

Washington DNR Timber Sales Program

The documents for Yale of a Tale timber sale have been changed as follows:

**Documents amended:**

Brief Description	DATE	Initials
<p>Added to Notice of Sale Fees: <b>Purchaser shall pay the fee of \$10,956.22 to the US Forest Service for a Road Use Permit between the State and USFS. An additional permit is required for overloaded vehicles that will require travel over a bridge on the designated haul route. See Road Use Permit between the State and USFS for details.</b></p>	5/19/2016	MR
<p>Added to Clause G-380 Road Easement and Road Use Permit Requirements  <b>Road Use Permit between the State and USFS dated May 20, 2016. Expires: December 31, 2017:</b></p>	5/19/2016	MR
<p>Added to Clause H-140 Special Harvest Requirements:  <b>Intermediate supports may be required to prevent soil rutting in Unit 7 off the S-2700 road.</b>  <b>Recreation trails shall be posted, closed and a watchman provided during harvest operations. Trails shall be re-opened within 15 days of completion of yarding operations on each harvest unit.</b>  <b>No operations shall take place on weekends, or State recognized holidays.</b></p>	5/19/2016	MR
<p>Added to Clause H-141 Additional Harvest Requirements:  <b>If Purchaser chooses to tailhold south of Siouxon Creek for Units 4, 5, and 6, a watchman shall be present at all times during cable harvesting operations.</b>  <b>If Purchaser chooses to tailhold north of Siouxon Creek for Unit 7, a watchman shall be present at all times during cable harvesting operations when the cable is less than 50' above water level.</b></p>	5/19/2016	MR



TIMBER NOTICE OF SALE

SALE NAME: YALE OF A TALE VRH VDT

AGREEMENT NO: 30-092969

AUCTION: May 26, 2016 starting at 10:00 a.m., COUNTY: Clark, Skamania Pacific Cascade Region Office, Castle Rock, WA

SALE LOCATION: Sale located approximately 11 miles northeast of Amboy

PRODUCTS SOLD AND SALE AREA:

All timber, except leave trees bounded by yellow Leave Tree Area tags, leave trees marked with blue paint, and pre-existing stumps, bounded by the following: white "Timber Sale Boundary" tags with pink flagging, and the S-1121A in Unit 1; white "Timber Sale Boundary" tags with pink flagging, and the S-1121 road in Unit 2; white "Timber Sale Boundary" tags with pink flagging and the S-1100 road in Unit 3; white "Timber Sale Boundary" tags with pink flagging in Unit 4; white "Timber Sale Boundary" tags with pink flagging, reprod, S-1300 road, and the S-1310 road in Unit 5; white "Timber Sale Boundary" tags with pink flagging and reprod in Unit 6; white "Timber Sale Boundary" tags with pink flagging, reprod, and the S-2700 road in Unit 8. All timber as described in the Schedule A, bounded by white "Timber Sale Boundary" tags with pink flagging, and reprod in Unit 7. Orange "Right-of-Way" tags with orange flagging in Units 9, 10, and 11, and 12 on part(s) of Sections 17 and 20 all in Township 6 North, Range 5 East, Sections 25, 26, 27, 28, 33 and 34 all in Township 6 North, Range 4 East, W.M., containing 326 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:

Table with columns: Species, Avg DBH, Ring Count, Total MBF, Total \$/MBF, and MBF by Grade (1P, 2P, 3P, SM, 1S, 2S, 3S, 4S, UT). Rows include Douglas fir, Hemlock, Maple, Red alder, and Sale Total.

MINIMUM BID: \$206/MBF (est. value \$1,076,000.00) BID METHOD: Sealed Bids

PERFORMANCE SECURITY: \$100,000.00 SALE TYPE: MBF Scale

EXPIRATION DATE: October 31, 2019 ALLOCATION: Export Restricted

BIDDABLE SPECIES: Douglas fir

BID DEPOSIT: \$107,600.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable and Ground based equipment. Harvesting activities are estimated to be 30% ground-based, 60% uphill cable and 10% downhill cable. Ground-based harvesting equipment is restricted to slopes of 40% and less. See Clauses H-140 and H-141 for further harvest requirements. A detailed felling and yarding plan shall be required prior



## TIMBER NOTICE OF SALE

to any harvest activities and approved in writing by the Contract Administrator. Ground Based Yarding will not be permitted from September 30 to May 1 unless authorized in writing by the Contract Administrator.

### **ROADS:**

42.50 stations of required construction. 37.94 stations of required reconstruction. 58.65 stations of optional construction. 154.21 stations of required pre-haul maintenance. 4.19 stations of optional pre-haul maintenance. 9.96 stations of light abandonment of existing roads. 24.33 stations of light abandonment, if built. Rock used in accordance with the quantities on the ROCK LIST may be obtained from the S-1120 Pit located in Sec. 28, T06N, R04E W.M. and rock used in accordance with the quantities on the ROCK LIST may be obtained from the stockpiles located on the S-1000 road at station 87.00, S-1080 road at stations 44.02 and 52.53, and S-2700 road at station 47.86 on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock source(s), a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the listed locations. Road construction, reconstruction, pre-haul maintenance and abandonment. Road construction will not be permitted from September 30 to May 1 unless authorized in writing by the Contract Administrator. The hauling of forest products will not be permitted from September 30 to May 1 unless authorized in writing by the Contract Administrator.

### **ACREAGE DETERMINATION**

#### **CRUISE METHOD:**

The sale acres were determined by GPS. The sale area was cruised using a variable plot cruise method.

### **FEES:**

Purchaser shall pay the fee of \$10,956.22 to the US Forest Service for a Road Use Permit between the State and USFS. \$109,198.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

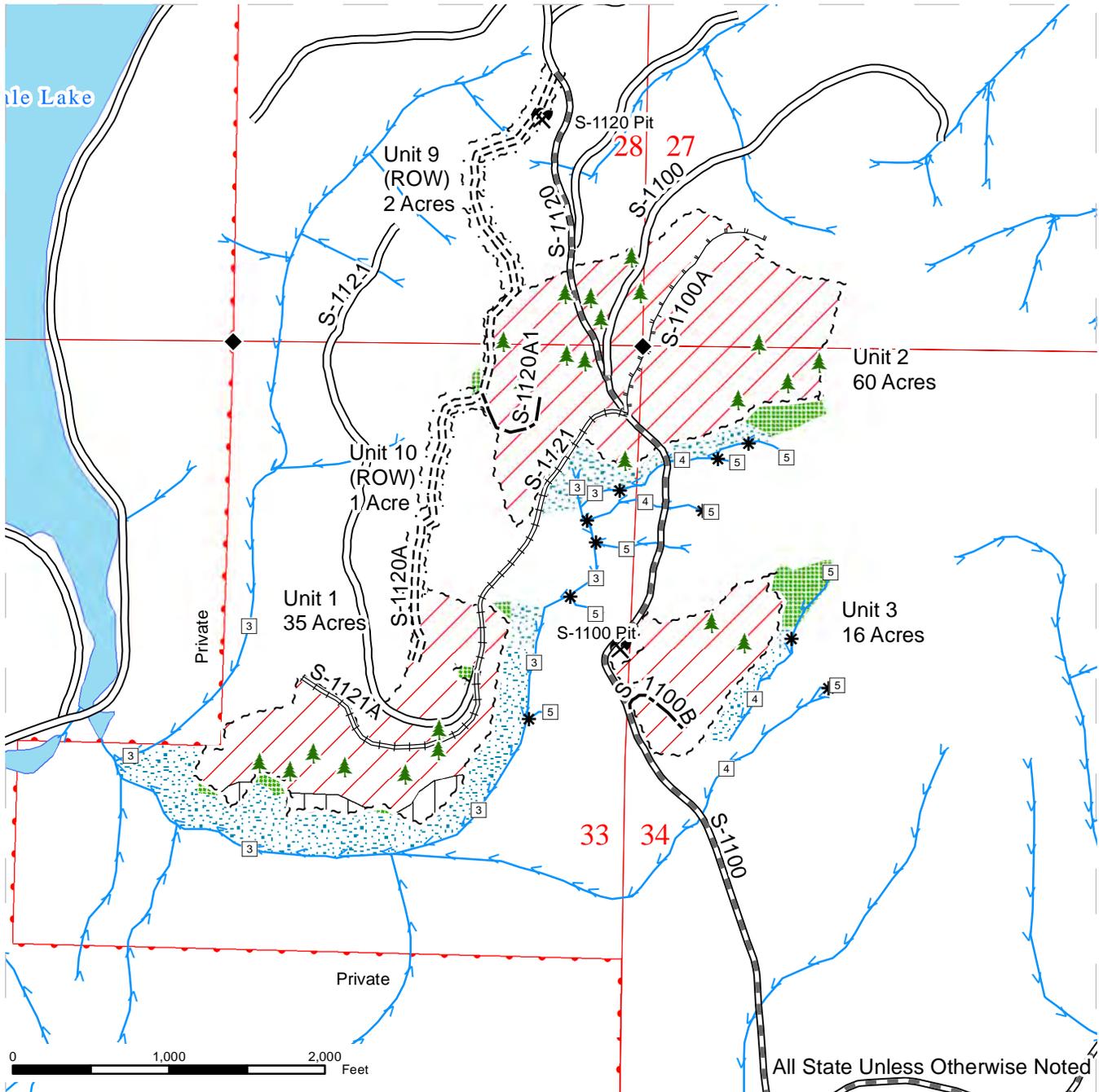
### **SPECIAL REMARKS:**

This sale has approximately 107 MBF of High Quality 2 Saw western hemlock, 27 MBF of High Quality 3 Saw western hemlock, 1,388 MBF of High Quality 2 Saw Douglas-fir, 215 MBF of High Quality 3 Saw Douglas-fir, 192 MBF of Special Mill Douglas-fir; see cruise for further details. Intermediate supports may be required to prevent soil rutting in Unit 7 off the S-2700 road. Recreation trails shall be posted, closed and a watchman provided during harvest operations. Trails shall be re-opened within 15 days of completion of yarding operations on each harvest unit. No operations shall take place on weekends, or State recognized holidays. Purchaser shall comply with terms and conditions of Cutting Line Agreement entered into between the State and Pacific Corp., dated February 2, 2016. An additional permit is required for overloaded vehicles that will require travel over a bridge on the designated haul route. See Road Use Permit between the State and USFS for details.

# TIMBER SALE MAP

SALE NAME: YALE OF A TALE  
 AGREEMENT#: 30-092969  
 TOWNSHIP(S): T06R04E  
 TRUST(S): State Forest Transfer(1), State Forest Purchase (2), Common School and Indemnity(3), Normal School(8), Escheat(9)

REGION: Pacific Cascade Region  
 COUNTY(S): CLARK  
 ELEVATION RGE: 747-1932



Variable Retention Harvest	Sale Boundary Tags	Existing Road
Special Management Area	Leave Tree Tags	Required Pre-Haul Maintenance
Variable Density Thinning	Special Management Area	Required Construction
Harwood Conversion	Right-of-Way Tags	Required Reconstruction
Leave Tree Area	Reprod	Optional Pre-Haul Maintenance
Riparian Mgt Zone	Streams	Optional Construction
Leave Trees	Stream Type	Required Abandonment
Rock Pit	Stream Type Break	Designated Skid Trail
Monumented Corners		

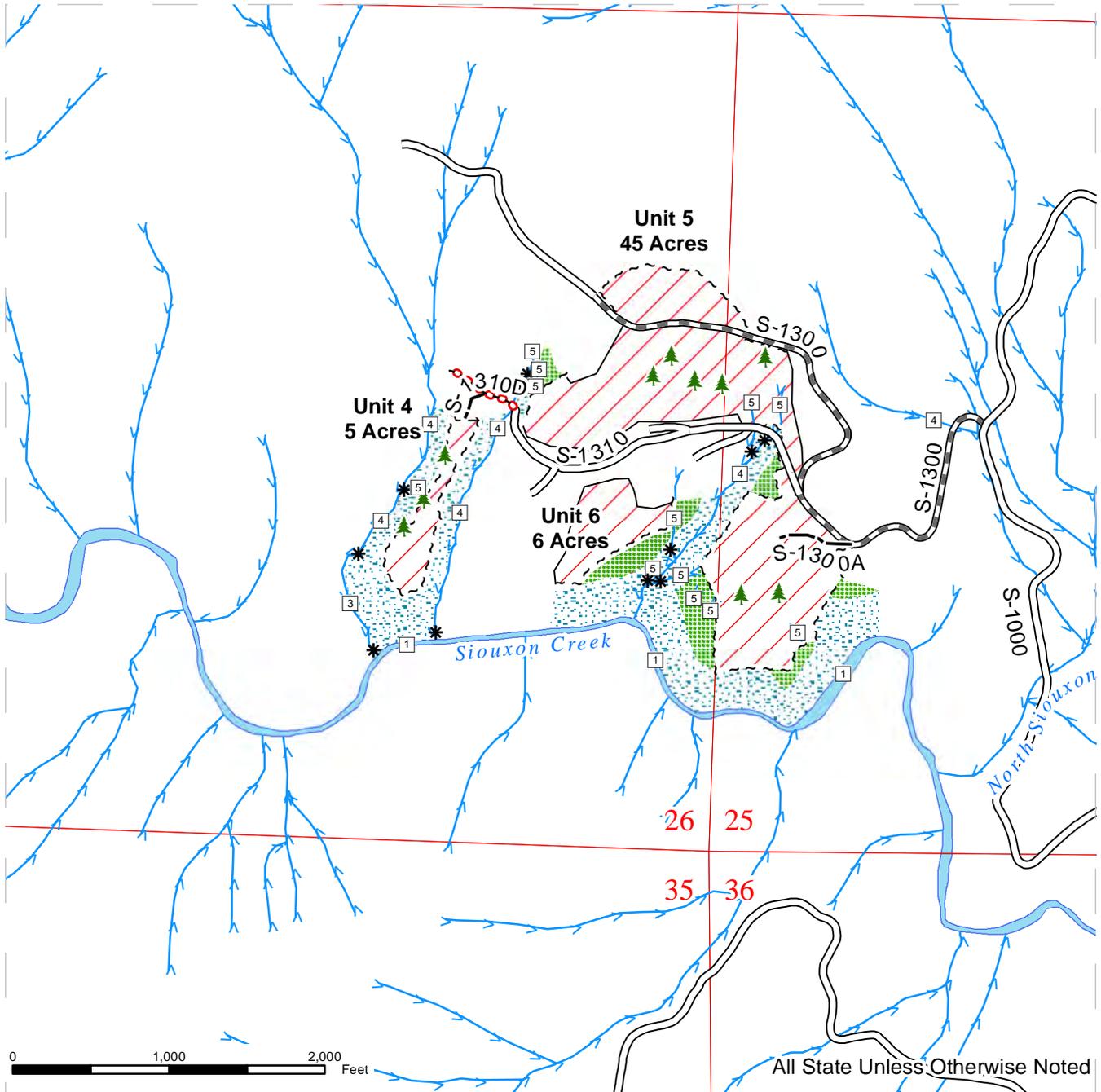


All State Unless Otherwise Noted

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 AGREEMENT#: 30-092969  
 TOWNSHIP(S): T06R04E  
 TRUST(S): State Forest Transfer(1), State Forest Purchase (2), Common School and Indemnity(3), Normal School(8), Escheat(9)

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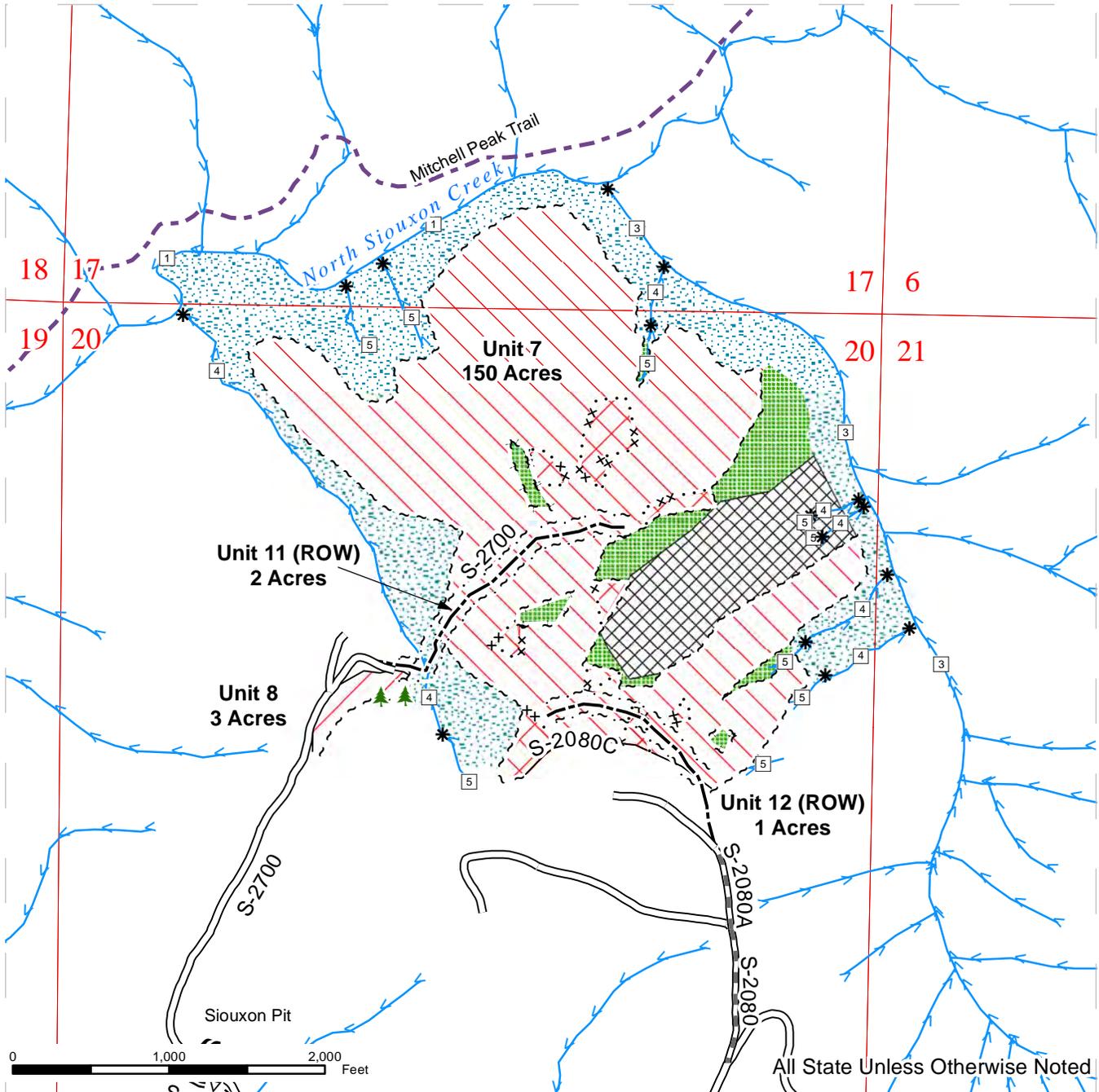
Variable Retention Harvest	Sale Boundary Tags	Existing Road
Special Management Area	Leave Tree Tags	Required Pre-Haul Maintenance
Variable Density Thinning	Special Management Area	Required Construction
Harwood Conversion	Right-of-Way Tags	Required Reconstruction
Leave Tree Area	Reprod	Optional Pre-Haul Maintenance
Riparian Mgt Zone	Streams	Optional Construction
Leave Trees	Stream Type	Required Abandonment
Rock Pit	Stream Type Break	Designated Skid Trail
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 ELEVATION RGE: 747-1932



All State Unless Otherwise Noted

	Variable Retention Harvest		Sale Boundary Tags		Existing Road
	Special Management Area		Leave Tree Tags		Required Pre-Haul Maintenance
	Variable Density Thinning		Special Management Area		Required Construction
	Harwood Conversion		Right-of-Way Tags		Required Reconstruction
	Leave Tree Area		Reprod		Optional Pre-Haul Maintenance
	Riparian Mgt Zone		Streams		Optional Construction
	Leave Trees		Stream Type		Required Abandonment
	Rock Pit		Stream Type Break		Designated Skid Trail
	Monumented Corners				

# DRIVING MAP

**SALE NAME:** YALE OF A TALE  
**AGREEMENT#:** Not Defined.  
**TOWNSHIP(S):** T06R04E  
**TRUST(S):** State Forest Transfer(1), State Forest Purchase (2). Common School and Indemnity(3), Normal School(8), Escheat(9)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** CLARK  
**ELEVATION RGE:** 747-1932



- Timber Sale Unit
- Highways
- Haul Route
- Other Route
- Milepost Markers
- Distance Indicator

**DRIVING DIRECTIONS:**

Turn onto NE Healy Rd. from SR 503 and go 2.4 miles to USFS 54. Go 2.8 miles then turn left onto the S-1000. Go 0.3 miles on the S-1000, then go straight onto the S-1100 for 0.6 to Unit 3. From there go 0.4 miles to the S-1121 to access Unit 1, and arrive at Unit 2. Continue 0.5 miles to get to units 9 and 10. To access units 4, 5, 6, 7, 11 and 12 go another 1.7 miles on USFS 54 and turn left onto the S-8050 Rd. Go 1.2 miles until the S-1010 Rd. Go 0.6 miles and stay right of the fork in the road and stay on the S-1000 for 2.5 miles. At the S-1000 and S-2000 junction veer to the left to get to units 4, 5, and 6. Go 1.0 mile to the S-1300 and turn left. After 0.4 miles you have reached unit 5. Go another 0.5 miles and unit 4 can be accessed from there. Unit 6 is on the south side of the road and best access is walking in on the S-1310A Rd. Unit 7, 10 and 11 are off the S-2000. Go 2.6 miles on the S-2000, then take a left on the S-2700 and go another 1.6 miles to get to unit 7, 8 and 11. Or go another 1.1 miles on the S-2000 to the S-2080, where the last 0.4 miles is a walk in. From the S-2080A Rd. you can access unit 12 and unit 7.



**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

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

**Export Restricted MBF Scale AGREEMENT NO. 30-092969**

**SALE NAME: YALE OF A TALE VRH VDT**

**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 May 26, 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 timber, except leave trees bounded by yellow Leave Tree Area tags, leave trees marked with blue paint, and pre-existing stumps, bounded by the following: white "Timber Sale Boundary" tags with pink flagging, and the S-1121A in Unit 1; white "Timber Sale Boundary" tags with pink flagging, and the S-1121 road in Unit 2; white "Timber Sale Boundary" tags with pink flagging and the S-1100 road in Unit 3; white "Timber Sale Boundary" tags with pink flagging in Unit 4; white "Timber Sale Boundary" tags with pink flagging, reprod, S-1300 road, and the S-1310 road in Unit 5; white "Timber Sale Boundary" tags with pink flagging and reprod in Unit 6; white "Timber Sale Boundary" tags with pink flagging, reprod, and the S-2700 road in Unit 8.

All timber as described in the Schedule A, bounded by white "Timber Sale Boundary" tags with pink flagging, and reprod in Unit 7. Orange "Right-of-Way" tags with orange flagging in Units 9, 10, and 11, and 12, located on approximately 326 acres on part(s) of Sections 17, and 20 all in Township 6 North, Range 5 East, Sections 25, 26, 27, 28, 33, and 34 all in Township 6 North, Range 4 East W.M. in Clark, and Skamania 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	Thinning Prescriptions

G-030 Contract Term

Purchaser shall remove the forest products conveyed and complete all work required by this contract prior to October 31, 2019.

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 \$16.00 per acre per annum for the acres on which an operating release has not been issued in Units 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, and 12. Payment of \$3.00 per acre per annum for the acres on which an operating release has not been issued in Unit 7.
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

**G-053 Surveys - Sensitive, Threatened, Endangered Species**

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

**G-060 Exclusion of Warranties**

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

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."

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

G-062 Habitat Conservation Plan

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

By signing this contract, Purchaser agrees to comply with the terms and conditions of the ITP, and the HCP, which shall become terms of this contract. The State agrees to authorize the lawful activities of the Purchaser carried out pursuant to this contract, PROVIDED the Purchaser remains in compliance with the terms and conditions of both the HCP and ITP. The requirements set forth in this contract are intended to comply

with the terms and conditions of the HCP and ITP. Accordingly, non-compliance with the terms and conditions of the HCP and ITP will render the authorization provided in this paragraph void, be deemed a breach of the contract and may subject Purchaser to liability for violation of the Endangered Species Act.

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

#### G-063 Incidental Take Permit Notification Requirements

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

## G-064 Permits

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

## G-065 Regulatory Disclaimer

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

## G-066 Governmental Regulatory Actions

## a. Risk

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

## b. Sale Area

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

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

## c. Adjustment of Price

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

## G-070 Limitation on Damage

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

## G-080 Scope of State Advice

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

## G-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 Purchaser's 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 Castle Rock, 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; S-1000, S-1010, S-1100, S-1100B, S-1120, S-1120A, S-1120A1, S-1121, S-1121A, S-1300, S-1300A, S-1310, S-1310D, S-2000, S-2080, S-2080A, S-2080C, S-2700, S-2700B, S-8050, Rashford Spur, USFS 54.

The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

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

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-370 Blocking Roads

Purchaser shall not block the S-1100, 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:

Road Use Permit between the State and USFS dated May 20, 2016. Expires: December 31, 2017.

Easement between the State and USFS dated 1/31/1967. Expires: Indefinitely.

G-396 County Hauling Permit

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

G-430 Open Fires

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

G-450 Encumbrances

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

Easement, including the terms and provisions thereof,

For: Road

In Favor of: Weyerhaeuser Company

Disclosed by Application No.: 50-043791

Granted: 1/21/1972

Expires: Indefinite

Easement, including the terms and provisions thereof,

For: Trail

In Favor of: WA State Department of Natural Resources

Disclosed by Application No.: 50-042160

Granted: 5/2/1979

Expires: 5/2/2029

Lease, including the terms and provisions thereof,

For: Minor Forest Products

In Favor of: WA State Department of Natural Resources

Disclosed by Application No.: 35-RP0007

Granted: 4/12/1995

Expires: Indefinite

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-021 Payment for Forest Products

Purchaser agrees to pay the following rates per MBF Scribner net log scale for forest products conveyed and cut or removed from the sale area plus \$109,198.00 on day of sale and \$9.00 per MBF 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.

Utility logs, special cull and peelable cull logs of all species, included on loads of logs that are required to be removed and scaled per clause H-150 will be paid for on an adjusted gross scale basis at the rate of \$20.00 per MBF plus fees.

## 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-050 Billing Procedure

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

## P-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 Pacific Cascade 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 Pacific Cascade 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 Mismatch

Forest products included in this agreement which are destroyed, damaged, stolen, lost, or mismatched shall be paid for by Purchaser on demand of the State. The rates contained in clause P-021 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-010 Forest Products Conveyed

Forest products conveyed are all logs or parts of logs described by the 'Products Sold and Sale Area' (G-010) clause meeting the removal requirements listed in the 'Required Removal of Forest Products' (H-150) clause.

L-020 Short Logs - Peeler Blocks

Logs or parts of logs which are removed from the sale area that fail to meet the minimum gross length requirements shall be scaled and graded as short logs or peeler

blocks. Such material shall be paid for at the forest products rates specified in this contract.

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 1 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-080 Scaling Rules

Determination of volume and grade of any forest products shall be conducted by a state approved third party scaling organization and in accordance with the Westside log scaling and grading rules and Scribner Volume Table, revised July 1, 1972, contained in the Northwest Log Rules Eastside and Westside Log Scaling Handbook (developed and produced by the Northwest Log Rules Advisory Group) and in effect on the date of confirmation of this contract.

Special scaling specifications shall be noted on the State's Brand Designation form which is hereby incorporated to this contract by reference.

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.

L-120 Long Log Taper Distribution

Forest products over 40 feet long plus trim shall be segment scaled and the lower segment diameters shall be determined using actual taper. In order to utilize taper rules for determining segment diameters for poles and pilings greater than 40 feet in length plus trim, Purchaser must request use of a Pole and Piling Scaling Specification Agreement on file in the region office. Approval for usage of a special Pole and Piling Scaling Specification Agreement may be granted at the sole discretion of the State.

Following State approval for usage of the Pole and Piling Scaling Specification Agreement, the Brand Designation form shall be amended to incorporate the long log taper rules. The volume reported by the scaling organization for forest products over 40 feet plus trim will be expanded by 5 percent and the additional 5 percent volume shall be billed to the purchaser at the contract rate.

L-130 Conversion Factors

Forest products removed from the sale area that are not measured in units specified in the 'Payment for Forest Products' clause of this contract shall be converted to board feet using Department of Natural Resources' standard conversion factors.

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Ground Based Yarding will not be permitted from September 30 to May 1 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 100 square inches.
- b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

#### H-013 Reserve Tree Damage Definition

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

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

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

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

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

#### H-015 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

- a. Skid trails will not exceed 10 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-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 all units. The plan shall address the felling and yarding operations and the schedule A, 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-060 Skid Trail Locations

Locations of skid trails must be marked by Purchaser and approved by the Contract Administrator prior to the felling of timber.

## H-110 Stump Height

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

## H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested using cable and ground based systems: shovel, forwarder, and tracked skidder unless authority to use other equipment is granted in writing by the State.

## H-130 Hauling Schedule

The hauling of forest products will not be permitted on all roads from September 30 to May 1 in all units unless authorized in writing by the Contract Administrator .

## H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

Shovel must be large enough to pick up one end of the largest log 35 feet from the machine.

Ground based yarding equipment will not be permitted on slopes over 40%.

Ground based yarding equipment shall only operate during dry soil conditions.

Purchaser shall present a harvest and snag creation plan for Unit 7 prior to operation; in accordance with Schedule A requirements.

All corridors within Unit 7 will be marked by the Purchaser, and approved by the Contract Administrator prior to felling.

Intermediate supports may be required to prevent soil rutting in Unit 7 off the S-2700 road.

Trees shall be felled to the longest lay with respect to the overall felling lead.

Cross-lead felling shall not be permitted without prior approval of the State.

Windfalls not parallel to the falling pattern which cannot be removed first will be bucked into lengths necessary to control breakage to felling the stand timber. Preferred lengths of logs may have to be altered when bucking windfalls.

Trees whose best lay will be adversely affected by road construction shall be felled concurrently with right-of-way timber.

Areas of root rot identified by the fallers or the Contract Administrator shall be marked around the perimeter by high stumping or marking the top of the stump with an "X" in Unit 2.

Recreation trails shall be posted, closed and a watchman provided during harvest operations. Trails shall be re-opened within 15 days of completion of yarding operations on each harvest unit.

Trees which cannot be controlled into desired felling patterns such as snags, rotten-butted trees, heavy leaners, etc., shall be felled first and the direction of subsequently felled timber corrected accordingly.

Slash disposal shall be subject to approval by the Contract Administrator.

No operations shall take place on weekends, or State recognized holidays.

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

#### H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

Within shovel logging areas, the shovel operator shall break up concentrations of logging debris greater than 10 feet by 10 feet to allow exposure of natural forest soils to ensure proper reforestation.

Any and all snags cut because of safety concerns cannot be removed and must remain where they were felled.

Purchaser shall comply with terms and conditions of Cutting Line Agreement entered into between the State and Pacific Corp., dated February 2, 2016.

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

All tailhold trees are to be protected with a nylon strap or other methods to prevent tree mortality. With exception, three tailhold trees identified for logging Unit 2 will not require a protective strap, and should be safely girded (snag creation) to accommodate tailhold cable.

No more than six trees may be felled within identified tailhold corridors while cable yarding Units 2, 4, 5, 6, and 7. Felled trees are to remain on-site to function as down woody debris. Inform the CA of any trees felled as a result of securing the tailhold cable.

Leave trees may be relocated to ensure operational safety, except those bound out by timber sale boundary tags.

If Purchaser chooses to tailhold south of Siouxon Creek for Units 4, 5, and 6 a watchman shall be present at all times during cable harvesting operations.

If Purchaser chooses to tailhold north of Siouxon Creek for Unit 7, a watchman shall be present at all times during cable harvest operations when the cable is less than 50 feet above water level.

Purchaser shall post trail closure signs on the Mitchell Peak Trail east and west of cable crossing locations, prior to Unit 7 harvesting operations.

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

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
Conifer	10	12	5
Hardwood	20	16	5

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 Mismatch**

Mismatch 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 mismatch 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.

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

Road construction and associated work provisions of the Road Plan for this sale, dated 11/2/2015 are hereby made a part of this contract.

**C-050 Purchaser Road Maintenance and Repair**

Purchaser shall perform work at their own expense on S-1000, S-1010, S-1100, S-1100B, S-1120, S-1120A, S-1120A1, S-1121, S-1121A, S-1300, S-1300A, S-1310, S-1310D, S-2000, S-2080, S-2080A, S-2080C, S-2700, S-2700B, S-8050. 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 Rashford Spur, USFS 54. 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-090 Landing Location**

Landings shall be built 50 feet off the S-1310 road(s).

**C-140 Water Bars**

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

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

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

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

**S-010 Fire Hazardous Conditions**

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

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

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

S-020 Extreme Hazard Abatement

Purchaser shall provide a written Extreme Hazard Abatement plan that meets the requirements of WAC 332-24 prior to the beginning of logging operations. The plan must be acceptable to the Contract Administrator. The plan will identify how Purchaser will accomplish abatement. Purchaser shall also provide, and keep current, a written timetable for completion of all specified work in the plan. The Contract Administrator's acceptance and approval of Purchaser's hazard abatement plan shall not be construed as any statement or warranty that the hazard abatement plan is adequate for Purchaser's purposes or complies with applicable laws.

S-030 Landing Debris Clean Up

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

S-035 Logging Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

S-120 Stream Protection

No timber shall be felled into, across, or yarded through Siouxon Creek or North Siouxon Creek.

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-020 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:

$$LD = \text{Liquidated Damage value.}$$

- V = The unremoved value at the date of breach of contract. The value is determined by subtracting the removal volume to date from the State's cruise volume 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:  $\text{Interest} = r \times \text{LD} \times N$ .

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 \$1,000.00 per tree for all damaged trees in Unit 7.

D-041 Reserve Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-013, Reserve Tree Damage Definition, and when the Contract Administrator determines that a suitable replacement for a damaged reserve tree is not possible, the damaged trees result in substantial injury to the State. The value of the damaged reserve trees at the time of the breach is not readily ascertainable. Therefore, the Purchaser agrees to pay the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged reserve trees that are not replaced in Units 1-6.

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

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

\_\_\_\_\_  
Purchaser

\_\_\_\_\_  
Eric Wisch  
Pacific Cascade 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 AHarvesting PrescriptionsCommercial Thinning Prescription for Yale of a Tale VRH VDT Timber Sale Unit 7**Thinning Prescription:**

The thinning activity will be a “proportional” thin, leaving multiple canopy layers within the unit. Target basal area for the stand is between 180 and 200. Trees to be harvested will have a DBH greater than 10” and no greater than 26”. The residual trees per acre will range from 125 to 175. Special management areas within the harvest boundaries will be 100% harvest except trees that have a blue band on them, will be retained. Openings created by felling trees shall not exceed 30 feet between leave trees (except as identified within the Special Management Areas). If natural openings in the stand exceed this distance, sufficient trees shall be left on the perimeter of the opening to maintain the appropriate trees per acre and basal area. Intermediate/suppressed trees are the preferred removal tree.

**Leave Tree Selection Criteria:**

Leave trees in the unit will be selected by comparing their characteristics with the other trees in the stand. Trees with multiple tops are the preferred leave trees.

Species to be left in order of preference:

1. western redcedar
2. noble fir
3. Douglas-fir
4. western hemlock

Leave trees shall be selected based on the following criteria:

1. Tree contains multiple/broken tops.
2. Different DBH and heights to create multiple canopies within the stand.
3. Possess the biggest, fullest crowns.

If leave trees do not meet one or more of the criteria above, then the Purchaser must leave the required basal area per acre regardless of form or quality.

**Snag Creation:**

At the end of harvest there will be a minimum of 2 snags per acre at least 20" DBH and 16' tall. Snags may be created by mechanized equipment and tops must be left on site. Snag creation may include girdling a 4" kerf to sapwood.

**Purchaser Certification:**

1. Marking an unmarked area with red paint to meet the desired Leave Tree Marking Specifications, Leave Tree Selection Criteria, and Spacing Requirements under close supervision of the Contract Administrator will be required prior to harvest.
2. All marking will be approved by the Contract Administrator prior to harvest.

Certification for faller and yarder operators is defined in clause H-011.

Leave Tree Damage Definition is defined in clause H-012.

Leave Tree Excessive Damage is defined in clause D-040.



## WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

### FOREST EXCISE TAX ROAD SUMMARY SHEET

**Region:**

**Timber Sale Name:**

**Application Number:**

#### EXCISE TAX APPLICABLE ACTIVITIES

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

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

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

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

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

#### EXCISE TAX EXEMPT ACTIVITIES

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

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

**New Abandonment:** 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 contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.

