

TIMBER NOTICE OF SALE

SALE NAME: SNAHAPISH RISE

AGREEMENT NO: 30-092836

AUCTION: January 27, 2016 starting at 10:00 a.m.,
Olympic Region Office, Forks, WA

COUNTY: Jefferson

SALE LOCATION: Sale located approximately 28 miles southeast of Forks

**PRODUCTS SOLD
AND SALE AREA:**

All timber, except leave trees marked with blue paint or bounded out by leave tree area tags, bounded by the following: timber sale boundary tags and the Hoh Clearwater Mainline in Unit 1; timber sale boundary tags and the C-2700 Road in Units 2, 3 and 4; timber sale boundary tags, leave tree area tags, the C-2700 Road and the C-2710 Road in Unit 5; timber sale boundary tags in Unit 6; timber sale boundary tags and the C-2800 Road in Unit 7; all timber bounded by right of way boundary tags on part(s) of Sections 5, 6 and 9 all in Township 25 North, Range 11 West, Sections 20 and 32 all in Township 26 North, Range 11 West, W.M., containing 152 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg Ring DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	17.1	4	2,467						817	1,268	288	93
Hemlock	14.4	4	1,914						486	999	382	48
Spruce	21	3	124						107	7	9	1
Silver fir	17.7		32						11	18	3	
Sale Total			4,537									

MINIMUM BID: \$515,000.00

BID METHOD: Sealed Bids

**PERFORMANCE
SECURITY:**

\$100,000.00

SALE TYPE: Lump Sum

EXPIRATION DATE: October 31, 2017

ALLOCATION: Export Restricted

BID DEPOSIT: \$51,500.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: 44% Cable/56% Ground. Rubber tire skidders may be allowed when conditions of clauses H-017 and H-040 can be met. 30' Equipment Limitation Zones on all waters. As indicated on the timber sale map in the northern portion of Unit 4, there will be no operations (excluding haul) one hour before to two hours after official sunrise and one hour before to one hour after official sunset from April 1 through September 23 for marbled murrelet restrictions.

ROADS:

2.15 stations of required construction. 8.84 stations of optional construction. 28.74 stations of optional reconstruction. 209.45 stations of required pre-haul maintenance. 31.23 stations of optional pre-haul maintenance. 12.80 stations of required deactivation. Rock haul, timber haul, pre-haul maintenance, reconstruction and road construction will not be permitted from October 15 to April 15 unless authorized in writing by the Contract Administrator on the 1+80 Spur and the 11+80 Spur in Units 3 and 4 due to wet conditions. As indicated on the timber sale map in the northern portion of Unit 4, as well



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as on the Mainline_ 48728 and from MP 1.393 - MP 1.957 on the C-2700 Road, there will be no operations (except haul) one hour before to two hours after official sunrise and from one hour before to one hour after official sunset for marbled murrelet restrictions. Stripping of Copper Pit must be completed by October 31, 2016 - see road plan for details.

ACREAGE DETERMINATION

CRUISE METHOD: Sale area was 100% GPS'd. Sale units were cruised using a variable plot sample.

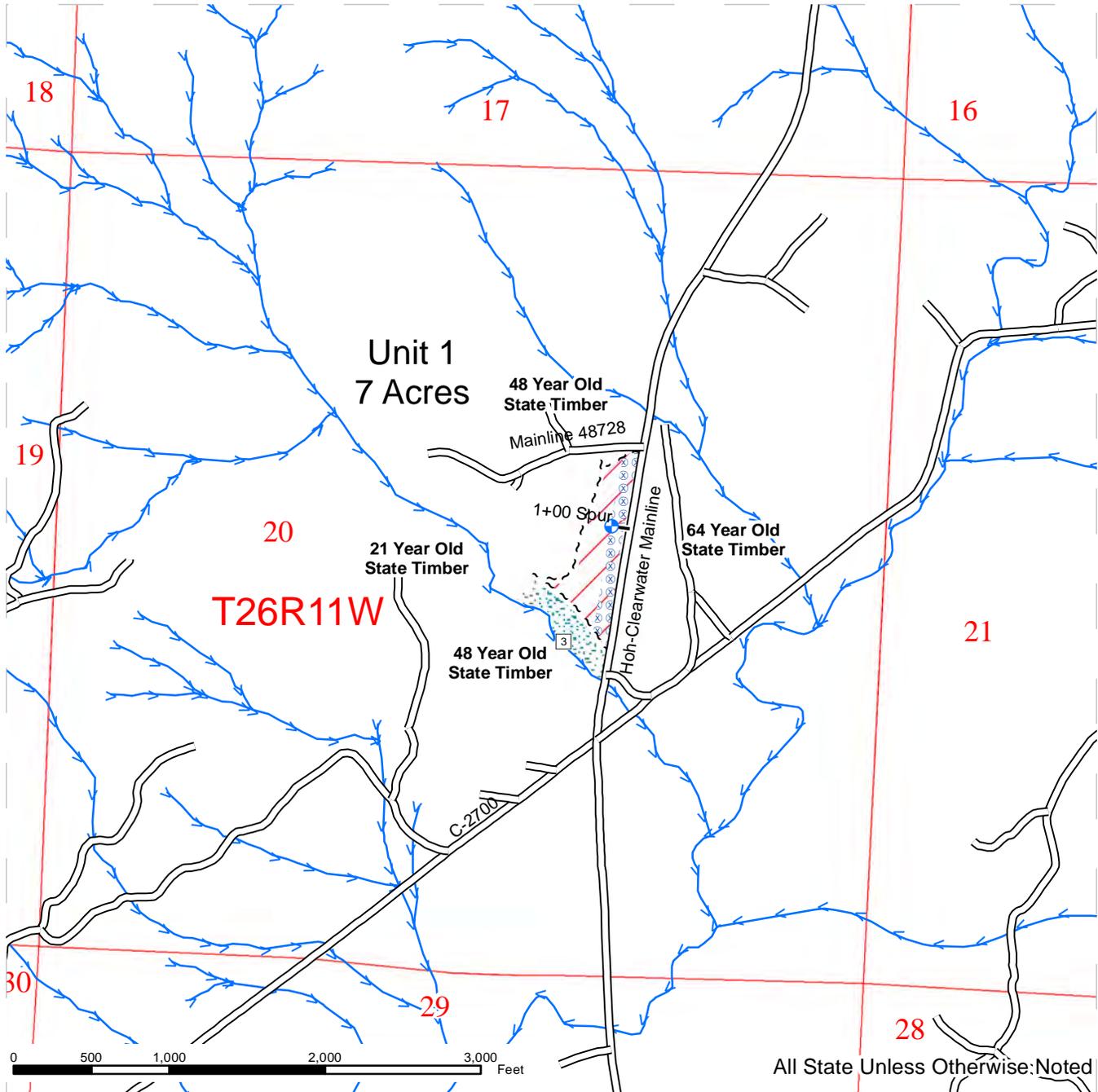
FEES: \$80,532.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: There are hazard abatement requirements along the Hoh-Clearwater Mainline in Unit 1 - see contract for details. C-2700 and C-2710 routes north of Unit 5 are to be used only for transporting heavy equipment.

TIMBER SALE MAP

SALE NAME: Snahapish Rise
AGREEMENT#: 30-092836
TOWNSHIP(S): T25R11W, T26R11W
TRUST(S): Common Schools and Indemnity (03)

REGION: Olympic
COUNTY(S): Jefferson
ELEVATION RGE: 560 ft.-1560 ft.

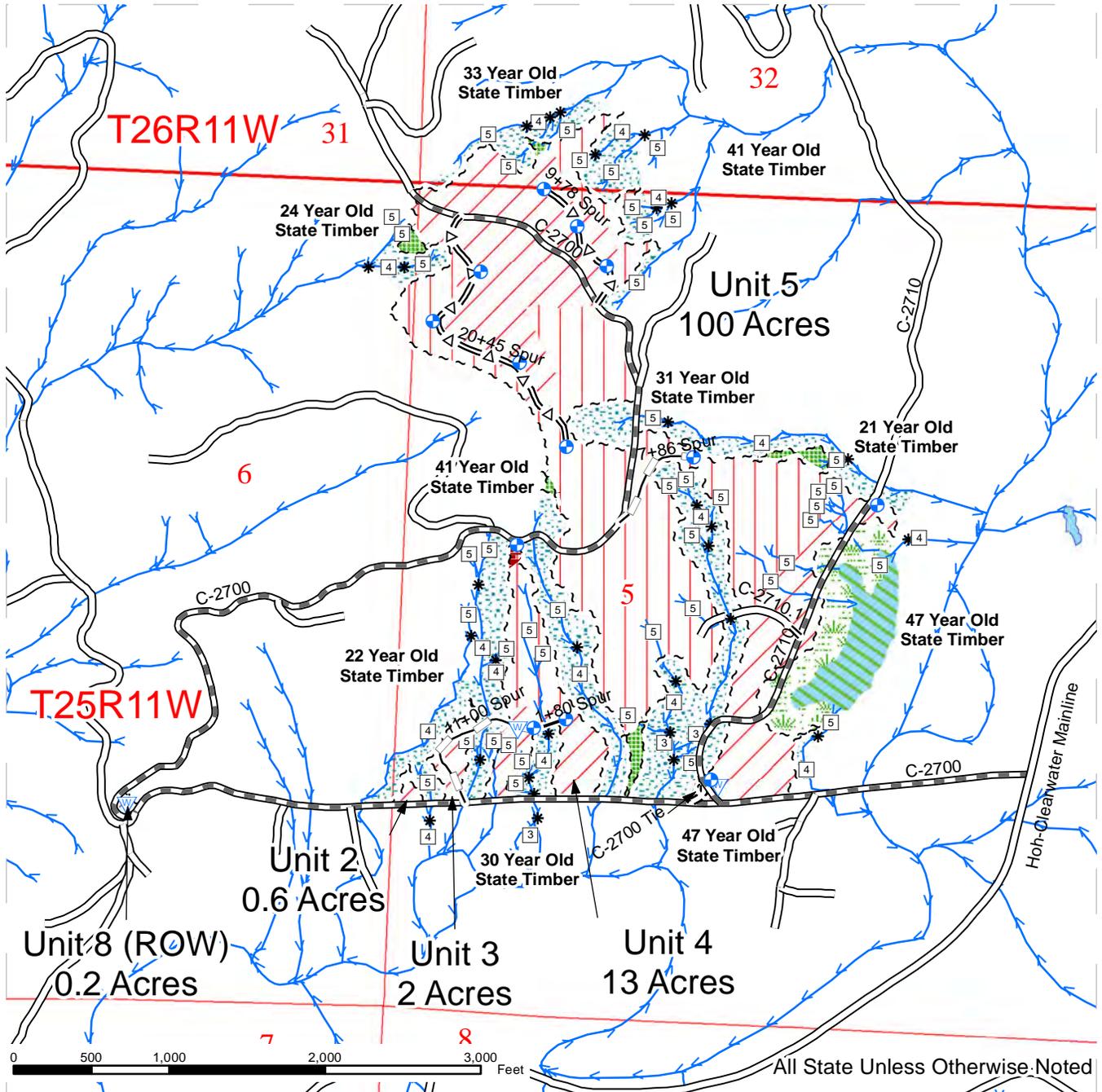


Rock Pit	Existing Roads	Riparian Management Zone
Stream Type	Optional Pre-haul Maintenance	Wetland Management Zone
Stream Type Break	Required Pre-haul Maintenance	Forested Wetland
Landing	Optional Construction	Leave Tree Area
Waste Area	Required Construction	Ground
Streams	Optional Reconstruction	Cable
Gate	Marbled Murrelet Timing Restriction	Public Land Survey Sections
Leave Tree Area Tags	Extreme Hazard Abatement	Public Land Survey Townships
Timber Sale Boundary Tags	Open Water	DNR Managed Lands
Right-Of-Way Boundary Tags		

