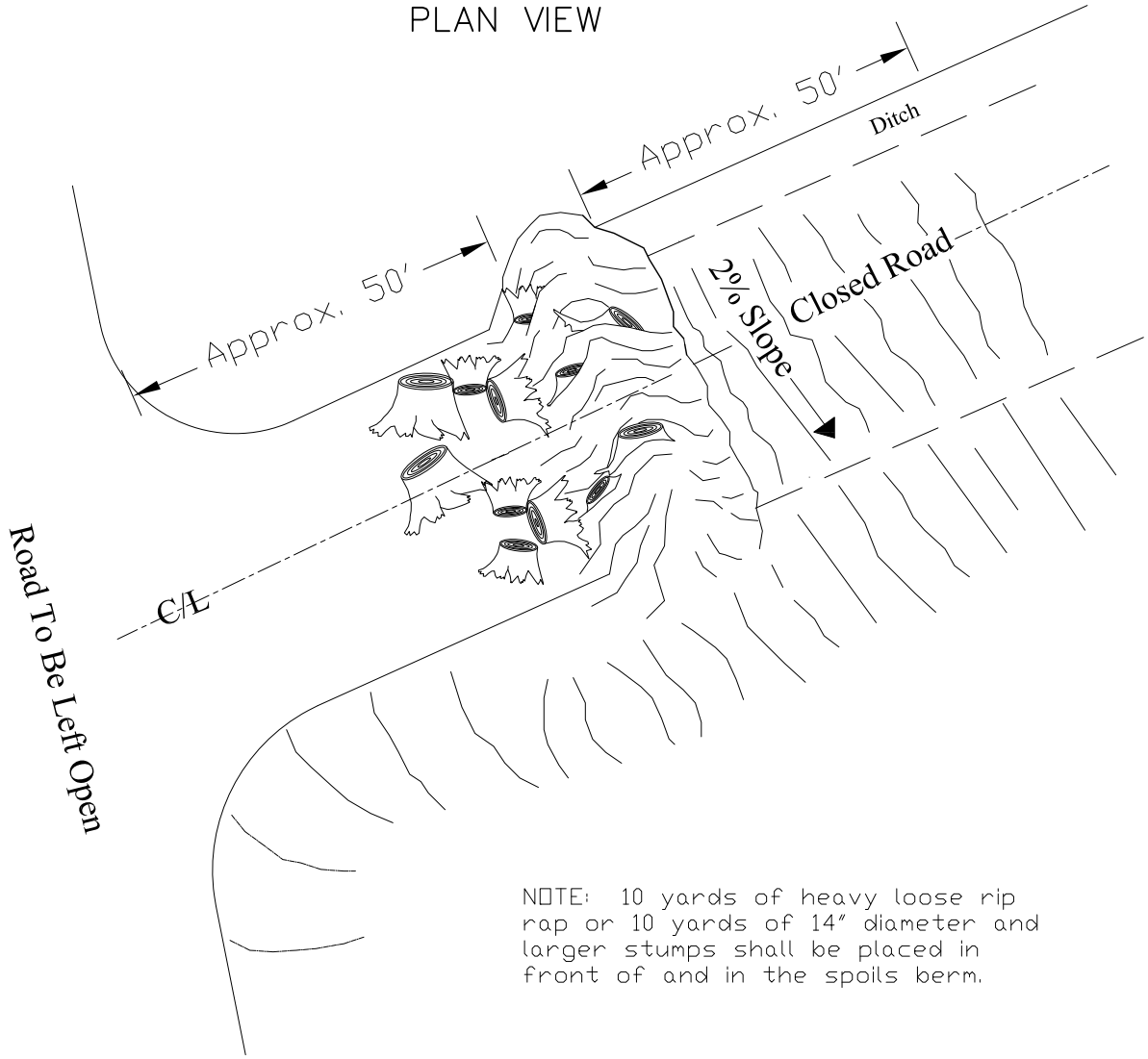


1. Waterbar construction for forest roads Specifications are average and may be adjusted to conditions.
2. Waterbar shall keyed into the bank.
3. The waterbar shall be outsloped for proper drainage.
4. Rock outlet if fill slope is present.