(Revised 6/13)

## PRE-CRUISE NARRATIVE

Sale Name: <b>Yale of a Tale</b>	Region: <b>Pacific Cascade</b>
Agreement #: <b>30-092969</b>	District: Yacolt
Contact Forester: Ben Jeske Phone / Location: 360-480-2412	County(s): Clark
Alternate Contact: Matt Binder Phone / Location: 360-749-6374	Other information: <a href="#">Click here to enter text.</a>

Type of Sale: MBF Scale	
Harvest System: Uphill Cable <a href="#">Click here to enter text.</a>	60%
Harvest System: Ground based <a href="#">Click here to enter text.</a>	30%
Enter % of sale acres	
Harvest System: Downhill Cable	10%

### 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 VRH	Sect. 33 / T06 / R4E	03 & 08	54.0	16.0	1.0	2.0		35.0, 3.0 Harwood Conversion	GPS (Garmin)
2 VRH	Sect. 27, 28, 33 & 34 / T06 / R4E	08	70.0	6.0	2.0	2.0		60.0	GPS (Garmin)
3 VRH	Sect. 33, 34 / T06 / R4E	08	19.0	0	3.0	0		16.0	GPS (Garmin)
4 VRH	Sect. 26 / T06 / R4E	03	17.0	12.0	0	0		5.0	GPS (Garmin)
5 VRH	Sect. 25 & 26 / T06 / R4E	02 & 03	68.0	17.0	5.0	1.0		45.0	GPS (Garmin)
6 VRH	Sect. 26 / T06 / R4E	03	13.0	5.0	2.0	0		6.0	GPS (Garmin)
7 VDT	Sect. 17, 20 / T06 / R5E	01 & 02 & 03	243.0	79.0	14.0	0		150.0	GPS (Garmin)

8 VRH	Sect. 20 / T06 / R5E	01 & 03	4.0	1.0	0	0	0	3.0	
9 ROW	Sect. 28 / T06 / R4E	08	2.0	0	0	0	0	2.0	
10 ROW	Sect. 33 / T06 / R4E	08	1.0	0	0	0	0	1.0	
11 ROW	Sect. 20/ T06/ 05E	01	2.0	0	0	0	0	2.0	
12 ROW	Sect. 20/ T06/ 05E	01	1.0	0	0	0	0	1.0	
<b>TOTAL ACRES</b>			494	136.0	27	5.0		326.0	

### HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1 VRH	Unit 1 is bound by white "Timber Sale Boundary" tags and pink flagging. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree Total = 256. 144 are painted blue.
2 VRH	Unit 2 is bound by white "Timber Sale Boundary" tags and pink flagging. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree Total = 512. 300 are painted blue.
3 VRH	Unit 3 is bound by white "Timber Sale Boundary" tags, pink flagging and the S-1100 road. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree Total = 153. 5 are painted blue.
4 VRH	Unit 4 is bound by white "Timber Sale Boundary" tags, pink flagging and re-prod. Some individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree Total = 41. 41 are painted blue.
5 VRH	Unit 5 is bound by white "Timber Sale Boundary" tags, pink flagging, re-prod and the S-1300 road. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree Total = 404. 40 are painted blue.
6 VRH	Unit 6 is bounded by white "Timber Sale Boundary" tags, pink flagging and re-prod.	VRH	Leave Tree Total = 86. 06 are painted blue.
7 VDT	Unit 7 is bounded by white "Timber Sale Boundary" tags, pink flagging and re-prod. Blue "Special Management" tags within the unit are small VRH areas to help create gaps within the unit.	VDT	Leave trees inside of the Special Management Areas are painted blue.
8 VRH	Unit 8 is bounded by white "Timber Sale Boundary" tags, pink flagging and reprod. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree Total=27, 27 are painted blue.

9 VRH	Unit 9 ROW is bounded by orange "Right-of-Way Boundary" tags with orange flagging.	Right-of-Way	ROW
10 VRH	Unit 10 ROW is bounded by orange "Right-of-Way Boundary" tags with orange flagging.	Right-of-Way	ROW
11 VRH	Unit 11 ROW is bounded by orange "Right-of-Way Boundary" tags with orange flagging.	Right-of-Way	ROW
12 VRH	Unit 12 ROW is bounded by orange "Right-of-Way Boundary" tags with orange flagging.	Right-of-Way	ROW

### OTHER PRE-CRUISE INFORMATION:

Unit #	Primary, secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	850 mbf	Unit 1 is accessed via the S-1100 road. The unit is located off the S-1121 road and the S-1121A. Volume based on estimate. There are no gates.	1"=400'
2	1200 mbf	Unit 2 is accessed via the S-1100 road. The unit is located off the S-1100, S-1100A, S-1120, S-1121 and S-1122. Volume based on estimate. There are no gates.	1"=400'
3	500 mbf	Unit 3 is accessed via the S-1100 road. The unit is located off the S-1100 road. Volume based on estimate. There are no gates.	1"=400'
4	100 mbf	Unit 4 is accessed via the S-1300 road. The unit is located off the S-1310 road. Volume based on estimate. There are no gates.	1"=400'
5	1200 mbf	Unit 5 is accessed via the S-1300 road. The unit is located off the S-1300 road and the S-1310 road. Volume based on estimate. There are no gates.	1"=400'
6	125 mbf	Unit 6 is accessed via the S-1300 road. The unit is located off the S-1310 road. Volume based on estimate. There are no gates.	1"=400'
7	1500 mbf	Unit 7 is accessed via the S-2000 road. The unit is located off the S-2080A road and the S-2700 road. Volume based on estimates. There are no gates.	1"=400'
8	90 mbf	Unit 8 is accessed via the S-2000 road. The unit is located off the S-2700 road. Volumes based on estimates. There are no gates.	1"=400'
9	20 mbf	Unit 9 is a Right-of-Way harvest to facilitate the construction of the S-1120A Road.	1"=400'
10	30 mbf	Unit 10 is a Right-of-Way harvest to facilitate the construction of the S-1120A Road.	1"=400'
11	60 mbf	Unit 11 is a Right-of-Way harvest to facilitate the construction of the S-2700 Road.	1"=400'
12	30 mbf	Unit 12 is a Right-of-Way harvest to facilitate the construction of the S-2080C Road.	1"=400'

TOTAL MBF	5,705 mbf		
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**REMARKS:**

Special management areas in Unit 7 are VRH areas inside the VDT area.		
Prepared By: <b>Ben Jeske</b> Date: 08/05/2015	Title: Natural Resource Specialist 1	CC:

## Cruise Narrative

<b>Sale Name:</b> Yale of a Tale VRH	<b>Region:</b> Pacific Cascade
<b>App. #:</b> 30-092969	<b>District:</b> Yaoclt
<b>Lead Cruiser:</b> Eric Carlson	<b>Completion date:</b> 11-19-2015
<b>Other Cruisers:</b> Bryce Frank, Kalvin Bailey	

### Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	35	Yes	
2	60	Yes	
3	16	Yes	
4	5	Yes	
5	45	Yes	
6	6	Yes	
7	150	Yes	
8	3	Yes	
9 ROW	2	Yes	
10 ROW	1	Yes	
11 ROW	2	Yes	
12 ROW	1	Yes	
Total	326	Yes	

### Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/ half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (Cru./Tally)	Total number of plots
1	VP	33.61	4.5 ft	220' x 220'	1:1	32
2	VP	33.61	4.5 ft	250' x 250'	1:1	41
3	VP	33.61	4.5 ft	208' x 208'	Cruise All	15
4	VP	40	4.5 ft	208' x 208'	1:1	5
5	VP	33.61	4.5 ft	220' x 220'	1:1	39
6	VP	40	4.5 ft	208' x 208'	1:1	6
7	VP	40	4.5 ft	327' x 327'	1:1	61
8	VP	40	4.5 ft	161' x 161'	Cruise All	5
9 ROW	VP	33.61	4.5 ft	132' x 132'	Cruise All	5
10 ROW	VP	33.61	4.5 ft	104' x 104'	Cruise All	4
11 ROW	VP	40	4.5 ft	208' x 208'	Cruise All	2
12 ROW	VP	40	4.5 ft	208' x 208'	Cruise All	1

**Sale/Cruise Description:**

<b>Minor species cruise intensity:</b>	Cruised on appropriate plots.			
<b>Minimum cruise spec:</b>	40% Of Form- Factor at 16 feet D.O.B or 5 inch Top, and merchantable top.			
<b>Avg. ring count by sp:</b>	<b>DF =</b>	7	<b>WH =</b>	7
			<b>SS =</b>	n/a
<b>Leave/take tree description:</b>	Leave tree clumps are bounded with yellow "Leave Tree Area" tags and pink flagging, individual leave trees are marked with a single band of blue paint.			
<b>Sort Description:</b>	<p><b>HA</b>– Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 ½" in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators ½" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (min dia 8".)</p> <p><b>HB</b> – Logs meeting the following criteria: Surface characteristics for a B sort will have sound tight knots not to exceed 1 ½" in diameter. May include logs with not more than two larger knots up to 2 ½" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (min dia 8".)</p> <p><b>R</b> – Logs meeting the following criteria: Gross diameter of 12 inches or greater, excessive knots greater than 2 ½ inches with recovery less than 65% of the net scale.</p>			
<b>Status Description:</b>	<p><b>P</b> – Logs classified as pole volume.</p> <p><b>D</b> – Logs classified as merchantable standing dead.</p>			

**Field observations:**

Yale of a Tale VRH consists of 12 units in total. Units 1, 2, 3, 4, 5, 6 and 8 are VRH units and units 9, 10, 11 and 12 are small ROW units and unit 7 consisted of a VDT unit.

**Volume to be removed is represented with a "T" in the status column of the cruise.**

Trees marked with a "S" in the status column of the cruise are designated as purchaser snag creation for unit 7.

Units 1, 2, and 3 are located off the S-1100 and S-1120 to the east and west, and they consisted of mainly Douglas-fir at 81% merchantable volume, followed by Western Hemlock (WH) and Red Alder and Bigleaf Maple in small amounts. The timber is small in diameter at 15.7 inches and short, with an average bole height of 67 ft. There is a notable amount of high quality B in DF at 18%. Due to the size of the timber, 3S is very common and almost surpasses 2S in volume. Defect is at 3.2% and is composed of spike knots and hooked butts and sweep. These three units consist of 111 acres of the total sale area for an average per-acre net volume of 21,643 bdf and a total volume of 2,402 mbf.

Units 4, 5, and 6 are located off the S-1300 and S-1310 to the north and south, and they consisted of mainly Douglas-fir at 86% merchantable volume, followed by Western Hemlock (WH) and Bigleaf Maple and Red Alder in small amounts. The timbers average diameter is 19.4 inches and the average bole ht. is 74 ft. There is a large amount of high quality B 2 saw in Douglas-Fir at 41%. Defect is at 2.5% and is composed of spike knots and hooked butts and sweep. These three units consist of 56 acres of the total sale area for an average per-acre net volume of 33,323 bdf and a total volume of 1,866 mbf.

Unit 7 is located off the S-2700 to the North and West.

Unit 8 is a small 3 acre unit off the S-2700. This unit consisted mainly of Douglas-fir at 86% followed by Western Hemlock (WH) at 14%. The average diameter is 18.7 inches and the average bole height is 84 ft. Defect for this unit consisted of 2% and is composed of sweep, spike knots and hooked butts. The average per-acre net volume is 27,764 bdf and a total volume of 83 mbf.

Units 9 and 10 are ROW units needed to construct the S-1120A road. They are very small consisting of only 4 acres total. The units are composed of mainly Douglas-fir at 84% and followed by Western Hemlock (WH), Red Alder, and Bigleaf Maple. The average diameter is 14.5 inches and the average bole height is 63 ft. The defect is at 2.5% consisting of sweep, spike knots and hooked butts. The average per-acre net volume is 15,272 bdf and a total volume of 61 mbf.

Unit 11 and 12 are small ROW units with a total of 3 acres. Unit 11 is needed to facilitate the construction of the S-2700 road and unit 12 is needed for the construction of the S-2080C road. These units were compiled of mainly of Western Hemlock (WH) at 64% followed by Douglas-fir at 36%. The average diameter is 17.6 inches and the average bole height is 83 ft. The defect is at 1.5% consisting of sweep, spike knots and hooked butts. The average per-acre net volume is 40,385 bdf and a total volume of 121 mbf.

Access to all the units is relatively easy as they are all located off the roads.  
The harvest systems to be used for these units is 60% uphill cable and 10% downhill cable and 30% ground based.

**Grants: 01, 02, 03 ,08**

**Prepared by: Eric Carlson**

**Title:Timber Cruiser**

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																		
T06N R04E S33 Ty00U1 THRU T06N R04E S33 Ty0U12				Project: <b>YALEOFIN</b>										Page <b>1</b>								
				Acres <b>326.00</b>										Date <b>11/23/2015</b>			Time <b>3:32:02PM</b>					
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF	T	CU	CU		100.0	68											2	13		0.00	11.0	
DF	T	HA	2S	1		201	201	65			100						40	13	268	1.58	.7	
DF	T	HA	3S			41	41	13			100						40	10	159	0.96	.3	
DF	T	HB	2S	29	.8	4,089	4,058	1,323			48	52		2	0	98	40	15	356	1.97	11.4	
DF	T	HB	3S	4	.5	623	620	202			100				13	87	38	9	123	0.84	5.1	
DF	T	D	3P	1		86	86	28				100					40	28	1422	6.01	.1	
DF	T	D	SM	4	.1	590	590	192				100			2	98	40	19	596	2.93	1.0	
DF	T	D	2S	25	3.8	3,805	3,663	1,194			46	54		0	6	1	93	38	15	333	1.94	11.0
DF	T	D	3S	25	1.7	3,615	3,553	1,158		22	78			0	15	8	77	37	8	96	0.71	37.0
DF	T	D	4S	9	.1	1,314	1,312	428		88	12			21	35	14	29	26	5	30	0.32	44.3
DF	T	D	UT	1		140	140	46		76	3	5	16	51	19	30		21	6	31	0.33	4.5
DF	T	RO	3S	1		6	6	2				100					39	15	350	2.60	.0	
<b>DF Totals</b>				40	2.1	14,579	14,270	4,652		14	25	27	34	3	9	5	84	30	9	113	0.91	126.3
DF		HB	2S	45		4,787	4,787	1,561				24	76			37		35	16	402	2.22	11.9
DF		HB	3S			70	70	23			100						40	10	150	0.81	.5	
DF		D	2S	27	3.5	2,903	2,803	914				71	29			24		37	14	258	1.57	10.9
DF		D	3S	21	2.1	2,244	2,198	717		24	76				34	2	64	36	8	88	0.66	24.9
DF		D	4S	6		672	672	219		80	20			15	44	23	18	26	6	33	0.33	20.2
DF		D	UT	1		31	31	10		100				23	77			25	6	27	0.35	1.2
<b>DF Totals</b>				30	1.4	10,708	10,561	3,443		10	18	30	42	1	33	2	64	33	10	152	1.03	69.5
DF	S	HB	2S	35		151	151	49				100				46	54	35	14	280	1.82	.5
DF	S	D	2S	30	13.2	150	130	42				100					100	40	14	230	1.69	.6
DF	S	D	3S	27	2.3	121	118	39			100					100		30	10	107	0.82	1.1
DF	S	D	4S	8		30	30	10		100				37	25	37		22	6	27	0.40	1.1
<b>DF Totals</b>				1	5.0	452	430	140		7	27	65		3	45	3	49	30	10	130	1.11	3.3
WH		CU	CU															5			0.00	.6
WH		HB	2S	11		636	636	207				52	48			22	78	36	15	325	1.89	2.0
WH		D	2S	51	2.8	2,878	2,799	912				59	41			12	88	38	14	311	1.75	9.0
WH		D	3S	26	.2	1,489	1,486	484		12	88					34	3	35	9	100	0.70	14.8
WH		D	4S	11		591	591	193		96	4			12	51	27	11	26	5	28	0.29	21.1
WH		D	UT	1		21	21	7		100				100				14	6	20	0.23	1.0
<b>WH Totals</b>				16	1.5	5,614	5,532	1,803		14	24	36	26	2	23	4	72	31	8	114	0.84	48.5
WH	T	CU	CU		100.0	23												3	12		0.00	2.8
WH	T	HB	2S	9	.6	330	328	107				18	82				100	40	15	367	1.96	.9
WH	T	HB	3S	2		84	84	27			100						100	40	10	158	0.95	.5
WH	T	D	2S	41	4.3	1,525	1,459	476				60	40			15	0	38	14	263	1.63	5.6
WH	T	D	3S	31	1.5	1,127	1,110	362		35	65					24	7	36	8	83	0.67	13.3
WH	T	D	4S	14	1.4	493	486	159		96	4			15	53	17	16	26	5	29	0.31	16.9
WH	T	D	UT	3		100	100	33		70	5	24		6	81		13	25	6	33	0.36	3.0
<b>WH Totals</b>				10	3.1	3,682	3,568	1,163		26	23	27	24	2	23	5	70	30	8	83	0.72	43.0
BM	T	CU	CU		100.0	14												6	9		0.00	2.8
BM	T	D	UT	15		89	89	29		41	59					36	64	19	7	36	0.55	2.5
BM	T	D	1S	9	13.9	61	53	17					100					36	19	463	3.78	.1
BM	T	D	2S	19	5.5	115	108	35				100		18		11	72	33	13	208	2.16	.5
BM	T	D	3S	23	9.1	142	129	42			100					86	14	29	10	106	1.09	1.2
BM	T	D	4S	23	4.2	134	128	42			100			7	27	13	53	32	9	74	0.77	1.7

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T06N R04E S33 Ty00U1 THRU T06N R04E S33 Ty0U12				Project:		YALEOFIN											Page		2		
				Acres		326.00											Date		11/23/2015		
																	Time		3:32:02PM		
Spp	S T	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99					
BM	T	D	4S	11	4.2	65	62	20	100					20	34	46	34	6	47	0.45	1.3
<b>BM Totals</b>				2	8.1	619	569	185	17	54	19	9	11	38	17	34	22	9	56	0.81	10.1
RA	T	CU	CU		100.0	2											1	7		0.00	2.8
RA	T	D	UT	18		85	85	28	82	18			67	25		9	16	6	20	0.31	4.3
RA	T	D	2S	17		80	80	26			100			100			28	14	226	1.94	.4
RA	T	D	3S	6	9.1	30	27	9		100				100			30	10	100	0.92	.3
RA	T	D	4S	13	4.2	65	62	20		100				70		30	31	9	68	0.77	.9
RA	T	D	4S	46		212	212	69	100					26	10	64	35	6	52	0.45	4.1
<b>RA Totals</b>				1	1.5	474	467	152	60	22	17		12	49	5	34	21	7	37	0.52	12.7
RC		CU	CU		100.0	21											20	23		0.00	.0
RC		D	3S	67	5.4	116	110	36		58	20	22			100		39	10	149	1.26	.7
RC		D	4S	33		53	53	17	100				32	53	14		23	5	26	0.27	2.1
<b>RC Totals</b>				0	14.4	191	163	53	33	39	13	15	11	18	5	67	27	7	57	0.63	2.9
<b>Totals</b>					2.1	36,320	35,560	11,593	15	23	29	33	2	21	4	73	30	9	112	0.89	316.3

Volume to be removed is represented with a "T" in the status column.  
Volume breakdown by species is as follows:  
DF = 4,652 mbf  
WH = 1,163 mbf  
BM = 185 mbf  
RA = 152 mbf  
Grand Total = 6,152 mbf

PROJECT STATISTICS											PAGE	1	
PROJECT YALEOFIN											DATE	11/23/2015	
TC PSTATS	TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt		
	06N	04E	33	YALEOFAT	00U1	THR	326.00	216	1,193	S	W		
	06N	04E	33	YALEOFAT	00U1	THR							
							ESTIMATED		PERCENT				
							TREES	TOTAL	SAMPLE				
							PER PLOT	TREES	TREES				
	TOTAL			216	1193		5.5						
	CRUISE			133	652		4.9	45,833	1.4				
	DBH COUNT												
	REFOREST												
	COUNT			81	465		5.7						
	BLANKS			2									
	100 %												
STAND SUMMARY													
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET			
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC			
	DOUG FIR	46	25.0	19.5	96	11.7	51.6	10,708	10,561	2,343	2,343		
	DOUG FIR-S	4	1.1	21.2	93	0.6	2.7	452	430	110	110		
	DOUG FIR-T	375	54.0	17.5	79	21.5	89.8	14,579	14,270	3,432	3,420		
	WHEMLOCK	44	23.4	15.4	73	7.7	30.2	5,614	5,532	1,261	1,261		
	WHEMLOCK-T	108	23.2	14.5	63	7.0	26.8	3,682	3,568	917	913		
	BL MAPLE-T	41	5.6	15.8	42	1.9	7.6	619	569	185	181		
	R ALDER-T	28	6.2	12.8	50	1.5	5.5	474	467	137	136		
	WR CEDAR	6	2.1	12.5	50	0.5	1.8	191	163	54	49		
	<b>TOTAL</b>	<b>652</b>	<b>140.6</b>	<b>16.8</b>	<b>75</b>	<b>52.7</b>	<b>215.9</b>	<b>36,320</b>	<b>35,560</b>	<b>8,440</b>	<b>8,413</b>		
CONFIDENCE LIMITS OF THE SAMPLE													
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR													
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.				
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15				
	DOUG FIR	83.8	12.4	601	685	770							
	DOUG FIR-S	16.9	9.6	352	390	428							
	DOUG FIR-T	108.3	5.6	590	625	660							
	WHEMLOCK	73.9	11.1	405	456	506							
	WHEMLOCK-T	79.6	7.8	275	298	321							
	BL MAPLE-T	92.8	14.5	110	129	147							
	R ALDER-T	66.2	12.7	69	80	90							
	WR CEDAR	108.8	48.4	114	222	329							
	<b>TOTAL</b>	<b>115.6</b>	<b>4.6</b>	<b>481</b>	<b>504</b>	<b>527</b>	<b>534</b>	<b>134</b>	<b>59</b>				
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.				
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15				
	DOUG FIR	69.5	10.2	128	142	157							
	DOUG FIR-S	7.2	4.1	95	99	103							
	DOUG FIR-T	92.3	4.8	129	135	142							
	WHEMLOCK	67.4	10.1	91	101	111							
	WHEMLOCK-T	69.1	6.8	71	76	82							
	BL MAPLE-T	93.6	14.6	36	42	48							
	R ALDER-T	58.6	11.3	21	24	27							
	WR CEDAR	91.9	40.9	36	62	87							
	<b>TOTAL</b>	<b>96.8</b>	<b>3.8</b>	<b>108</b>	<b>112</b>	<b>116</b>	<b>374</b>	<b>94</b>	<b>42</b>				
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.				
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15				
	DOUG FIR	195.9	13.3	22	25	28							
	DOUG FIR-S	480.9	32.7	1	1	1							
	DOUG FIR-T	109.6	7.5	50	54	58							
	WHEMLOCK	244.6	16.6	20	23	27							
	WHEMLOCK-T	202.2	13.7	20	23	26							
	BL MAPLE-T	312.3	21.2	4	6	7							
	R ALDER-T	404.8	27.5	4	6	8							

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
06N 06N	04E 04E	33 33	YALEOFAT YALEOFAT	00U1 0U12	THR	326.00	216	1,193	S	W
CL	68.1	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
WR CEDAR		882.1	60.0	1	2	3				
<b>TOTAL</b>		<b>77.1</b>	<b>5.2</b>	<b>133</b>	<b>141</b>	<b>148</b>	<b>237</b>	<b>59</b>	<b>26</b>	
CL	68.1	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		191.8	13.0	45	52	58				
DOUG FIR-S		480.7	32.7	2	3	4				
DOUG FIR-T		89.9	6.1	84	90	95				
WHEMLOCK		239.2	16.3	25	30	35				
WHEMLOCK-T		188.2	12.8	23	27	30				
BL MAPLE-T		301.6	20.5	6	8	9				
R ALDER-T		367.5	25.0	4	5	7				
WR CEDAR		687.2	46.7	1	2	3				
<b>TOTAL</b>		<b>69.0</b>	<b>4.7</b>	<b>206</b>	<b>216</b>	<b>226</b>	<b>190</b>	<b>47</b>	<b>21</b>	
CL	68.1	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		193.7	13.2	9,171	10,561	11,952				
DOUG FIR-S		482.8	32.8	289	430	570				
DOUG FIR-T		93.6	6.4	13,362	14,270	15,178				
WHEMLOCK		247.3	16.8	4,602	5,532	6,462				
WHEMLOCK-T		209.8	14.3	3,059	3,568	4,077				
BL MAPLE-T		308.8	21.0	449	569	688				
R ALDER-T		374.3	25.4	348	467	586				
WR CEDAR		679.5	46.2	88	163	238				
<b>TOTAL</b>		<b>80.8</b>	<b>5.5</b>	<b>33,607</b>	<b>35,560</b>	<b>37,513</b>	<b>260</b>	<b>65</b>	<b>29</b>	
CL	68.1	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		192.9	13.1	2,036	2,343	2,651				
DOUG FIR-S		481.4	32.7	74	110	146				
DOUG FIR-T		90.9	6.2	3,209	3,420	3,632				
WHEMLOCK		246.9	16.8	1,050	1,261	1,473				
WHEMLOCK-T		202.2	13.7	787	913	1,038				
BL MAPLE-T		308.4	21.0	143	181	218				
R ALDER-T		370.6	25.2	102	136	171				
WR CEDAR		703.4	47.8	26	49	72				
<b>TOTAL</b>		<b>77.6</b>	<b>5.3</b>	<b>7,970</b>	<b>8,413</b>	<b>8,857</b>	<b>240</b>	<b>60</b>	<b>27</b>	
CL	68.1	COEFF	<b>V_BAR/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		32.7	2.2	178	205	232				
DOUG FIR-S		314.9	21.4	106	158	210				
DOUG FIR-T		14.7	1.0	149	159	169				
WHEMLOCK		175.5	11.9	153	183	214				
WHEMLOCK-T		139.5	9.5	114	133	152				
BL MAPLE-T		249.8	17.0	59	75	90				
R ALDER-T		278.8	19.0	63	85	107				
WR CEDAR		679.5	46.2	48	90	132				
<b>TOTAL</b>		<b>74.7</b>	<b>5.1</b>	<b>156</b>	<b>165</b>	<b>174</b>	<b>223</b>	<b>56</b>	<b>25</b>	



**T06N R04E S33 T00U2** **T06N R04E S33 T00U2**  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt  
 06N 04E 33 YALEOFAT 00U2 60.00 41 97 S W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF	T	CU	CU		100.0	102												1	9		0.00	23.3
DF	T	HB	2S	13	1.6	2,520	2,479	149			39	61			3	97		39	16	388	2.16	6.4
DF	T	HB	3S	5		967	967	58		100					13	87		39	9	117	0.81	8.3
DF	T	DM	SM	5		938	938	56				100				100		40	18	523	2.70	1.8
DF	T	DM	2S	21	2.0	4,042	3,960	238			70	30		1		99		39	14	272	1.71	14.6
DF	T	DM	3S	37	2.5	6,968	6,795	408	23	77					2	11	87	38	8	102	0.74	66.6
DF	T	DM	4S	17		3,226	3,226	194	83	17				16	41	11	31	27	5	31	0.32	104.8
DF	T	DM	UT	2		255	255	15	100					39		61		19	5	21	0.25	11.9
<b>DF</b>	<b>T</b>	<b>Totals</b>		94	2.1	19,018	18,619	1,117	24	36	20	19		4	8	8	81	29	8	78	0.71	237.7
WH	T	CU	CU															7			0.00	1.9
WH	T	DM	2S	27	5.6	263	248	15			100					100		40	15	340	2.18	.7
WH	T	DM	3S	55	7.3	541	502	30	43	57					42	58		30	7	56	0.69	9.0
WH	T	DM	4S	3		29	29	2	100				100					18	5	20	0.29	1.5
WH	T	DM	UT	15		132	132	8	100						100			23	5	20	0.24	6.6
<b>WH</b>	<b>T</b>	<b>Totals</b>		5	5.6	965	911	55	41	31	27		3	38		59		24	7	46	0.62	19.7
RA	T	CU	CU		100.0	9												7	6		0.00	1.6
RA	T	DM	UT	23		77	77	5	100					59	41			17	6	23	0.36	3.3
RA	T	DM	3S	18	9.1	65	59	4		100					100			30	10	100	0.97	.6
RA	T	DM	4S	30		100	100	6		100					100			30	8	64	0.72	1.6
RA	T	DM	4S	29		92	92	6	100						57	43		32	7	54	0.62	1.7
<b>RA</b>	<b>T</b>	<b>Totals</b>		2	4.3	343	328	20	52	48				14	74		12	22	7	38	0.56	8.8
<b>Type</b>	<b>Totals</b>				2.3	20,326	19,859	1,192	26	36	20	18		4	10	7	79	28	8	75	0.70	266.1

**T06N R04E S33 T00U3** **T06N R04E S33 T00U3**  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt  
 06N 04E 33 YALEOFAT 00U3 16.00 15 97 S W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF	T	CU	CU		100.0	11												2	13		0.00	8.3
DF	T	HA	2S	2		498	498	8			100						100	40	13	241	1.48	2.1
DF	T	HB	2S	26	2.0	6,547	6,419	103			63	37					100	40	14	296	1.76	21.7
DF	T	HB	3S	8	1.0	1,826	1,808	29		100						9	91	39	10	131	0.90	13.7
DF	T	DM	SM	6		1,600	1,600	26				100				18	82	38	21	720	3.58	2.2
DF	T	DM	2S	34	4.4	8,432	8,065	129			25	75					100	40	17	461	2.49	17.5
DF	T	DM	3S	16	.3	3,961	3,948	63	20	80				1	3	5	92	39	9	112	0.76	35.3
DF	T	DM	4S	6	.8	1,488	1,476	24	91	9				29	35	13	24	24	6	31	0.38	48.0
DF	T	DM	UT	2		270	270	4	67	4	29			54	46			21	6	34	0.28	8.0
<b>DF</b>	<b>T</b>	<b>Totals</b>		69	2.2	24,633	24,084	385	10	21	27	42		3	3	3	91	32	10	154	1.15	156.9
WH	T	CU	CU		100.0	131												3	12		0.00	12.1
WH	T	HB	2S	11	2.7	1,226	1,193	19			100						100	40	13	218	1.40	5.5
WH	T	HB	3S	4		454	454	7		100							100	40	10	150	0.93	3.0
WH	T	DM	2S	47	4.7	5,327	5,076	81			48	52					100	40	15	327	1.99	15.5
WH	T	DM	3S	25	.7	2,728	2,709	43	49	51					2	10	87	38	8	87	0.66	31.2
WH	T	DM	4S	9	8.6	1,052	962	15	75	25				40	37		23	22	6	25	0.34	38.6
WH	T	DM	UT	4		417	417	7	46		54			27	73			27	7	51	0.42	8.2
<b>WH</b>	<b>T</b>	<b>Totals</b>		31	4.6	11,334	10,811	173	21	19	36	24		5	7	3	86	29	9	95	0.86	114.0
BM	T	DM	UT	100		169	169	3	60	40				100				15	7	20	0.39	8.5
<b>BM</b>	<b>T</b>	<b>Totals</b>		0		169	169	3	60	40				100				15	7	20	0.39	8.5
<b>Type</b>	<b>Totals</b>				3.0	36,136	35,064	561	13	21	30	36		4	4	3	89	30	9	126	1.02	279.3



**T06N R04E S33 T00U5** **T06N R04E S33 T00U5**  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt  
 06N 04E 33 YALEOFAT 00U5 45.00 39 112 S W

Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre		
									Net	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia
					5-7	8-11	12-15							16+	12-20	21-30	31-35	36-99	Ft	In			
DF	T	CU	CU		100.0	144													2	17		0.00	26.6
DF	T	HA	2S	1		439	439	20			100						100		40	14	294	1.61	1.5
DF	T	HA	3S	1		181	181	8			100						100		40	11	180	1.12	1.0
DF	T	HB	2S	42	.7	11,722	11,639	524			30	70					100		40	17	472	2.36	24.7
DF	T	HB	3S	5		1,312	1,312	59			100					6	94		39	10	143	0.89	9.1
DF	T	DM	3P	1		307	307	14				100					100		40	25	1150	4.67	.3
DF	T	DM	SM	5		1,535	1,535	69				100					100		40	18	547	2.71	2.8
DF	T	DM	2S	30	4.0	8,330	7,997	360			29	71	0	0	1	99		39	17	462	2.34	17.3	
DF	T	DM	3S	10	.9	2,978	2,951	133	19	81						6	21	73	37	9	99	0.77	29.8
DF	T	DM	4S	3		881	881	40	75	25			31	28	28	13		24	6	33	0.34	26.7	
DF	T	DM	UT	1		253	253	11	44			56	61		39			28	7	60	0.52	4.2	
DF	T	RO	3S	1		44	44	2			100						100		39	15	350	2.60	.1
<b>DF</b>	<b>T</b>	<b>Totals</b>		86	2.1	28,125	27,539	1,239	5	15	23	57	2	2	4	93		29	12	191	1.41	144.2	
BM	T	CU	CU		100.0	103													7	8		0.00	15.1
BM	T	DM	UT	17		411	411	18	40	60			25	75				21	7	41	0.54	9.9	
BM	T	DM	2S	11		258	258	12			100					33	67	36	13	255	1.84	1.0	
BM	T	DM	3S	35	9.3	887	804	36		100				100				29	11	105	1.08	7.6	
BM	T	DM	4S	24	2.1	572	561	25		100			9	37	9	45		32	8	70	0.72	8.0	
BM	T	DM	4S	13		294	294	13	100					30		70		36	6	46	0.40	6.4	
<b>BM</b>	<b>T</b>	<b>Totals</b>		7	7.8	2,526	2,328	105	20	69	11		7	61	6	27		22	8	49	0.66	48.0	
WH	T	CU	CU		100.0	52													3	17		0.00	4.7
WH	T	HB	2S	8	2.2	141	138	6			100						100		40	17	450	2.49	.3
WH	T	HB	3S	22		388	388	17			100						100		40	10	159	0.93	2.4
WH	T	DM	2S	39	3.8	692	665	30			58	42			7	93		39	14	303	1.91	2.2	
WH	T	DM	3S	12	3.6	222	214	10	34	66							100		40	8	99	0.77	2.2
WH	T	DM	4S	19	3.7	327	315	14	97	3			10	17	48	25		31	5	34	0.39	9.4	
<b>WH</b>	<b>T</b>	<b>Totals</b>		5	5.6	1,821	1,719	77	22	31	23	24	2	3	12	83		28	10	81	0.79	21.2	
RA	T	CU	CU																2	11		0.00	3.9
RA	T	DM	2S	83		490	490	22			100					100		28	15	250	2.06	2.0	
RA	T	DM	4S	17	16.7	118	98	4			100					100		30	8	50	0.71	2.0	
<b>RA</b>	<b>T</b>	<b>Totals</b>		2	3.2	607	588	26		17	83					100		15	11	75	1.29	7.8	
<b>Type</b>	<b>Totals</b>				2.7	33,079	32,174	1,448	7	20	23	50	2	8	4	86		27	11	145	1.21	221.2	



T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1								
		Project: YALEOFIN										Date 11/23/2015								
												Time 3:32:03PM								
T06N R04E S33 T00U7										T06N R04E S33 T00U7										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt											
06N	04E	33	YALEOFAT	00U7	150.00	61	400	S	W											
S Sp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf	
								5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft		
DF	HB	2S	45	10,404	10,404	1,561			24	76		37		63		35	16	402	2.22	25.9
DF	HB	3S		152	152	23		100						100		40	10	150	0.81	1.0
DF	DM	2S	27	3.5	6,309	6,091	914		71	29		24		76		37	14	258	1.57	23.6
DF	DM	3S	21	2.1	4,878	4,777	717	24	76			34	2	64		36	8	88	0.66	54.2
DF	DM	4S	6		1,461	1,461	219	80	20			15	44	23	18	26	6	33	0.33	43.9
DF	DM	UT	1		68	68	10	100				23	77			25	6	27	0.35	2.5
<b>DF</b>	<b>Totals</b>		48	1.4	23,271	22,953	3,443	10	18	30	42	1	33	2	64	33	10	152	1.03	151.1
DF	T	HB	2S	30	1,981	1,981	297		89	11		7		93		39	13	235	1.48	8.4
DF	T	DM	2S	18	4.2	1,250	1,197	180		65	35			80		36	13	206	1.46	5.8
DF	T	DM	3S	40	1.5	2,700	2,661	399	18	82				65		36	8	89	0.66	29.8
DF	T	DM	4S	11		658	658	99	100			25	36	10	29	24	5	26	0.29	25.3
DF	T	DM	UT	1		65	65	10	100			56	44			21	5	27	0.31	2.4
<b>DF</b>	<b>T</b>	<b>Totals</b>	14	1.4	6,654	6,562	984	18	33	39	10	3	24	1	72	31	8	92	0.75	71.7
DF	S	HB	2S	35		329	329	49		100		46		54		35	14	280	1.82	1.2
DF	S	DM	2S	30	13.2	325	282	42		100				100		40	14	230	1.69	1.2
DF	S	DM	3S	27	2.3	263	257	39		100				100		30	10	107	0.82	2.4
DF	S	DM	4S	8		66	66	10	100			37	25	37		22	6	27	0.40	2.4
<b>DF</b>	<b>S</b>	<b>Totals</b>	2	5.0	983	933	140	7	27	65		3	45	3	49	30	10	130	1.11	7.2
WH		CU	CU														5		0.00	1.2
WH		HB	2S	11		1,381	1,381	207		52	48		22	78		36	15	325	1.89	4.2
WH		DM	2S	51	2.8	6,255	6,082	912		59	41		12	88		38	14	311	1.75	19.6
WH		DM	3S	26	.2	3,235	3,229	484	12	88			34	3	64	35	9	100	0.70	32.3
WH		DM	4S	11		1,284	1,284	193	96	4		12	51	27	11	26	5	28	0.29	45.8
WH		DM	UT	1		45	45	7	100			100				14	6	20	0.23	2.3
<b>WH</b>	<b>Totals</b>		25	1.5	12,201	12,022	1,803	14	24	36	26	2	23	4	72	31	8	114	0.84	105.4
WH	T	HB	2S	11		521	521	78			100			100		40	16	427	2.17	1.2
WH	T	DM	2S	40	4.2	1,959	1,877	282		63	37		21	79		37	13	237	1.45	7.9
WH	T	DM	3S	32	1.0	1,480	1,466	220	35	65			32	5	63	36	8	83	0.63	17.7
WH	T	DM	4S	15		685	685	103	100			10	64	16	10	26	5	28	0.28	24.2
WH	T	DM	UT	2		79	79	12	100				100			26	5	30	0.34	2.6
<b>WH</b>	<b>T</b>	<b>Totals</b>	10	2.0	4,725	4,629	694	28	21	26	26	2	30	4	65	31	8	86	0.67	53.6
RC		CU	CU		100.0	46										20	23		0.00	.1
RC		DM	3S	67	5.4	252	238	36		58	20	22		100		39	10	149	1.26	1.6
RC		DM	4S	33		116	116	17	100			32	53	14		23	5	26	0.27	4.5
<b>RC</b>	<b>Totals</b>		1	14.4	414	354	53	33	39	13	15	11	18	5	67	27	7	57	0.63	6.2
<b>Type</b>	<b>Totals</b>			1.6	48,248	47,454	7,118	14	22	33	31	2	29	2	67	32	9	120	0.88	395.3