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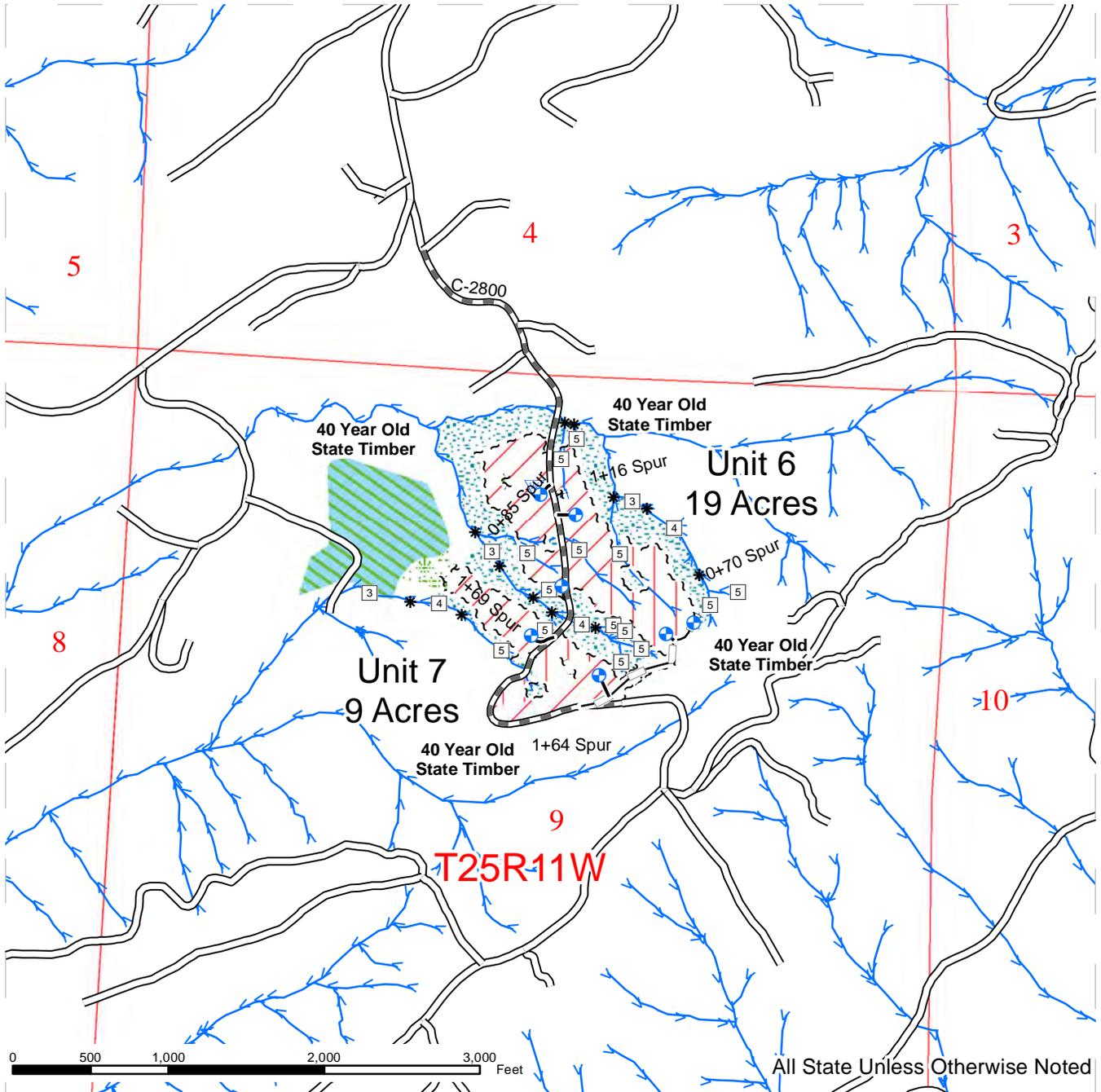
	Rock Pit		Existing Roads		Riparian Management Zone
	Stream Type		Optional Pre-haul Maintenance		Wetland Management Zone
	Stream Type Break		Required Pre-haul Maintenance		Forested Wetland
	Landing		Optional Construction		Leave Tree Area
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	Streams		Optional Reconstruction		Cable
	Gate		Marbled Murrelet Timing Restriction		Public Land Survey Sections
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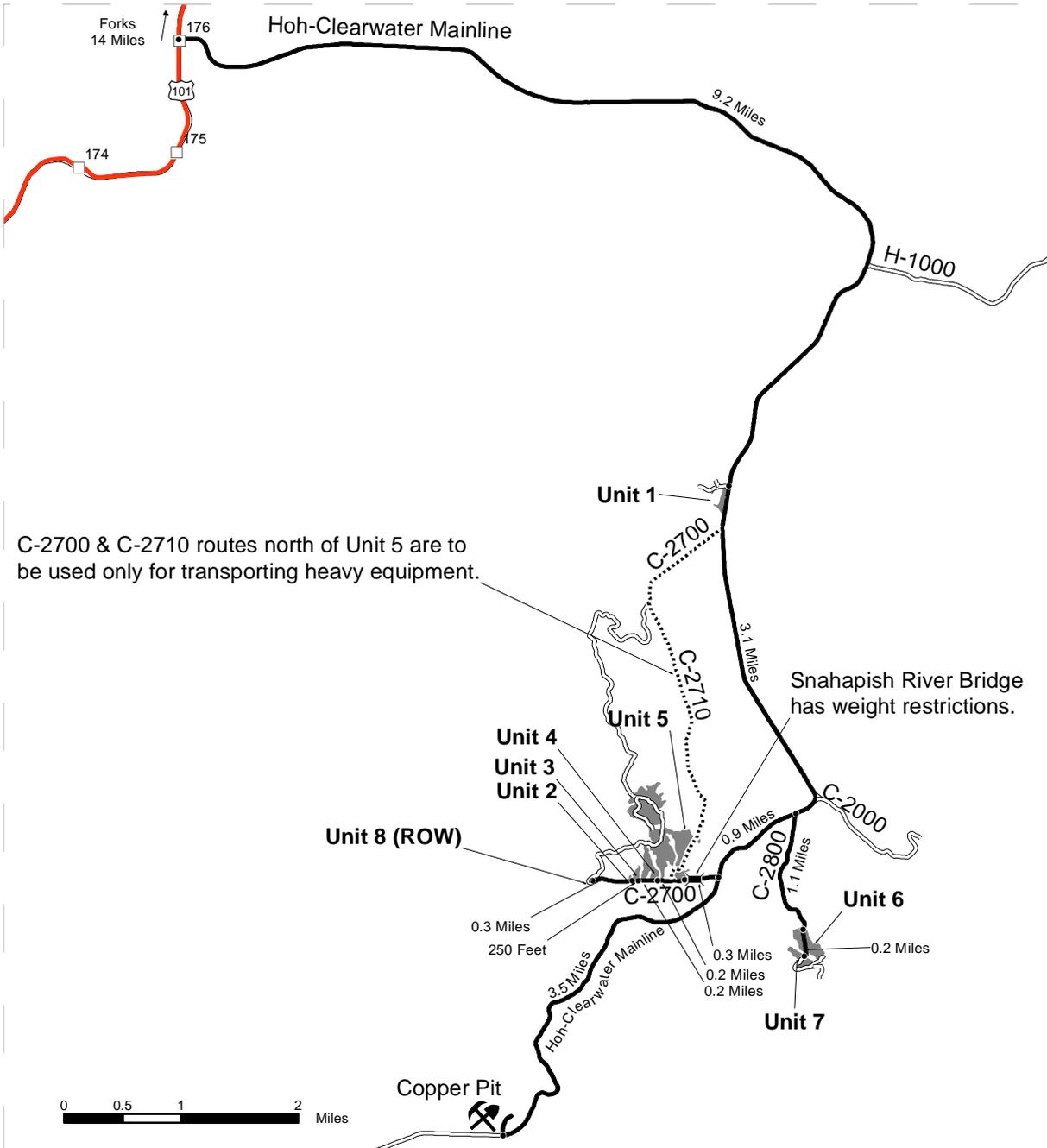
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DRIVING MAP