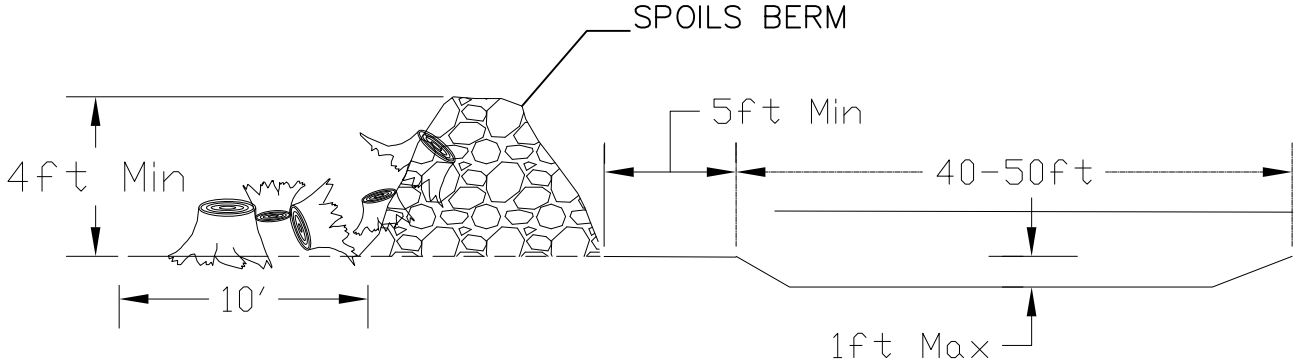
Revised: 05/21/2012

SPOILS BERM DETAIL-D8

PLAN VIEW



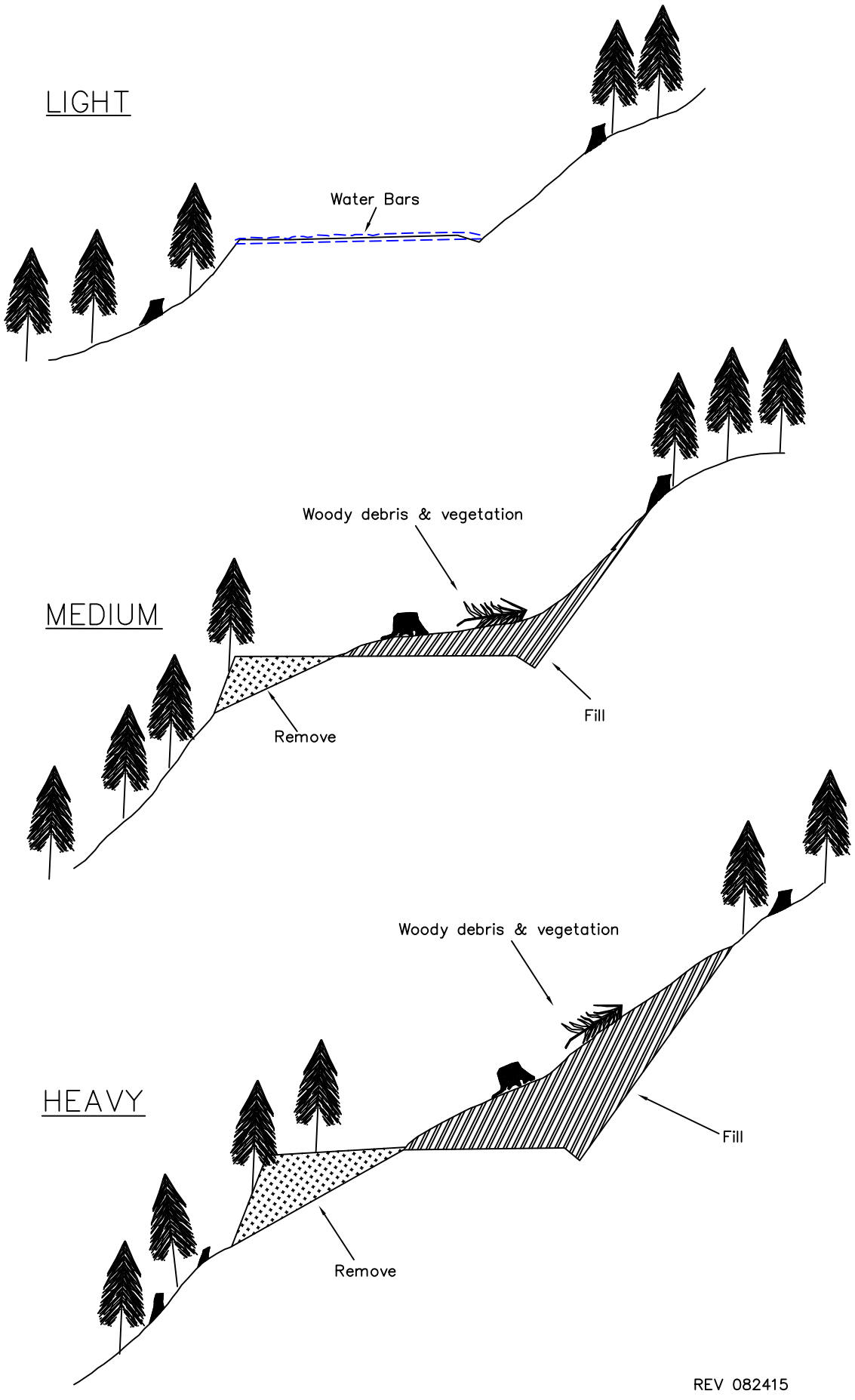
NOTE: 10 yards of heavy loose rip rap or 10 yards of 14" diameter and larger stumps shall be placed in front of and in the spoils berm.