T06N R04E S33 T00U9	T06N R04E S33 T00U9
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt	BdFt
06N 04E 33 YALEOFAT 00U9 2.00 5 16 S	W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	T	CU	CU		100.0	73											5	8		0.00	18.2
DF	T	HB	3S	7		493	493	1		100					100		40	8	90	0.79	5.5
DF	T	DM	2S	11	8.3	770	706	1			100				100		40	15	330	2.18	2.1
DF	T	DM	3S	47	6.1	3,349	3,143	6	45	55				21	79		38	7	73	0.70	42.8
DF	T	DM	4S	21		1,379	1,379	3	100				21	22	21	36	25	5	26	0.28	53.0
DF	T	DM	UT	14		869	869	2	66	34			34	66			21	6	33	0.31	26.5
<b>DF</b>	<b>T</b>	<b>Totals</b>		73	4.9	6,933	6,590	13	51	38	11		9	13	14	63	26	7	44	0.52	148.2
WH	T	CU	CU														2	12		0.00	14.6
WH	T	DM	3S	42		1,021	1,021	2		100					100		32	8	70	0.57	14.6
WH	T	DM	4S	58		1,359	1,359	3	100				21		34	45	29	5	34	0.33	40.0
<b>WH</b>	<b>T</b>	<b>Totals</b>		27		2,380	2,380	5	57	43			12		62	26	24	7	34	0.39	69.2
<b>Type Totals</b>					3.7	9,313	8,971	18	53	39	8		10	10	27	53	26	7	41	0.48	217.3



<b>T06N R04E S33 T0U11</b>										<b>T06N R04E S33 T0U11</b>				
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>					
<b>06N</b>	<b>04E</b>	<b>33</b>	<b>YALEOFAT</b>	<b>0U11</b>	<b>2.00</b>	<b>2</b>	<b>6</b>	<b>S</b>	<b>W</b>					

Spp	T	So	Gr	ad	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre						
										Net	BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/Lf	
																5-7	8-11	12-15	16+	12-20	21-30		31-35					36-99
WH	T	DM	2S		43	.9	10,412	10,323	21			61	39		30	70			37	14	284	1.71	36.4					
WH	T	DM	3S		40		9,548	9,548	19		100				16	84			38	10	151	0.96	63.4					
WH	T	DM	4S		17		3,897	3,897	8	77	23			30	21	49			27	6	38	0.39	102.1					
<b>WH T Totals</b>					69	.4	23,857	23,768	48	13	44	27	17	5	23	72			32	9	118	0.87	201.9					
DF	T	DM	2S		91	3.8	10,122	9,740	19		35	65		100					30	15	255	1.80	38.2					
DF	T	DM	3S		9		955	955	2	100				100					30	7	50	0.59	19.1					
<b>DF T Totals</b>					31	3.4	11,077	10,695	21	9	32	59		100					30	12	187	1.40	57.3					
<b>Type Totals</b>						1.3	34,934	34,463	69	11	30	28	30	3	47	50			32	10	133	0.98	259.2					

<b>T06N R04E S33 T0U12</b>										<b>T06N R04E S33 T0U12</b>				
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>					
06N	04E	33	YALEOFAT	0U12	1.00	1	9	S	W					

S Spp	So T	Gr rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre		
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/			
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf			
WH	T	DM	2S	39	3.7	12,255	11,802	12			54	46		19		81		36	13	223	1.44	52.9	
WH	T	DM	3S	46	2.3	13,892	13,566	14	12	88						100		40	8	100	0.69	136.0	
WH	T	DM	4S	15		4,160	4,160	4	100					50	50			29	5	32	0.30	128.6	
<b>WH T Totals</b>				57	2.6	30,306	29,528	30	19	41	21	18		15	7	78		35	8	93	0.69	317.5	
DF	T	HB	2S	19		4,469	4,469	4			100					100		36	13	220	1.45	20.3	
DF	T	DM	2S	17	4.2	3,991	3,825	4			100					100		40	13	230	1.66	16.6	
DF	T	DM	3S	52		11,713	11,713	12	14	86				67		33		32	9	87	0.71	134.7	
DF	T	DM	4S	12		2,695	2,695	3	100				52		48			23	5	26	0.27	102.1	
<b>DF T Totals</b>				43	.7	22,868	22,702	23	19	44	37		6	34	60			30	8	83	0.73	273.8	
<b>Type Totals</b>					1.8	53,174	52,229	52	19	42	28	10		3	23	4	70		32	8	88	0.70	591.4

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	04E	33	YALEOFAT	00U1	35.00	32	152	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL				32	152	4.8				
CRUISE				16	75	4.7	3,974	1.9		
DBH COUNT										
REFOREST										
COUNT				16	77	4.8				
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR-T	38	54.7	17.3	75	21.5	89.3	13,203	12,627	3,251	3,205
R ALDER-T	18	42.5	12.0	51	9.7	33.6	2,902	2,887	839	839
BL MAPLE-T	9	9.9	21.2	43	5.2	24.2	1,957	1,779	622	622
WHEMLOCK-T	10	6.5	18.9	62	2.9	12.6	1,395	1,274	373	360
<b>TOTAL</b>	<b>75</b>	<b>113.5</b>	<b>16.1</b>	<b>63</b>	<b>39.8</b>	<b>159.6</b>	<b>19,457</b>	<b>18,566</b>	<b>5,085</b>	<b>5,026</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	161.2	26.8		422	577	732				
R ALDER-T	42.2	10.2		67	75	83				
BL MAPLE-T	63.4	22.4		192	248	303				
WHEMLOCK-T	70.3	23.4		254	332	410				
<b>TOTAL</b>	<b>181.9</b>	<b>21.3</b>		<b>298</b>	<b>379</b>	<b>460</b>	<b>1,322</b>	<b>330</b>	<b>147</b>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	129.1	21.5		100	127	154				
R ALDER-T	43.8	10.6		20	22	25				
BL MAPLE-T	62.5	22.1		69	89	109				
WHEMLOCK-T	65.1	21.7		71	90	110				
<b>TOTAL</b>	<b>137.0</b>	<b>16.0</b>		<b>77</b>	<b>92</b>	<b>106</b>	<b>749</b>	<b>187</b>	<b>83</b>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	116.9	20.7		43	55	66				
R ALDER-T	178.6	31.5		29	42	56				
BL MAPLE-T	173.5	30.6		7	10	13				
WHEMLOCK-T	256.2	45.3		4	6	9				
<b>TOTAL</b>	<b>64.7</b>	<b>11.4</b>		<b>101</b>	<b>114</b>	<b>127</b>	<b>167</b>	<b>42</b>	<b>19</b>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	100.6	17.8		73	89	105				
R ALDER-T	172.3	30.4		23	34	44				
BL MAPLE-T	181.0	32.0		16	24	32				
WHEMLOCK-T	260.1	45.9		7	13	18				
<b>TOTAL</b>	<b>47.5</b>	<b>8.4</b>		<b>146</b>	<b>160</b>	<b>173</b>	<b>90</b>	<b>23</b>	<b>10</b>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	98.3	17.4		10,434	12,627	14,820				
R ALDER-T	175.5	31.0		1,992	2,887	3,781				
BL MAPLE-T	183.4	32.4		1,203	1,779	2,355				
WHEMLOCK-T	257.9	45.6		693	1,274	1,854				
<b>TOTAL</b>	<b>55.5</b>	<b>9.8</b>		<b>16,745</b>	<b>18,566</b>	<b>20,388</b>	<b>123</b>	<b>31</b>	<b>14</b>	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
06N	04E	33	YALEOFAT	00U1	35.00		32	152	S	W
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T		99.5	17.6	2,642	3,205	3,768				
R ALDER-T		173.7	30.7	582	839	1,097				
BL MAPLE-T		187.4	33.1	416	622	827				
WHEMLOCK-T		250.1	44.2	201	360	519				
<b>TOTAL</b>		<i>51.8</i>	<i>9.2</i>	<i>4,566</i>	<i>5,026</i>	<i>5,486</i>	<i>107</i>	<i>27</i>	<i>12</i>	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T				117	141	166				
R ALDER-T		121.1	21.4	59	86	112				
BL MAPLE-T		86.2	15.2	50	74	98				
WHEMLOCK-T		248.8	44.0	55	101	147				
<b>TOTAL</b>		<i>215.4</i>	<i>38.0</i>	<i>105</i>	<i>116</i>	<i>128</i>	<i>1,853</i>	<i>463</i>	<i>206</i>	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	YALEOFIN			DATE	11/23/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	04E	33	YALEOFAT	00U2	60.00	41	201	S	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
				PLOTS	TREES	TREES	TREES				
TOTAL		41	201	4.9							
CRUISE		22	97	4.4	8,132		1.2				
DBH COUNT											
REFOREST											
COUNT		19	104	5.5							
BLANKS											
100 %											
<b>STAND SUMMARY</b>											
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR-T	86	117.5	15.2	70	38.0	148.4	19,018	18,619	4,825	4,810	
WHEMLOCK-T	5	13.1	12.7	51	3.2	11.5	965	911	293	293	
R ALDER-T	6	4.9	13.6	42	1.3	4.9	343	328	109	106	
<b>TOTAL</b>	<b>97</b>	<b>135.5</b>	<b>14.9</b>	<b>67</b>	<b>42.6</b>	<b>164.8</b>	<b>20,326</b>	<b>19,859</b>	<b>5,226</b>	<b>5,209</b>	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.	INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	96.8	10.5		266	297	328					
WHEMLOCK-T	108.3	53.8		63	136	209					
R ALDER-T	42.7	19.0		58	72	85					
<b>TOTAL</b>	<b>101.8</b>	<b>10.4</b>		<b>246</b>	<b>274</b>	<b>303</b>	<b>414</b>	<b>103</b>	<b>46</b>		
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.	INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	81.9	8.9		67	73	80					
WHEMLOCK-T	93.8	46.6		23	42	62					
R ALDER-T	36.2	16.1		20	23	27					
<b>TOTAL</b>	<b>85.6</b>	<b>8.8</b>		<b>62</b>	<b>68</b>	<b>74</b>	<b>293</b>	<b>73</b>	<b>33</b>		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.	INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	67.8	10.6		105	118	130					
WHEMLOCK-T	222.4	34.7		9	13	18					
R ALDER-T	368.0	57.4		2	5	8					
<b>TOTAL</b>	<b>55.5</b>	<b>8.7</b>		<b>124</b>	<b>136</b>	<b>147</b>	<b>123</b>	<b>31</b>	<b>14</b>		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.	INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	57.1	8.9		135	148	162					
WHEMLOCK-T	203.0	31.7		8	11	15					
R ALDER-T	360.3	56.2		2	5	8					
<b>TOTAL</b>	<b>46.5</b>	<b>7.3</b>		<b>153</b>	<b>165</b>	<b>177</b>	<b>86</b>	<b>22</b>	<b>10</b>		
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.	INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	63.3	9.9		16,781	18,619	20,458					
WHEMLOCK-T	202.9	31.7		623	911	1,199					
R ALDER-T	362.0	56.5		143	328	514					
<b>TOTAL</b>	<b>55.4</b>	<b>8.6</b>		<b>18,141</b>	<b>19,859</b>	<b>21,576</b>	<b>123</b>	<b>31</b>	<b>14</b>		
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.	INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	60.7	9.5		4,354	4,810	5,266					
WHEMLOCK-T	201.5	31.4		201	293	385					
R ALDER-T	361.6	56.4		46	106	166					
<b>TOTAL</b>	<b>51.7</b>	<b>8.1</b>		<b>4,789</b>	<b>5,209</b>	<b>5,629</b>	<b>107</b>	<b>27</b>	<b>12</b>		

TC TSTATS				STATISTICS				PAGE	2		
				PROJECT	YALEOFIN			DATE	11/23/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	04E	33	YALEOFAT	00U2	60.00	41	201	S	W		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T				113	125	138					
WHEMLOCK-T				68.6	10.7	54	79	105			
R ALDER-T				362.0	56.5	29	67	104			
<b>TOTAL</b>				<i>219.0</i>	<i>34.2</i>	<i>110</i>	<i>121</i>	<i>131</i>	<i>1,915</i>	<i>479</i>	<i>213</i>

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	04E	33	YALEOFAT	00U3	16.00	15	97	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	15	97	6.5							
CRUISE	15	97	6.5	1,949			5.0			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR-T	60	60.3	20.2	90	29.9	134.4	24,633	24,084	5,691	5,689
WHEMLOCK-T	35	53.0	16.5	74	19.3	78.4	11,334	10,811	2,849	2,825
BL MAPLE-T	2	8.5	9.9	14	1.4	4.5	169	169	50	50
<b>TOTAL</b>	<b>97</b>	<b>121.8</b>	<b>18.1</b>	<b>78</b>	<b>51.1</b>	<b>217.3</b>	<b>36,136</b>	<b>35,064</b>	<b>8,590</b>	<b>8,565</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	85.7	11.1		586	659	731				
WHEMLOCK-T	64.9	11.3		320	361	401				
BL MAPLE-T				20	20	20				
<b>TOTAL</b>	<b>91.4</b>	<b>9.4</b>		<b>491</b>	<b>542</b>	<b>592</b>	<b>333</b>	<b>83</b>	<b>37</b>	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	73.2	9.4		134	148	162				
WHEMLOCK-T	55.5	9.6		84	93	101				
BL MAPLE-T	31.8	29.8		4	6	8				
<b>TOTAL</b>	<b>76.5</b>	<b>7.8</b>		<b>116</b>	<b>126</b>	<b>135</b>	<b>234</b>	<b>58</b>	<b>26</b>	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	90.6	24.2		46	60	75				
WHEMLOCK-T	107.9	28.8		38	53	68				
BL MAPLE-T	269.8	72.1		2	8	15				
<b>TOTAL</b>	<b>49.1</b>	<b>13.1</b>		<b>106</b>	<b>122</b>	<b>138</b>	<b>103</b>	<b>26</b>	<b>11</b>	
CL:	68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	75.6	20.2		107	134	162				
WHEMLOCK-T	96.7	25.8		58	78	99				
BL MAPLE-T	263.9	70.5		1	4	8				
<b>TOTAL</b>	<b>38.7</b>	<b>10.3</b>		<b>195</b>	<b>217</b>	<b>240</b>	<b>64</b>	<b>16</b>	<b>7</b>	
CL:	68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	76.3	20.4		19,175	24,084	28,993				
WHEMLOCK-T	110.5	29.5		7,619	10,811	14,002				
BL MAPLE-T	269.8	72.1		47	169	291				
<b>TOTAL</b>	<b>43.8</b>	<b>11.7</b>		<b>30,959</b>	<b>35,064</b>	<b>39,168</b>	<b>82</b>	<b>21</b>	<b>9</b>	
CL:	68.1 %	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	75.2	20.1		4,547	5,689	6,832				
WHEMLOCK-T	106.5	28.4		2,022	2,825	3,629				
BL MAPLE-T	264.0	70.5		15	50	85				
<b>TOTAL</b>	<b>41.3</b>	<b>11.0</b>		<b>7,621</b>	<b>8,565</b>	<b>9,509</b>	<b>73</b>	<b>18</b>	<b>8</b>	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	04E	33	YALEOFAT	00U3	16.00	15	97	S	W	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T		76.3	20.4	143	179	216				
WHEMLOCK-T		110.5	29.5	97	138	179				
BL MAPLE-T		269.8	72.1	11	38	65				
<b>TOTAL</b>		<b>43.8</b>	<b>11.7</b>	<b>142</b>	<b>161</b>	<b>180</b>	<b>82</b>	<b>21</b>	<b>9</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	04E	33	YALEOFAT	00U4	5.00	5	29	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				TREES	TREES	TREES				
TOTAL	5	29	5.8							
CRUISE	5	29	5.8		575		5.0			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR-T	25	80.3	21.4	89	43.3	200.0	40,697	40,171	8,707	8,707
WHEMLOCK-T	4	34.6	13.0	55	8.9	32.0	3,373	3,345	919	919
<b>TOTAL</b>	<b>29</b>	<b>115.0</b>	<b>19.2</b>	<b>79</b>	<b>52.9</b>	<b>232.0</b>	<b>44,070</b>	<b>43,516</b>	<b>9,626</b>	<b>9,627</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	67.7	14.7		1,028	1,206	1,384				
WHEMLOCK-T	98.1	56.0		80	183	285				
<b>TOTAL</b>	<b>80.1</b>	<b>16.0</b>		<b>881</b>	<b>1,049</b>	<b>1,217</b>	<b>267</b>	<b>67</b>	<b>30</b>	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	58.5	12.7		213	245	276				
WHEMLOCK-T	93.1	53.2		23	50	76				
<b>TOTAL</b>	<b>70.0</b>	<b>14.0</b>		<b>185</b>	<b>215</b>	<b>245</b>	<b>204</b>	<b>51</b>	<b>23</b>	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	77.0	38.3		50	80	111				
WHEMLOCK-T	167.6	83.3		6	35	63				
<b>TOTAL</b>	<b>47.7</b>	<b>23.7</b>		<b>88</b>	<b>115</b>	<b>142</b>	<b>112</b>	<b>28</b>	<b>12</b>	
CL:	68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	37.4	18.6		163	200	237				
WHEMLOCK-T	136.9	68.0		10	32	54				
<b>TOTAL</b>	<b>28.3</b>	<b>14.1</b>		<b>199</b>	<b>232</b>	<b>265</b>	<b>40</b>	<b>10</b>	<b>4</b>	
CL:	68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	33.6	16.7		33,461	40,171	46,881				
WHEMLOCK-T	151.3	75.2		830	3,345	5,860				
<b>TOTAL</b>	<b>24.9</b>	<b>12.4</b>		<b>38,136</b>	<b>43,516</b>	<b>48,897</b>	<b>31</b>	<b>8</b>	<b>3</b>	
CL:	68.1 %	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	34.9	17.4		7,196	8,707	10,218				
WHEMLOCK-T	148.1	73.6		243	919	1,596				
<b>TOTAL</b>	<b>25.8</b>	<b>12.8</b>		<b>8,390</b>	<b>9,627</b>	<b>10,863</b>	<b>33</b>	<b>8</b>	<b>4</b>	
CL:	68.1 %	COEFF	<b>V-BAR/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	33.6	16.7		167	201	234				
WHEMLOCK-T	151.3	75.2		26	105	183				
<b>TOTAL</b>	<b>24.9</b>	<b>12.4</b>		<b>164</b>	<b>188</b>	<b>211</b>	<b>31</b>	<b>8</b>	<b>3</b>	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	YALEOFIN			DATE	11/23/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	04E	33	YALEOFAT	00U5	45.00	39	212	S	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL	39	212	5.4								
CRUISE	21	112	5.3	3,797			2.9				
DBH COUNT											
REFOREST											
COUNT	18	99	5.5								
BLANKS											
100 %											
<b>STAND SUMMARY</b>											
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR-T	75	49.2	22.3	93	28.3	133.6	28,125	27,539	5,888	5,860	
BL MAPLE-T	23	23.4	15.2	48	7.5	29.3	2,526	2,328	728	695	
WHEMLOCK-T	13	9.8	16.5	67	3.6	14.7	1,821	1,719	474	466	
R ALDER-T	1	2.0	22.0	69	1.1	5.2	607	588	154	154	
<b>TOTAL</b>	<i>112</i>	<i>84.4</i>	<i>19.9</i>	<i>77</i>	<i>40.9</i>	<i>182.7</i>	<i>33,079</i>	<i>32,174</i>	<i>7,245</i>	<i>7,176</i>	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	79.4	9.2	894	984	1,074						
BL MAPLE-T	77.3	16.5	96	114	133						
WHEMLOCK-T	97.5	28.1	223	310	397						
R ALDER-T											
<b>TOTAL</b>	<i>104.1</i>	<i>9.8</i>	<i>650</i>	<i>721</i>	<i>792</i>	<i>432</i>	<i>108</i>	<i>48</i>			
CL: 68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	71.4	8.2	184	200	217						
BL MAPLE-T	56.4	12.0	30	34	38						
WHEMLOCK-T	84.0	24.2	60	79	98						
R ALDER-T											
<b>TOTAL</b>	<i>92.1</i>	<i>8.7</i>	<i>138</i>	<i>151</i>	<i>164</i>	<i>339</i>	<i>85</i>	<i>38</i>			
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	88.5	14.2	42	49	56						
BL MAPLE-T	157.5	25.2	18	23	29						
WHEMLOCK-T	215.1	34.4	6	10	13						
R ALDER-T	317.7	50.8	1	2	3						
<b>TOTAL</b>	<i>64.9</i>	<i>10.4</i>	<i>76</i>	<i>84</i>	<i>93</i>	<i>168</i>	<i>42</i>	<i>19</i>			
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	78.8	12.6	117	134	150						
BL MAPLE-T	162.6	26.0	22	29	37						
WHEMLOCK-T	251.3	40.2	9	15	21						
R ALDER-T	317.7	50.8	3	5	8						
<b>TOTAL</b>	<i>53.7</i>	<i>8.6</i>	<i>167</i>	<i>183</i>	<i>198</i>	<i>115</i>	<i>29</i>	<i>13</i>			
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	82.5	13.2	23,903	27,539	31,175						
BL MAPLE-T	161.4	25.8	1,727	2,328	2,930						
WHEMLOCK-T	289.8	46.4	922	1,719	2,517						
R ALDER-T	317.7	50.8	289	588	886						
<b>TOTAL</b>	<i>67.4</i>	<i>10.8</i>	<i>28,706</i>	<i>32,174</i>	<i>35,643</i>	<i>181</i>	<i>45</i>	<i>20</i>			

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
06N	04E	33	YALEOFAT	00U5	45.00		39	212	S	W
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T		80.9	13.0	5,101	5,860	6,619				
BL MAPLE-T		160.3	25.6	517	695	873				
WHEMLOCK-T		274.4	43.9	262	466	671				
R ALDER-T		317.7	50.8	76	154	233				
<b>TOTAL</b>		<i>61.9</i>	<i>9.9</i>	<i>6,465</i>	<i>7,176</i>	<i>7,887</i>	<i>153</i>	<i>38</i>	<i>17</i>	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T				179	206	233				
BL MAPLE-T		137.0	21.9	59	79	100				
WHEMLOCK-T		275.1	44.0	63	117	172				
R ALDER-T		29.2	4.7	56	114	171				
<b>TOTAL</b>		<i>217.5</i>	<i>34.8</i>	<i>157</i>	<i>176</i>	<i>195</i>	<i>1,890</i>	<i>472</i>	<i>210</i>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	04E	33	YALEOFAT	00U6	6.00	6	27	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		6	27	4.5						
CRUISE		6	27	4.5	709	3.8				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	15	34.7	23.0	94	20.9	100.0	22,881	22,453	4,739	4,733
BL MAPLE-T	6	45.4	12.7	30	11.2	40.0	2,767	2,550	818	818
WHEMLOCK-T	4	15.8	17.6	49	6.4	26.7	1,364	1,339	638	638
R ALDER-T	2	22.3	10.5	43	4.1	13.3	771	771	257	257
<b>TOTAL</b>	<b>27</b>	<b>118.1</b>	<b>16.7</b>	<b>54</b>	<b>44.0</b>	<b>180.0</b>	<b>27,783</b>	<b>27,113</b>	<b>6,452</b>	<b>6,446</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	60.7	16.2		966	1,153	1,340				
BL MAPLE-T	42.7	19.0		46	57	67				
WHEMLOCK-T	42.6	29.5		94	133	173				
R ALDER-T	20.2	18.9		28	35	42				
<b>TOTAL</b>	<b>108.5</b>	<b>21.7</b>		<b>545</b>	<b>696</b>	<b>847</b>	<b>490</b>	<b>122</b>	<b>54</b>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	53.2	14.2		200	233	266				
BL MAPLE-T	24.3	10.8		16	18	20				
WHEMLOCK-T				61	61	61				
R ALDER-T	39.5	37.0		7	12	16				
<b>TOTAL</b>	<b>94.9</b>	<b>19.0</b>		<b>119</b>	<b>146</b>	<b>174</b>	<b>374</b>	<b>94</b>	<b>42</b>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	79.4	35.3		22	35	47				
BL MAPLE-T	171.4	76.3		11	45	80				
WHEMLOCK-T	244.9	109.1			16	33				
R ALDER-T	156.0	69.4		7	22	38				
<b>TOTAL</b>	<b>70.9</b>	<b>31.5</b>		<b>81</b>	<b>118</b>	<b>155</b>	<b>239</b>	<b>60</b>	<b>27</b>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	60.7	27.0		73	100	127				
BL MAPLE-T	167.3	74.5		10	40	70				
WHEMLOCK-T	244.9	109.1			27	56				
R ALDER-T	154.9	69.0		4	13	23				
<b>TOTAL</b>	<b>50.2</b>	<b>22.3</b>		<b>140</b>	<b>180</b>	<b>220</b>	<b>120</b>	<b>30</b>	<b>13</b>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T	60.4	26.9		16,413	22,453	28,493				
BL MAPLE-T	188.2	83.8		413	2,550	4,688				
WHEMLOCK-T	244.9	109.1			1,339	2,799				
R ALDER-T	155.2	69.1		238	771	1,303				
<b>TOTAL</b>	<b>49.3</b>	<b>22.0</b>		<b>21,161</b>	<b>27,113</b>	<b>33,064</b>	<b>116</b>	<b>29</b>	<b>13</b>	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
06N	04E	33	YALEOFAT	00U6	6.00		6	27	S	W
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T		61.1	27.2	3,445	4,733	6,021				
BL MAPLE-T		178.4	79.4	168	818	1,467				
WHEMLOCK-T		244.9	109.1		638	1,335				
R ALDER-T		159.0	70.8	75	257	439				
<b>TOTAL</b>		<i>46.8</i>	<i>20.8</i>	<i>5,103</i>	<i>6,446</i>	<i>7,790</i>	<i>104</i>	<i>26</i>	<i>12</i>	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T		60.4	26.9	164	225	285				
BL MAPLE-T		188.2	83.8	10	64	117				
WHEMLOCK-T		244.9	109.1		50	105				
R ALDER-T		155.2	69.1	18	58	98				
<b>TOTAL</b>		<i>49.3</i>	<i>22.0</i>	<i>118</i>	<i>151</i>	<i>184</i>	<i>116</i>	<i>29</i>	<i>13</i>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	04E	33	YALEOFAT	00U7	150.00	61	400	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	61	400	6.6							
CRUISE	34	144	4.2	25,626			.6			
DBH COUNT										
REFOREST										
COUNT	27	181	6.7							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	46	54.3	19.5	96	25.4	112.1	23,271	22,953	5,093	5,093
DOUG FIR-S	4	2.4	21.2	93	1.3	5.9	983	933	239	238
DOUG FIR-T	26	28.3	16.7	85	10.6	43.3	6,654	6,562	1,681	1,681
WHEMLOCK	44	50.9	15.4	73	16.7	65.6	12,201	12,022	2,741	2,741
WHEMLOCK-T	18	30.3	13.8	62	8.5	31.5	4,725	4,629	1,128	1,128
WR CEDAR	6	4.6	12.5	50	1.1	3.9	414	354	117	106
<b>TOTAL</b>	<i>144</i>	<i>170.8</i>	<i>16.8</i>	<i>80</i>	<i>64.0</i>	<i>262.3</i>	<i>48,248</i>	<i>47,454</i>	<i>10,999</i>	<i>10,988</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	83.8	12.4		601	685	770				
DOUG FIR-S	16.9	9.6		352	390	428				
DOUG FIR-T	55.3	11.1		257	288	320				
WHEMLOCK	73.9	11.1		405	456	506				
WHEMLOCK-T	89.7	21.7		222	283	345				
WR CEDAR	108.8	48.4		114	222	329				
<b>TOTAL</b>	<i>91.2</i>	<i>7.6</i>		<i>430</i>	<i>466</i>	<i>501</i>	<i>332</i>	<i>83</i>	<i>37</i>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	69.5	10.2		128	142	157				
DOUG FIR-S	7.2	4.1		95	99	103				
DOUG FIR-T	47.3	9.5		66	73	80				
WHEMLOCK	67.4	10.1		91	101	111				
WHEMLOCK-T	81.7	19.8		53	67	80				
WR CEDAR	91.9	40.9		36	62	87				
<b>TOTAL</b>	<i>75.5</i>	<i>6.3</i>		<i>97</i>	<i>103</i>	<i>110</i>	<i>227</i>	<i>57</i>	<i>25</i>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	60.6	7.8		50	54	58				
DOUG FIR-S	242.5	31.0		2	2	3				
DOUG FIR-T	117.4	15.0		24	28	33				
WHEMLOCK	99.0	12.7		44	51	57				
WHEMLOCK-T	145.9	18.7		25	30	36				
WR CEDAR	463.8	59.3		2	5	7				
<b>TOTAL</b>	<i>26.8</i>	<i>3.4</i>		<i>165</i>	<i>171</i>	<i>177</i>	<i>29</i>	<i>7</i>	<i>3</i>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	56.7	7.3		104	112	120				
DOUG FIR-S	242.4	31.0		4	6	8				
DOUG FIR-T	117.3	15.0		37	43	50				
WHEMLOCK	95.2	12.2		58	66	74				
WHEMLOCK-T	141.4	18.1		26	31	37				
WR CEDAR	357.3	45.7		2	4	6				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
06N	04E	33	YALEOFAT	00U7	150.00		61	400	S	W
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
<b>TOTAL</b>		12.3	1.6	258	262	266	6	2	1	
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		58.5	7.5	21,235	22,953	24,671				
DOUG FIR-S		243.6	31.2	643	933	1,224				
DOUG FIR-T		116.0	14.8	5,588	6,562	7,536				
WHEMLOCK		100.9	12.9	10,470	12,022	13,574				
WHEMLOCK-T		146.9	18.8	3,759	4,629	5,499				
WR CEDAR		353.1	45.2	194	354	514				
<b>TOTAL</b>		9.9	1.3	46,853	47,454	48,055	4	1	0	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		57.8	7.4	4,716	5,093	5,469				
DOUG FIR-S		242.8	31.1	164	238	312				
DOUG FIR-T		116.8	14.9	1,430	1,681	1,932				
WHEMLOCK		100.6	12.9	2,388	2,741	3,094				
WHEMLOCK-T		146.8	18.8	916	1,128	1,340				
WR CEDAR		366.2	46.8	57	106	156				
<b>TOTAL</b>		11.5	1.5	10,826	10,988	11,149	5	1	1	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				189	205	220				
DOUG FIR-S		145.1	18.6	109	158	207				
DOUG FIR-T				129	152	174				
WHEMLOCK		38.8	5.0	160	183	207				
WHEMLOCK-T		47.0	6.0	119	147	175				
WR CEDAR		353.1	45.2	49	90	131				
<b>TOTAL</b>		272.4	34.8	179	181	183	2,962	741	329	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	YALEOFIN			DATE	11/23/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	04E	33	YALEOFAT	00U8	3.00	5	21	S	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL		5	21	4.2							
CRUISE		4	21	5.3	263		8.0				
DBH COUNT											
REFOREST											
COUNT											
BLANKS		1									
100 %											
<b>STAND SUMMARY</b>											
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR-T	17	66.1	19.4	88	30.9	136.0	24,180	24,000	5,363	5,361	
WHEMLOCK-T	4	21.6	16.5	69	7.9	32.0	4,138	3,764	1,065	994	
<b>TOTAL</b>	<b>21</b>	<b>87.7</b>	<b>18.7</b>	<b>84</b>	<b>38.8</b>	<b>168.0</b>	<b>28,318</b>	<b>27,764</b>	<b>6,428</b>	<b>6,355</b>	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL: 68.1 %	COEFF	SAMPLE TREES - BF					# OF TREES REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	74.9	18.7	444	546	649						
WHEMLOCK-T	111.0	63.4	94	258	421						
<b>TOTAL</b>	<b>81.4</b>	<b>18.2</b>	<b>402</b>	<b>491</b>	<b>581</b>	<b>278</b>	<b>69</b>	<b>31</b>			
CL: 68.1 %	COEFF	SAMPLE TREES - CF					# OF TREES REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	67.1	16.8	98	118	138						
WHEMLOCK-T	90.3	51.6	30	63	95						
<b>TOTAL</b>	<b>72.0</b>	<b>16.1</b>	<b>90</b>	<b>107</b>	<b>125</b>	<b>218</b>	<b>54</b>	<b>24</b>			
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	123.5	61.4	26	66	107						
WHEMLOCK-T	146.5	72.8	6	22	37						
<b>TOTAL</b>	<b>93.4</b>	<b>46.4</b>	<b>47</b>	<b>88</b>	<b>128</b>	<b>431</b>	<b>108</b>	<b>48</b>			
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	113.1	56.2	60	136	212						
WHEMLOCK-T	136.9	68.0	10	32	54						
<b>TOTAL</b>	<b>89.7</b>	<b>44.6</b>	<b>93</b>	<b>168</b>	<b>243</b>	<b>398</b>	<b>99</b>	<b>44</b>			
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	111.6	55.5	10,689	24,000	37,311						
WHEMLOCK-T	163.0	81.0	716	3,764	6,812						
<b>TOTAL</b>	<b>95.8</b>	<b>47.6</b>	<b>14,551</b>	<b>27,764</b>	<b>40,977</b>	<b>453</b>	<b>113</b>	<b>50</b>			
CL: 68.1 %	COEFF	NET CUFT FT/ACRE					# OF PLOTS REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	113.4	56.4	2,340	5,361	8,382						
WHEMLOCK-T	149.2	74.1	257	994	1,731						
<b>TOTAL</b>	<b>93.8</b>	<b>46.6</b>	<b>3,392</b>	<b>6,355</b>	<b>9,318</b>	<b>435</b>	<b>109</b>	<b>48</b>			
CL: 68.1 %	COEFF	V-BAR/ACRE					# OF PLOTS REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	111.6	55.5	79	176	274						
WHEMLOCK-T	163.0	81.0	22	118	213						
<b>TOTAL</b>	<b>95.8</b>	<b>47.6</b>	<b>87</b>	<b>165</b>	<b>244</b>	<b>453</b>	<b>113</b>	<b>50</b>			