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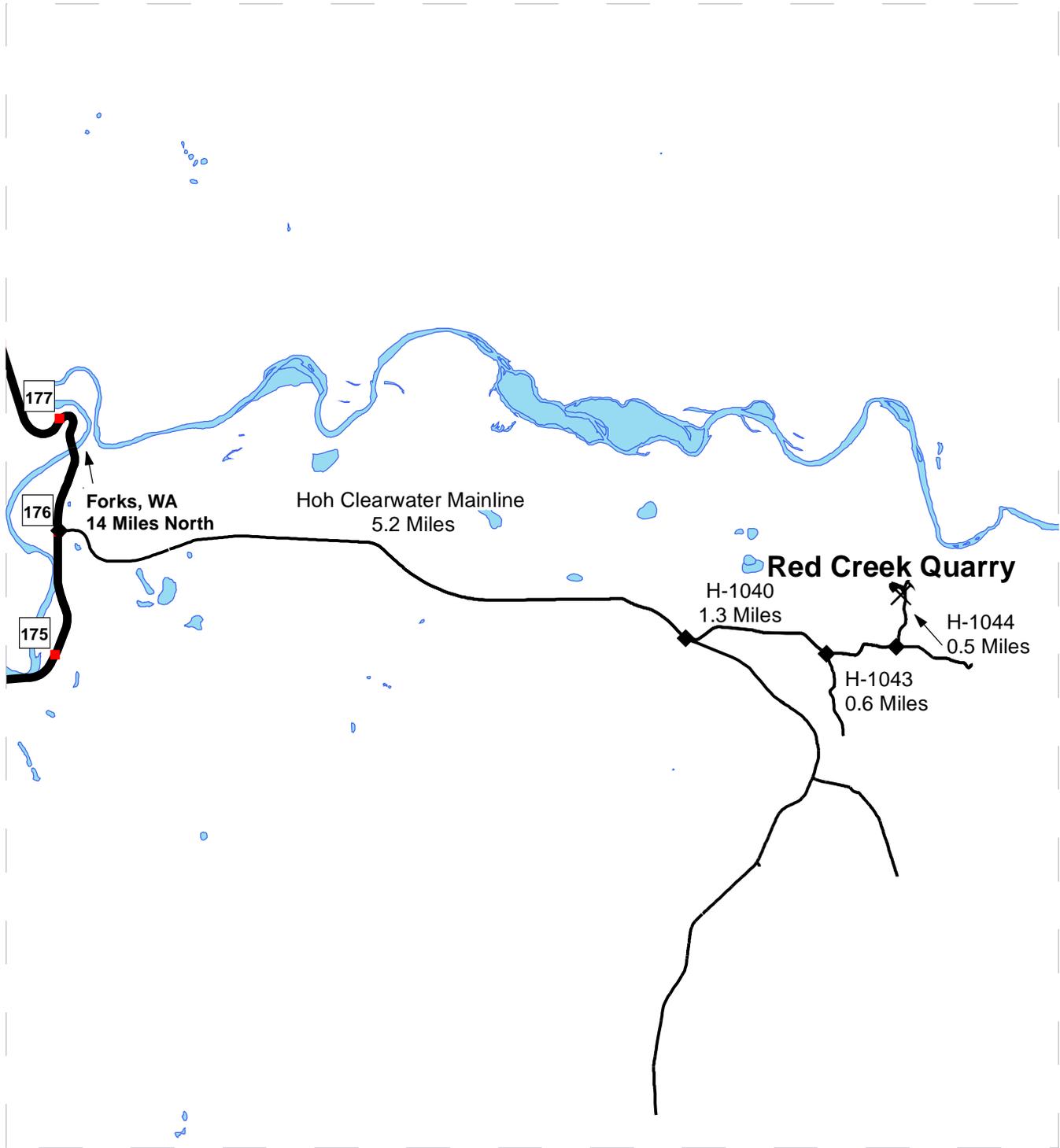
C-2700 & C-2710 routes north of Unit 5 are to be used only for transporting heavy equipment.

- Distance Indicator
- Milepost Markers
- ⚡ Rock Pit
- ⚖ Bridge
- Highways
- Haul Route
- ▬ Bridge Bypass Route
- Other Route
- Timber Sale Unit

Unit 1: From Forks, drive 14 miles South on US 101 and turn East on the Hoh-Clearwater Mainline. Continue 9.2 miles and Unit 1 will be on the right.
 Unit 6: From Unit 1, continue South on the Hoh-Clearwater Mainline for 3.1 miles and turn left on the C-2800. Continue 1.1 miles on the C-2800 to reach Unit 6.
 Unit 7: From the beginning of Unit 6, continue 0.2 miles to reach Unit 7.
 Unit 5: From the Hoh-Clearwater/C-2800 junction, continue South on the Hoh-Clearwater Mainline for 0.9 miles. Turn right onto the C-2700 and drive 0.3 miles to reach Unit 5 on your right.
 Unit 4: From the beginning of Unit 5, continue West on the C-2700 for 0.2 miles and Unit 4 will be on the right.
 Unit 3: From the beginning of Unit 4, continue West on the C-2700 for 0.2 miles and Unit 3 will be on the right.
 Unit 2: From the beginning of Unit 3, continue West on the C-2700 for 250 feet and Unit 2 will be on the right.
 Unit 8 (ROW): From the beginning of Unit 2, continue West on the C-2700 for 0.3 miles and Unit 8 will be on the right.
 Copper Pit: From the Hoh-Clearwater Mainline/C-2700 junction, head South on the Hoh-Clearwater Mainline for 3.5 miles and turn right onto the Copper Pit Road.



DRIVING MAP: Red Creek Quarry



DRIVING DIRECTIONS:

From Forks: Head south approximately 14 miles to mile post 176 on US 101, and turn left onto the Hoh-Clearwater Mainline. Head east approximately 5.2 miles to the H-1040 and continue 1.3 miles and turn left onto the H-1043. Continue along the H-1043 0.6 miles and turn left onto the H-1044, go 0.5 miles and Red Creek Quarry is on the left.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-092836

SALE NAME: SNAHAPISH RISE

**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-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on January 27, 2016 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees marked with blue paint or bounded out by leave tree area tags, bounded by the following: timber sale boundary tags and the Hoh Clearwater Mainline in Unit 1; timber sale boundary tags and the C-2700 Road in Units 2, 3 and 4; timber sale boundary tags, leave tree area tags, the C-2700 Road and the C-2710 Road in Unit 5; all timber bounded by right of way boundary tags, located on approximately 152 acres on part(s) of Sections 5, 6, and 9 all in Township 25 North, Range 11 West, Sections in Township 26 North, Range 11 West W.M. in Jefferson County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	SLASH PILING SPECS
B	GREEN TREE RETENTION PLAN

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2017.

G-040 Contract Term Adjustment - No Payment

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

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

G-051 Contract Term Extension - Payment

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

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

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

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

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

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

- e. Payment of \$634.00 per acre per annum for the acres on which an operating release has not been issued.
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.
- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL

OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE.
These documents have been prepared for the State's appraisal purposes only.

- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.
- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.
- h. Items contained in any other documents prepared for or by the State.

G-062 Habitat Conservation Plan

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

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

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

G-063 Incidental Take Permit Notification Requirements

- a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that

are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.

- b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.
- c. Purchaser shall refer to a specific ITP number, PRT-812521 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

- a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

under the contract. Purchaser retains the final responsibility for its operations under this contract and State shall not be liable for any injuries resulting from Purchaser's reliance on any State advice regarding the method or manner of performance.

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-106 Adding Naturally Damaged Forest Products

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

G-111 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

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

Nothing contained in clauses G-120 and G-121 shall be construed as relieving Purchaser of responsibility for, or damage resulting from, Purchaser's operations or negligence, nor shall Purchaser be relieved from full responsibility for making good any defective work or materials. Authorization to haul does not warrant that Purchaser

built roads are free from material defect and the State may require additional work, at Purchasers expense regardless of cost, to remedy deficiencies at any time.

G-140 Indemnity

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

G-150 Insurance

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

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

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

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

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

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

The State of Washington, Department of Natural Resources, its elected and appointed officials, agents and employees shall be named as an additional insured 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 Forks, 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; Hoh-Clearwater Mainline, C-2700, C-2710, C-2800 and all other roads listed in the Snahapish Rise Road Plan. 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 Hoh-Clearwater Mainline, C-2700, C-2710 or the C-2800 Roads, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easement with Bert L. Cole and Norma Cole, dated October 3, 1966.

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.

Section P: Payments and Securities

P-011 Initial Deposit

Purchaser paid DATA MISSING initial deposit, which will be maintained pursuant to RCW 79.15.100(3). If the operating authority on this contract expires without Purchaser's payment of the full amount specified in Clause P-020, the initial deposit will be immediately forfeited to the State, and will be offset against Purchaser's

remaining balance due. Any excess initial deposit funds not needed to ensure full payment of the contract price, or not needed to complete any remaining obligations of the Purchaser existing after contract expiration, will be refunded to the Purchaser.

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$121,365.00. The total contract price consists of a \$0.00 contract bid price plus \$121,365.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of \$0.00. The Security provided shall guarantee performance of all provisions of this contract and payment of any damages caused by operations under this contract or resulting from Purchaser's noncompliance with any rule or law. Acceptable performance security may be in the form of a performance bond, irrevocable letter of credit, cash, savings or certificate of deposit account assignments, and must name the State as the obligee or beneficiary. A letter of credit must comply with Title 62A RCW, Article 5. Performance security must remain in full force over the duration of the contract length. Surety bonds issued shall conform to the

issuance and rating requirements in clause G-150. The State shall retain the performance security pursuant to RCW 79.15.100. Purchaser shall not operate unless the performance security has been accepted by the State. If at any time the State decides that the security document or amount has become unsatisfactory, Purchaser agrees to suspend operations and, within 30 days of notification, to replace the security with one acceptable to the State or to supplement the amount of the existing security.

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-013 Reserve Tree Damage Definition

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

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

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 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-017 Preventing Excessive Soil Disturbance

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

H-018 Temporary Stream Crossings

A temporary stream crossing is required to access portions of Unit 6.

Purchaser shall comply with the following during the yarding operation:

- a. Adhere to the approved Hydraulic Permit Application (HPA) or Forest Practice Application (FPA) with approved hydraulic project work, if required, amend a current FPA or obtain a new FPA prior to commencing any new stream crossing construction.
- b. Location of the temporary stream crossing must be approved by the Contract Administrator.
- c. A temporary stream crossing shall not exceed 12 feet in width, including rub trees.
- d. Purchaser shall suspend operations during periods of wet weather when a high potential for sediment delivery into typed waters may occur.
- e. Temporary stream crossings shall be removed at the time of completion of yarding as required by the Contract Administrator.

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

H-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 utilizing rubber tire skidders in the sale area. The plan shall address the timing and location of desired use, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-051 Branding and Painting

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

timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested by ground and cable methods 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 the 1+80 and 11+00 Spurs in Units 3 and 4 from October 15 to April 15 unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

1. While felling timber, 2 warning signs must be posted on the Hoh Clearwater Mainline, the C-2700 and C-2800 Roads.
2. The Purchaser shall notify all employees and contractors working on this sale that any danger tree, marked or unmarked, may be felled. Any felled marked danger tree shall be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

As indicated on the timber sale map in the northern portion of Unit 4, there will be no operations (excluding haul) one hour before to two hours after official sunrise and one hour before to one hour after official sunset from April 1 through September 23 for marbled murrelet restrictions.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 9/1/2015 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on all roads listed in the road plan except for those covered in Clause C-060. All work shall be completed to the specifications detailed in the Road Plan.

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

S-110 Resource Protection

No equipment may operate within the 30 feet of any typed waters or wetlands unless authority is granted in writing by the Contract Administrator.

S-120 Stream Protection

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

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

Purchaser is responsible for understanding and complying with all applicable local, state, and federal hazardous material/waste laws and regulations for operations conducted under this contract. Such regulations pertain to, but may

not be limited to, hazardous material storage, handling and transport, personnel protection, release notification and emergency response, cleanup and waste disposal. Purchaser shall be responsible for restoring the site in the event of a spill.