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

Revised 8-29-2008

ROAD ABANDONMENT DETAIL–D12
CROSS SECTIONS



REV 082415

Sale Name: Allen Fire Salvage SUMMARY - Road Development Costs

REGION: Northeast CONTRACT #: 30-093250 ENGINEER: Travis Parry
DISTRICT: Arcadia DATE: 10/29/2015

	Construction	*Reconstruction*	*Maintenance*	*Decommission*	*Abandonment*
ROAD NUMBERS: Comments:	E293803U, E293804A, E293804B, E293809T, E303834A	E293807K, E293808M	E303836A, E293803T, E293803F, E293803U, E293809E, E293712A, E293818A, E293712F, E293806E, E303833F, E303836C, E293803E (optional)	E293818A, E293803U, E303834A. E293807K	
ROAD STANDARD:	*Construction*	*Reconstruction*	*Maintenance*	*Decommission*	*Abandonment*
NUMBER OF STATIONS:	***114.31***	***47.66***	***885.62***	***47.72***	
CLEARING & GRUBBING:	$6,859	$2,860	$7,085		
EXCAVATION AND FILL:	$33,930	($1,071)	$4,428		
MISC. MAINTENANCE:	$1,715	$858	$2,170		
ROAD ROCK:	$600	$0	$9,952		
ADDITIONAL ROCK:			$3,228		
CULVERTS AND FLUMES:	$0	$0	$0		
Remove					
STRUCTURES/MATERIALS:		$0	$430		$0
	$43,103	$2,646	$23,635	$1,454	$0

TOTAL COSTS:	$43,103	$2,646	$27,293	$1,454	$0
COST PER STATION:	*$377.07*	*$55.52*	*$30.82*	*$30.48*	*$0*

	$/per move	# of moves	Total
MOBILIZATION:			$2,600

additional rock, misc, tax $4,525

TOTAL (All Roads) = $77,963
SALE VOLUME mbf = 9,621
TOTAL $/MBF = $8.10

Sale Name: Allen Fire Salvage SUMMARY - Road Development Costs