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	04E	33	YALEOFAT	00U9	2.00	5	16	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		5	16	3.2						
CRUISE		4	16	4.0	254		6.3			
DBH COUNT										
REFOREST										
COUNT										
BLANKS		1								
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR-T	12	87.1	13.0	60	22.3	80.7	6,933	6,590	2,062	2,051
WHEMLOCK-T	4	40.0	11.1	65	8.1	26.9	2,380	2,380	639	639
<b>TOTAL</b>	<i>16</i>	<i>127.1</i>	<i>12.5</i>	<i>62</i>	<i>30.5</i>	<i>107.6</i>	<i>9,313</i>	<i>8,971</i>	<i>2,701</i>	<i>2,690</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>					# OF TREES REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	91.4	27.5		77	107	136				
WHEMLOCK-T				90	90	90				
<b>TOTAL</b>	<i>82.5</i>	<i>22.0</i>		<i>81</i>	<i>103</i>	<i>126</i>	<i>291</i>	<i>73</i>	<i>32</i>	
CL: 68.1 %	COEFF	<b>SAMPLE TREES - CF</b>					# OF TREES REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	83.9	25.3		25	34	42				
WHEMLOCK-T				24	24	24				
<b>TOTAL</b>	<i>78.8</i>	<i>21.0</i>		<i>25</i>	<i>32</i>	<i>38</i>	<i>265</i>	<i>66</i>	<i>29</i>	
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>					# OF PLOTS REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	74.4	37.0		55	87	119				
WHEMLOCK-T	94.4	46.9		21	40	59				
<b>TOTAL</b>	<i>74.4</i>	<i>37.0</i>		<i>80</i>	<i>127</i>	<i>174</i>	<i>273</i>	<i>68</i>	<i>30</i>	
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>					# OF PLOTS REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	63.2	31.4		55	81	106				
WHEMLOCK-T	104.6	52.0		13	27	41				
<b>TOTAL</b>	<i>64.0</i>	<i>31.8</i>		<i>73</i>	<i>108</i>	<i>142</i>	<i>203</i>	<i>51</i>	<i>23</i>	
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>					# OF PLOTS REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	66.3	32.9		4,420	6,590	8,760				
WHEMLOCK-T	113.7	56.5		1,035	2,380	3,725				
<b>TOTAL</b>	<i>67.0</i>	<i>33.3</i>		<i>5,983</i>	<i>8,971</i>	<i>11,958</i>	<i>222</i>	<i>55</i>	<i>25</i>	
CL: 68.1 %	COEFF	<b>NET CUFT FT/ACRE</b>					# OF PLOTS REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	66.1	32.8		1,378	2,051	2,724				
WHEMLOCK-T	107.2	53.3		299	639	980				
<b>TOTAL</b>	<i>64.1</i>	<i>31.9</i>		<i>1,833</i>	<i>2,690</i>	<i>3,547</i>	<i>203</i>	<i>51</i>	<i>23</i>	
CL: 68.1 %	COEFF	<b>V-BAR/ACRE</b>					# OF PLOTS REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-T	66.3	32.9		55	82	109				
WHEMLOCK-T	113.7	56.5		39	89	139				
<b>TOTAL</b>	<i>67.0</i>	<i>33.3</i>		<i>56</i>	<i>83</i>	<i>111</i>	<i>222</i>	<i>55</i>	<i>25</i>	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	YALEOFIN			DATE	11/23/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	04E	33	YALEOFAT	0U10	1.00	4	19	S	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
				PLOTS	TREES	TREES	TREES				
TOTAL		4	19	4.8							
CRUISE		4	19	4.8	104		18.2				
DBH COUNT											
REFOREST											
COUNT											
BLANKS											
100 %											
<b>STAND SUMMARY</b>											
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR-T	16	82.1	17.3	70	32.3	134.4	19,559	19,173	4,594	4,595	
R ALDER-T	1	6.8	15.0	45	2.2	8.4	548	548	195	195	
BL MAPLE-T	1	12.7	11.0	27	2.5	8.4	382	382	132	132	
WHEMLOCK-T	1	2.7	24.0	93	1.7	8.4	1,525	1,471	353	353	
<b>TOTAL</b>	<i>19</i>	<i>104.3</i>	<i>16.8</i>	<i>64</i>	<i>39.0</i>	<i>159.6</i>	<i>22,013</i>	<i>21,574</i>	<i>5,274</i>	<i>5,275</i>	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>					# OF TREES REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	120.8	31.2	324	471	618						
R ALDER-T											
BL MAPLE-T											
WHEMLOCK-T											
<b>TOTAL</b>	<i>124.3</i>	<i>29.3</i>	<i>305</i>	<i>432</i>	<i>558</i>	<i>652</i>	<i>163</i>	<i>72</i>			
CL: 68.1 %	COEFF	<b>SAMPLE TREES - CF</b>					# OF TREES REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	102.6	26.5	76	103	130						
R ALDER-T											
BL MAPLE-T											
WHEMLOCK-T											
<b>TOTAL</b>	<i>104.9</i>	<i>24.7</i>	<i>72</i>	<i>96</i>	<i>119</i>	<i>464</i>	<i>116</i>	<i>52</i>			
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>					# OF PLOTS REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	87.6	50.0	41	82	123						
R ALDER-T	200.0	114.3		7	15						
BL MAPLE-T	200.0	114.3		13	27						
WHEMLOCK-T	200.0	114.3		3	6						
<b>TOTAL</b>	<i>62.0</i>	<i>35.4</i>	<i>67</i>	<i>104</i>	<i>141</i>	<i>200</i>	<i>50</i>	<i>22</i>			
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>					# OF PLOTS REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	45.6	26.1	99	134	169						
R ALDER-T	200.0	114.3		8	18						
BL MAPLE-T	200.0	114.3		8	18						
WHEMLOCK-T	200.0	114.3		8	18						
<b>TOTAL</b>	<i>31.6</i>	<i>18.0</i>	<i>131</i>	<i>160</i>	<i>188</i>	<i>52</i>	<i>13</i>	<i>6</i>			
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>					# OF PLOTS REQ.	INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR-T	73.8	42.1	11,094	19,173	27,252						
R ALDER-T	200.0	114.3		548	1,174						
BL MAPLE-T	200.0	114.3		382	818						
WHEMLOCK-T	200.0	114.3		1,471	3,152						
<b>TOTAL</b>	<i>73.9</i>	<i>42.2</i>	<i>12,471</i>	<i>21,574</i>	<i>30,677</i>	<i>285</i>	<i>71</i>	<i>32</i>			

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
06N	04E	33	YALEOFAT	0U10	1.00		4	19	S	W
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T		57.8	33.0	3,077	4,595	6,113				
R ALDER-T		200.0	114.3		195	418				
BL MAPLE-T		200.0	114.3		132	282				
WHEMLOCK-T		200.0	114.3		353	756				
<b>TOTAL</b>		55.2	31.6	3,611	5,275	6,940	159	40	18	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR-T		73.8	42.1	83	143	203				
R ALDER-T		200.0	114.3		65	140				
BL MAPLE-T		200.0	114.3		45	97				
WHEMLOCK-T		200.0	114.3		175	375				
<b>TOTAL</b>		73.9	42.2	78	135	192	285	71	32	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	04E	33	YALEOFAT	0U11	2.00	2	10	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		2	10	5.0						
CRUISE		1	6	6.0	197	3.0				
DBH COUNT REFOREST COUNT		1	4	4.0						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-T		5	79.3	18.0	85	33.0	140.0	23,857	23,768	5,670
DOUG FIR-T		1	19.1	24.0	93	12.2	60.0	11,077	10,695	2,408
<b>TOTAL</b>		<b>6</b>	<b>98.4</b>	<b>19.3</b>	<b>87</b>	<b>45.5</b>	<b>200.0</b>	<b>34,934</b>	<b>34,463</b>	<b>8,078</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK-T		55.8	27.7	254	352	450				
DOUG FIR-T										
<b>TOTAL</b>		<b>50.4</b>	<b>22.5</b>	<b>300</b>	<b>387</b>	<b>473</b>	<b>121</b>	<b>30</b>	<b>13</b>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK-T		49.2	24.5	62	82	103				
DOUG FIR-T										
<b>TOTAL</b>		<b>45.1</b>	<b>20.1</b>	<b>72</b>	<b>90</b>	<b>108</b>	<b>97</b>	<b>24</b>	<b>11</b>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK-T		60.6	56.8	34	79	124				
DOUG FIR-T		47.1	44.1	11	19	28				
<b>TOTAL</b>		<b>39.7</b>	<b>37.2</b>	<b>62</b>	<b>98</b>	<b>135</b>	<b>110</b>	<b>28</b>	<b>12</b>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK-T		60.6	56.8	61	140	219				
DOUG FIR-T		47.1	44.1	34	60	86				
<b>TOTAL</b>		<b>28.3</b>	<b>26.5</b>	<b>147</b>	<b>200</b>	<b>253</b>	<b>56</b>	<b>14</b>	<b>6</b>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK-T		60.6	56.8	10,279	23,768	37,257				
DOUG FIR-T		47.1	44.1	5,974	10,695	15,416				
<b>TOTAL</b>		<b>27.2</b>	<b>25.4</b>	<b>25,695</b>	<b>34,463</b>	<b>43,231</b>	<b>52</b>	<b>13</b>	<b>6</b>	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK-T		60.6	56.8	2,452	5,670	8,888				
DOUG FIR-T		47.1	44.1	1,345	2,408	3,471				
<b>TOTAL</b>		<b>28.5</b>	<b>26.7</b>	<b>5,923</b>	<b>8,078</b>	<b>10,233</b>	<b>57</b>	<b>14</b>	<b>6</b>	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK-T		20.2	18.9	73	170	266				
DOUG FIR-T				100	178	257				
<b>TOTAL</b>		<b>195.9</b>	<b>183.4</b>	<b>128</b>	<b>172</b>	<b>216</b>	<b>2,691</b>	<b>673</b>	<b>299</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	YALEOFIN			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	04E	33	YALEOFAT	0U12	1.00	1	9	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		1	9	9.0						
CRUISE		1	9	9.0	253	3.6				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-T	5	151.2	15.6	78	50.7	200.0	30,306	29,528	7,626	7,626
DOUG FIR-T	4	102.1	16.9	84	38.9	160.0	22,868	22,702	5,913	5,913
<b>TOTAL</b>	9	253.3	16.1	80	89.6	360.0	53,174	52,229	13,540	13,540
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK-T	75.3	37.4		153	244	335				
DOUG FIR-T	34.7	19.8		194	243	291				
<b>TOTAL</b>	57.4	20.3		194	243	293	148	37	16	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK-T	59.8	29.7		43	61	79				
DOUG FIR-T	38.4	21.9		50	64	78				
<b>TOTAL</b>	47.9	16.9		52	62	73	103	26	11	

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

T06N R04E S33 Ty00U1	35.0
T06N R04E S33 Ty00U2	60.0
T06N R04E S33 Ty0U1	1.0

Project **YALEOFIN**  
Acres **326.00**

Page No **1**  
Date: **11/23/2015**  
Time **3:32:04PM**

Species	s T	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
		Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	T	17,597	37,649	31,890	63.37	29.62	0.92	11,189	11,151	4,753	4,652
DOUG FIR		8,142	22,672	21,771	93.82	33.69	1.02	7,639	7,639	3,491	3,443
WHEMLOCK		7,633	15,627	13,158	53.87	26.31	0.88	4,112	4,112	1,830	1,803
WHEMLOCK	T	7,577	13,108	9,569	39.28	22.70	0.71	2,990	2,976	1,200	1,163
BL MAPLE	T	1,819	2,397	1,600	32.36	24.56	0.86	604	589	202	185
R ALDER	T	2,010	3,227	1,226	22.11	13.77	0.53	446	444	155	152
DOUG FIR	S	360	1,080	1,021	99.36	33.12	1.10	358	358	147	140
WR CEDAR		696	921	414	22.95	17.33	0.64	176	160	62	53
<b>Totals</b>		45,833	96,681	80,649	59.84	28.37	0.90	27,515	27,428	11,840	11,593

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
C	42,005	91,057	77,823	62.84	28.99	0.91	26,465	26,395	11,484	11,255
H	3,829	5,624	2,826	26.98	18.37	0.68	1,050	1,033	357	338
<b>Totals</b>	45,833	96,681	80,649	59.84	28.37	0.90	27,515	27,428	11,840	11,593



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

FPA/N No: 2931318  
 Effective Date: 03/01/2016  
 Expiration Date: 03/01/2019  
 Shut Down Zone: 660  
 EARR Tax Credit:  Eligible [ ] Non-eligible  
 Reference: Yale of A Tale VRH VDT  
 30-092969

**Forest Practices Application/Notification  
 Notice of Decision**

Decision

- Notification Operations shall not begin before the effective date.
- Approved This Forest Practices Application is subject to the conditions listed below.
- Disapproved This Forest Practices Application is disapproved for the reasons listed below.
- Closed Applicant has withdrawn approved FPA/N

FPA/N Classification

Number of Years Granted on Multi-Year Request

Class II  Class III  Class IVG  Class IVS  3 yrs  4 yrs  5 yrs

Conditions on Approval / Reasons for Disapproval

1. Use erosion control measures in areas of soil disturbances with potential to deliver sediment to any waters. Erosion control measures may include but are not limited to: grass seeding, mulch, fiber mat, hay bales, brush and non-merchantable timber retention etc.
2. Divert or isolate water for culvert installations and/or removals in flowing type N waters.

NOTE:

Refer to WAC 222-24-052(1) (d), (e), & (f) for road maintenance during and following harvest activities.

Refer to WAC 222-30-050(1) & (2) for felling and bucking within type Np and Ns waters

Refer to WAC 222-30-021 (2) (a) for equipment limitation zones associated with perennial and seasonal streams.

Refer to WAC 222-24-052(1) (c) for sediment delivery to typed waters.

Issued By: Geoff Crosby Region: Pacific Cascade

Title: Forest Practices Forester Date: 03/01/2016

Copies to:  Landowner, Timber Owner and Operator.

Issued in person:  Landowner  Timber Owner  Operator By: *Peter Goldmark*

**Appeal Information**

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

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

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

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

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

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

And

Department Of Natural Resources  
Pacific Cascade Region  
601 Bond Road  
PO Box 280  
Castle Rock, WA 98611

**Other Applicable Laws**

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

**Hydraulic Project Approval (HPA) (Chapter 77.55RCW and WAC 222-50-020(2))**

The Department of Fish and Wildlife (WDFW), as the jurisdictional agency issuing HPAs, has final authority for approving water crossing structures in Type S and F waters. WDFW continues to have authority on Type N waters and may exercise that authority on some Type N waters.

Notice: The HPA water crossing requirements supersede what is indicated on the FPA. Landowners are required by law to follow the provisions as directed on the HPA.

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

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

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

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

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

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

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

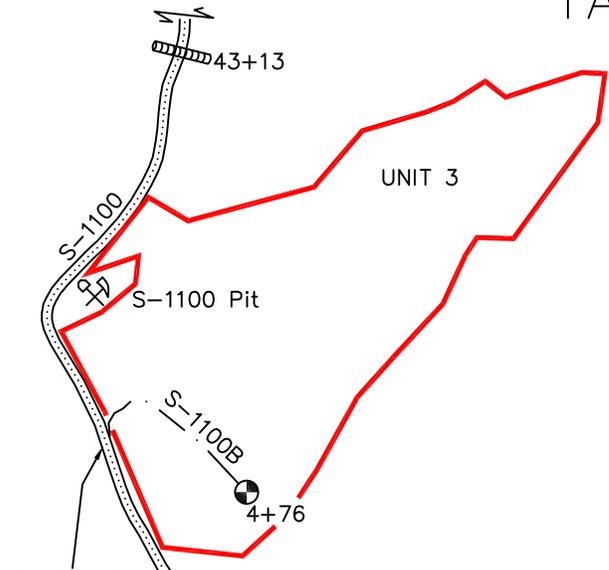
**DNR affidavit of mailing:**

On this day \_\_\_\_\_, I placed in the United States mail at \_\_\_\_\_ Castle Rock \_\_\_\_\_, WA,  
(date mm/dd/yyyy) (post office location)  
postage paid, a true and accurate copy of this document. Notice of Decision FPA # \_\_\_\_\_  
\_\_\_\_\_  
(Printed name) (Signature)

# YALE OF A TALE

## ROAD PLAN MAP

Map page 1 of 6

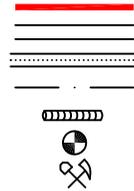


31+85 of  
S-1100  
=0+00 of  
S-1100B

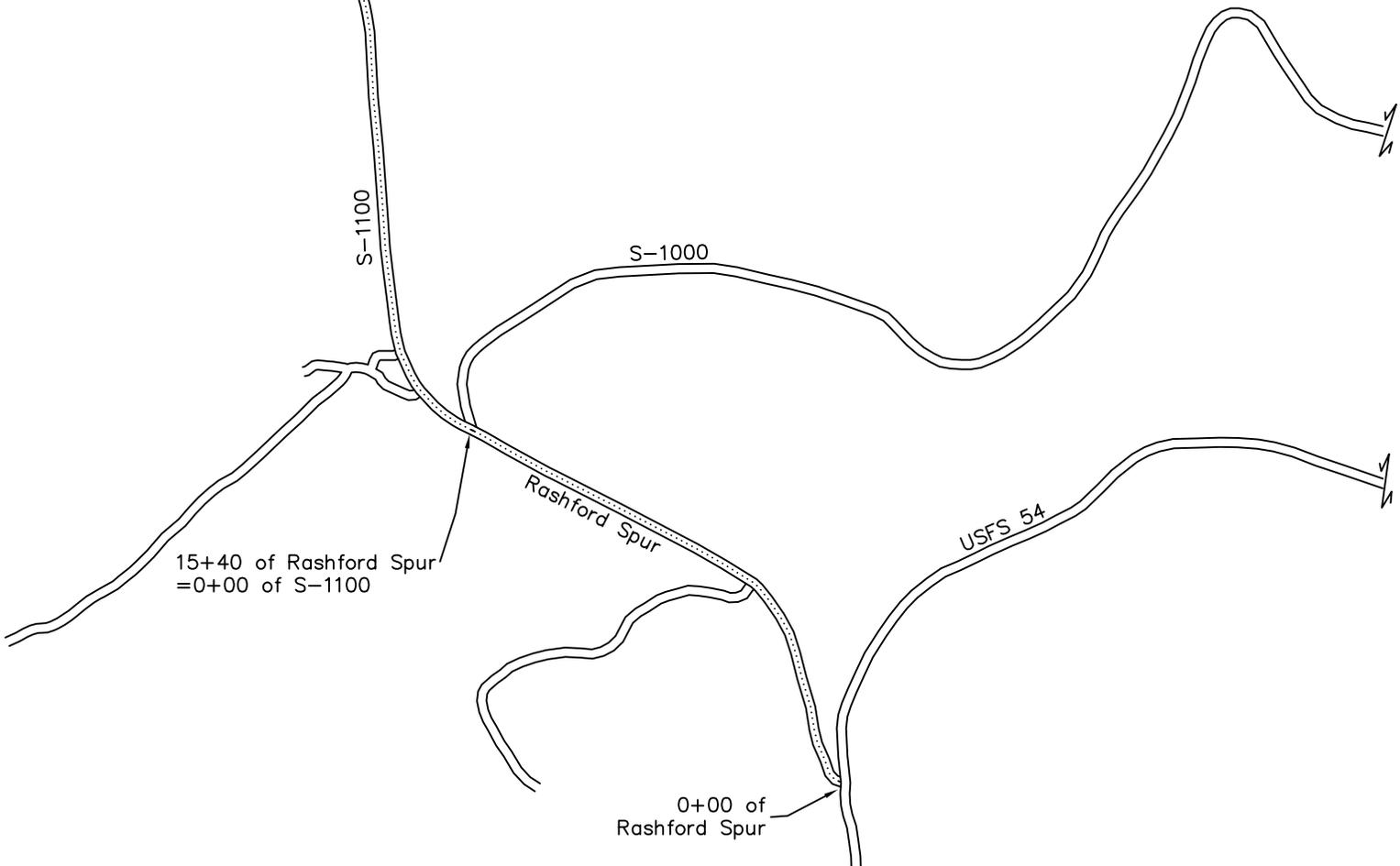


### LEGEND

- Unit Boundary
- Existing Road
- Pre-haul Maintenance
- Optional Construction
- Culvert
- Landing
- Rock Source



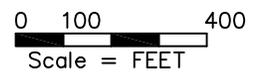
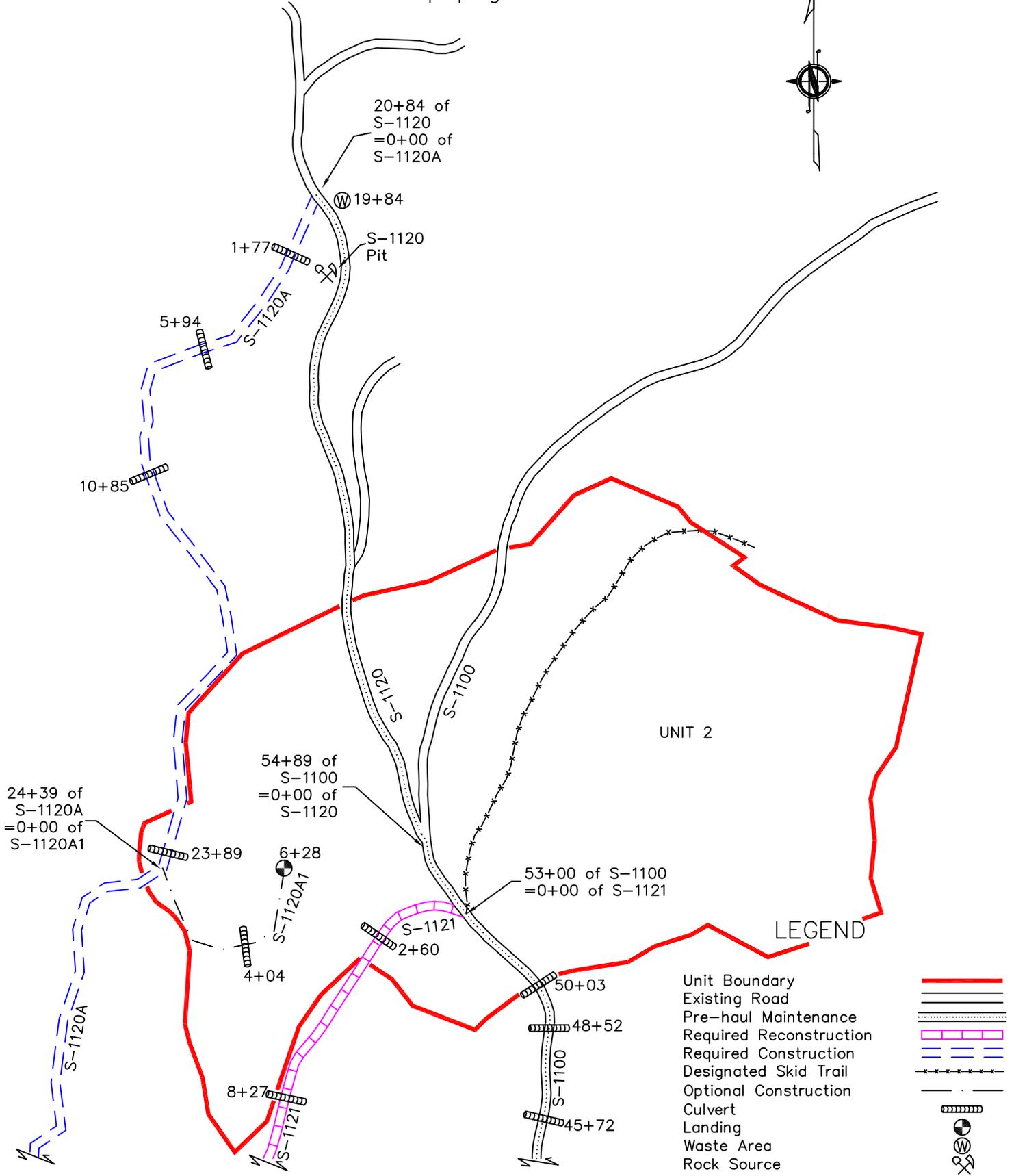
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# YALE OF A TALE

## ROAD PLAN MAP

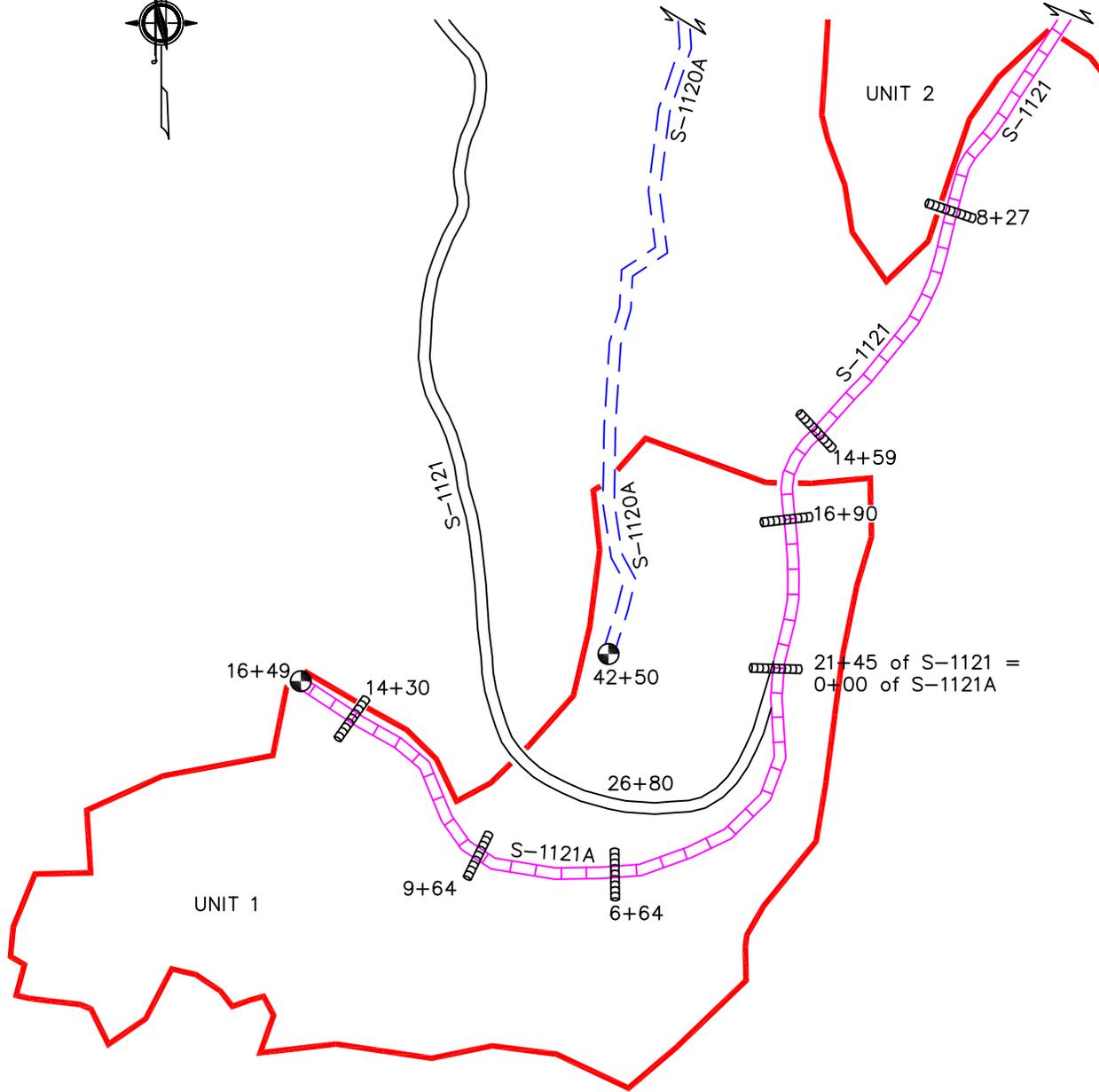
Map page 2 of 6



# YALE OF A TALE

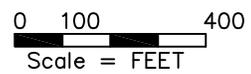
## ROAD PLAN MAP

Map page 3 of 6



### LEGEND

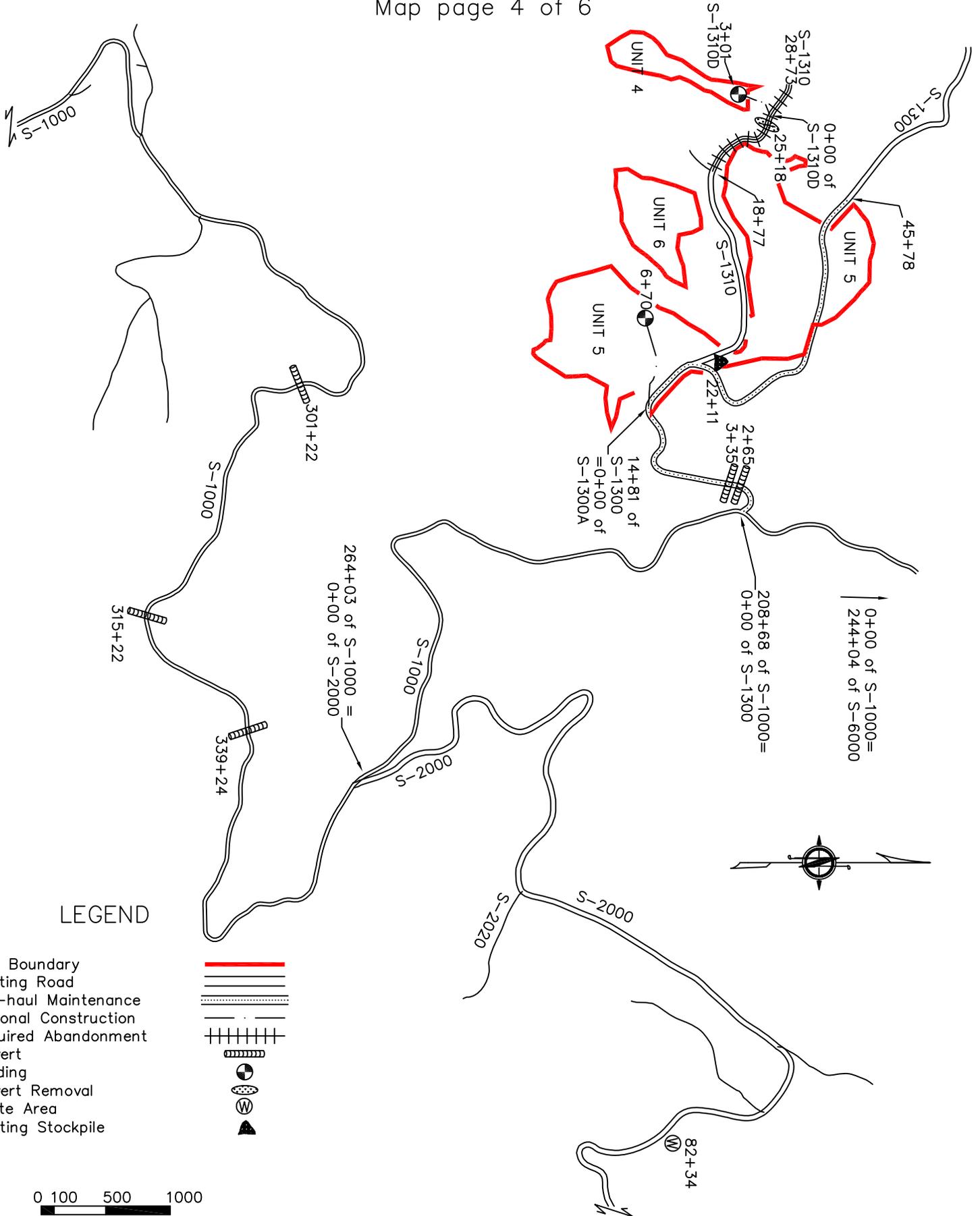
- Unit Boundary
- Existing Road
- Required Reconstruction
- Required Construction
- Culvert
- Landing



# YALE OF A TALE

## ROAD PLAN MAP

Map page 4 of 6



### LEGEND

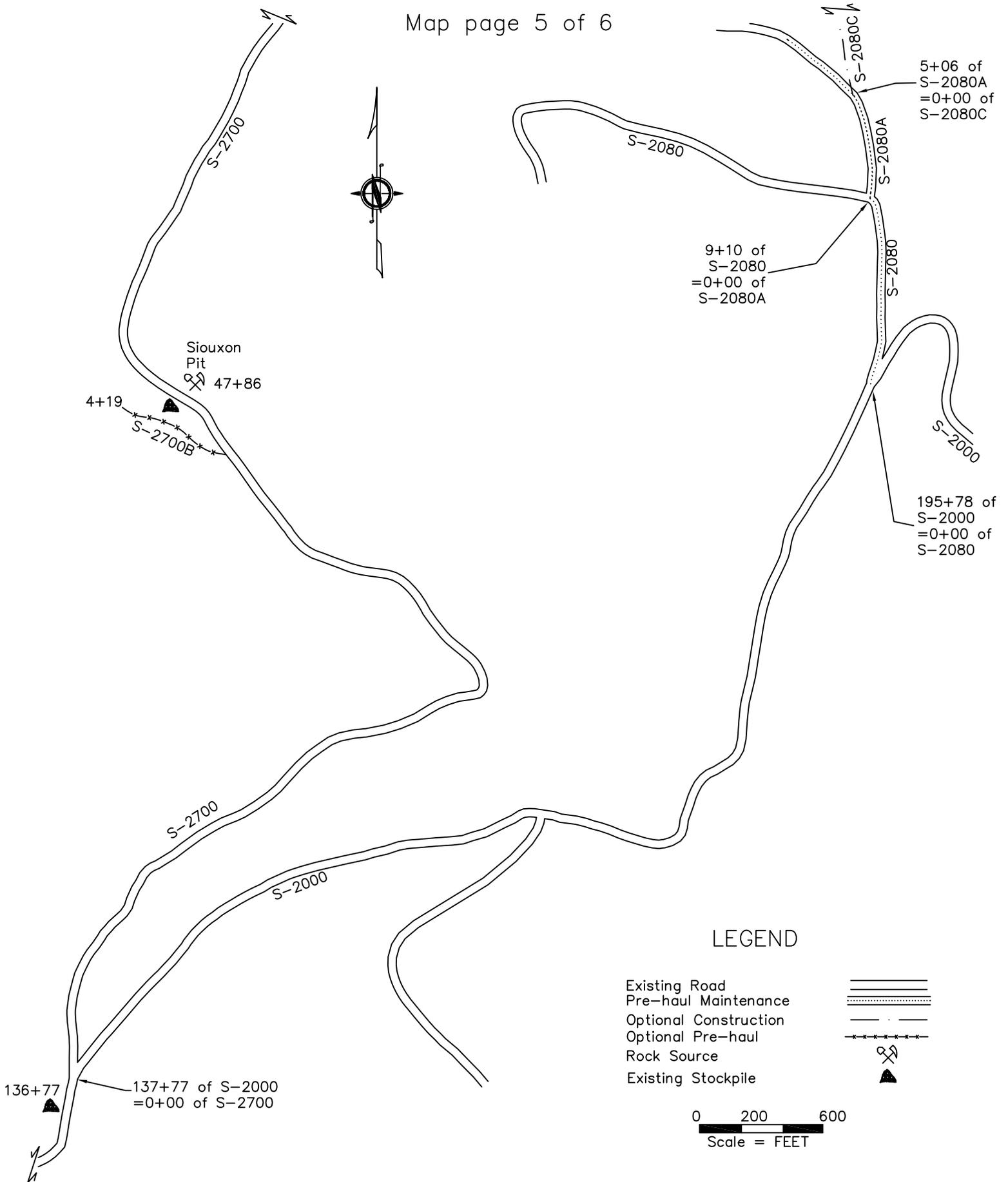
- Unit Boundary
- Existing Road
- Pre-haul Maintenance
- Optional Construction
- Required Abandonment
- Culvert
- Landing
- Culvert Removal
- Waste Area
- Existing Stockpile

0 100 500 1000  
Scale = FEET

# YALE OF A TALE

## ROAD PLAN MAP

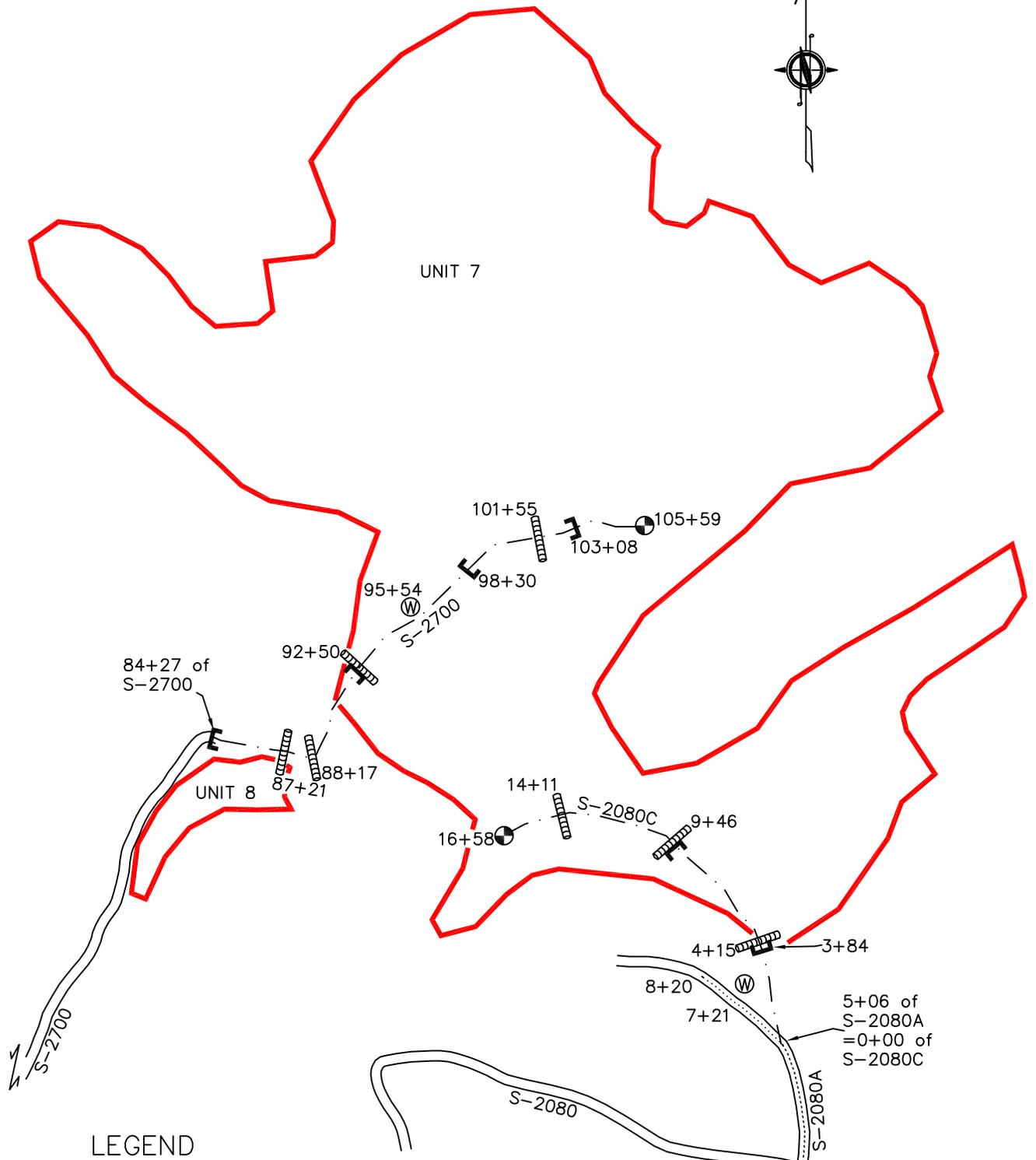
Map page 5 of 6



# YALE OF A TALE

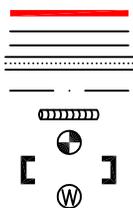
## ROAD PLAN MAP

Map page 6 of 6

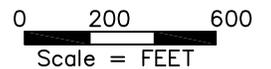


### LEGEND

- Unit Boundary
- Existing Road
- Pre-haul Maintenance
- Optional Construction
- Culvert
- Landing
- End Haul Area
- Waste Area



9+10 of S-2080  
=0+00 of S-2080A



STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

YALE OF A TALE TIMBER SALE ROAD PLAN  
CLARK & SKAMANIA COUNTY  
YACOLT DISTRICT

AGREEMENT NO.: 30-092969

STAFF ENGINEER: SCOTT HANNA

CREATION DATE: NOVEMBER 2, 2015

DRAWN & COMPILED BY: ALICIA COMPTON

MODIFICATION DATE: MARCH 2, 2016

SECTION 0 – SCOPE OF PROJECT

**0-1 ROAD PLAN SCOPE**

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

**0-2 REQUIRED ROADS**

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
Rashford Spur	0+00 to 15+40	pre-haul maintenance
S-1000	301+22,315+22,339+24	pre-haul maintenance
S-1100	0+00 to 54+89	pre-haul maintenance
S-1120	0+00 to 20+84	pre-haul maintenance
S-1120A	0+00 to 42+50	construction
S-1121	0+00 to 21+45	reconstruction
S-1121A	0+00 to 16+49	reconstruction
S-1300	0+00 to 45+78	pre-haul maintenance
S-2080	0+00 to 9+10	pre-haul maintenance
S-2080A	0+00 to 8+20	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.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
S-1100B	0+00 to 4+76	construction
S-1120A1	0+00 to 6+28	construction
S-1300A	0+00 to 6+70	construction
S-1310D	0+00 to 3+01	construction
S-2080C	0+00 to 16+58	construction

**0-3 OPTIONAL ROADS CONT.**

<u>Road</u>	<u>Stations</u>	<u>Type</u>
S-2700	84+27 to 105+59	construction
S-2700B	0+00 to 4+19	pre-haul maintenance

**0-4 CONSTRUCTION**

Construction includes, but is not limited to the following: clearing; grubbing; right-of-way debris disposal; excavation and embankment to sub-grade; full-bench excavation and endhaul material; acquisition and installation of drainage structures; compaction of subgrade and embankment; landing construction; manufacture, application and compaction of rock.