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 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-013 Liquidated Damages or Failure to Perform

The following clauses provide for payments by Purchaser to the State for breaches of the terms of this contract other than failure to perform. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State, which will be caused by Purchaser's breach. These liquidated damages provisions are agreed to by the State and Purchaser with the understanding of the difficulty of proving loss and the inconvenience or infeasibility of obtaining an adequate remedy. These liquidated damages provisions provide greater certainty for the Purchaser by allowing the Purchaser to better assess its responsibilities under the contract.

Clause P-020 governs Purchaser's liability in the event Purchaser fails to perform any of the contract requirements other than the below liquidated damage clauses without written approval by the State. Purchaser's failure to pay for all or part of the forest products sold in this contract prior to expiration of the contract term results in substantial injury to the State. Therefore, Purchaser agrees to pay the State the full lump sum contract price in P-020 in the event of failure to perform.

D-041 Reserve Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-013, Reserve Tree Damage Definition, and when the Contract Administrator determines that a suitable replacement for a damaged reserve tree is not possible, the damaged trees result in substantial injury to the State. The value of the damaged reserve trees at the time of the breach is not readily ascertainable. Therefore, the Purchaser agrees to pay the State as liquidated damages at the rate of \$500.00 per tree for all damaged reserve trees that are not replaced in all Units.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Susan K. Trettevik
Olympic Region Manager

Date: _____
Address: _____

Date: _____

CORPORATE ACKNOWLEDGEMENT

STATE OF _____)

COUNTY OF _____)

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

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

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

Notary Public in and for the State of

My appointment expires _____

Schedule A
SLASH PILING SPECS

Specifications for Slash Piling

The areas shall be piled by creating circular piles of slash and brush conforming to the following specifications:

1. Piles shall be a minimum of 12 feet tall by 8 feet wide to a maximum of 30 feet tall and 16 feet wide. Piles shall be cone shaped and stable.
2. Piles shall be free of topsoil, large rotten logs and large stumps. No material larger than 8 inches in diameter shall be piled. Any burnable material shall be well scattered.
3. Piles shall not be placed on large stumps or logs.
4. Piles shall be stacked a minimum of 50 feet from all unit boundaries, Riparian Management Zones, leave tree areas and any standing timber; a minimum of 100 feet from any public roads and highways; and a minimum of 200 feet from any structures.
5. Piling shall be completed using an approved hydraulic shovel and grapples.
6. Slash and displaced soil shall be removed from swales and natural drainage channels concurrent with yarding.

Schedule B
GREEN TREE RETENTION PLAN - COAST

Leave the following as directed by the Contract Administrator:

1. All trees marked with a blue band of paint and all leave tree area clumps shall remain standing. The perimeter of the leave tree clumps are designated by Leave Tree Area tags. The tags face outward from the leave tree clumps.

Unit #	# of Individually Marked Trees	# of Clumps	# of Trees Clumped	Total # of Leave Trees
1	56	0	0	56
2	5	0	0	5
3	20	0	0	20
4	104	0	0	104
5	226	6	574	800
6	123	2	29	152
7	30	1	42	72



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 4/09)

Cruise Narrative

Sale Name: Snahapish Rise	Region: Olympic
Agreement #: 30-	District: Coast
Lead Cruiser: Kevin Peterson	Completion Date: 7/29/2015
Other Cruisers: None	

Unit acreage specifications:

Unit #	Cruised Acres	Cruised acres agree with sale acres? Y/N	If acres do not agree explain why.
1	7	Y	
2	0.5	Y	
3	2.5	Y	
4	13	Y	
5	100	Y	
6	19	Y	
7	10	Y	
8R/W	0.2	Y	
Total	152.2		

Unit cruise specifications:

Unit #	Sample Type (VP,FP,ITS,100%)	Expansion Factor (baf,full/half)	Sighting Height (4.5', 16')	Grid Size (plot spacing)	Plot Ratio (cruise/count)	Number of plots
1	VP	54.44/40	4.5	300 X 300	2:1	3
2	VP	54.44/40	4.5	N/A	All Cruise	1
3	VP	54.44/40	4.5	N/A	All Cruise	2
4	VP	54.44/40	4.5	300 X 300	1:1	6
5	VP	54.44/40	4.5	280 X 280	1:2	46
6	VP	54.44/40	4.5	300 X 300	1:1	10
7	VP	54.44/40	4.5	300 X 300	1:1	5
8R/W	VP	54.44/40	4.5	N/A	All Cruise	1

Sale/Cruise Description:

Minor species cruise intensity	Minor species sampled using same cruise plots.
Minimum cruise spec:	40% of Form Factor at 16 ft. D.O.B or 5 inch top or merchantable top
Average ring count:	DF = 4 WH = 4 SS = 3
Leave/take tree description:	Leave tree clumps are bounded out with yellow tags, pink flashers and blue paint. Individual leave trees are marked with blue bands and two blue butt marks.
Other conditions:	Exterior boundaries are marked with white tags and pink flashers, all roads acres are deducted.

<p>Sort Description:</p>	<p>HA– 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. (minimum diameter 8”.)</p> <p>HB – Logs meeting the following criteria: Surface characteristics for a B sort will have sound tight knots not to exceed 1 ½” in diameter. May include logs with not more than two larger knots up to 2 ½” in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (minimum diameter 8”.)</p> <p>R – 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>
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Field Observations:

This sale consists of 8 units and is located off the C-2700 along the Clearwater Mainline South of Forks. The majority of this sale is uphill cable harvest on steep ground averaging 55 to 60 percent slope. Unit 5 is 100 acres and contains 68% of the volume in this sale.

This sale consist of 45 year old timber 54% Douglas Fir, 42% Western Hemlock and traces of Sitka Spruce and Silver Fir. The average DF has a DBH of 17.1 inches and a bole height of 57 feet, defects include; spike knots forks and bear damage. The average WH has a DBH of 14.4 inches and a bole height of 55 feet, defects include spike knots and forks.

Grants: 03

Prepared By: Kevin Peterson – Olympic Region Cruiser

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

T025 R011 S09 TyU6 THRU T026 R011 S20 TyU1	Project: SNAP Acres 152.20	Page 1 Date 7/29/2015 Time 1:51:24PM
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Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	D	2S		33	4.7	5,630	5,365	817			84	16			2	98	40	14	265	2.04	20.3
DF	D	3S		51	3.6	8,648	8,334	1,268		100				3	4	94	39	9	110	0.98	75.7
DF	D	4S		12	.0	1,895	1,895	288	73	27			23	61	2	14	23	5	25	0.37	74.5
DF	D	UT		4	.7	618	614	93	67	33			10	58		32	19	5	23	0.30	26.4
DF	Totals			54	3.5	16,792	16,209	2,467	11	56	28	5	3	11	3	83	31	7	82	0.89	197.0
WH	D	2S		25	3.4	3,307	3,193	486			100				100		40	13	221	1.57	14.4
WH	D	3S		52	1.2	6,641	6,563	999		100				0	1	99	40	8	101	0.80	64.8
WH	D	4S		20	1.9	2,555	2,507	382	82	18			16	47	17	20	26	5	28	0.34	90.0
WH	D	UT		3	3.5	326	314	48	71	29			71			29	11	5	14	0.31	22.4
WH	Totals			42	2.0	12,829	12,577	1,914	18	57	25		5	10	4	82	30	7	66	0.67	191.5
SF	D	2S		33		69	69	11				100		100			24	17	280	2.36	.2
SF	D	3S		56	20.4	149	118	18		100					10	90	39	9	87	0.92	1.4
SF	D	4S		11		22	22	3	100				100				18	5	20	0.29	1.1
SF	Totals			1	12.6	240	210	32	11	56		33	11	33	6	50	29	8	77	0.87	2.7
SS	D	2S		86	5.7	748	705	107			18	82	2		98		37	17	506	3.25	1.4
SS	D	3S		6		44	44	7		100					49	51	35	7	80	0.83	.5
SS	D	4S		7		61	61	9	100					64	33	4	31	5	33	0.73	1.8
SS	D	UT		1		3	3	1		100			100				9	9	20	0.61	.2
SS	Totals			3	5.0	856	813	124	7	6	16	71	2	5	5	88	33	10	206	1.74	3.9
Totals					3.0	30,717	29,809	4,537	14	55	26	5	4	10	3	82	30	7	75	0.79	395.2

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT			SNAP				DATE	7/29/2015	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
025	011	09	SNAP	U6	THR	152.20	74	436	S	W	
026	011	20	SNAP	U1							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			74	436	5.9						
CRUISE			32	175	5.5	35,705	.5				
DBH COUNT											
REFOREST											
COUNT			42	253	6.0						
BLANKS											
100 %											
STAND SUMMARY											
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR		95	115.5	17.1	57	44.7	184.9	16,792	16,209	5,331	
WHEMLOCK		68	115.1	14.4	55	34.4	130.5	12,829	12,577	3,833	
S SPRUCE		9	2.7	21.0	50	1.4	6.6	856	813	225	
PS FIR		3	1.4	17.7	60	0.6	2.3	240	210	69	
TOTAL		175	234.6	15.9	56	81.3	324.3	30,717	29,809	9,458	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		73.8	8.6	106	115	125					
WHEMLOCK		87.1	10.1	103	115	127					
S SPRUCE		624.1	72.5	1	3	5					
PS FIR		718.9	83.5	0	1	2					
TOTAL		41.3	4.8	223	235	246	68	35	17		
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		63.1	7.3	171	185	198					
WHEMLOCK		86.2	10.0	117	130	144					
S SPRUCE		621.5	72.2	2	7	11					
PS FIR		637.7	74.1	1	2	4					
TOTAL		33.1	3.8	312	324	337	44	22	11		
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		65.1	7.6	14,983	16,209	17,435					
WHEMLOCK		88.1	10.2	11,291	12,577	13,864					
S SPRUCE		797.6	92.6	60	813	1,566					
PS FIR		619.1	71.9	59	210	361					
TOTAL		37.0	4.3	28,529	29,809	31,088	55	28	14		
CL	68.1	COEFF	V_BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR				81	88	94					
WHEMLOCK				87	96	106					
S SPRUCE		797.6	92.6	9	124	238					
PS FIR		619.1	71.9	25	90	155					
TOTAL		37.0	4.3	88	92	96	55	28	14		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	SNAP		DATE	7/29/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
026	011	20	SNAP	U1	7.00	3	15	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		3	15	5.0						
CRUISE		2	10	5.0	860		1.2			
DBH COUNT										
REFOREST										
COUNT		1	5	5.0						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	5	103.5	17.9	65	42.9	181.5	22,075	20,884	6,135	6,135
S SPRUCE	5	19.3	29.4	84	16.7	90.7	17,290	16,356	3,989	3,989
TOTAL	10	122.8	20.2	68	60.6	272.2	39,364	37,240	10,123	10,123
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		57.2	39.6	63	104	144				
S SPRUCE		173.2	119.8		19	42				
TOTAL		24.2	16.8	102	123	143	34	17	8	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		62.4	43.2	103	181	260				
S SPRUCE		173.2	119.8		91	199				
TOTAL		20.0	13.8	235	272	310	23	12	6	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		59.9	41.4	12,229	20,884	29,540				
S SPRUCE		173.2	119.8		16,356	35,955				
TOTAL		44.8	31.0	25,691	37,240	48,789	115	59	29	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK				67	115	163				
S SPRUCE		173.2	119.8		180	396				
TOTAL		133.6	92.4	94	137	179	1,025	523	256	

T026 R011 S05 TU2		T026 R011 S05 TU2
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt		
026 011 05 SNAP U2 .50 1 4 S W		

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
WH	DM	2S	87	10,904	10,904	5	100				100				40	13	263	1.81	41.5	
WH	DM	3S	7	943	943	0	100				100				30	7	50	0.67	18.9	
WH	DM	4S	6	679	679	0	100				100				28	6	30	0.56	22.6	
WH	Totals		50	12,526	12,526	6	13	87		13	87			34	10	151	1.30	83.0		
DF	DM	2S	83	10,787	10,410	5	100				100				40	14	310	2.19	33.6	
DF	DM	3S	17	2,018	2,018	1	100				100				32	7	60	0.70	33.6	
DF	Totals		50	12,805	12,428	6	16	84		16	84			36	11	185	1.52	67.3		
Type Totals				1.5	25,332	24,954	12	15	85		7	8	85	35	10	166	1.41	150.3		

TC TSTATS		STATISTICS					PAGE	1		
		PROJECT		SNAP		DATE	7/29/2015			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
026	011	05	SNAP	U2	0.50	1	4	S	W	
				TREES	ESTIMATED	PERCENT				
		PLOTS	TREES	PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		1	4	4.0						
CRUISE		1	4	4.0	38	10.6				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	2	41.5	21.9	71	23.2	108.9	12,526	12,526	3,731	3,731
DOUG FIR	2	33.6	24.4	74	22.1	108.9	12,805	12,428	3,711	3,711
TOTAL	4	75.1	23.1	72	45.4	217.8	25,332	24,954	7,442	7,442
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										

T026 R011 S05 TU3		T026 R011 S05 TU3
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt		
026 011 05 SNAP U3 2.50 2 5 S W		

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	DM	2S	86	5.0	19,589	18,618	47		50	50				100	40	16	411	2.83	45.2	
DF		DM 3S	14		2,845	2,845	7	100						100	33	7	63	0.89	45.2	
DF	Totals		73	4.3	22,433	21,463	54	13	43	43				13	36	12	237	1.96	90.5	
WH	DM	2S	42		3,350	3,350	8		100					100	40	14	290	2.11	11.6	
WH	DM	3S	26		2,037	2,037	5	100						100	40	6	60	0.56	34.0	
WH	DM	4S	5	25.0	462	347	1	100			100				23	7	30	0.67	11.6	
WH	DM	UT	27		2,079	2,079	5	100			100				16	5	20	0.24	104.0	
WH	Totals		27	1.5	7,929	7,813	20	27	31	43		27	4	69	23	6	49	0.62	161.0	
Type Totals				3.6	30,362	29,276	73	7	18	43	32	7	1	10	82	28	8	116	1.24	251.5

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	SNAP		DATE	7/29/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
026	011	05	SNAP	U3	2.50	2	11	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		2	11	5.5						
CRUISE		1	5	5.0	487		1.0			
DBH COUNT										
REFOREST										
COUNT		1	6	6.0						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	2	45.2	27.8	75	36.1	190.5	22,433	21,463	6,448	6,448
WHEMLOCK	3	149.5	11.6	30	32.0	108.9	7,929	7,813	2,313	2,313
TOTAL	5	194.7	16.8	40	73.1	299.4	30,362	29,276	8,762	8,762
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		60.6	56.8	20	45	71				
WHEMLOCK		70.7	66.2	51	149	248				
TOTAL		40.2	37.6	121	195	268	113	58	28	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		60.6	56.8	82	191	299				
WHEMLOCK		70.7	66.2	37	109	181				
TOTAL		12.9	12.0	263	299	335	12	6	3	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		60.6	56.8	9,282	21,463	33,644				
WHEMLOCK		70.7	66.2	2,640	7,813	12,987				
TOTAL		25.6	23.9	22,269	29,276	36,284	46	23	11	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				49	113	177				
WHEMLOCK		50.0	46.8	24	72	119				
TOTAL		321.1	300.7	74	98	121	7,231	3,689	1,808	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	SNAP		DATE	7/29/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
026	011	05	SNAP	U4	13.00	6	31	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		6	31	5.2						
CRUISE		3	17	5.7	1,771		1.0			
DBH COUNT										
REFOREST										
COUNT		3	14	4.7						
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	12	60.5	24.6	71	40.3	199.6	22,796	21,578	6,687	6,685
WHEMLOCK	5	75.7	14.1	53	21.8	81.7	7,479	7,346	2,282	2,282
TOTAL	17	136.2	19.5	61	63.8	281.3	30,275	28,924	8,969	8,968
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		29.8	13.3	52	61	69				
WHEMLOCK		72.1	32.1	51	76	100				
TOTAL		40.8	18.2	111	136	161	79	40	20	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		28.2	12.5	175	200	225				
WHEMLOCK		69.9	31.1	56	82	107				
TOTAL		28.5	12.7	246	281	317	39	20	10	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		32.3	14.4	18,478	21,578	24,678				
WHEMLOCK		72.3	32.2	4,981	7,346	9,710				
TOTAL		28.8	12.8	25,211	28,924	32,636	40	20	10	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				93	108	124				
WHEMLOCK				61	90	119				
TOTAL		175.3	78.0	90	103	116	1,462	746	365	

T026 R011 S05 TU5										T026 R011 S05 TU5				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
026	011	05	SNAP	U5	100.00	46	91	S	W					

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	DM	2S	31	4.3	5,636	5,395	540	100				100				40	13	230	1.84	23.5
DF	DM	3S	54	4.2	9,815	9,405	941	100				3 2 96				39	9	120	1.06	78.4
DF	DM	4S	13		2,131	2,131	213	65	35	21 76 3				22	5	25	0.37	86.4		
DF	DM	UT	2		298	298	30	11	89	11				89	27	6	39	0.45	7.7	
DF	Totals		56	3.6	17,880	17,230	1,723	8	60	31	3	11	1	85	31	8	88	0.94	196.0	
WH	DM	2S	24	2.1	3,305	3,235	323	100				100				40	12	204	1.49	15.9
WH	DM	3S	52	1.3	7,107	7,011	701	100				100				40	8	99	0.78	70.7
WH	DM	4S	22	2.4	2,962	2,892	289	80	20	16 43 17 23				26	5	28	0.34	103.0		
WH	DM	UT	2		230	230	23	100				100				9	5	10	0.19	23.0
WH	Totals		43	1.7	13,604	13,367	1,337	19	57	24	5	9	4	82	30	7	63	0.65	212.5	
SF	DM	2S	33		105	105	11	100				100				24	17	280	2.36	.4
SF	DM	3S	56	20.4	226	180	18	100				10 90				39	9	87	0.92	2.1
SF	DM	4S	11		34	34	3	100				100				18	5	20	0.29	1.7
SF	Totals		1	12.6	365	319	32	11	56	33	11	33	6	50	29	8	77	0.87	4.1	
SS	DM	4S	100		89	89	9	100				66 34				31	5	33	0.73	2.7
SS	Totals		0		89	89	9	100				66 34				31	5	33	0.73	2.7
Type Totals				2.9	31,938	31,005	3,101	13	59	28	0	4	11	2	83	31	7	75	0.79	415.4

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				SNAP				DATE	7/29/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
026	011	05	SNAP	U5	100.00	46	291	S	W	
			TREES	ESTIMATED	PERCENT					
			PER PLOT	TOTAL	SAMPLE					
			TREES	TREES	TREES					
TOTAL		46	291	6.3						
CRUISE		16	91	5.7	24,073		.4			
DBH COUNT										
REFOREST										
COUNT		30	192	6.4						
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	48	107.5	18.2	61	45.7	195.3	17,880	17,230	5,772	5,772
WHEMLOCK	37	128.4	14.2	55	37.6	142.0	13,604	13,367	4,130	4,130
PS FIR	3	2.1	17.7	60	0.8	3.6	365	319	104	104
S SPRUCE	3	2.7	15.5	33	0.9	3.6	89	89	61	61
TOTAL	<i>91</i>	<i>240.7</i>	<i>16.2</i>	<i>58</i>	<i>85.6</i>	<i>344.4</i>	<i>31,938</i>	<i>31,005</i>	<i>10,068</i>	<i>10,068</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	64.3	9.5		97	108	118				
WHEMLOCK	80.8	11.9		113	128	144				
PS FIR	565.8	83.3		0	2	4				
S SPRUCE	678.2	99.9		0	3	5				
TOTAL	<i>32.3</i>	<i>4.8</i>		<i>229</i>	<i>241</i>	<i>252</i>	<i>42</i>	<i>21</i>	<i>10</i>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	61.2	9.0		178	195	213				
WHEMLOCK	81.0	11.9		125	142	159				
PS FIR	501.0	73.8		1	4	6				
S SPRUCE	678.2	99.9		0	4	7				
TOTAL	<i>25.4</i>	<i>3.7</i>		<i>332</i>	<i>344</i>	<i>357</i>	<i>26</i>	<i>13</i>	<i>6</i>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	61.6	9.1		15,667	17,230	18,793				
WHEMLOCK	82.6	12.2		11,741	13,367	14,994				
PS FIR	486.2	71.6		91	319	548				
S SPRUCE	678.2	99.9		0	89	177				
TOTAL	<i>27.9</i>	<i>4.1</i>		<i>29,730</i>	<i>31,005</i>	<i>32,280</i>	<i>31</i>	<i>16</i>	<i>8</i>	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				80	88	96				
WHEMLOCK				83	94	106				
PS FIR	486.2	71.6		26	90	154				
S SPRUCE	678.2	99.9		0	25	50				
TOTAL	<i>325.5</i>	<i>47.9</i>		<i>86</i>	<i>90</i>	<i>94</i>	<i>4,230</i>	<i>2,158</i>	<i>1,058</i>	