**0-5 RECONSTRUCTION**

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
S-1121	0+00 to 21+45	Clearing and grubbing; ditch construction; acquisition and installation of drainage structures; shaping and compaction of existing surface; manufacture, application and compaction of rock.
S-1121A	0+00 to 16+49	Clearing and grubbing; sub-grade widening, ditch construction; acquisition and installation of drainage structures; shaping and compaction of existing surface; manufacture, application and compaction of rock.

**0-6 PRE-HAUL MAINTENANCE**

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
Rashford Spur	0+00 to 15+40	De-sod, grade, shape, and compact existing surface.
S-1000	301+22,315+22,339+24	Acquisition and installation of drainage structures; application and compaction of spot patch rock.
S-1100	0+00 to 54+89	Clean ditches; clean culvert inlets and outlets; acquisition and installation of drainage structures; de-sod, grade, shape, and compact existing surface; manufacture, application and compaction of rock.
S-1120	0+00 to 20+84	Clean ditches; clean culvert inlets and outlets; de-sod, grade, shape, and compact existing surface.

**0-6 PRE-HAUL MAINTENANCE CONT.**

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
S-1300	0+00 to 45+78	Clean ditches; clean culvert inlets and outlets; acquisition and installation of drainage structures; manufacture, application and compaction of rock.
S-2080	0+00 to 9+10	Clearing, grubbing, and right-of-way debris disposal in accordance to TYPICAL SECTION SHEET. Clean ditches; clean culvert inlets and outlets; grade, shape, and compact existing surface. Application and compaction of rock.
S-2080A	0+00 to 8+20	Clearing, grubbing, and right-of-way debris disposal in accordance to TYPICAL SECTION SHEET. Clean ditches; clean culvert inlets and outlets; grade, shape, and compact existing surface.
S-2700B	0+00 to 4+19	Clearing, grubbing, and right-of-way debris disposal in accordance to TYPICAL SECTION SHEET. Clean ditches; clean culvert inlets and outlets; grade, shape, and compact existing surface.

**0-7 POST-HAUL MAINTENANCE**

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

**0-10 ABANDONMENT**

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

**0-12 DEVELOP ROCK SOURCE**

Purchaser shall develop an existing rock source. Rock source development will involve clearing, stripping, waste disposal, drilling, shooting, and processing rock. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

**1-1 ROAD PLAN CHANGES**

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

**1-2 UNFORESEEN CONDITIONS**

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

**1-3 ROAD DIMENSIONS**

Purchaser shall perform road work in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan.

**1-4 ROAD TOLERANCES**

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

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

**1-6 ORDER OF PRECEDENCE**

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

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

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

**1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS**

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

**1-9 DAMAGED METALLIC COATING**

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

**1-15 ROAD MARKING**

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

- Four-foot stakes with orange ribbon for pre-haul maintenance.
- Four-foot stakes with orange ribbon, orange paint and reference points for construction.
- Four-foot stakes with orange ribbon, orange paint and reference points for reconstruction.

**1-16 CONSTRUCTION STAKES SET BY STATE**

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
S-1100B	0+00 to 4+76	centerline
S-1120A	0+00 to 42+50	centerline
S-1120A1	0+00 to 6+28	centerline
S-1300A	0+00 to 6+70	centerline
S-1310D	0+00 to 3+01	centerline
S-2080C	0+00 to 16+58	centerline, slope stakes
S-2700	84+27 to 105+59	centerline, slope stakes

**1-18 REFERENCE POINT DAMAGE**

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

**1-21 HAUL APPROVAL**

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

**1-22 WORK NOTIFICATIONS**

Purchaser shall notify the Contract Administrator a minimum of 14 calendar days before work begins.

**1-23 ROAD WORK PHASE APPROVAL**

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

- Subgrade construction
- Rock compaction
- Road Abandonment

**1-25 ACTIVITY TIMING RESTRICTION**

The specified activities are not permitted during the listed closure period(s) unless authorized in writing by the Contract Administrator. Restrictions for the hauling forest products are specified in Contract Clause H-130 HAULING SCHEDULE.

<u>Activity</u>	<u>Closure Period</u>
Construction	September 30 to May 1
Reconstruction	September 30 to May 1
Pre-haul Maintenance	September 30 to May 1
Abandonment	September 30 to May 1

**1-26 OPERATING DURING CLOSURE PERIOD**

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION or Contract Clause H-130 HAULING SCHEDULE, the Purchaser shall provide a maintenance plan to include further protection of state resources. The Contract Administrator must approve the maintenance plan in writing, and preventative measures shall be put in place, before operation in the closure period. The Purchaser shall be required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan shall be developed. All parties shall follow this plan.

**1-29 SEDIMENT RESTRICTION**

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

### **1-30 CLOSURE TO PREVENT DAMAGE**

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

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

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

### **1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION**

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

Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surface(s) and have surface(s) evaluated for any damage caused by transporting equipment. Any damage to the surface(s) will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

### **1-33 SNOW PLOWING RESTRICTION**

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

### **1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS**

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

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

SECTION 2 – MAINTENANCE

**2-1 GENERAL ROAD MAINTENANCE**

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

**2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE**

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

**2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER**

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

**2-5 MAINTENANCE GRADING – EXISTING ROAD**

On the following road(s), Purchaser shall use a grader to shape the existing surface before haul.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
Rashford Spur	0+00 to 15+40	De-sod, grade, shape, and compact existing surface in accordance with TYPICAL SECTION SHEET.
S-1100	0+00 to 54+89	
S-1120	0+00 to 20+84	
S-2080	0+00 to 9+10	
S-2080A	0+00 to 8+20	
S-2700B	0+00 to 4+19	

**2-6 CLEANING CULVERTS**

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

<u>Road</u>	<u>Stations</u>
S-1100	0+00 to 54+89
S-1120	0+00 to 20+84
S-1300	0+00 to 45+78
S-2080	0+00 to 9+10
S-2080A	0+00 to 8+20
S-2700B	0+00 to 4+19

**2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS**

On the following road(s), Purchaser shall clean the ditchlines, culvert headwalls, and catch basins. Work shall be completed before rock application and shall be done in accordance with the TYPICAL SECTION DETAIL and CULVERT AND DRAINAGE SPECIFICATION DETAIL. Pulling ditch material across the road or mixing in with the road surface will not be allowed.

<u>Road</u>	<u>Stations</u>
S-1100	0+00 to 54+89
S-1120	0+00 to 20+84
S-1300	0+00 to 45+78
S-2080	0+00 to 9+10
S-2080A	0+00 to 8+20
S-2700B	0+00 to 4+19

**SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL**

**3-5 CLEARING**

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

**3-8 PROHIBITED DECKING AREAS**

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 40%.
- Against standing trees unless approved by the Contract Administrator.

**3-10 GRUBBING**

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

**3-14 STUMPS WITHIN DESIGNATED WASTE AREAS**

The removal of stumps is not required 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 Clause G-010 PRODUCTS SOLD AND SALE AREA or G-011 RIGHT TO REMOVE FOREST PRODUCTS AND CONTRACT AREA, that is larger than one cubic foot in volume within the grubbing limits as shown on the TYPICAL SECTION SHEET.

**3-21 DISPOSAL COMPLETION**

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

**3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS**

Waste areas for organic debris are located as listed below or at areas approved in writing by the Contract Administrator.

<u>Road</u>	<u>Waste Area Location</u>	<u>Comments</u>
S-1120	19+84	Deposit material on downhill side of road prism
S-2000	82+34	
S-2080A	7+21	
S-2700	95+54	

**3-23 PROHIBITED DISPOSAL AREAS**

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 45%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

**3-24 BURYING ORGANIC DEBRIS RESTRICTED**

Purchaser shall not bury organic debris.

**3-25 SCATTERING ORGANIC DEBRIS**

Organic debris shall be scattered outside of the grubbing limits or in natural openings as directed by the Contract Administrator. Where natural openings are unavailable or restrictive, alternative debris disposal methods shall be subject to the written approval of the Contract Administrator.

**3-32 END HAULING ORGANIC DEBRIS**

On the following road(s), Purchaser shall end haul or push organic debris to the designated waste areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS.

<u>Road</u>	<u>Stations</u>
S-2080C	3+84 to 9+46
S-2700	84+27 to 92+50
S-2700	98+30 to 103+08

**SECTION 4 – EXCAVATION**

**4-2 PIONEERING**

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

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

**4-3 ROAD GRADE AND ALIGNMENT STANDARDS**

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

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

**4-4 SWITCHBACK STANDARDS**

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

Purchaser shall follow these standards for switchbacks:

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

**4-5 CUT SLOPE RATIO**

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

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

**4-6 EMBANKMENT SLOPE RATIO**

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

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

**4-7 SHAPING CUT AND FILL SLOPE**

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

**4-8 CURVE WIDENING**

The minimum widening placed on the inside of curves is:

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

**4-9 EMBANKMENT WIDENING**

The minimum embankment widening is:

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

**4-10 WIDEN THE EXISTING SUBGRADE**

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

<u>Road</u>	<u>Stations</u>
S-1121A*	0+00 to 6+64

\*Purchaser has the option to use the S-1121 road from station 21+45 to 26+80 for road equipment access to facilitate reconstruction of excavation slopes.

**4-12 FULL BENCH CONSTRUCTION**

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

<u>Road</u>	<u>Full Bench Location</u>	<u>Comments</u>
S-2080C	3+84 to 9+46	See S-2080C CONSTRUCTION DETAIL
S-2700	84+27 to 92+50	See S-2700 CONSTRUCTION DETAIL
S-2700	98+30 to 103+08	

**4-21 TURNOUTS**

Purchaser shall construct turnouts inter-visible with a maximum distance of 1,000 feet between turnouts. Locations may be adjusted to fit the final subgrade alignment and sight distances. Locations are subject to written approval by the Contract Administrator. Minimum dimensions are shown on the ROCK LIST.

**4-22 TURNAROUNDS**

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

**4-25 DITCH CONSTRUCTION AND RECONSTRUCTION**

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

**4-27 DITCH WORK – MATERIAL USE PROHIBITED**

Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be scattered outside the grubbing limits or disposed of as specified in Clause 4-36 DISPOSAL OF WASTE MATERIAL.

**4-28 DITCH DRAINAGE**

Ditches must drain to cross-drain culverts or ditchouts.

**4-29 DITCHOUTS**

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

**4-35 WASTE MATERIAL DEFINITION**

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

**4-36 DISPOSAL OF WASTE MATERIAL**

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

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

<u>Road</u>	<u>Waste Area Location</u>	<u>Comments</u>
S-1120	19+84	Deposit material on downhill side of road prism
S-2000	82+34	
S-2080A	7+21	
S-2700	95+54	

**4-38 PROHIBITED WASTE DISPOSAL AREAS**

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

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

**4-47 NATIVE MATERIAL**

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 4 inches in any dimension.

**4-55 ROAD SHAPING**

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

**4-56 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**

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. A plate compactor must be used for embankment and waste area segments too narrow to accommodate equipment. Waste material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

**4-61 SUBGRADE COMPACTION**

Purchaser shall compact constructed and reconstructed subgrades deeper than 5 feet at the road shoulder and in accordance with the COMPACTION LIST by routing equipment over the entire width except ditch. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rock application.

**4-62 DRY WEATHER COMPACTION**

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

**4-63 EXISTING SURFACE COMPACTION**

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

SECTION 5 – DRAINAGE

**5-5 CULVERTS**

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

**5-6 USED CULVERT MATERIAL**

Purchaser may install used culverts on the following roads. All other roads must have new culverts installed.

<u>Road</u>	<u>Stations</u>
S-2700	84+27 to 105+59

**5-9 CULVERT MARKER INSTALLATION**

On the following road(s), Purchaser shall install culvert markers in accordance with the CULVERT MARKER INSTALLATION DETAIL.

<u>Road</u>	<u>Stations</u>
S-1120A	0+00 to 42+50
S-1121	0+00 to 21+45
S-1121A	0+00 to 16+49

**5-11 UNUSED MATERIALS STATE PROPERTY**

On required roads, any materials listed on the CULVERT LIST that are not installed will become the property of the state. Purchaser shall stockpile materials as directed 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” and 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**

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

**5-20 ENERGY DISSIPATERS**

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

**5-25 CATCH BASINS**

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 2 feet wide and 4 feet long with backslopes consistent with Clause 4-5 CUT SLOPE RATIO.

**5-26 HEADWALLS FOR CROSS DRAIN CULVERTS**

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed.

**5-27 ARMORING FOR STREAM CROSSING CULVERTS**

At the following culvert(s), Purchaser shall place LIGHT LOOSE RIP RAP in conjunction with or immediately following construction of the embankment. Rock must be placed below the culvert outlet designated on the CULVERT LIST or as directed by the Contract Administrator. Rock may not restrict the flow of water from culvert outlet. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed. Light loose rip rap shall meet the specifications in Clause 6-50 LIGHT LOOSE RIP RAP.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>
S-1000	301+22	light loose rip rap
S-1000	315+22	light loose rip rap
S-2700	87+21	light loose rip rap

SECTION 6 – ROCK AND SURFACING

**6-2 ROCK SOURCE ON STATE LAND**

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

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
S-1120 Pit	Sec 28, T06N, R04E, W.M.	3-inch jaw run, select pit run

**6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE**

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

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
S-1000	87+00	2-inch minus crushed
S-1080	44+02, 52+53	3-inch jaw run, select pit run, light loose rip rap
S-1300	22+11	select pit run
S-2000	136+77	6-inch jaw run
S-2700	47+86	6-inch jaw run, light loose rip rap

**6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE**

Purchaser shall conduct rock source development and use at the following sources, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state and included in this road plan. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator. Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the rock source.

<u>Source</u>	<u>Rock Type</u>
S-1120 Pit	3-inch jaw run, select pit run

**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 benches must be uniform and free-draining at a minimum 2% outslope gradient.
- All vehicle access to the top of the pit faces must be blocked.

**6-20 ROCK GRADATION TYPES**

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

**6-34 3-INCH JAW RUN ROCK**

% Passing 3" square sieve                      100%  
% Passing 1 1/2" square sieve                45 - 65%

Rock may contain no more than 5 percent organic debris, dirt, and trash. All percentages are by weight.

**6-41 SELECT PIT RUN ROCK**

No more than 50 percent of the rock may be larger than 8 inches in any dimension and no rock may be larger than 12 inches in any dimension. Select Pit Run rock may not contain more than 5 percent by weight of organic debris, dirt, and trash. Rock may require processing to meet this specification.

**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:

<u>At Least/Not More Than</u>	<u>Size Range</u>
20% / 90%	20" - 36"
80% / --	12" - 30"
10% / 20%	3" - 8"

**6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH**

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

**6-56 ROCK MEASUREMENT BY TRUCK VOLUME**

Measurement of 2-inch minus crushed, 3-inch jaw run, 6-inch jaw run, select pit run, and light loose rip rap for culvert bedding, armoring and spot patch rock is on a cubic yard truck measure basis. The Contract Administrator will measure each truck box before rock hauling. An average of such volumes for each truck will be used to tally the volume hauled. The Contract Administrator may periodically require that a load be flattened off and its volume calculated. Purchaser shall maintain load tally sheets for each truck and shall give them to the Contract Administrator on a weekly basis during rocking operations.

**6-70 APPROVAL BEFORE ROCK APPLICATION**

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

**6-71 ROCK APPLICATION**

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

**6-73 ROCK FOR WIDENED PORTIONS**

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

**6-75 OPTIONAL ROCK EXCEPTION**

On the following roads, if hauling takes place from May 1 to September 30 Purchaser may provide and place less rock than shown on the ROCK LIST, when approved in writing by the Contract Administrator.

If less rock is applied, Purchaser shall submit a written plan, for approval, describing how these roads will be constructed, used, maintained, and treated post-haul. Purchaser shall meet post-haul specifications in Section 9 POST-HAUL ROAD WORK, the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS, or other conditions of the approved plan.

<u>Road</u>	<u>Stations</u>
S-1100B	0+00 to 4+76
S-1120A1	0+00 to 6+28
S-1300A	0+00 to 6+70
S-1310D	0+00 to 3+01
S-2080C	0+00 to 16+58
S-2700	84+27 to 105+59
All New Constructed Landings	50 cy per landing

**SECTION 8 – EROSION CONTROL**

**8-1 SEDIMENT CONTROL STRUCTURES**

Purchaser shall install sediment traps, silt fences, settling ponds or other methods as approved, in writing, by the Contract Administrator.

**8-15 REVEGETATION**

Purchaser shall spread grass seed on all exposed soils resulting from road work activities. Cover all exposed soils using manual dispersal methods. Other methods of covering must be approved in writing by the Contract Administrator.

**8-16 REVEGETATION SUPPLY**

The Purchaser shall provide the grass seed.

**8-17 REVEGETATION TIMING**

Purchaser shall revegetate during the first available opportunity after road work is completed. Soils may not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

**8-18 PROTECTION FOR SEED**

Purchaser shall provide a protective cover for seed on all exposed soils within 100 feet of streams or wetlands if revegetation occurs between July 1 and March 31. The protective cover type shall be approved by the Contract Administrator. Seed shall be covered before the first anticipated storm event. Seed shall not be allowed to sit exposed during any rain event. The protective cover requirement may be waived by the Contract Administrator, in writing, if the Purchaser is able to demonstrate a revegetation plan that will result in the establishment of a uniform dense crop (at least 50% coverage) of 3-inch tall grass by October 31.

**8-19 ASSURANCE FOR SEEDED AREA**

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the grass seed in areas that have failed to germinate or have been damaged through any cause. Restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the grass seed at no addition cost to the state.

**8-25 GRASS SEED**

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

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

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>	<u>Minimum % germination</u>
Perennial Rye	35-45	90
Red Fescue	30-40	90
Highland Bent	5-15	85
White Clover	10-20	90
Inert and Other Crop	0.5	

SECTION 9 – POST-HAUL ROAD WORK

**9-2 CULVERT REMOVAL FROM LIVE STREAM**

On the following road(s), Purchaser shall remove existing culverts from live streams and leave the resulting channel open with excavation slope and excavated channel width as specified. Place excavated material in a waste area designated by the Contract Administrator.

<u>Road</u>	<u>Stations</u>	<u>Excavated Channel Width (ft)</u>	<u>Slope Ratio</u>	<u>Comments</u>
S-1310	25+18	3	1½:1	Channel slope shall match the natural stream gradient.

**9-3 CULVERT MATERIAL REMOVED FROM STATE LAND**

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

**9-5 POST-HAUL MAINTENANCE**

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

**9-10 LANDING DRAINAGE**

Purchaser shall provide for drainage of the landing surface.

**9-21 ROAD ABANDONMENT**

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
S-1310	18+77 to 28+73	light
S-1310D	0+00 to 3+01	light
S-2700	84+27 to 105+59	light

## **9-22 LIGHT ABANDONMENT**

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached SPOILS BERM DETAIL.
- Scatter woody debris onto abandoned road surfaces.
- Remove all ditch relief culverts. The resulting slopes must be 1:1 or flatter. Place and compact the removed fill material in a location that will not erode into any waters or wetlands.
- Remove all culverts in natural drainages. The resulting slopes must be 1:1 or flatter. Strive to match the existing native stream gradient. The natural streambed width must be re-established. Place and compact the removed fill material in a location that will not erode into any waters or wetlands.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Provide and evenly spread a layer of straw to all exposed soils associated with stream culvert removals, as well as all waste material generated by fill removal that is within 30 feet of excavation limits.

## **SECTION 10 MATERIALS**

### **10-15 CORRUGATED STEEL CULVERT**

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

### **10-16 CORRUGATED ALUMINUM CULVERT**

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

### **10-17 CORRUGATED PLASTIC CULVERT**

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

**10-21 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 must meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer may be used. Couplings must be split coupling band. Split coupling bands must have a minimum of four corrugations, two on each side of the pipe joint.

**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.

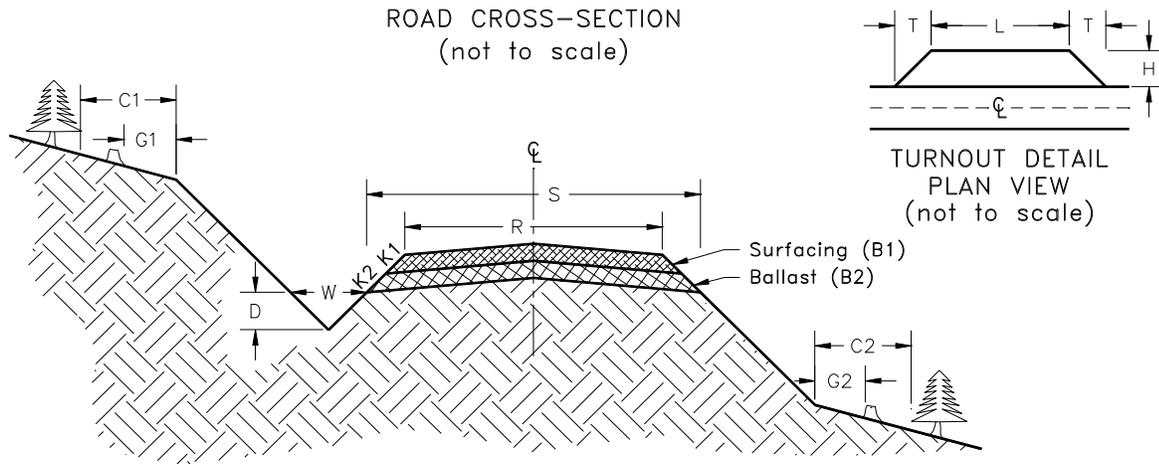
**10-24 GAGE AND CORRUGATION**

Metal culverts must conform to the following specifications for gage and corrugation as a function of diameter.

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

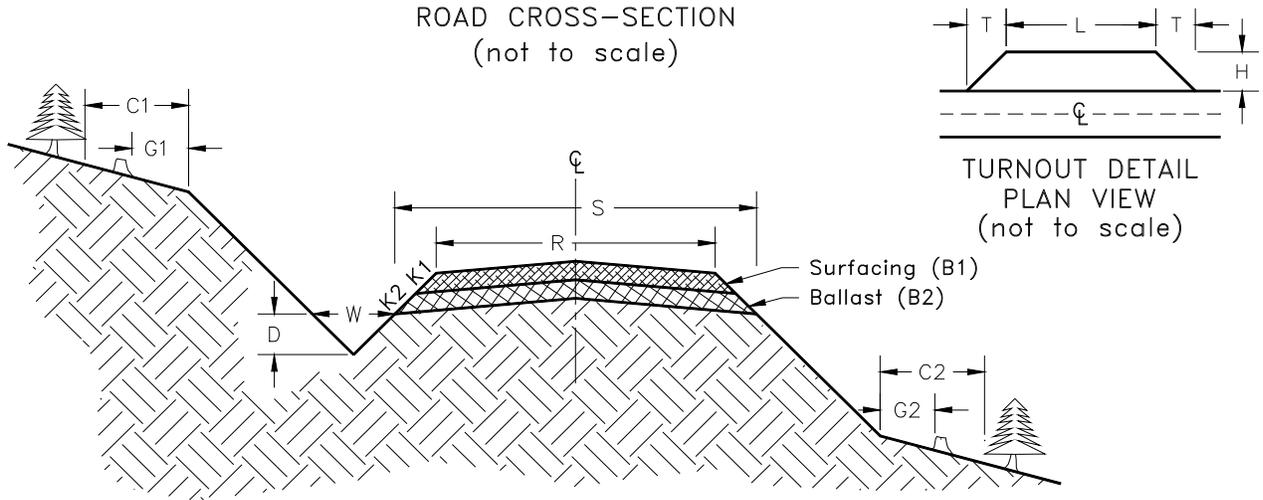
# TYPICAL SECTION SHEET

(Page 1 of 1)



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL (inches)	Grubbing Limits (feet)		Clearing Limits (feet)	
						Width (feet)	Depth (feet)		G1	G2	C1	C2
				S	R	W	D		G1	G2	C1	C2
Rashford Spur	0+00	15+40	C	--	14	--	--	4	--	--	--	--
S-1100	0+00	54+89	C	--	12	3	1	4	--	--	--	--
S-1100B	0+00	4+76	C	15	12	3	1	4	5	5	10	10
S-1120	0+00	20+84	C	--	12	3	1	4	5	5	5	5
S-1120A	0+00	42+50	B	15	12	3	1	4	5	5	10	10
S-1120A1	0+00	6+28	C	15	12	3	1	4	5	5	10	10
S-1121	0+00	21+45	C	15	12	3	1	4	5	5	10	10
S-1121A	0+00	16+49	C	15	12	3	1	4	5	5	10	10
S-1300	0+00	45+78	C	--	12	3	1	4	--	--	--	--
S-1300A	0+00	6+70	C	15	12	3	1	4	5	5	10	10
S-1310D	0+00	3+01	C	15	12	3	1	4	5	5	5	5
S-2080	0+00	9+10	C	--	12	3	1	4	5	5	5	5
S-2080A	0+00	8+20	C	--	12	3	1	4	5	5	5	5
S-2080C	0+00	16+58	B	15	12	3	1	4	5	5	10	10
S-2700	84+27	105+59	B	15	12	2	1	4	5	5	5	5
S-2700B	0+00	4+19	C	--	12	3	1	4	5	5	5	5

ROCK LIST  
(Page 1 of 3)



2-INCH MINUS CRUSHED

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K1	B1					L	H	T
S-1000	Spot Patch for Culvert Installations		1½:1	6	30	3	90	S-1000 Stockpiles			
S-1300	Spot Patch for Culvert Installations		1½:1	6	30	2	60				
Spot Patching	As directed by Contract Administrator		1½:1	--	--	--	300				

REQUIRED 2-INCH MINUS CRUSHED TOTAL **450** Cubic Yards

**ROCK LIST**  
(Page 2 of 3)

**3-INCH JAW RUN**

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K2	B2					L	H	T
<b>S-1120 Pit</b>											
S-1100	Spot Patch for Culvert Installations		1½:1	6	30	5.00	150				
S-1100B*	0+00	4+76	1½:1	12	63	4.76	300				
S-1120A	0+00	42+50	1½:1	12	63	42.5	2678				
		Turnout	1½:1	12	39	3	117	50	10	25	
S-1120A1*	0+00	6+28	1½:1	12	63	6.28	396				
S-1121	0+00	21+45	1½:1	12	63	21.45	1351				
		Turnout	1½:1	12	39	1	39	50	10	25	
S-1121A	0+00	16+49	1½:1	12	63	16.49	1039				
		Turnout	1½:1	12	39	1	39	50	10	25	
All Roads*	New Constructed Landings		--	--	50	4	200				
<b>S-1080 Stockpiles</b>											
S-1300A*	0+00	6+70	1½:1	12	63	6.7	422				
S-1310D*	0+00	3+01	1½:1	12	63	3.01	190				
All Roads*	New Constructed Landing		--	--	50	2	100				

REQUIRED 3 INCH JAW RUN TOTAL **5,413** Cubic Yards  
\*OPTIONAL 3 INCH JAW RUN TOTAL **1,608** Cubic Yards

**6-INCH JAW RUN**

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K2	B2					L	H	T
<b>S-2000 &amp; S-2700 Stockpile</b>											
S-2080	Spot Patch as directed by Contract Administrator		1½:1	--	--	--	100				
S-2080C*	0+00	16+58	1½:1	12	63	16.58	1045				
		Turnout	1½:1	12	26	1	26	25	10	25	
S-2700*	84+27	105+59	1½:1	12	63	21.32	1343				
		Turnout	1½:1	12	26	1	26	25	10	25	
All Roads*	New Constructed Landings		--	--	50	2	100				

REQUIRED 6 INCH JAW RUN TOTAL **100** Cubic Yards  
\*OPTIONAL 6 INCH JAW RUN TOTAL **2,540** Cubic Yards

**Note: Quantities in the ROCK LIST represent estimation based on loose yards except for spot patching, and landing rock. A twenty-five percent compaction factor provided the additional amounts for the minimum quantity estimates as shown. Additional quantities may be required to achieve the specify rock depth and shall be at the Purchaser's expense in accordance with Road Plan Clause 1-2 Unforeseen Conditions.**

**ROCK LIST**  
(Page 3 of 3)

**CULVERT ARMORING AND BEDDING**

Road Number	Station	Description	Rock Type	C.Y. Total	Rock Source
All roads	See Culvert List	Culvert headwall and energy dissipators	LIGHT LOOSE RIP RAP SELECT PIT RUN	28 39	<b>S-1120 Pit, S-1080 Stockpile, S-1300 Stockpile, S-2700 Stockpile</b>
S-1000	301+22,315+22,339+24	Culvert Bedding	2-INCH MINUS CRUSHED	13	<b>S-1000 Stockpile</b>
S-1300	2+65	Culvert Bedding		4	
S-1100	23+17,43+13,45+72,48+52	Culvert Bedding	3-INCH JAW RUN	20	<b>S-1120 Pit</b>
S-2700	87+21	Culvert Bedding	6-INCH JAW RUN	5	<b>S-2700 Stockpile</b>

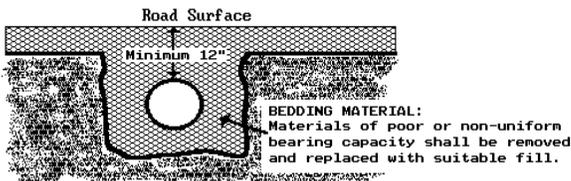
LIGHT LOOSE RIP RAP TOTAL **28** Cubic Yards  
 SELECT PIT RUN TOTAL **39** Cubic Yards  
 2-INCH MINUS CRUSHED TOTAL **17** Cubic Yards  
 3-INCH JAW RUN TOTAL **20** Cubic Yards  
 6-INCH JAW RUN TOTAL **5** Cubic Yards

## CULVERT LIST

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material	Placement Method	Const. Staked	Remarks
		Dia. (inches)	Gauge	Culvert	Downspt	Flume	Inlet	Outlet	Type				
			If Steel										
S-1000	301+22	24		40	--	--	1	10	LL	NT	Machine	--	Type Ns stream x-ing
	315+22	30		50	--	--	2	3	LL	NT	Machine	--	Type Np stream x-ing
	339+24	24		40	--	--	1	2	SPR	NT	Machine	--	Type Ns stream x-ing
S-1100	23+17	24		40	--	--	1	2	SPR	NT	Machine	--	Type Ns stream x-ing
	43+13	24		50	--	--	1	2	SPR	NT	Machine	--	Type Np stream x-ing
	45+72	24		50	--	--	1	2	SPR	NT	Machine	--	Type Np stream x-ing
	48+52	24		50	--	--	1	2	SPR	NT	Machine	--	Type Ns stream x-ing
	50+03	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
S-1120A	1+77	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	5+94	18		40	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	10+85	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	23+89	18		40	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
S-1120A1	4+04	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
S-1121	2+60	18		40	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	8+27	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	14+59	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	16+90	18		40	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	21+45	18		40	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
S-1121A	6+64	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	9+64	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	14+30	18		40	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
S-1300	2+65	24		40	--	--	1	2	SPR	NT	Machine	--	Type Np stream x-ing
	3+35	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
S-2080	4+15	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	9+46	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	14+11	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
S-2700	87+21	30		50	--	--	2	10	LL	NT	Machine	--	Type Np stream x-ing
	88+17	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	92+50	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	101+55	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
As directed by C/A*		18		30	--	--	--	--	--	--	--	--	Additional culverts as needed.
		18		30	--	--	--	--	--	--	--	--	

\*Purchaser shall provide the additional culverts to be install as directed by Contract Administrator. Any required culverts or additional culverts not installed as part of this contract shall be stockpile in a location as approved by the Contract Administrator.