T025 R011 S09 TU6	T025 R011 S09 TU6
Twp 025 Rge 011 Sec 09 Tract SNAP Type U6 Acres 19.00 Plots 10 Sample Trees 26 CuFt S BdFt W	

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre					
								Net BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/Lf	
													4-5	6-11	12-16	17+	12-20	21-30	31-35						36-99
DF	DM	2S	5		922	922	18	100				100				32	15	280	2.18	3.3					
DF	DM	3S	60	2.4	9,394	9,165	174	100				100				40	8	96	0.83	95.3					
DF	DM	4S	13		1,960	1,960	37	100					26	15		59	28	5	30	0.35	66.2				
DF	DM	UT	22	1.0	3,385	3,352	64	93	7				9	85		6	20	5	23	0.24	148.9				
DF	Totals		76	1.7	15,660	15,399	293	33	61	6			5	20	6	68	28	6	49	0.54	313.7				
WH	DM	3S	77	1.2	3,885	3,838	73	100				100				40	10	140	1.01	27.4					
WH	DM	4S	23		1,134	1,134	22	100						56		44	28	5	29	0.34	39.7				
WH	Totals		24	.9	5,019	4,973	94	23	77					13		87	33	7	74	0.67	67.1				
Type Totals				1.5	20,680	20,371	387	30	65	5			4	19	5	73	29	6	53	0.57	380.8				

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				SNAP				DATE	7/29/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
025	011	09	SNAP	U6	19.00	10	47	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		10	47	4.7						
CRUISE		5	26	5.2	5,163		.5			
DBH COUNT										
REFOREST										
COUNT		5	21	4.2						
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	20	232.0	12.8	47	57.9	206.9	15,660	15,399	4,771	4,771
WHEMLOCK	6	39.7	15.0	60	12.6	49.0	5,019	4,973	1,484	1,484
TOTAL	26	271.7	13.1	49	70.6	255.9	20,680	20,371	6,254	6,254
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		43.9	14.6	198	232	266				
WHEMLOCK		96.6	32.2	27	40	53				
TOTAL		32.5	10.8	242	272	301	47	24	12	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		34.6	11.5	183	207	231				
WHEMLOCK		97.3	32.4	33	49	65				
TOTAL		20.2	6.7	239	256	273	18	9	5	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		34.7	11.6	13,618	15,399	17,179				
WHEMLOCK		102.7	34.2	3,273	4,973	6,673				
TOTAL		16.5	5.5	19,251	20,371	21,492	12	6	3	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				66	74	83				
WHEMLOCK		60.8	20.2	67	101	136				
TOTAL		158.5	52.7	75	80	84	1,113	568	278	

T025	R011	S09	TU7		T025	R011	S09	TU7	
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
025	011	09	SNAP	U7	10.00	5	18	S	W

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre				Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
WH	DM	2S	21	3.9	4,857	4,667	47	100				100				40	14	280	1.77	16.7	
WH	DM	3S	61	1.1	13,298	13,149	131	100				3 97				40	8	105	0.81	124.8	
WH	DM	4S	18		3,741	3,741	37	90	10	26 74				23	5	25	0.30	147.6			
WH	DM	UT										6 0.00				6			0.00	26.3	
WH	Totals		67	1.5	21,896	21,558	216	16	63	22	5	13	2	81	28	7	68	0.69	315.4		
DF	DM	3S	72		7,840	7,840	78	100				100				40	7	76	0.65	103.3	
DF	DM	4S	28		2,915	2,915	29	100				38				62	25	5	27	0.38	109.8
DF	DM	UT										5 0.00				5			0.00	42.1	
DF	Totals		33		10,755	10,755	108	27	73		10			90	27	6	42	0.54	255.2		
Type	Totals			1.0	32,651	32,313	323	19	66	14	6	9	1	84	28	6	57	0.63	570.5		

TC TSTATS		STATISTICS							PAGE	1
		PROJECT		SNAP			DATE		7/29/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
025	011	09	SNAP	U7	10.00	5	33	S	W	
				TREES	ESTIMATED	PERCENT				
		PLOTS	TREES	PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		5	33	6.6						
CRUISE		3	18	6.0	3,294	.5				
DBH COUNT										
REFOREST										
COUNT		2	15	7.5						
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
WHEMLOCK	10	181.1	14.5	55	54.4	206.9	21,896	21,558	6,199	6,199
DOUG FIR	8	148.2	13.7	55	41.1	152.4	10,755	10,755	3,755	3,755
TOTAL	18	329.4	14.1	55	95.5	359.3	32,651	32,313	9,954	9,954
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK	38.4	19.1		147	181	216				
DOUG FIR	36.3	18.1		121	148	175				
TOTAL	32.6	16.2		276	329	383	52	27	13	
CL:	68.1 %	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK	22.0	10.9		184	207	230				
DOUG FIR	39.1	19.4		123	152	182				
TOTAL	23.0	11.4		318	359	400	26	13	7	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK	20.0	9.9		19,419	21,558	23,697				
DOUG FIR	44.0	21.9		8,405	10,755	13,106				
TOTAL	19.9	9.9		29,117	32,313	35,510	20	10	5	
CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK				94	104	115				
DOUG FIR				55	71	86				
TOTAL	177.5	88.2		81	90	99	1,556	794	389	

T026 R011 S06 T8R/W										T026 R011 S06 T8R/W				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
026	011	06	SNAP	8R/W	.20	1	4	S	W					

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	DM	2S	52	15.1	10,787	9,163	2	100				100				40	14	272	2.12	33.6
DF	DM	3S	42		7,227	7,227	1	100				23 77				34	9	112	0.93	64.4
DF	DM	4S	6		924	924	0	100				100				28	5	30	0.40	30.8
DF	Totals		91	8.6	18,938	17,314	3	5	42	53	15 85				34	9	134	1.19	128.9	
SS	DM	4S	100		1,774	1,774	0	100				100				38	5	40	0.68	44.4
SS	Totals		9		1,774	1,774	0	100				100				38	5	40	0.68	44.4
Type Totals				7.8	20,713	19,089	4	14	38	48	14 86				35	8	110	1.05	173.2	

TC TSTATS		STATISTICS					PAGE	1		
		PROJECT		SNAP			DATE	7/29/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
026	011	06	SNAP	8R/W	0.20	1	4	S	W	
				TREES	ESTIMATED	PERCENT				
		PLOTS	TREES	PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		1	4	4.0						
CRUISE		1	4	4.0	22	18.4				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	3	64.4	21.6	71	35.2	163.3	18,938	17,314	5,259	5,255
S SPRUCE	1	44.4	15.0	40	14.1	54.4	1,774	1,774	1,149	1,149
TOTAL	4	108.8	19.2	58	49.8	217.8	20,713	19,089	6,408	6,404
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										

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

T025 R011 S09 TyU6	19.0
T025 R011 S09 TyU7	10.0
T026 R011 S20 TyU1	7.0

Project SNAP
Acres 152.20

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Date: 7/29/2015
Time 1:51:25PM

Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	17,573	29,977	23,123	46.17	27.07	0.89	8,113	8,113	2,556	2,467
WHEMLOCK	17,511	29,153	18,671	33.32	20.01	0.67	5,835	5,835	1,953	1,914
S SPRUCE	414	601	891	82.74	57.07	1.74	343	343	130	124
PS FIR	207	414	299	50.26	25.13	0.87	104	104	37	32
Totals	35,705	60,145	42,984	40.32	23.93	0.79	14,395	14,395	4,675	4,537

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	35,705	60,145	42,984	40.32	23.93	0.79	14,395	14,395	4,675	4,537
Totals	35,705	60,145	42,984	40.32	23.93	0.79	14,395	14,395	4,675	4,537



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

FPA/N No: 2613898
 Effective Date: 10/17/2015
 Expiration Date: 10/17/2018
 Shut Down Zone: 650
 EARR Tax Credit: Eligible [] Non-eligible
 Reference: DNR - Snahapish Rise

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

Decision

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

FPA/N Classification

Number of Years Granted on Multi-Year Request

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

Conditions on Approval / Reasons for Disapproval

Note: Forest practice activities located near an occupied marbled murrelet site are subject to disturbance avoidance timing restrictions

Issued By: Jenny Garstang Region: Olympic

Title: Forest Practice Forester Date: 10/17/2015

Copies to: Landowner, Timber Owner and Operator.

Issued in person: Landowner [] Timber Owner [] Operator By: Connie L. Sallee
 Connie L Sallee

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
Olympic Region
411 Tillicum Lane
Forks, WA 98331

Other Applicable Laws

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

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

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

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

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

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

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

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

DNR affidavit of mailing:

On this day _____,	I placed in the United States mail at _____, WA,
(date)	(post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # <u>2613898</u>	
_____	_____
(Printed name)	(Signature)

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

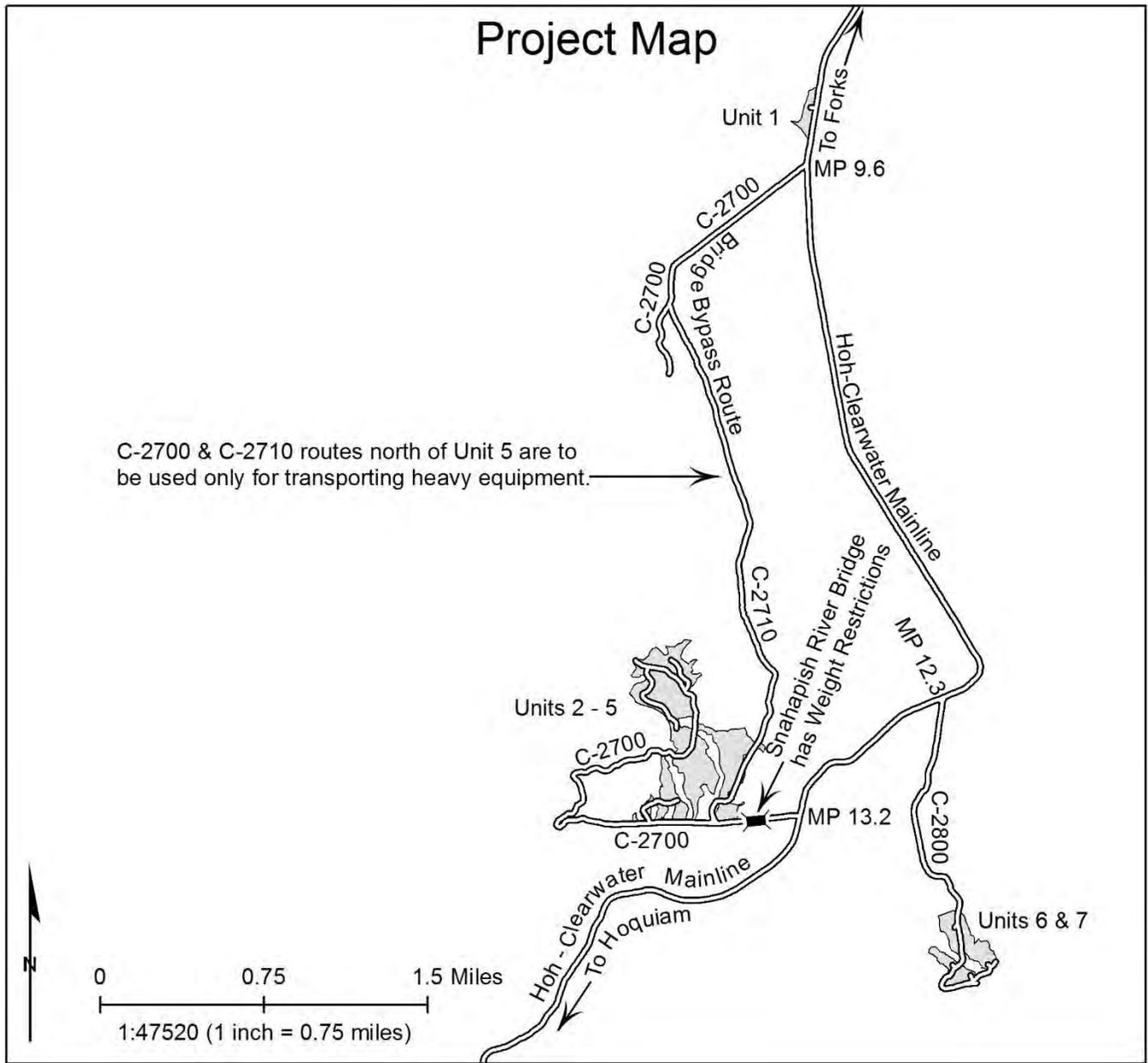
SNAHAPISH RISE TIMBER SALE ROAD PLAN
JEFFERSON COUNTY
COAST DISTRICT

AGREEMENT NO.: 30-092836

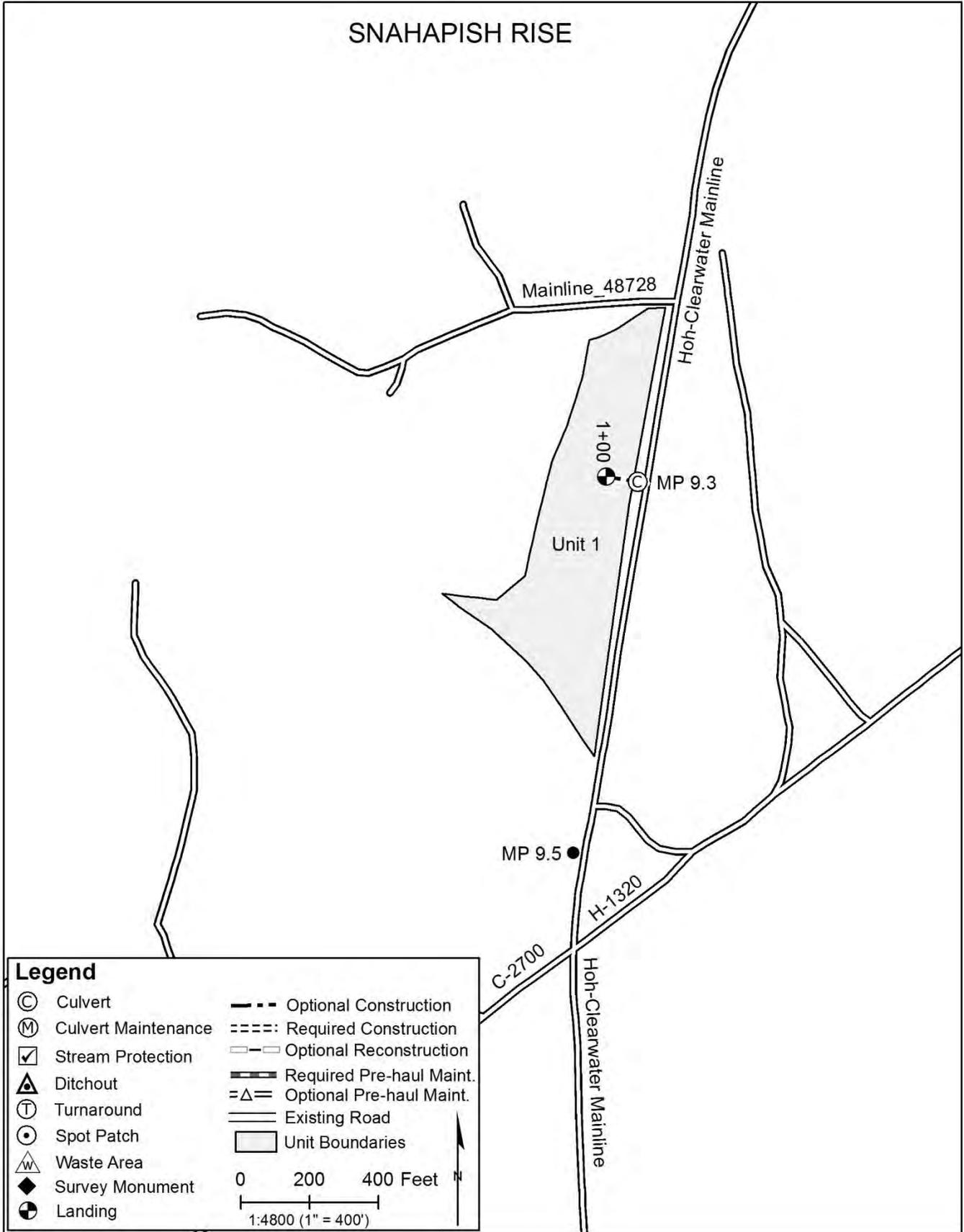
DISTRICT ENGINEER: BILL MEHL

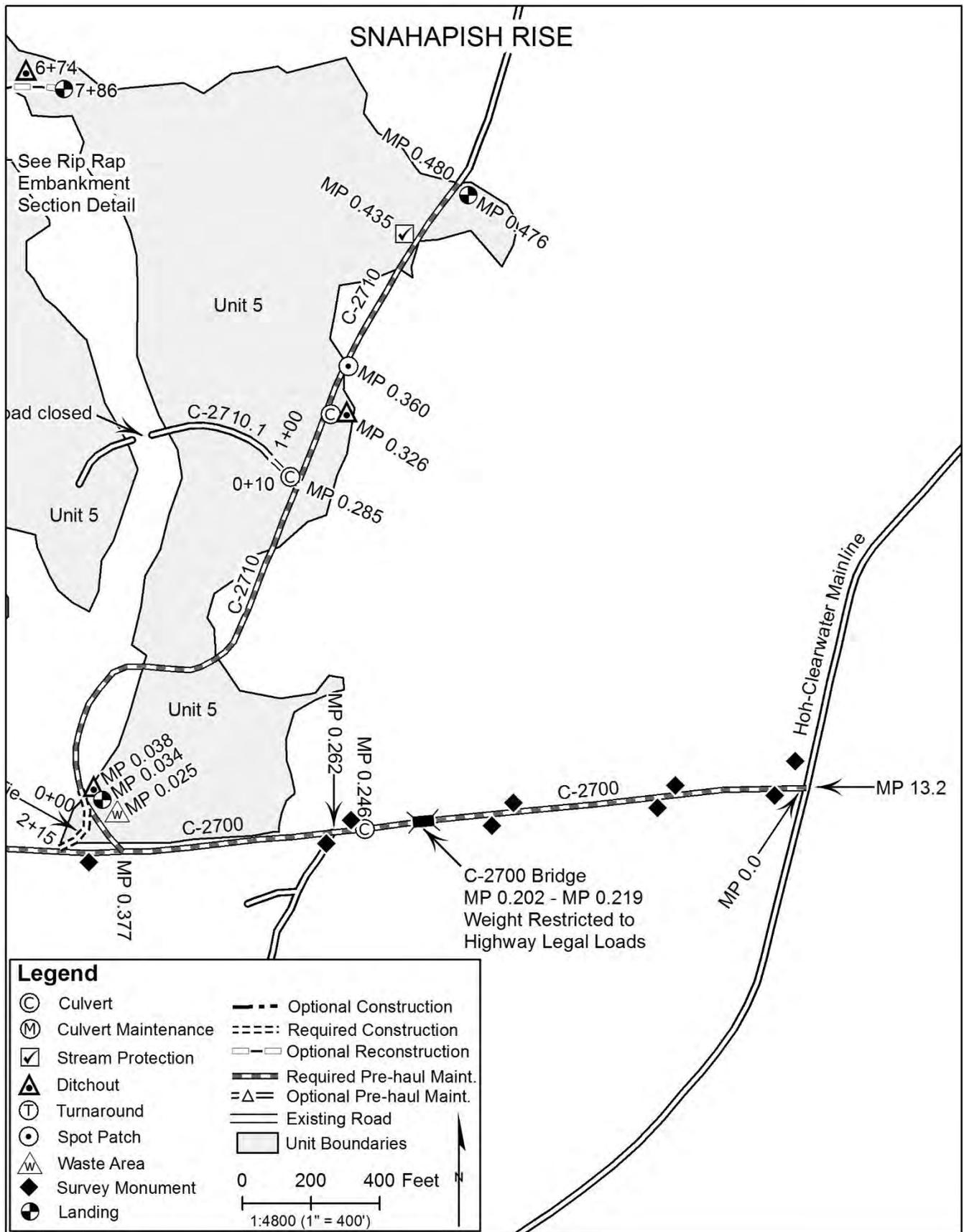
DATE: NOVEMBER 9, 2015

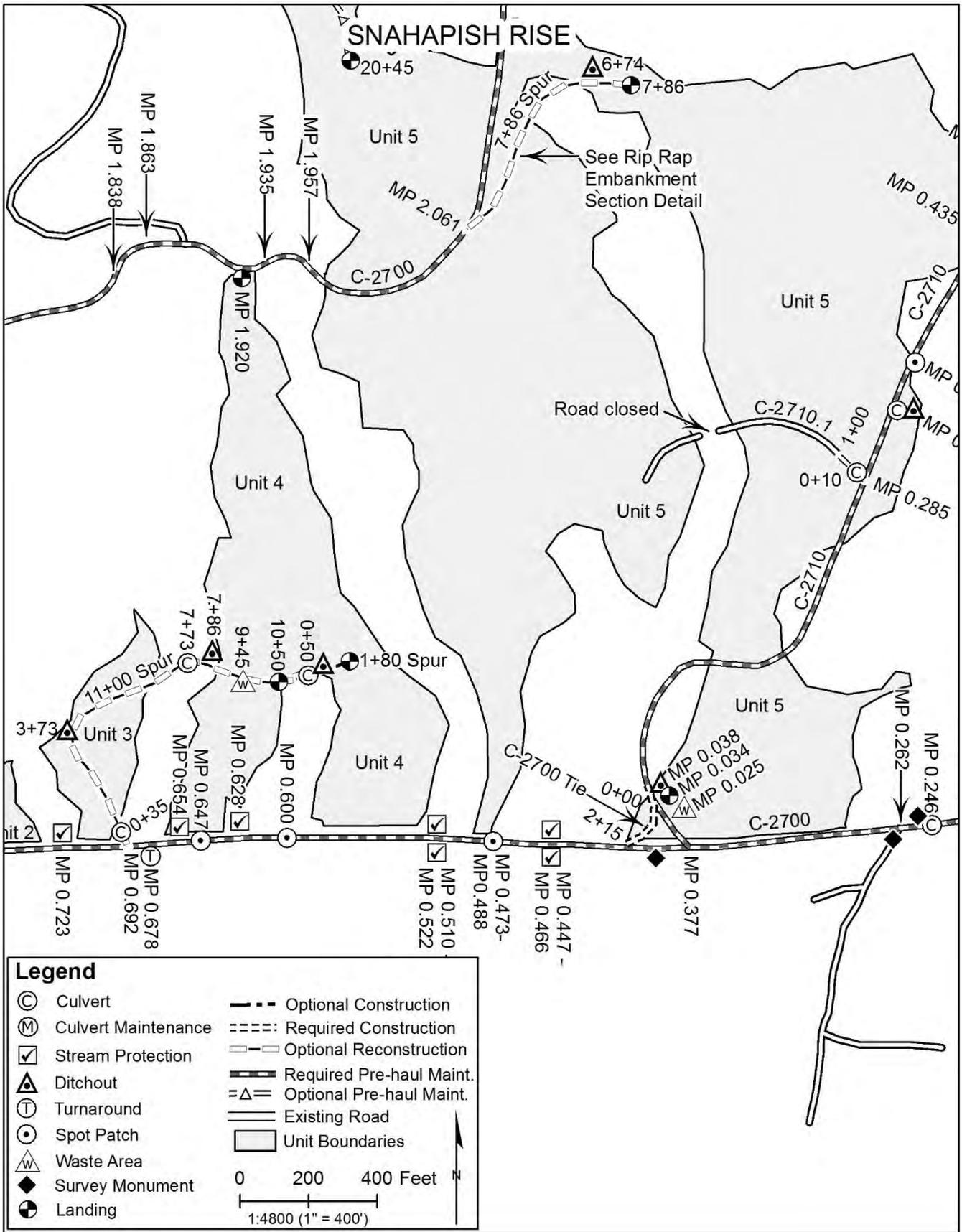
DRAWN & COMPILED BY: CRAIG MAGNUSON

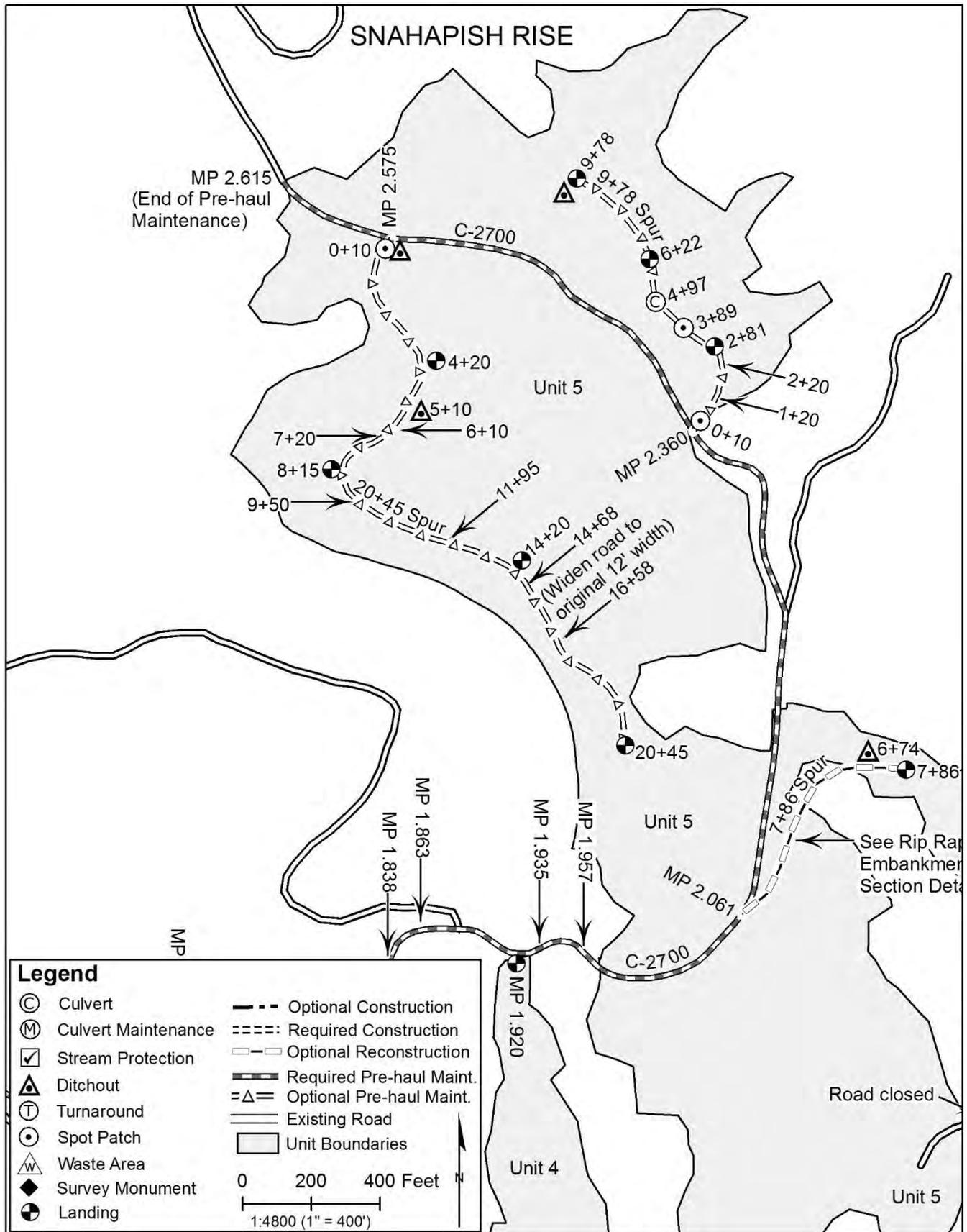