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



**Key:**

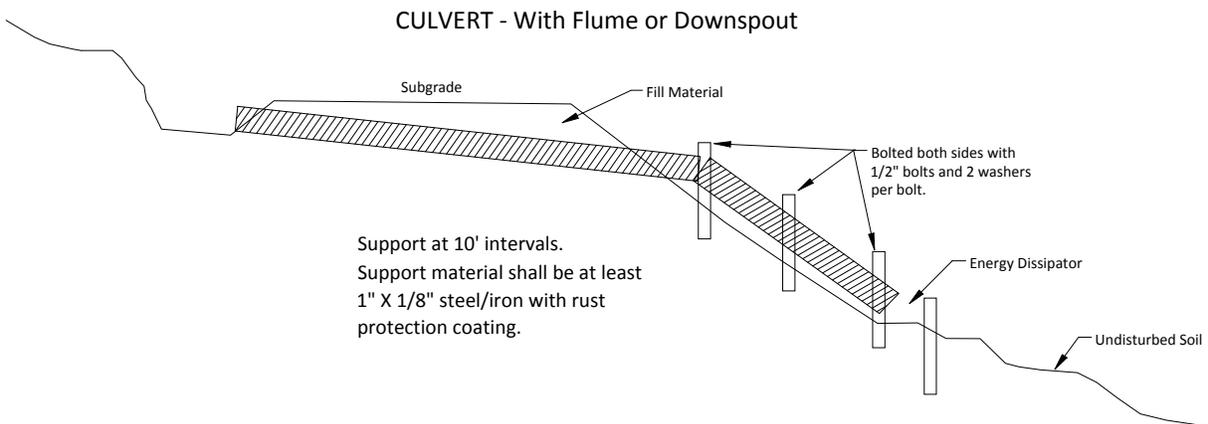
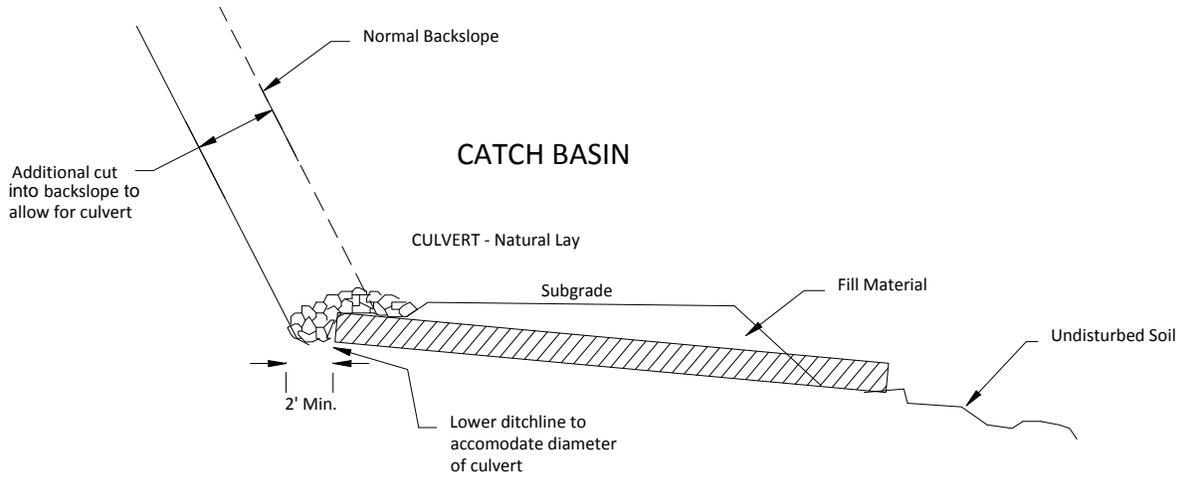
- QS - Quarry Spalls
- NT - Native (bank run)
- SPR - Select Pit Run
- HL - Heavy Loose Riprap
- LL - Light Loose Riprap
- Flume - Half round pipe
- Downspout - Full round pipe

## COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
Rashford Spur	0+00	15+40	Existing surface	N/A	Vibratory Smooth Drum	14000	4	3
S-1000	301+22		Spot Patch for Culvert Installation	6	Vibratory Smooth Drum	14000	4	3
	315+22		""	""	""	""	""	""
	339+24		""	""	""	""	""	""
S-1100	23+17		Spot Patch for Culvert Installation	6	Vibratory Smooth Drum	14000	4	3
	43+13		""	""	""	""	""	""
	45+72		""	""	""	""	""	""
	48+52		""	""	""	""	""	""
	50+03		""	""	""	""	""	""
S-1120	0+00	20+84	Existing surface	N/A	Vibratory Smooth Drum	14000	4	3
	19+84		Waste Area	12	Excavation	At least a D-5 size dozer or larger	--	--
S-1100B	0+00	4+76	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
S-1120A	0+00	42+50	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
S-1120A1	0+00	6+28	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
S-1121	0+00	21+45	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
S-1121A	0+00	16+49	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
S-1300	2+65		Spot Patch for Culvert Installation	6	Vibratory Smooth Drum	14000	4	3
	3+35		""	""	""	""	""	""
S-1300A	0+00	6+70	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
S-1310D	0+00	3+01	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
S-2000	82+34		Waste Area	12	Excavation	At least a D-5 size dozer or larger	--	--
S-2080	0+00	9+10	Pre-haul Surface/Spot Patch	6	Vibratory Smooth Drum	14000	4	3
S-2080A	0+00	8+20	Existing surface	N/A	Vibratory Smooth Drum	14000	4	3
	7+21		Waste Area	12	Excavation	At least a D-5 size dozer or larger	--	--
S-2080C	0+00	16+58	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
S-2700	0+00	21+32	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
	87+21		Embankment	12	Vibratory Smooth Drum	14000	4	3
	95+54		Waste Area	12	Excavation	At least a D-5 size dozer or larger	--	--
All Roads	As directed by C/A		Pre-haul Surface/Spot Patch	6	Vibratory Smooth Drum	14000	4	3
S-2700B	0+00	4+19	Existing surface	N/A	Vibratory Smooth Drum	14000	4	3

# CULVERT AND DRAINAGE SPECIFICATION DETAIL

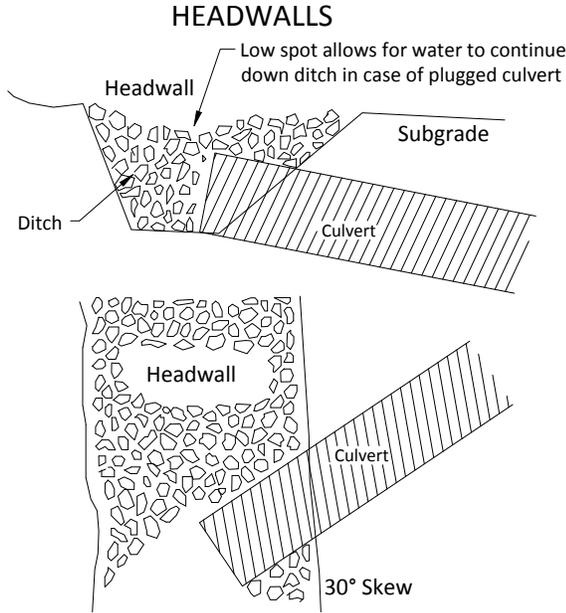
(Page 1 of 3)



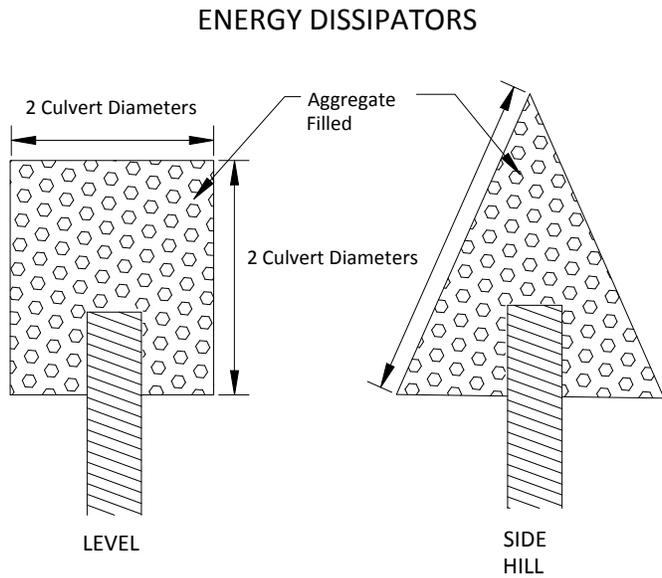
## CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 2 of 3)

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



Headwalls to be constructed of material that will resist erosion.



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

# CULVERT AND DRAINAGE SPECIFICATION DETAIL

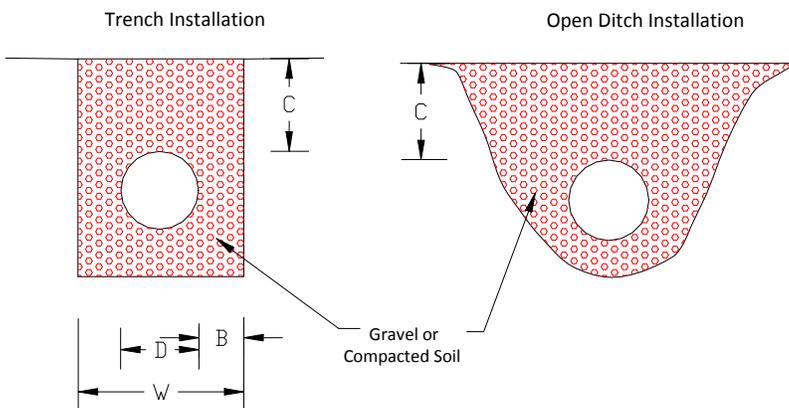
(Page 3 of 3)

## POLYETHYLENE PIPE INSTALLATION

### INSTALLATION REQUIREMENTS:

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

**MINIMUM DIMENSIONS**  
Trench or Open Ditch Installation



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

## FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

### Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the construction materials and cut slope/fill slope ratios. 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, shape, and compact the road surface, turnouts, and shoulders to the original shape on the TYPICAL SECTION SHEET to provide a smooth, rut-free traveled surface and maintain surface water runoff in an even, un-concentrated manner.
- Blading shall not undercut the backslope.
- 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.

### Drainage

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

### Preventative Maintenance

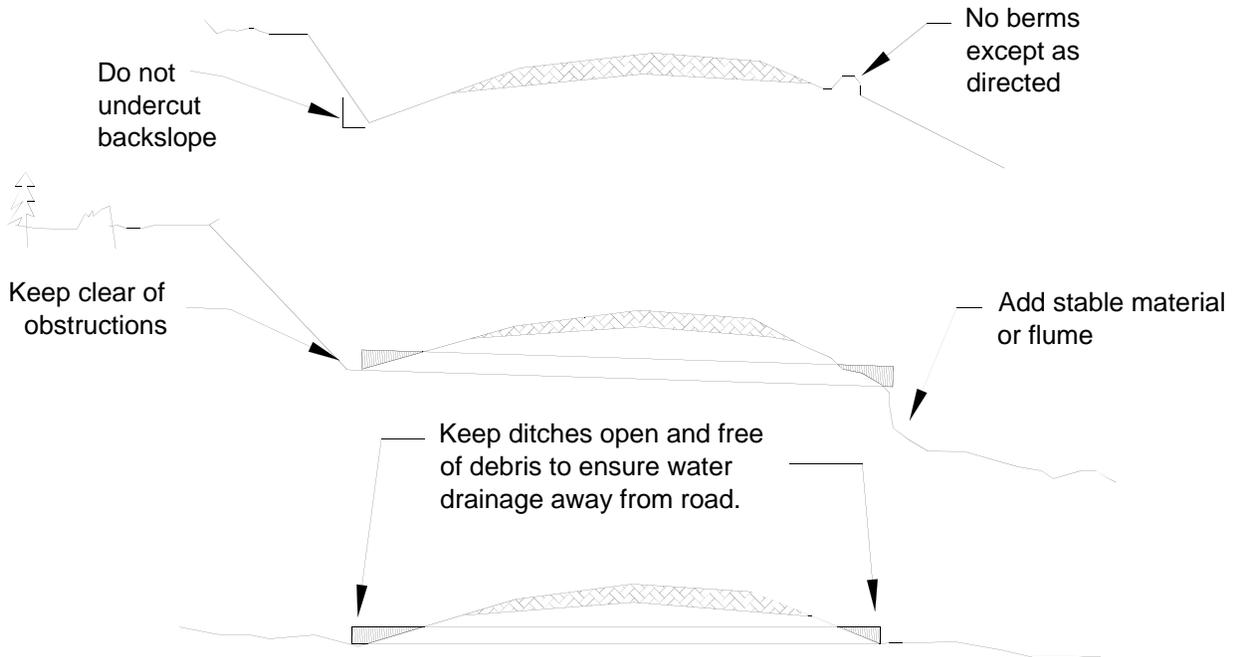
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

**Termination of Use or End of Season**

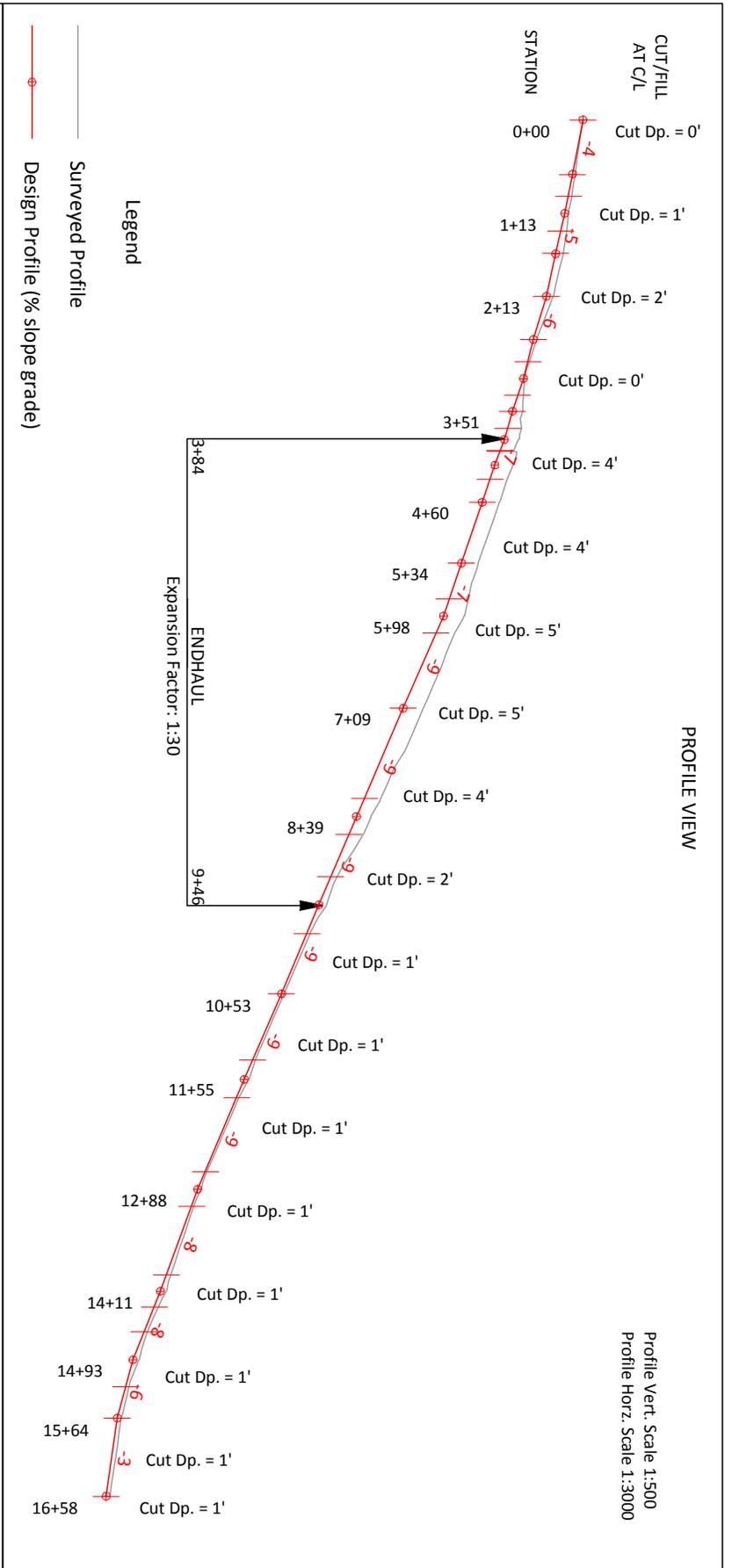
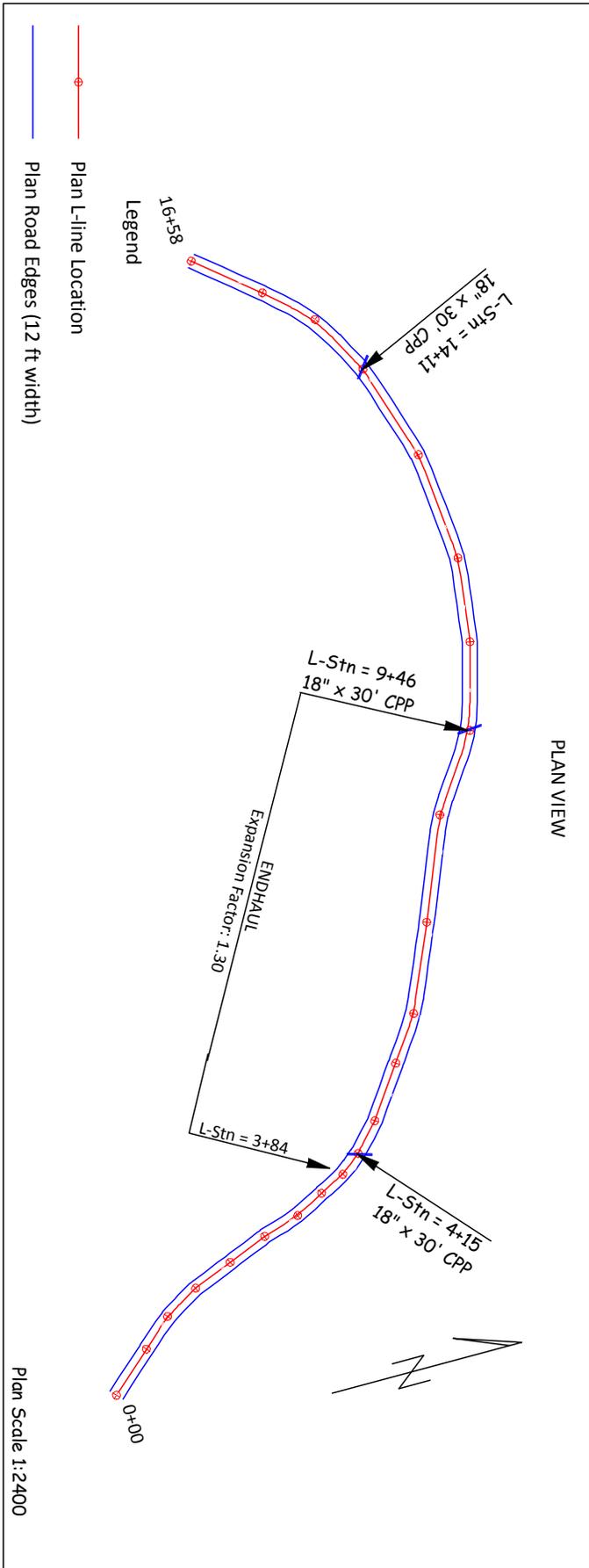
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

**Debris**

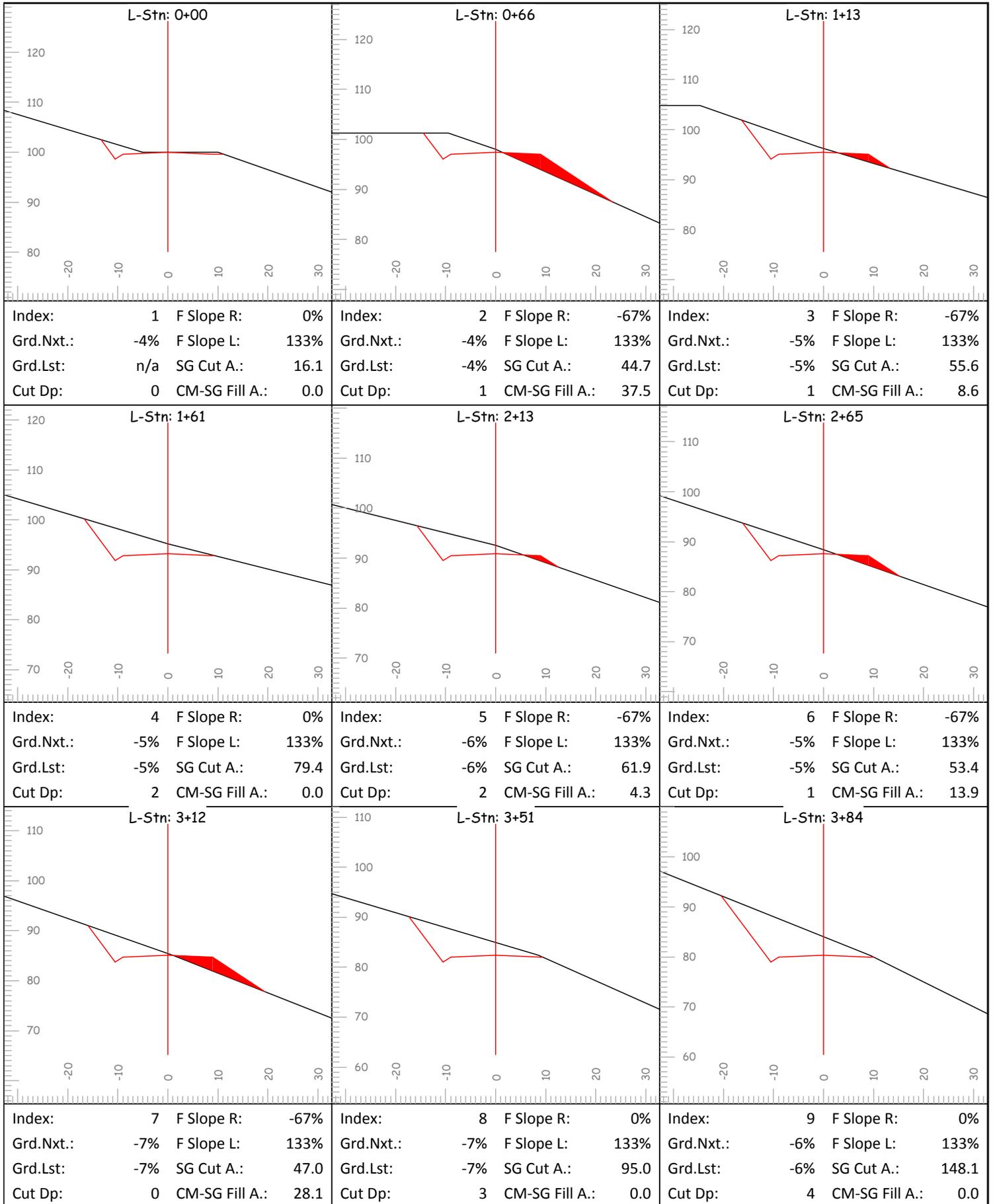
- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



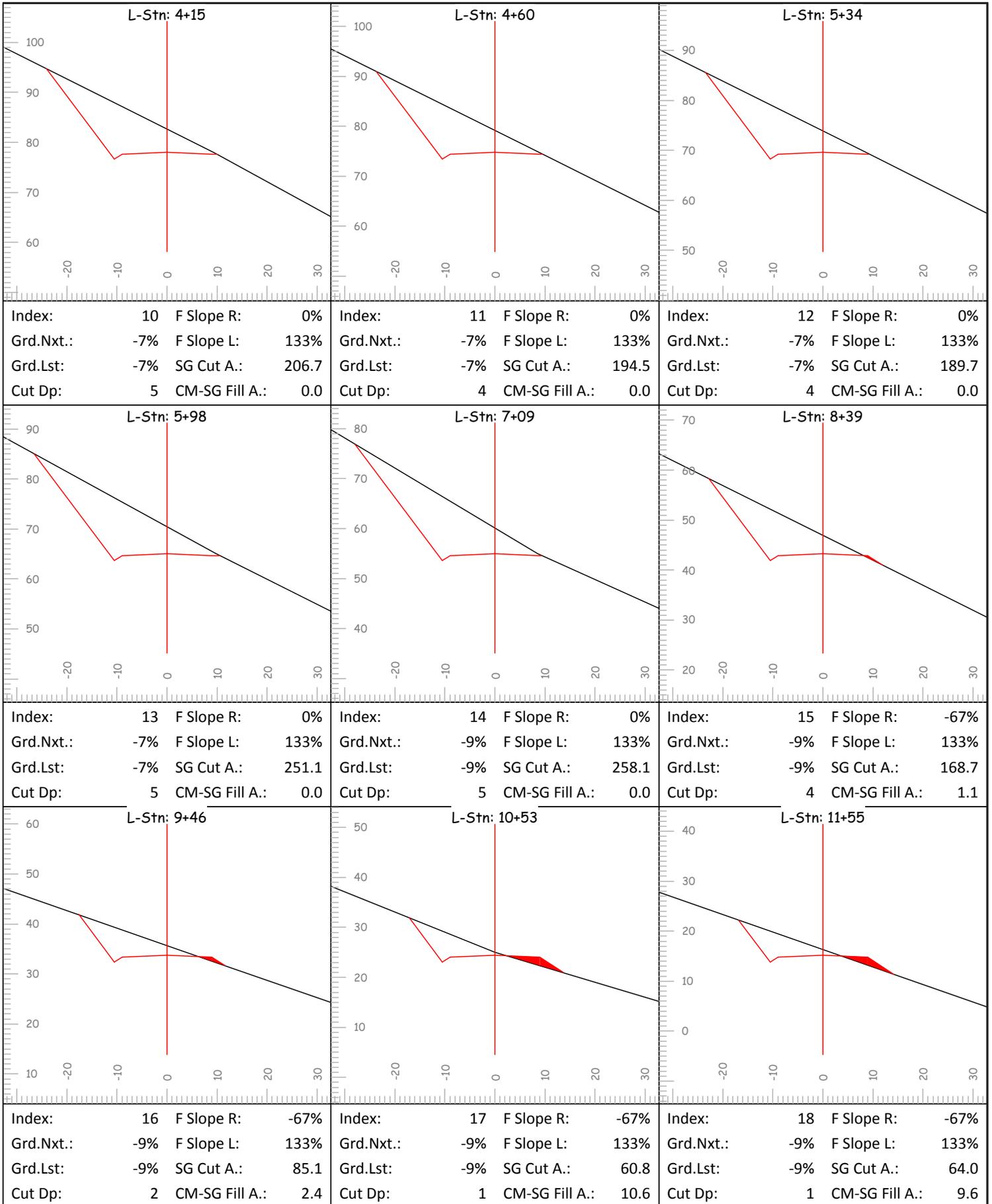
S-2080C CONSTRUCTION DETAIL



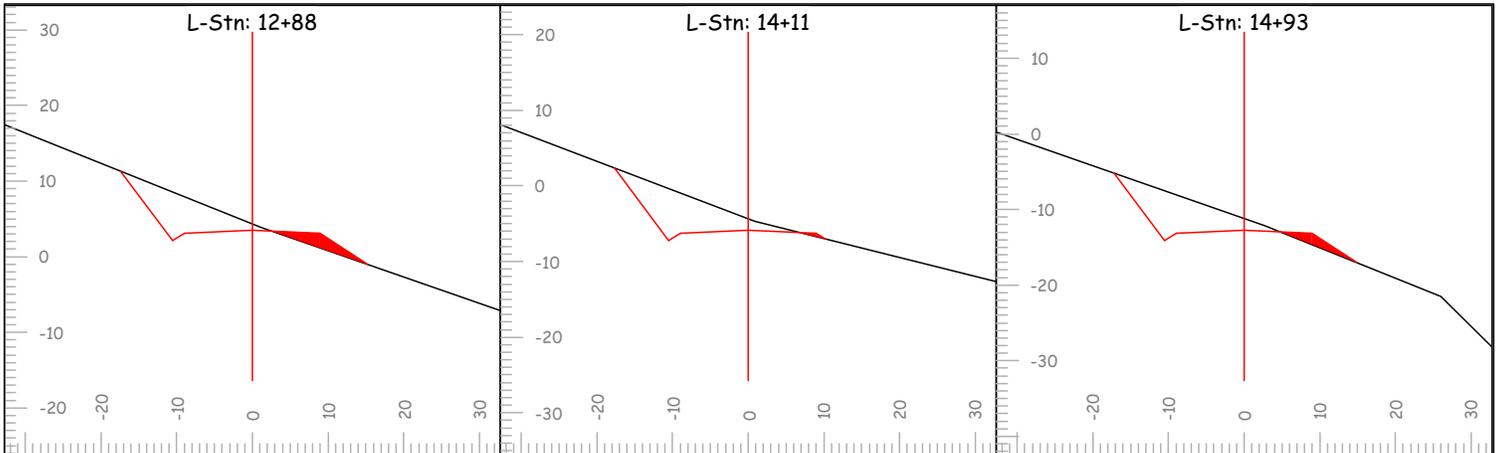
S-2080C CONSTRUCTION DETAIL



S-2080C CONSTRUCTION DETAIL



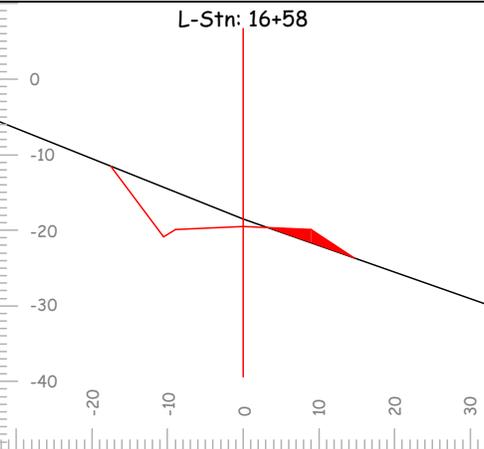
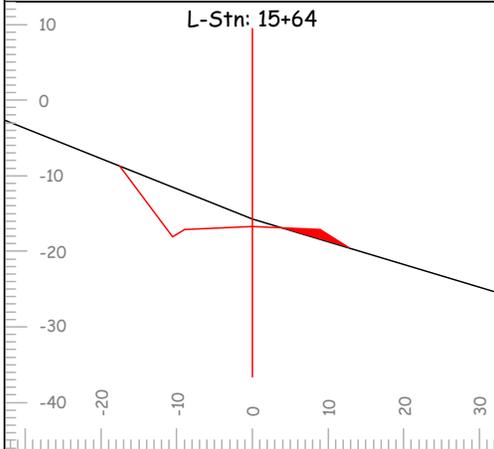
S-2080C CONSTRUCTION DETAIL



Index:	19	F Slope R:	-67%
Grd.Nxt.:	-9%	F Slope L:	133%
Grd.Lst:	-9%	SG Cut A.:	65.6
Cut Dp:	1	CM-SG Fill A.:	13.9

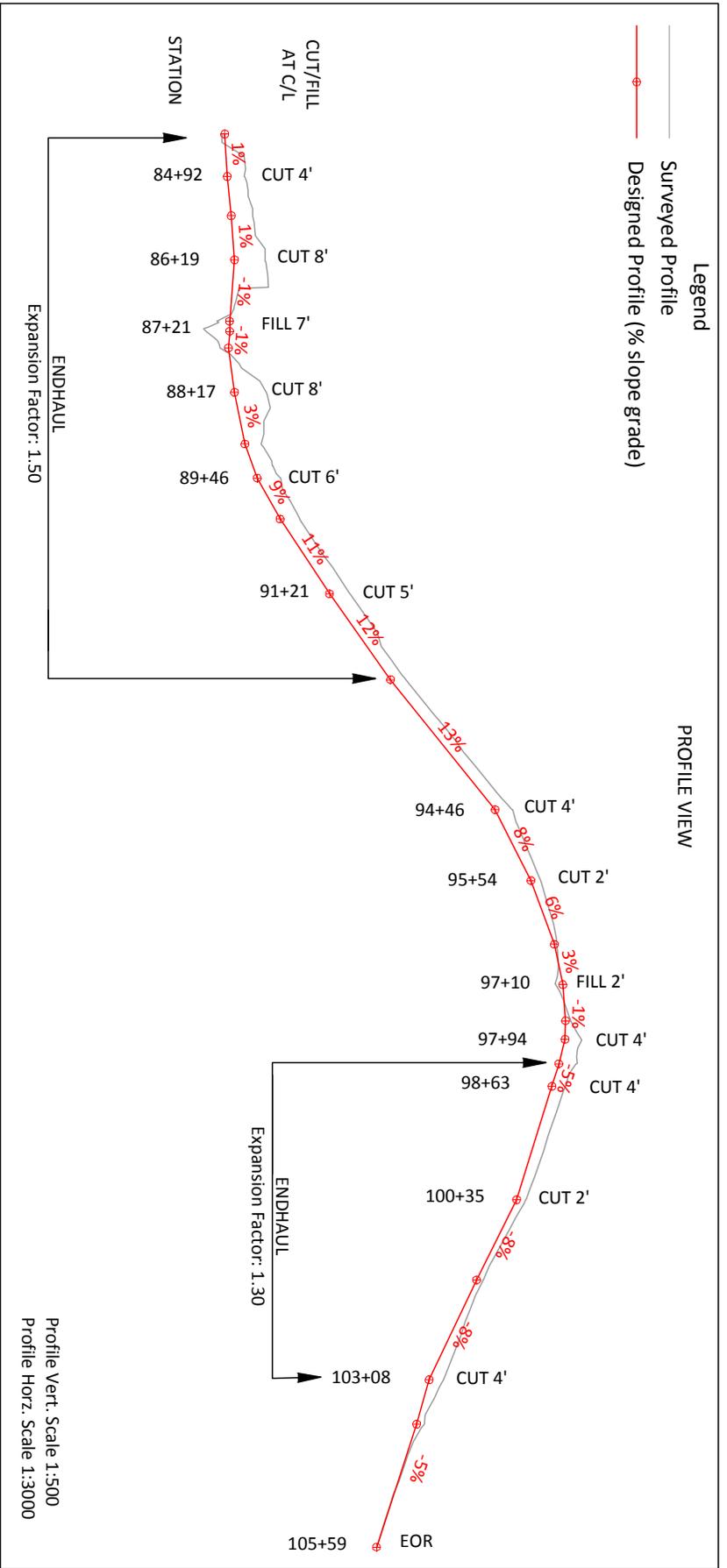
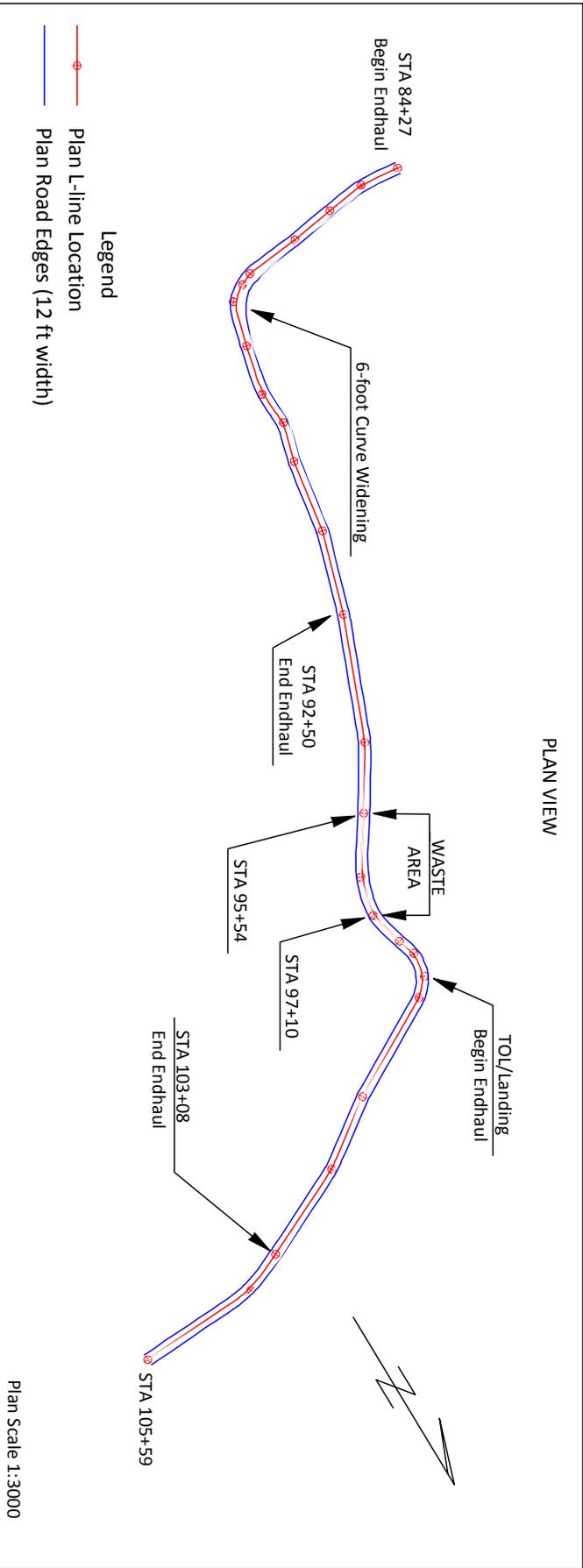
Index:	20	F Slope R:	-67%
Grd.Nxt.:	-8%	F Slope L:	133%
Grd.Lst:	-8%	SG Cut A.:	79.5
Cut Dp:	2	CM-SG Fill A.:	1.0

Index:	21	F Slope R:	-67%
Grd.Nxt.:	-8%	F Slope L:	133%
Grd.Lst:	-8%	SG Cut A.:	73.9
Cut Dp:	2	CM-SG Fill A.:	8.7

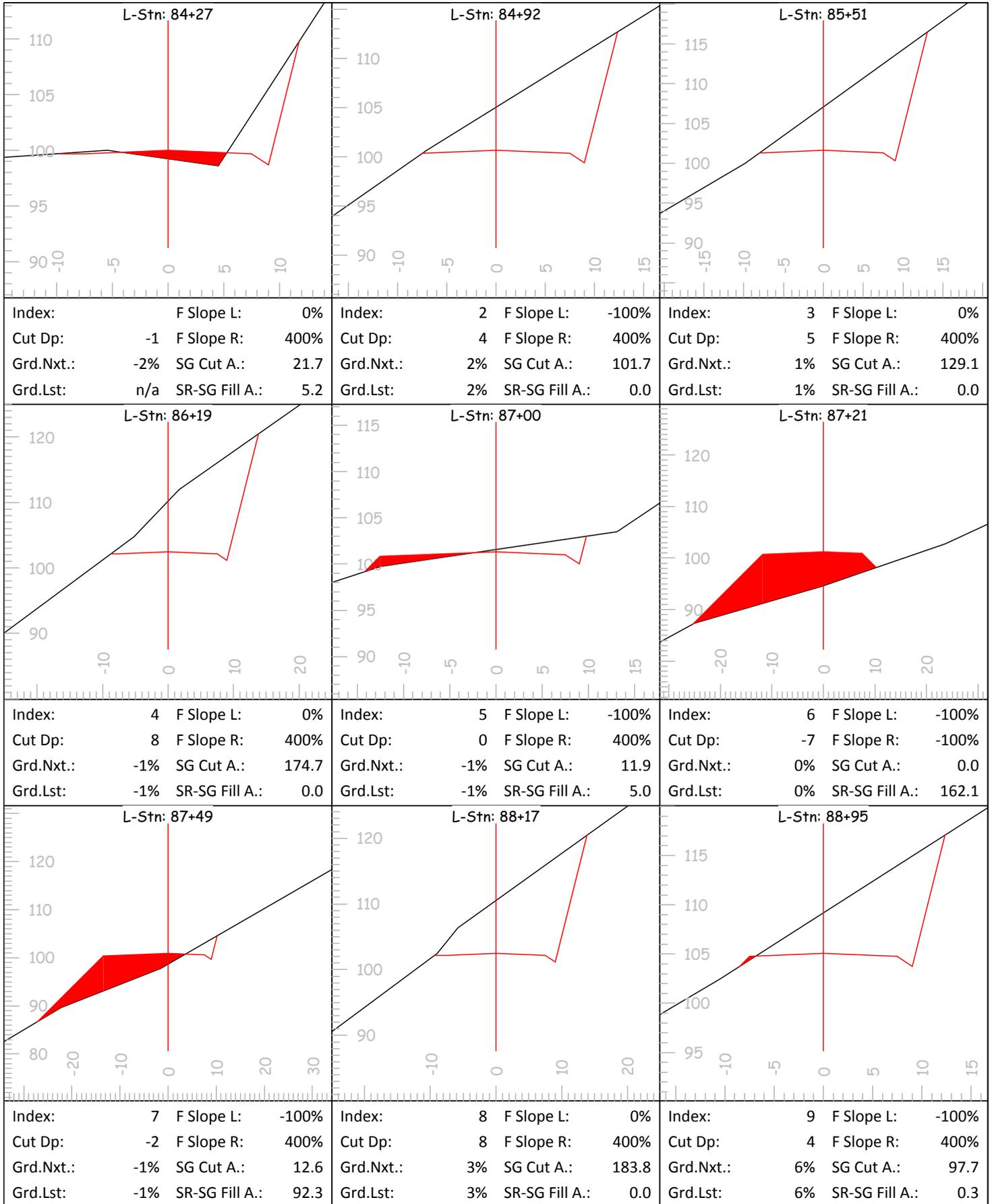


Index:	22	F Slope R:	-67%
Grd.Nxt.:	-3%	F Slope L:	133%
Grd.Lst:	-3%	SG Cut A.:	69.5
Cut Dp:	1	CM-SG Fill A.:	6.5

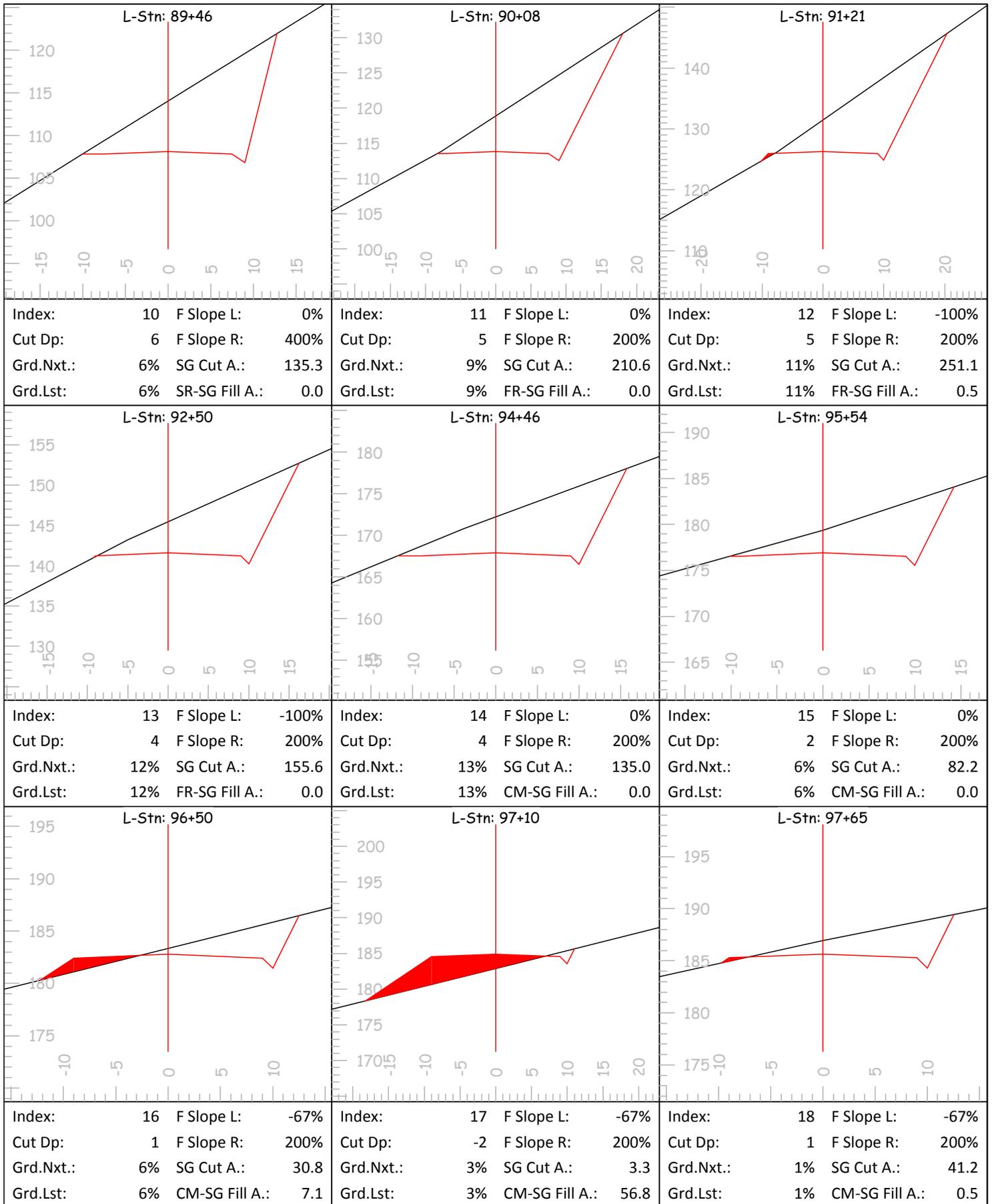
Index:	23	F Slope R:	-67%
Grd.Nxt.:	n/a	F Slope L:	133%
Grd.Lst:	-3%	SG Cut A.:	68.2
Cut Dp:	1	CM-SG Fill A.:	11.8



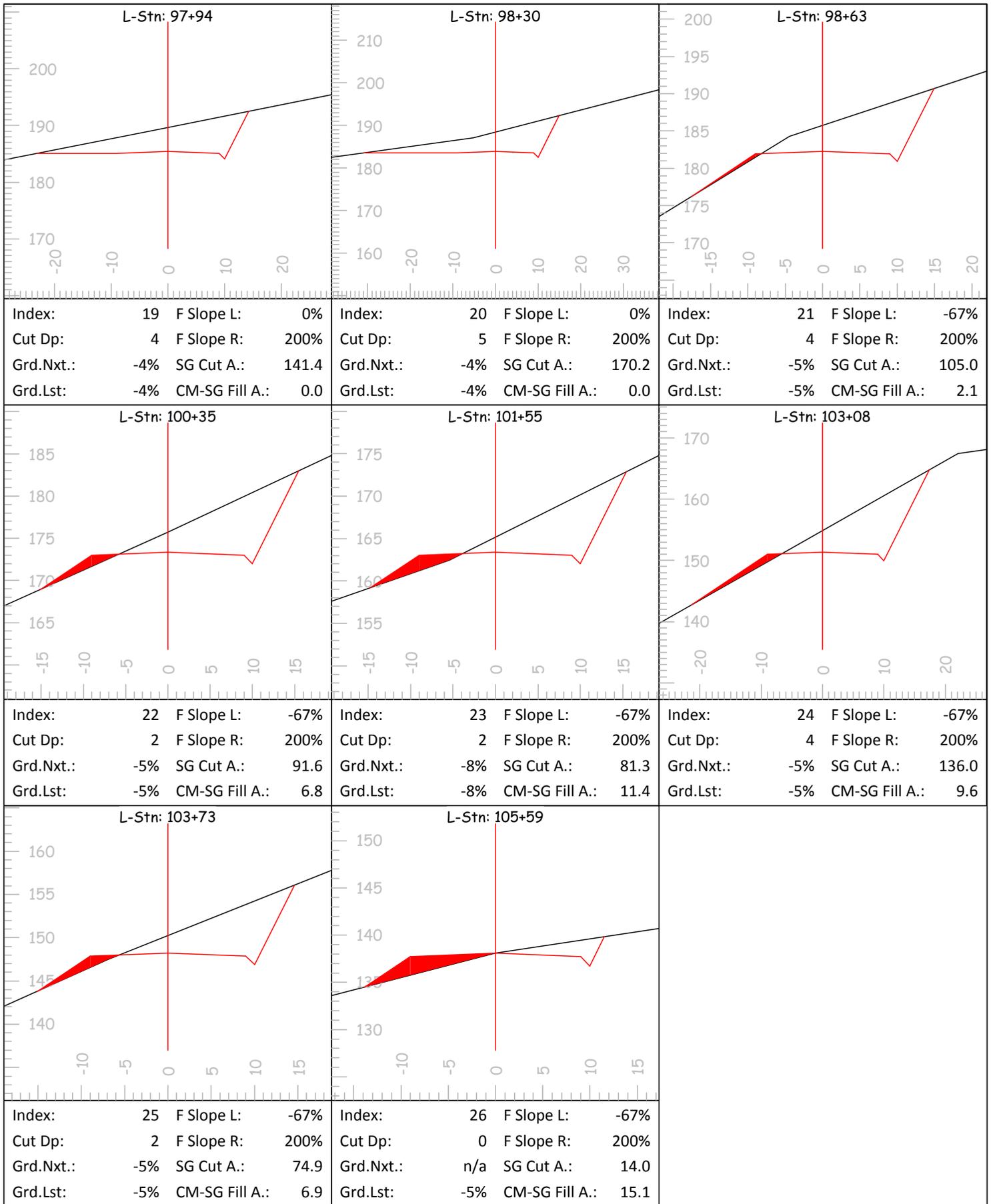
S-2700 CONSTRUCTION DETAIL



S-2700 CONSTRUCTION DETAIL



S-2700 CONSTRUCTION DETAIL



# Typical Plan

Place inlet marker on right side of inlet, in culvert corrugation if possible

Edge of fill

Edge of road

Culvert Barrel

# Typical Section

Inlet marker: 1 inch I.D. Schedule 40 PVC Pipe, white

24 inches min.

Road Surface

Catch Basin

Culvert Barrel

6 inches min.

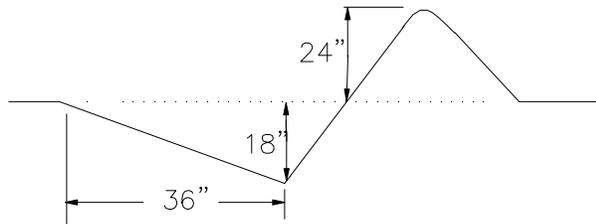
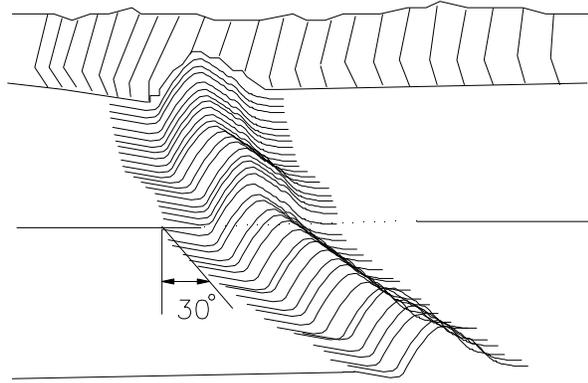
## CULVERT MARKER DETAIL (INLET SHOWN)



WASHINGTON STATE DEPARTMENT OF Natural Resources

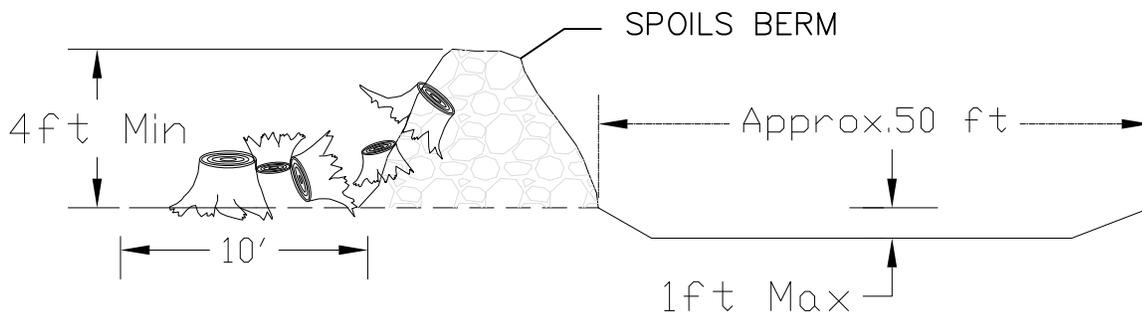
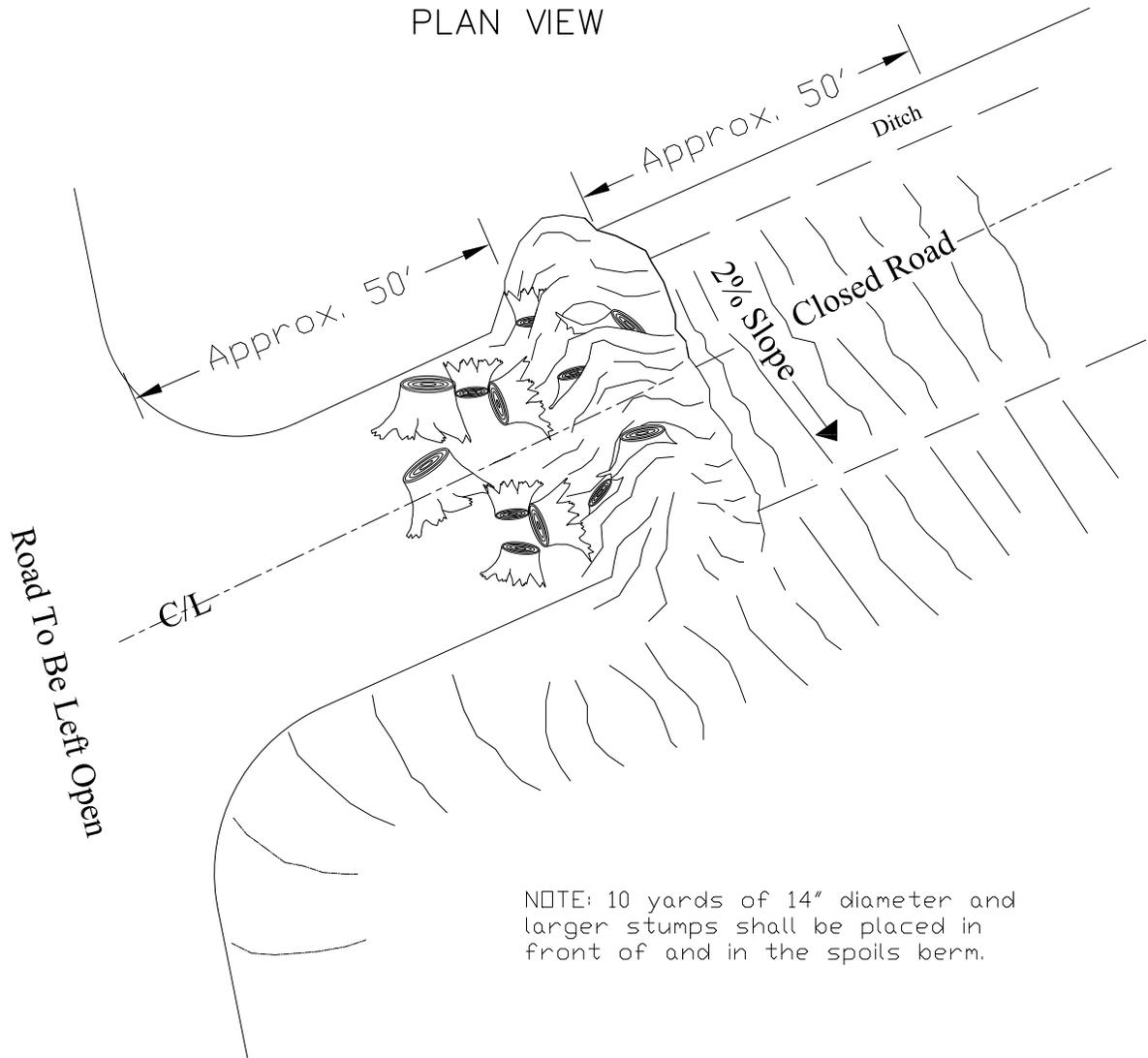
Drawn by: WP Hoskins

# NON-DRIVABLE WATER BAR DETAIL



# SPOILS BERM DETAIL

## PLAN VIEW



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

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES  
PACIFIC CASCADE REGION

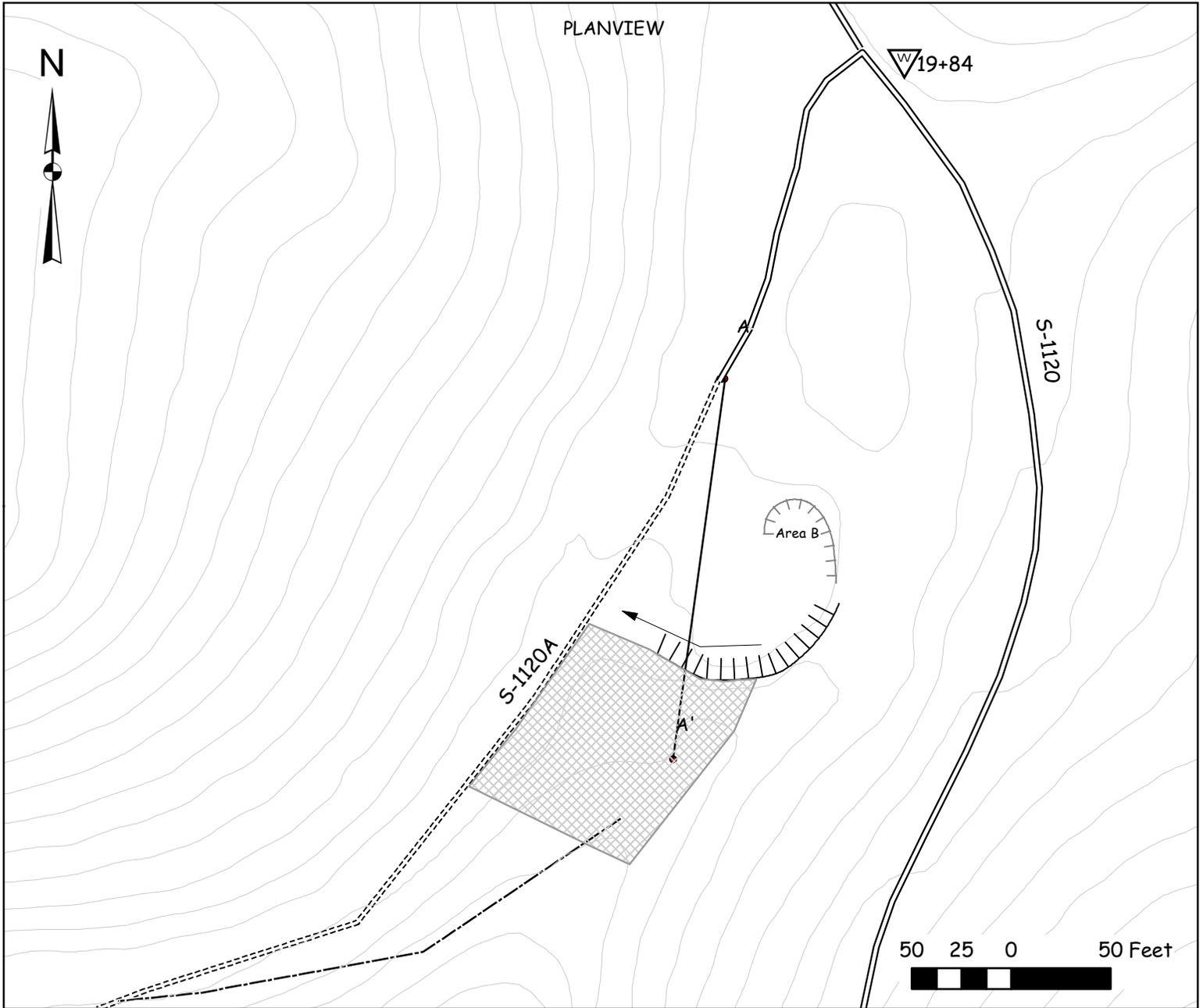
ROCK SOURCE DEVELOPMENT PLAN  
S-1120 PIT  
Section 28, Township 06 North, Range 04 East, W.M.  
Page 1 of 3

1. Mining shall begin in Area A indicated on the ROCK SOURCE DEVELOPMENT PLAN MAP.
2. All vegetation including stumps shall be cleared a minimum of 25 feet beyond the top of all working faces. Trees shall be cleared to a minimum of  $\frac{3}{4}$  of the height of the tallest tree adjacent to the pit. The Contractor shall maintain a minimum of 15 foot wide area stripped to rock from the pit face at all times.
3. All overburden shall be end hauled, placed, and compacted at the Waste Area. The designated Waste Area is shown on the ROCK SOURCE DEVELOPMENT PLAN MAP. Waste Area compaction requirements are specified in the COMPACTION LIST.
4. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in the designated Waste Area.
5. The Contractor shall submit an informational drilling and shooting plan to the Contract Administrator ten working days prior to any drilling.(Form #M-126PAC)
6. Drilling and rock extraction may begin when the Contract Administrator has approved, in writing, all of the clearing, grubbing and overburden removal.
7. Pit faces shall not exceed 30 feet in height. Faces shall be sloped at  $\frac{1}{2}$ :1.
8. Working bench widths shall be a minimum of 20 feet.
9. The pit floor shall have continuity of slope and be left in a smooth and neat condition, providing drainage at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques.
10. The location and amount of material to be placed in a temporary stockpile are subject to approval of the Contract Administrator. All stockpiled material shall be maintained in a neat and useable condition.

ROCK SOURCE DEVELOPMENT PLAN  
S-1120 PIT  
Section 28, Township 06 North, Range 04 East, W.M.  
Page 2 of 3

11. Oversize material remaining in the pit at the conclusion of use shall not exceed 5 percent of the total volume mined during that operation. Oversize material is defined as rock fragments larger than two feet in any direction. At the conclusion of operations, all remaining oversize material shall be placed in Area B or as directed by the Contract Administrator.
12. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material; benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life.
13. All exposed soil in the Waste Area shall be grass seeded in accordance with Road Plan clause 8-15 through 8-25.
14. All operations shall be carried out in compliance with all regulations of:
  - a. Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
  - b. "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.
15. The Contractor shall submit an informational drilling and shooting report to the Contract Administrator after blasting has occurred. (Form #M-126PAC)
16. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.
17. Upon completion of operations, the site shall be cleared of all temporary structures, equipment and rubbish, block access road with existing on site riprap at two locations as directed by the Contract Administrator, and shall be left in a neat and presentable condition.
18. At the completion of rock source operations, the Contractor shall obtain written approval of final rock source condition and compliance with the terms of this plan.

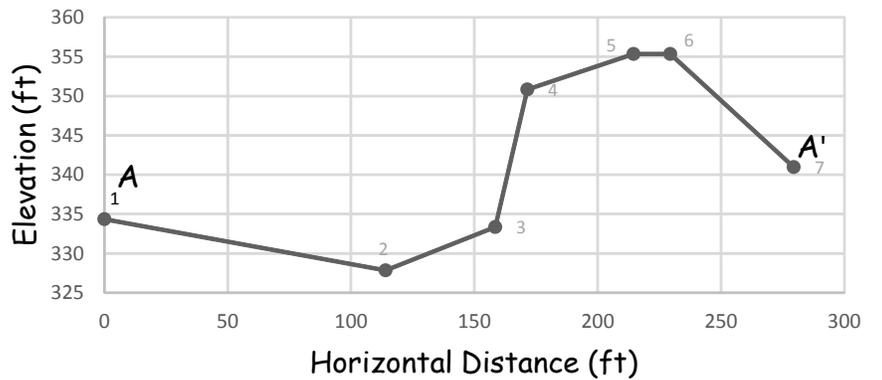
**ROCK SOURCE DEVELOPMENT PLAN**  
**S-1120 PIT**  
 Section 28, Township 06 North, Range 04 East, W.M.  
 Page 3 of 3



**Legend**

- Area A
- Existing Roads
- Equipment Access Trail (Optional)
- Required Construction
- Pit\_Face
- Contours 10 ft
- Drainage Direction
- Waste Area

**S-1120 Pit Profile  
(Not to Scale)**



**DEPARTMENT OF NATURAL RESOURCES  
ROAD DEVELOPMENT COST SUMMARY**

(Page 1 of 6)

REGION: PACIFIC CASCADE  
DISTRICT: YACOLT

SALE/PROJECT NAME: YALE OF A TALE

CONTRACT NUMBER: 30-092969

LEGAL DESCRIPTION: Sec 25, 26, 27, 28, 33, 34, T06N, R04E; Sec 17, 20, T06N, R05E

ROAD NUMBER:	L-1100B, L-1120A, L-1120A1, L-1300A, L-1310D, S-2080C, S- 2700	S-1121, S-1121A	Rashford Spur, S-1000, S-1100, S-1120, S-1300, S-2080, S-2080A, S-2700B
ROAD STANDARD:	Construction	Reconstruction	Pre-haul maintenance
NUMBER OF STATIONS:	101.15	37.94	161.40
CLEARING AND GRUBBING:	\$22,435	\$2,479	
EXCAVATION AND FILL:	\$88,909	\$13,503	
MISC. MAINTENANCE:			\$8,638
ROCK TOTALS (Cu. Yds.):			
2" Minus Crushed: 467	\$5,440	\$0	\$3,591
3" Minus Jaw Run: 7041	\$37,247	\$26,464	\$1,314
6" Minus Jaw Run: 2645	\$13,490		
Select Pit Run: 39	\$66	\$126	\$330
Light Loose Rip Rap: 28	390		\$274
CULVERTS AND FLUMES:	\$7,540	\$4,814	\$11,257
GENERAL EXPENSES:	\$14,000	\$4,265	\$2,332
MOBILIZATION:	\$1,836	\$1,836	\$1,836
TOTAL COSTS:	\$191,353	\$53,488	\$29,573
COST PER STATION:	\$1,892	\$1,410	\$183

ROAD DECOMMISSION COSTS: \$4,322

TOTAL (All Roads) = \$278,735

SALE VOLUME MBF = 6,152

TOTAL COST PER MBF (All Roads) = \$45.31

Compiled by: S. Hanna

Date: 11/02/15

# CONSTRUCTION COSTS

(Page 2 of 6)

SALE NAME: YALE OF A TALE

CONTRACT NUMBER: 30-092969

**CLEARING AND GRUBBING:**

Road	% Sideslope	MBF/ac	Disposal Factor	Production Factor	Cost/Station	Width Factor	Total Stations	Subtotal
S-1100B	25	25	1.00	2.22	\$65	1.00	4.76	\$686.87
S-1120A	35	25	1.00	3.72	\$65	1.00	42.50	\$10,276.50
S-1120A1	25	25	1.00	2.22	\$65	1.00	6.28	\$906.20
S-1300A	25	25	1.00	2.22	\$65	1.00	6.70	\$966.81
S-1310D	25	25	1.00	2.22	\$65	1.00	3.01	\$434.34
S-2080C	35	25	1.00	3.72	\$65	1.00	16.58	\$4,009.04
S-2700	40	25	1.00	3.72	\$65	1.00	21.32	\$5,155.18

**CLEAR AND GRUB TOTAL = \$22,434.95**

**EXCAVATION:**

Road	% Sideslope	Exc. Type	Factor	Production Factor	Cost/Station	Width Factor	Total Stations	Sub-Total
S-1100B	25		1.0	2.25	\$97	1.00	4.76	\$1,038.87
S-1120A	35		1.0	3.00	\$97	1.00	42.50	\$12,367.50
S-1120A1	25		1.0	2.25	\$97	1.00	6.28	\$1,370.61
S-1300A	25		1.0	2.25	\$97	1.00	6.70	\$1,462.28
S-1310D	25		1.0	2.25	\$97	1.00	3.01	\$656.93
S-2080C	35		1.0	3.00	\$97	1.00	10.96	\$3,189.36
S-2700	40		1.0	4.25	\$97	1.00	8.31	\$3,425.80

**Endhaul**

Road	Cubic Yards*	Waste Area	R.T Miles	Excavation Cost (\$/lcy)	Haul Cost (\$/cy)	Dozer Cost (\$/cy)	Total Stations	Sub-Total
S-2080C	6000	S-2080A at 3+06	0.37	\$0.98	\$1.27	\$0.26	5.62	\$15,081.79
S-2700	6000	S-2000 at 82+34	5.40	\$2.35	\$3.97	\$0.48	8.23	\$40,819.46
S-2700	2200	S-2700 at 95+54	0.20	\$0.98	\$1.22	\$0.26	4.78	\$5,416.74

**Subgrade Grading and Compaction**

Total Stations	Cost/Station	Sub-Total
101.15	\$29.46	\$2,979.88

\*Estimates only

**SOIL EROSION CONTROL:**

Seed Quantity (lbs)	Cost (\$/lb)	Application Cost	Stations	Sub-Total
270	\$2.20	\$5.00	101.15	\$1,099.75

**EXCAVATION TOTAL = \$88,908.97**

**BALLAST AND SURFACING:**

Rock Haul Estimates	S-1120 Pit	S-1080 Stockpile	S-2700 Stockpile
R.T. Miles =	1.13	7.91	3.05
Ave. Speed =	15.81	16.35	16.14
Delay (Hrs.)=	0.10	0.10	0.10
Cost / Hour =	\$95.00	\$95.00	\$95.00
CY / Load =	11	11	11

Rock Processing & Application	Road Surfacing			Culvert Armoring & Energy Dissipator		
	S-1080 Stockpile	S-1120 Pit	S-2700 Stockpile	S-1120 Pit	S-2700 Stockpile	S-2700 Stockpile
DNR Rock Source	3"- Jaw Run	3"- Jaw Run	6"- Jaw Run	Select Pit Run	Select Pit Run	Light Loose
Drill & Shoot		\$3.00		\$3.00		
Dig and load	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$10.00
Crushing		\$3.15				
Haul *	\$5.04	\$1.48	\$2.50	\$1.48	\$2.50	\$2.50
Spread	\$1.10	\$1.10	\$1.10	\$1.10	\$1.10	\$20.00
Compact	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	
<b>Total Unit Costs (\$/cy)</b>	<b>\$7.64</b>	<b>\$10.23</b>	<b>\$5.10</b>	<b>\$7.08</b>	<b>\$5.10</b>	<b>\$32.50</b>
Cubic Yards	712	3,641	2,545	5	6	12
Sub-Total	\$5,439.68	\$37,247.43	\$12,979.50	\$35.40	\$30.60	\$390.00

\* Haul Formula: (R.T.Miles/MPH+Delay)(\$/hr / Cy/load)

**ROCK TOTAL = \$56,122.61**

# CONSTRUCTION COSTS

(Page 3 of 6)

**CULVERTS:**

Description	Qty.	Dia (inches)	Length (feet)	Cost/ft*	Sub-total
X-Drain	9	18"	30	\$15.17	\$4,095.00
X-Drain	2	18"	40	\$18.71	\$1,497.00
Stream Crossing	1	30"	50	\$38.95	\$1,947.50

\* Cost accounts for all culvert materials and the estimated times to install. Material costs are based on prices for double wall corrugated plastic pipes.

**CULVERT TOTAL = \$7,539.50**

**MOBILIZATION:**

Description	\$ per Move	# of Moves	Sub-total
Dump Trucks	110	5	\$550
Grader	440	1	\$440
Compactor	440	1	\$440
Excavator	495	1	\$495
Dozer D8)	440	1	\$440
Front end loader	440	1	\$440
Rock crusher	\$2,000	1	\$2,000
Drill	\$440	1	\$440
Dozer (D5)	\$264	1	\$264

**Total Mobilization = \$5,509**

**Average Mobilization Costs = \$1,836.33**

**GENERAL EXPENSES:**

**SUB-TOTAL = \$175,006.02**

Overhead & General Exp. Add **8%** **\$14,000.48**

**MOBILIZATION SUBTOTAL = \$1,836.33**

**SHEET TOTAL = \$190,842.84**

# RECONSTRUCTION COSTS

(Page 4 of 6)

SALE NAME: YALE OF A TALE

CONTRACT NUMBER: 30-092969

**CLEARING AND GRUBBING:**

Road	% Side Slope	MBF/Acre	Disposal Factor	Production Factor	Cost/Station	Width Factor	Total Stations	Sub-Total
S-1121	30	10	1.00	2.66	\$45	1	20.71	\$2,478.99
S-1121A	50	10	1.00	2.66	\$45	1	17.23	\$2,062.43
<b>CLEAR AND GRUB TOTAL =</b>								<b>\$2,478.99</b>

**EXCAVATION:**

Road	% Side Slope	Exc. Type	Fact.	Production Factor	Cost/Station	Width Factor	Total Stations	Sub-Total
S-1121	30	1.0		2.50	\$97	1.00	20.71	\$5,022.18
S-1121A	50	1.0		6.75	\$97	1.00	10.59	\$6,933.80
S-1121A*	70	1.5		11.00	\$97	1.00	6.64	\$10,627.32

\*Subgrade widening - Cost accounts for possible drill and shoot of the embankment.

**Subgrade Grading and Compaction**

Total Stations	Cost/Station	Sub-Total
37.94	\$29.46	\$1,117.71

**SOIL EROSION CONTROL**

Seed Quantity (lbs)	Cost (\$/lb)	Application Cost (\$/station)	Stations	Sub-Total
109	\$2.20	\$5.00	37.94	\$429.50

**EXCAVATION TOTAL = \$13,503.19**

**BALLAST AND SURFACING :**

Description	Rock Source	Landowner
3"- Jawrun	S-1120 Pit	DNR
Select Pit Run	S-1120 Pit	DNR

UNIT COSTS	3"- Jawrun	Select Pit Run
Drill & Shoot	\$3.00	\$3.00
Dig and load	\$1.00	\$1.00
Crushing	\$3.15	
Haul *	\$1.76	\$1.76
Spread	\$1.10	\$10.00
Compact	\$0.50	
<b>Total Unit Costs (\$/cy)</b>	<b>\$10.51</b>	<b>\$15.76</b>
Cubic Yards	2,518	8
Sub-Total	\$26,464.18	\$126.08

R.T. Miles =	1.63
Ave. Speed =	15.73
Delay (Hrs.)=	0.10
Cost / Hour =	\$95.00
CY / Load =	11

\* Haul Formula: (R.T.Miles/MPH+Delay)(\$/hr / Cy/load)

**ROCK TOTAL = \$26,590.26**

**CULVERTS:**

Description	Qty.	Dia (inches)	Length (feet)	Cost/ft*	Sub-total
X-Drain	4	18"	30	\$15.17	\$1,820.00
X-Drain	4	18"	40	\$18.71	\$2,994.00

\* Cost accounts for all culvert materials and the estimated times to install. Material costs are based on prices for double wall corrugated plastic pipes.

**CULVERT TOTAL = \$4,814**

**SUB-TOTAL = \$47,386.44**

**GENERAL EXPENSES:**

Overhead & General Exp. Add 9% \$4,264.78

**MOBILIZATION SUB-TOTAL = \$1,836.33**

**SHEET TOTAL = \$53,487.55**

# PRE-HAUL MAINTENANCE COSTS

(Page 5 of 6)

SALE NAME: YALE OF A TALE

CONTRACT NUMBER: 30-092969

Total stations Pre-Haul Maintenance 161.40

**MISC. MAINTENANCE ITEMS:**

Description	Cost/Station	Total Stations	Sub-Total
ditch cleaning =	\$30.00	161.40	\$4,842.00
grading & compact =	\$12.38	161.40	\$1,998.13
culvert cleanout =	\$5.20	161.40	\$839.28
seeding =	\$5.94	161.40	\$958.72
<b>MISC TOTAL =</b>			<b>\$8,638.13</b>

**BALLAST AND SURFACING :**

**Rock Haul Estimates**    S-1120 Pit    S-1080 Stockpile    S-1000 Stockpile    S-2700 Stockpile

R.T. Miles =	1.83	10.00	7.97	3.05
Ave. Speed =	15.56	16.32	16.30	16.14
Delay (Hrs.)=	0.10	0.10	0.10	0.10
Cost / Hour =	\$95.00	\$95.00	\$95.00	\$95.00
CY / Load =	11	11	11	11

\* Haul Formula: (R.T.Miles/MPH+Delay)(\$/hr / Cy/load)

DNR Rock Source	S-1000 Stockpile	S-1120 Pit	S-1080 Stockpile	S-1080 Stockpile	S-1120 Pit	S-2700 Stockpile
Rock Type	2"- Crushed	3"- Jawrun	Light Loose Rip Rap	Select Pit Run	Select Pit Run	6"- Jaw Run
Drill & Shoot		\$3.25			\$3.25	
Dig and load	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Crushing						
Haul *	\$5.09	\$1.88	\$6.15	\$6.15	\$1.88	\$2.50
Spread	\$1.10	\$1.10	\$10.00	\$10.00	\$10.00	\$1.10
Compact	\$0.50	\$0.50				\$0.50
<b>Total Unit Costs (\$/cy)</b>	\$7.69	\$7.73	\$17.15	\$17.15	\$16.13	<b>\$5.10</b>
Cubic Yards	467	170	16	7	13	100
Sub-Total	\$3,591.23	\$1,314.10	\$274.40	\$120.05	\$209.69	\$510.00
<b>ROCK TOTAL =</b>						<b>\$6,019.47</b>

**CULVERTS AND FLUMES:**

Description	Qty.	Dia (inches)	Length (feet)	Cost/ft*	Sub-total
X-Drain	2	18"	30	\$15.17	\$910.00
Stream Crossing	4	24"	40	\$23.22	\$3,715.60
Stream Crossing	3	24"	50	\$25.16	\$3,773.70
Stream Crossing	1	30"	50	\$38.95	\$1,947.50
Extras	2	18"	30	\$15.17	\$910.00

\* Cost accounts for all culvert materials and the estimated times to install. Material costs are based on prices for double wall corrugated plastic pipes.

**CULVERT TOTAL = \$11,256.80**

**SUB-TOTAL = \$25,914.40**

**GENERAL EXPENSES:**

Overhead & General Exp. Add 9% **\$2,332.30**

**MOBILIZATION SUB-TOTAL = \$1,836.33**

**SHEET TOTAL = \$30,083.03**

# ROAD CLOSURE COSTS

(Page 6 of 6)

SALE NAME: YALE OF A TALE

CONTRACT NUMBER: 30-092969

Total Stations Road Closure = 34.29

**MISC. ROAD CLOSURE COSTS:**

Description	Cost/Station	Total Stations	Sub-Total
water barring =	32.36	34.29	\$1,109.62
ripping =	50.00	34.29	\$1,714.50
culvert removal =	6.17	34.29	\$211.57
grass seeding =	3.67	34.29	\$125.84
spoils berm =	85	3	\$255.00
<b>Misc TOTAL =</b>			<b>\$3,416.54</b>

**GENERAL EXPENSES:**

Overhead & General Exp. Add 12% **\$409.98**

**MOBILIZATION:**

Description	\$ per Move	# of Moves	Sub-total
Dump Trucks	110		\$0
Grader	440		\$0
Compactor	440		\$0
Excavator	495	1	\$495
Dozer D8)	440		\$0
Front end loader	440		\$0

\*These move in costs are separate since they will occur after logging is done.

**Total Mobilization = \$495**

Road No. S-1310, S-1310D, S-2700

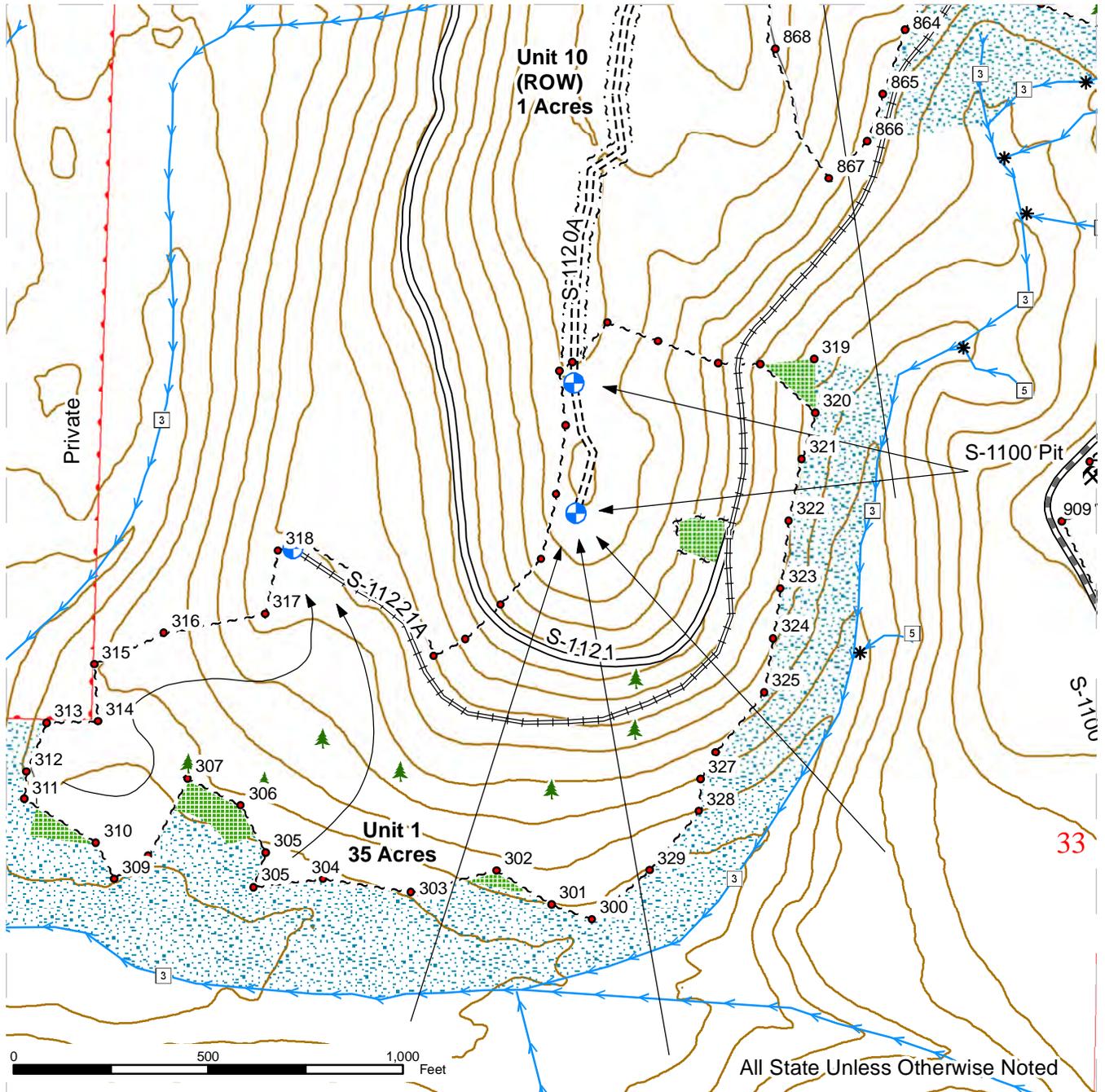
Standard: Light Abandonment

**SHEET TOTAL = \$4,321.52**

# LOGGING PLAN MAP

SALE NAME: YALE OF A TALE VRH VDT  
 AGREEMENT#: 30-092969  
 TOWNSHIP(S): T06R04E  
 TRUST(S): State Forest Transfer(1), State Forest Purchase(2), Common School and Indemnity(3), Normal School(8), Escheat(9)

REGION: Pacific Cascade Region  
 COUNTY(S): CLARK  
 ELEVATION RGE: 747-1932



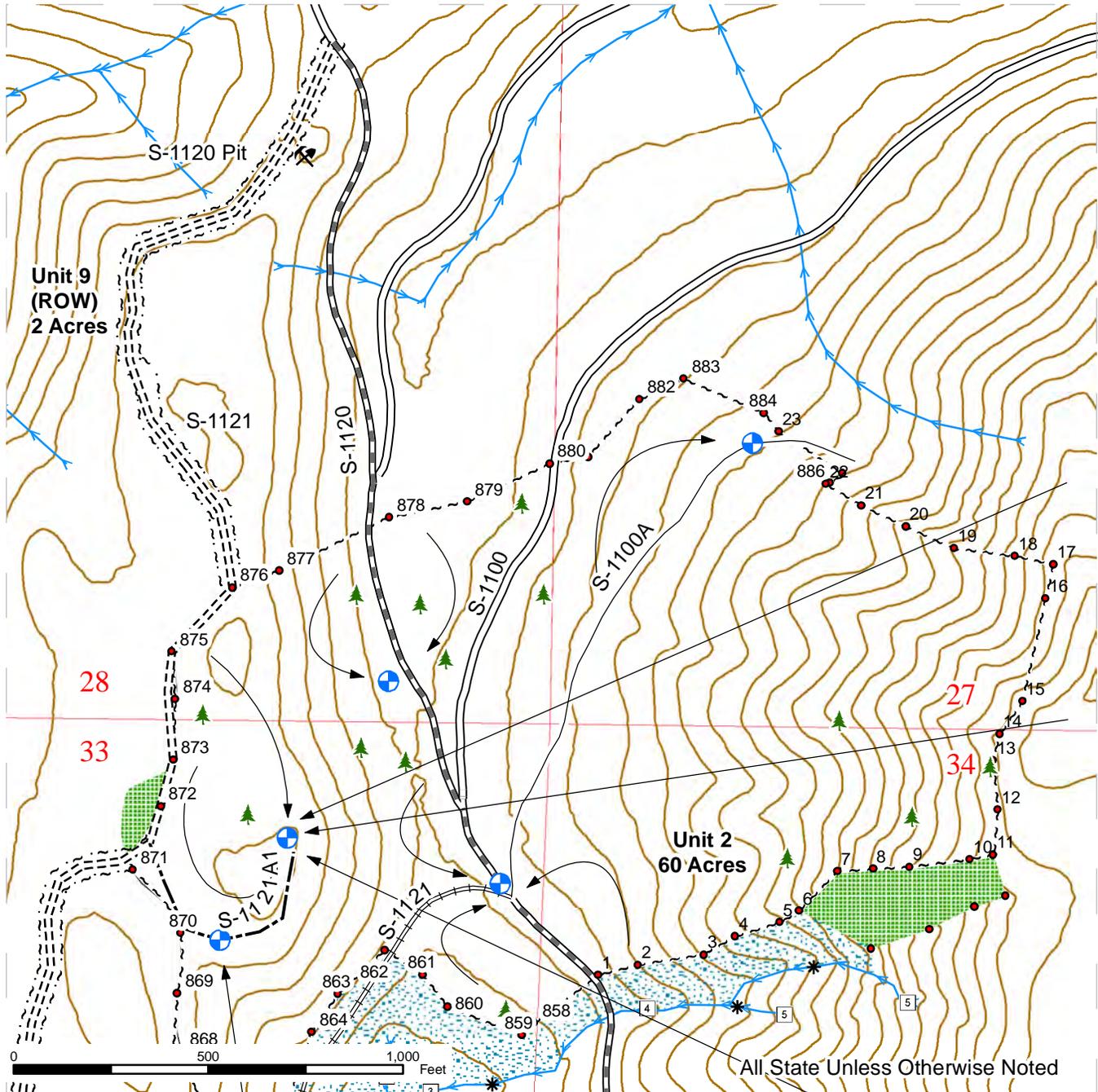
~ ~ ~ Sale Boundary Tags	— Existing Road	— Streams
~ ~ ~ Leave Tree Tags	— Required Pre-Haul Maintenance	□ Stream Type
· · · · Special Management Area	- - - Required Construction	* Stream Type Break
~ ~ ~ Right-of-Way Tags	≡≡≡ Required Reconstruction	◆ Monumented Corners
— Reprod	■ Leave Tree Area	▲ Leave Trees
→ Cable Yarding	▣ Slope Stability Mitigation Area	⊕ Proposed Landings
↪ Ground Based Yarding	▨ Riparian Management Zone	⚡ Rock Pit
	▧ Special Management Area	



# LOGGING PLAN MAP

SALE NAME: YALE OF A TALE VRH VDT  
 AGREEMENT#: 30-092969  
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 TRUST(S): State Forest Transfer(1), State Forest Purchase(2), Common School and Indemnity(3), Normal School(8), Escheat(9)

REGION: Pacific Cascade Region  
 COUNTY(S): CLARK  
 ELEVATION RGE: 747-1932

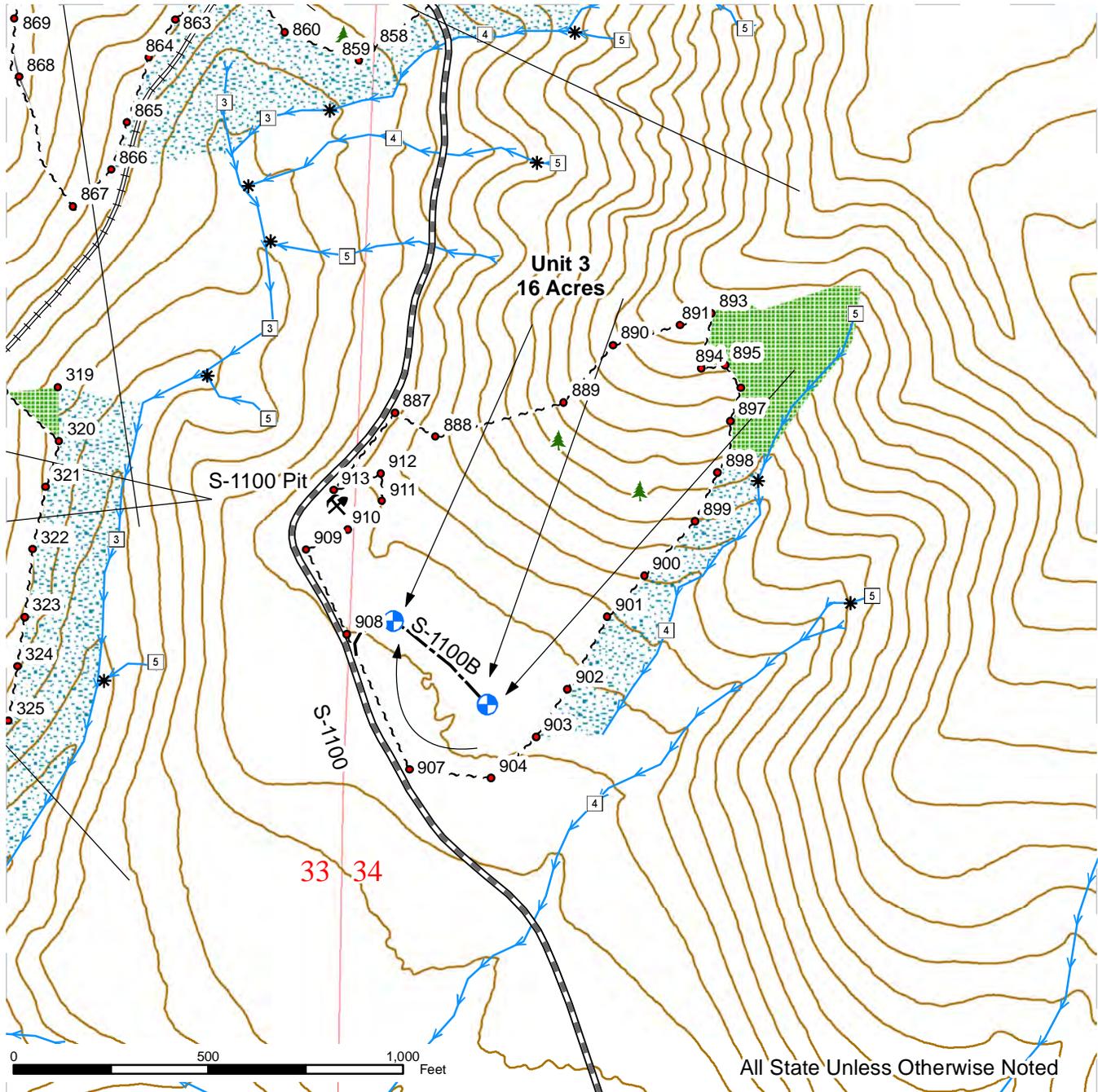


~ ~ ~ Sale Boundary Tags	— Existing Road	— Streams
~ ~ Leave Tree Tags	— Required Pre-Haul Maintenance	□ Stream Type
... x Special Management Area	— Optional Construction	* Stream Type Break
~ ~ ~ Right-of-Way Tags	— Required Construction	◆ Monumented Corners
— Reprod	— Required Reconstruction	▲ Leave Trees
→ Cable Yarding	— Designated Skid Trail	⊕ Proposed Landings
↪ Ground Based Yarding	■ Leave Tree Area	⚒ Rock Pit
	▨ Slope Stability Mitigation Area	
	▤ Riparian Management Zone	
	▧ Special Management Area	

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SALE NAME: YALE OF A TALE VRH VDT  
 AGREEMENT#: 30-092969  
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REGION: Pacific Cascade Region  
 COUNTY(S): CLARK  
 ELEVATION RGE: 747-1932

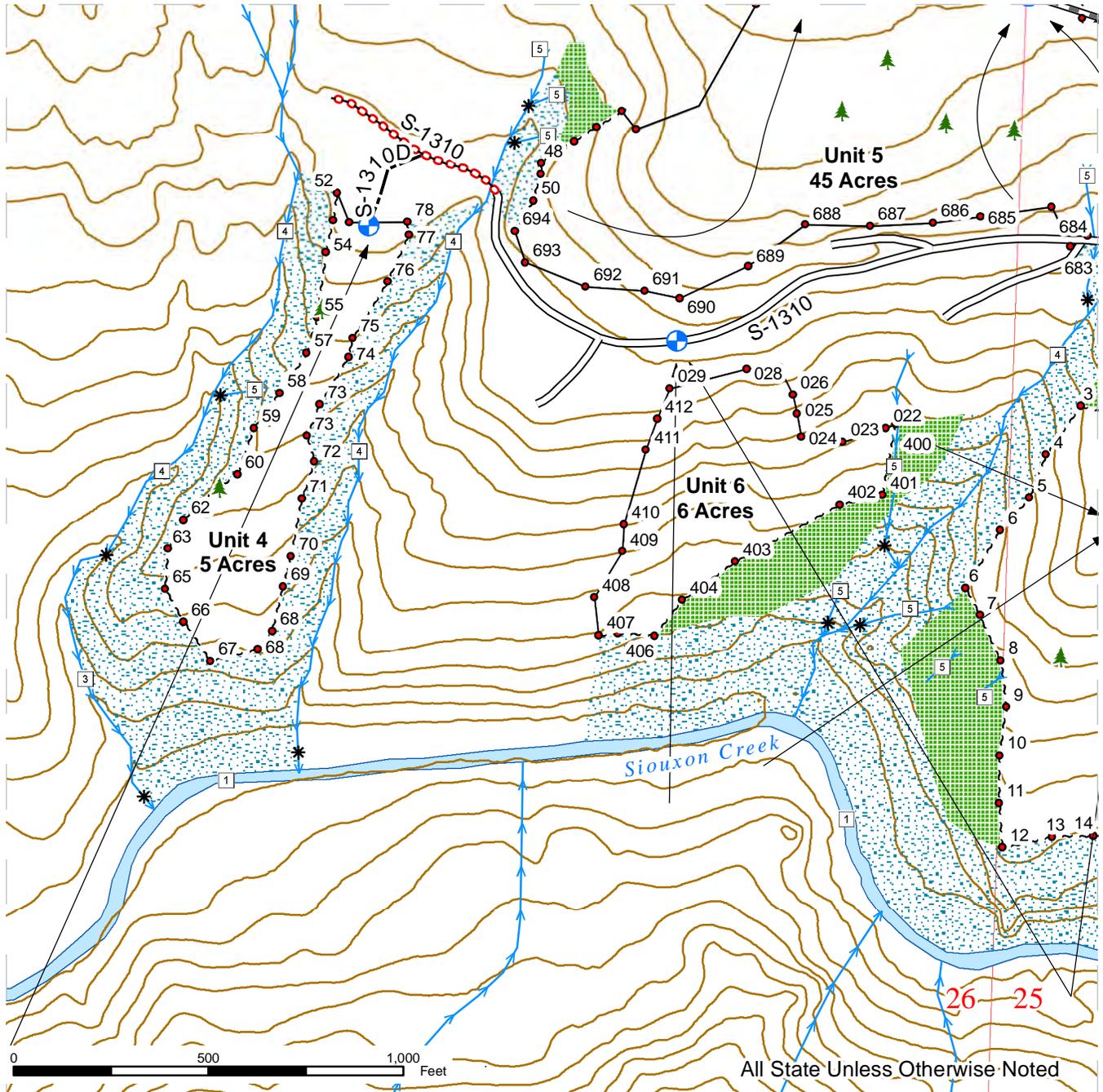


~ ~ ~ Sale Boundary Tags	▬▬▬ Required Pre-Haul Maintenance	→ Streams
~ ~ Leave Tree Tags	▬▬▬ Optional Construction	□ Stream Type
· · · × Special Management Area	▬▬▬ Required Reconstruction	* Stream Type Break
~ ~ ~ Right-of-Way Tags	▬▬▬ Leave Tree Area	◆ Monumented Corners
— Reprod	▬▬▬ Slope Stability Mitigation Area	🌲 Leave Trees
→ Cable Yarding	▬▬▬ Riparian Management Zone	⊕ Proposed Landings
↪ Ground Based Yarding	▬▬▬ Special Management Area	⚡ Rock Pit

# LOGGING PLAN MAP

**SALE NAME:** YALE OF A TALE VRH VDT  
**AGREEMENT#:** 30-092969  
**TOWNSHIP(S):** T06R04E  
**TRUST(S):** State Forest Transfer(1), State Forest Purchase(2), Common School and Indemnity(3), Normal School(8), Escheat(9)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** CLARK  
**ELEVATION RGE:** 747-1932

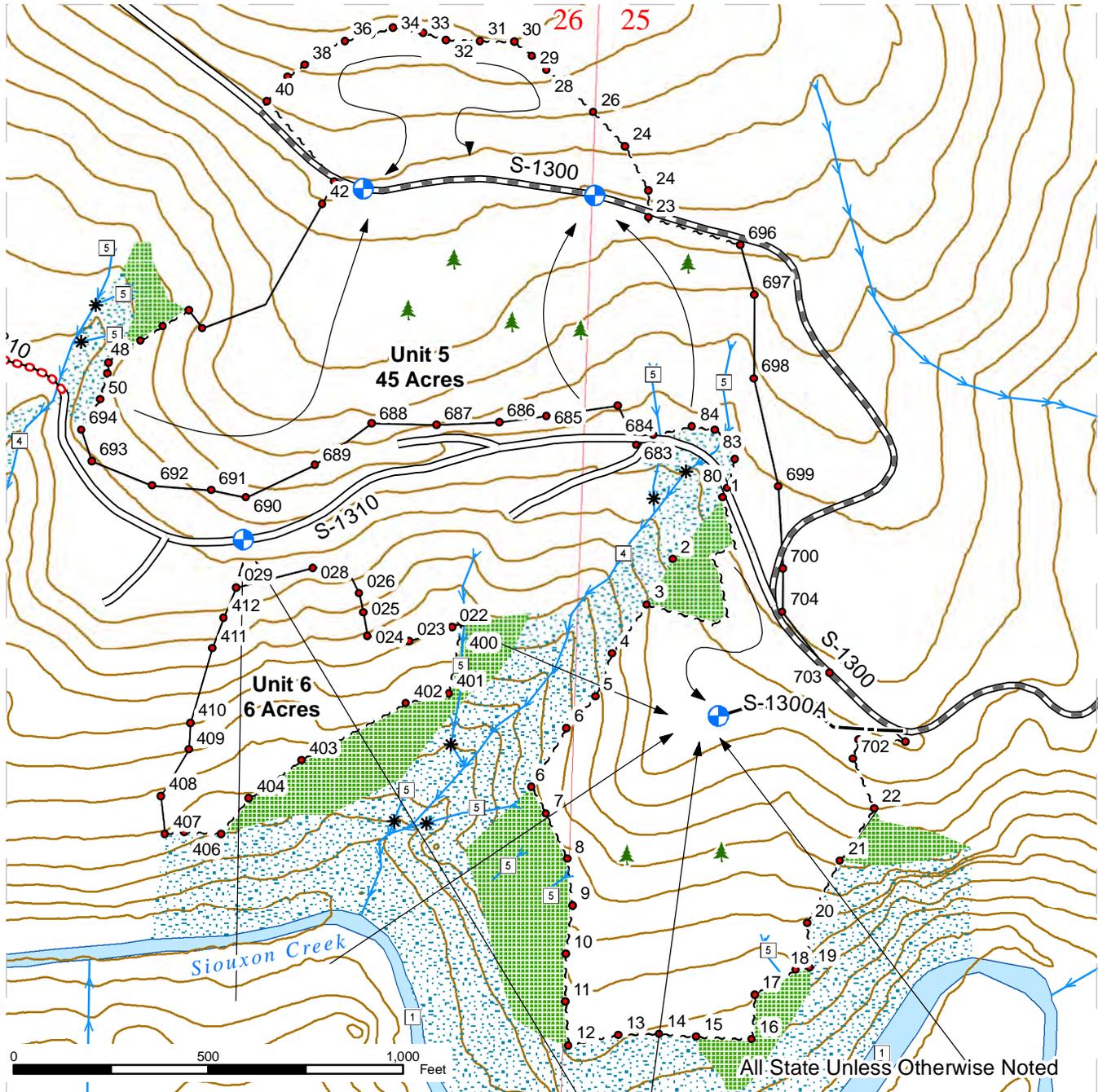


~ ~ ~ Sale Boundary Tags	— Existing Road	—> Streams
~ ~ ~ Leave Tree Tags	— Required Pre-Haul Maintenance	□ Stream Type
· · · × Special Management Area	— Optional Construction	* Stream Type Break
~ ~ ~ Right-of-Way Tags	— Required Abandonment	◆ Monumented Corners
— Reprod	■ Leave Tree Area	▲ Leave Trees
—> Cable Yarding	▨ Slope Stability Mitigation Area	⊕ Proposed Landings
— Ground Based Yarding	▤ Riparian Management Zone	⚡ Rock Pit
	▨ Special Management Area	

# LOGGING PLAN MAP

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REGION: Pacific Cascade Region  
 COUNTY(S): CLARK  
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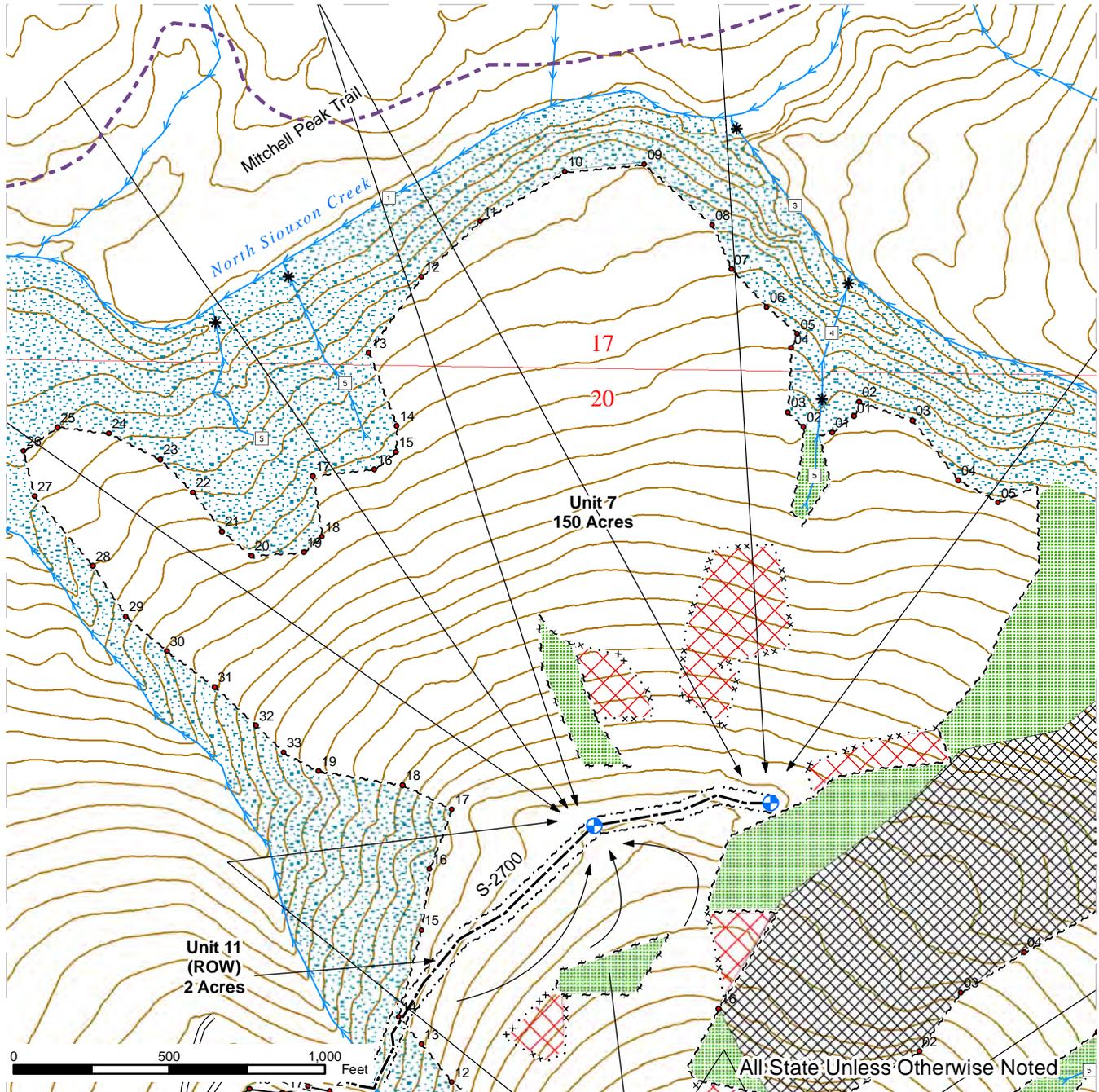
~ ~ ~ Sale Boundary Tags	— Existing Road	— Streams
~ ~ Leave Tree Tags	— Required Pre-Haul Maintenance	□ Stream Type
· · · × Special Management Area	— Optional Construction	* Stream Type Break
~ ~ ~ Right-of-Way Tags	○ ○ ○ Required Abandonment	◆ Monumented Corners
— Reprod	■ Leave Tree Area	▲ Leave Trees
→ Cable Yarding	▨ Slope Stability Mitigation Area	⊕ Proposed Landings
↪ Ground Based Yarding	▨ Riparian Management Zone	⚡ Rock Pit
	▨ Special Management Area	



# LOGGING PLAN MAP

SALE NAME: YALE OF A TALE VRH VDT  
 AGREEMENT#: 30-092969  
 TOWNSHIP(S): T06R05E  
 TRUST(S): State Forest Transfer(1), State Forest Purchase(2), Common School and Indemnity(3), Normal School(8), Escheat(9)

REGION: Pacific Cascade Region  
 COUNTY(S): SKAMANIA  
 ELEVATION RGE: 747-1932

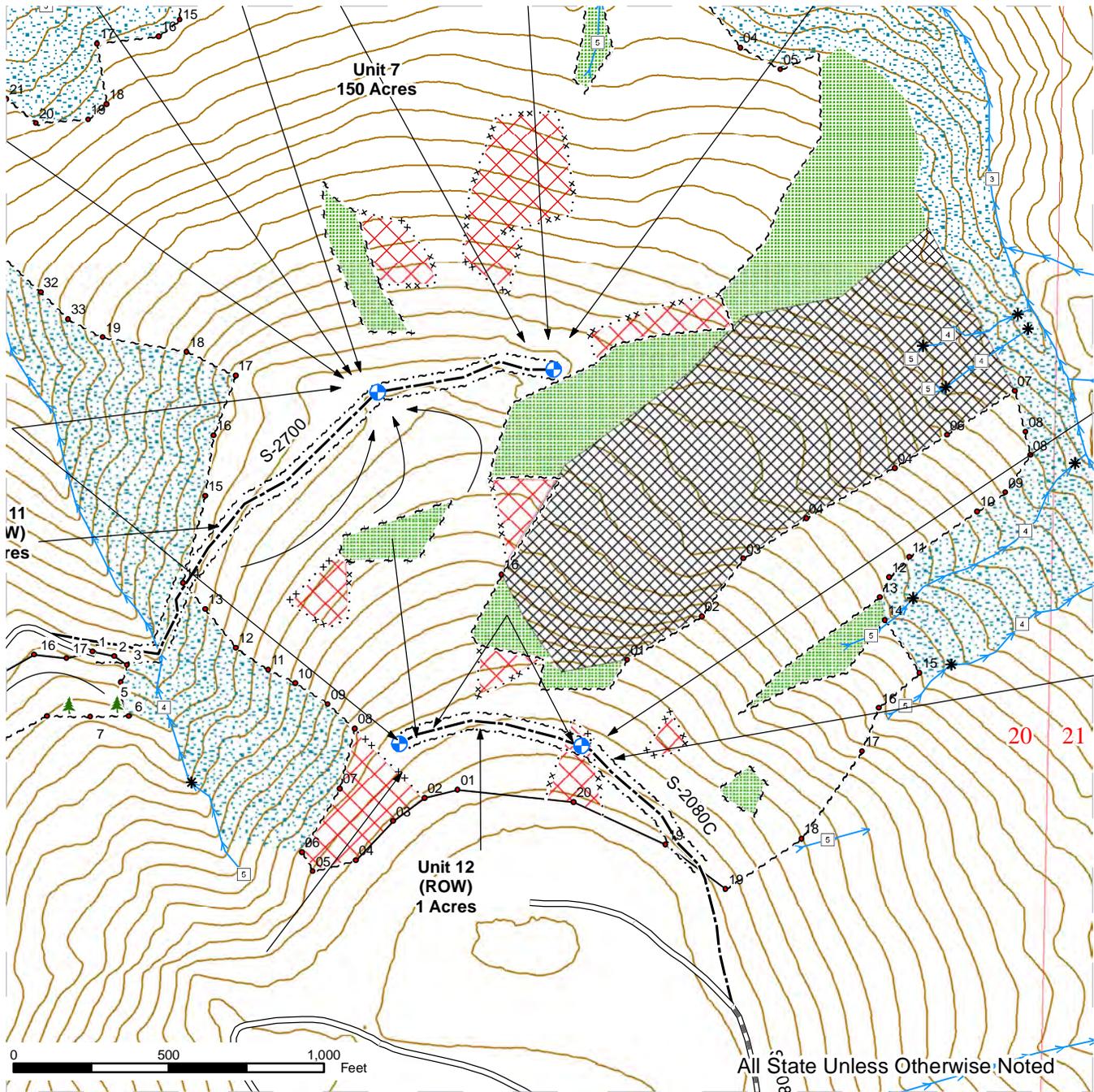


~ ~ ~ Sale Boundary Tags	— Existing Road	—> Streams
~ ~ Leave Tree Tags	- - - Optional Construction	□ Stream Type
· · · × Special Management Area	■ Leave Tree Area	* Stream Type Break
~ ~ ~ Right-of-Way Tags	▣ Slope Stability Mitigation Area	◆ Monumented Corners
— Reprod	▤ Riparian Management Zone	🌲 Leave Trees
→ Cable Yarding	▥ Special Management Area	📍 Proposed Landings
↪ Ground Based Yarding		⚒ Rock Pit
		— Mitchell Peak Trail

# LOGGING PLAN MAP

SALE NAME: YALE OF A TALE VRH VDT  
 AGREEMENT#: 30-092969  
 TOWNSHIP(S): T06R05E  
 TRUST(S): State Forest Transfer(1), State Forest Purchase(2), Common School and Indemnity(3), Normal School(8), Escheat(9)

REGION: Pacific Cascade Region  
 COUNTY(S): SKAMANIA  
 ELEVATION RGE: 747-1932



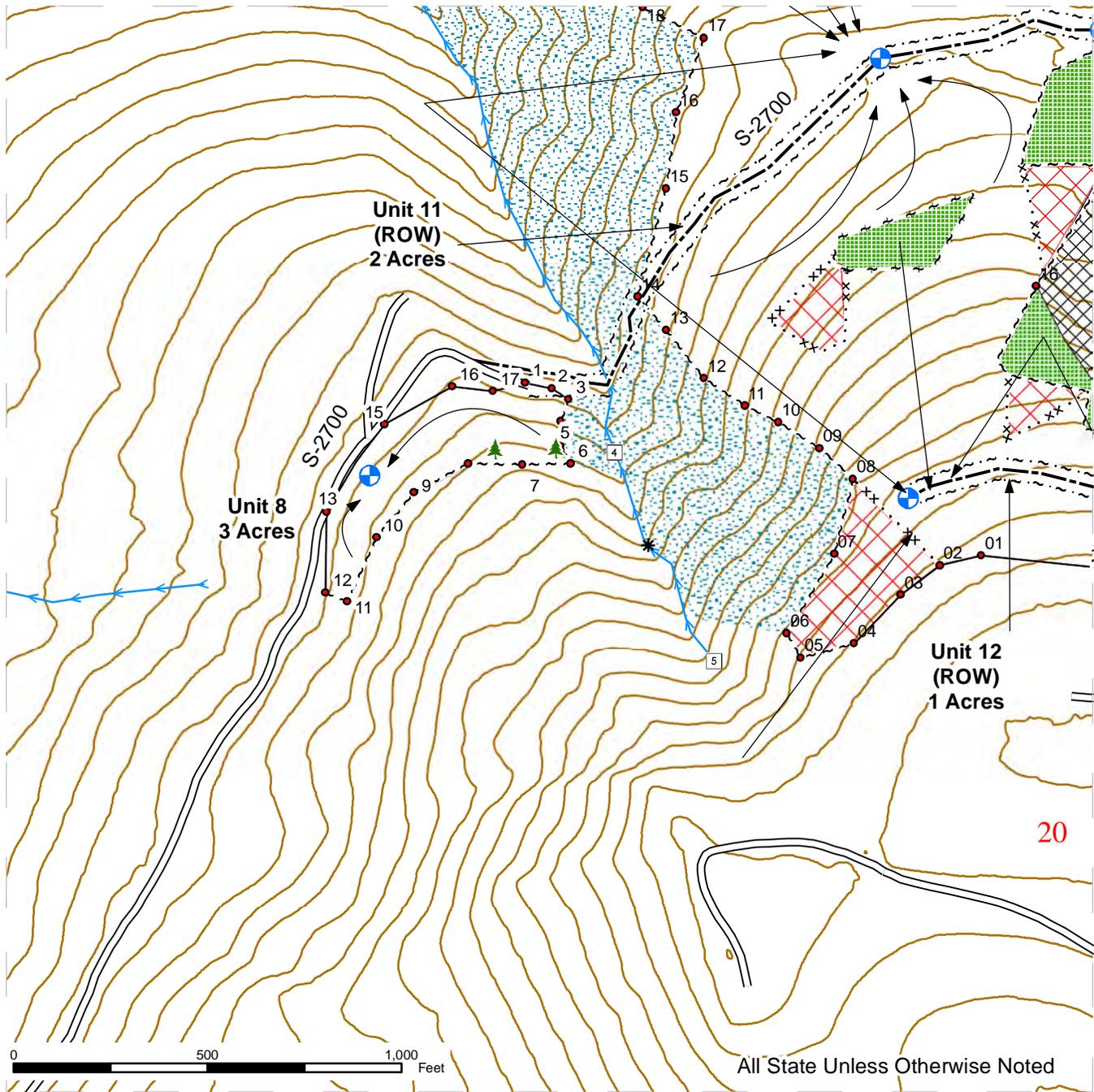
~ ~ ~ Sale Boundary Tags	— Existing Road	—> Streams
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· · · x Special Management Area	— Optional Construction	* Stream Type Break
~ ~ ~ Right-of-Way Tags	■ Leave Tree Area	◆ Monumented Corners
— Reprod	▨ Slope Stability Mitigation Area	🌲 Leave Trees
—> Cable Yarding	▨ Riparian Management Zone	⊕ Proposed Landings
↪ Ground Based Yarding	▨ Special Management Area	⚒ Rock Pit
		— Mitchell Peak Trail



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~ ~ Leave Tree Tags	- - - Optional Construction	□ Stream Type
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→ Cable Yarding	▥ Special Management Area	📍 Proposed Landings
↪ Ground Based Yarding		⚒ Rock Pit
		— Mitchell Peak Trail