SNAHAPISH RISE







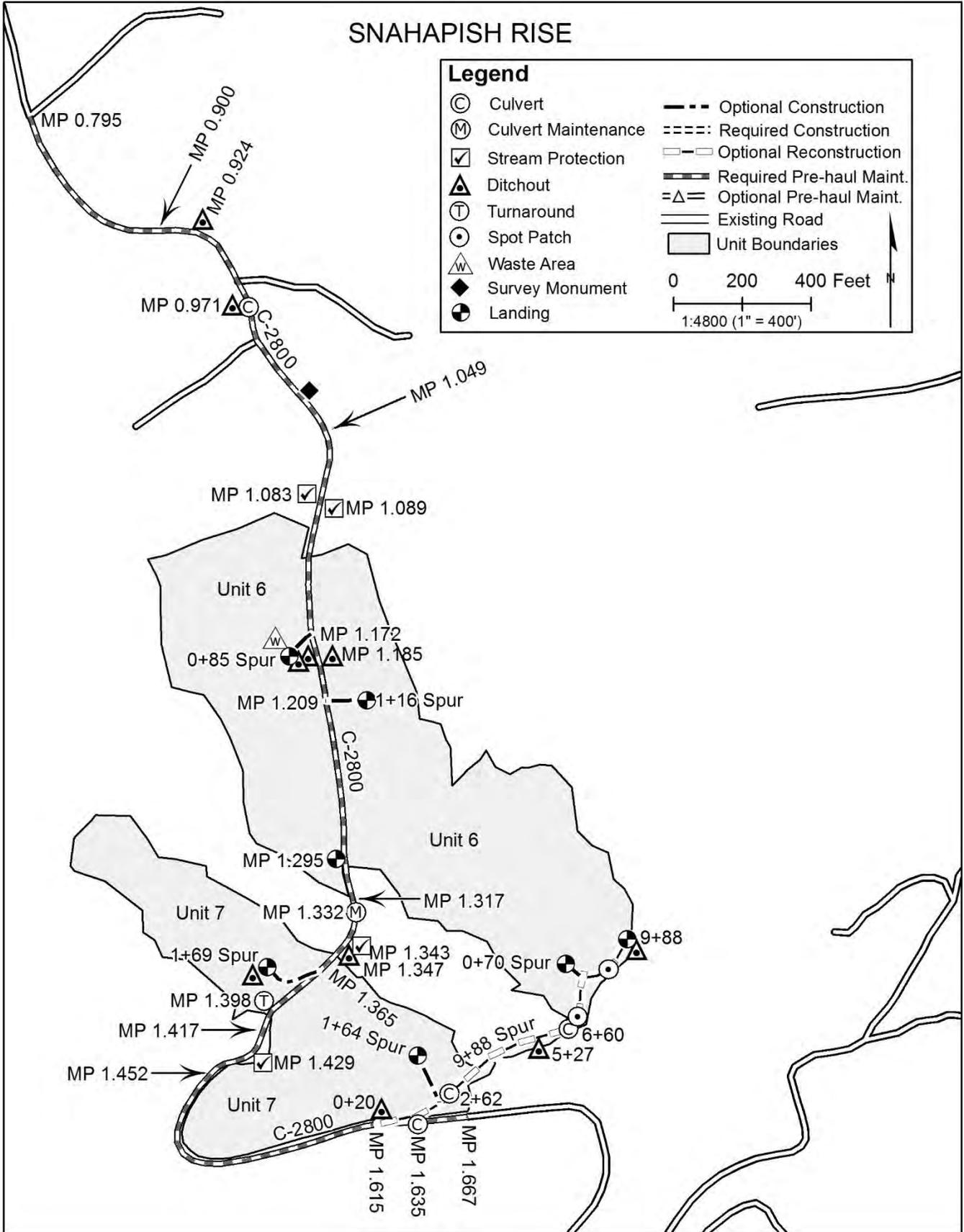


SNAHAPISH RISE

Legend

⊙	Culvert	---	Optional Construction
Ⓜ	Culvert Maintenance	----	Required Construction
☑	Stream Protection	⊠	Optional Reconstruction
⚠	Ditchout	▬	Required Pre-haul Maint.
Ⓣ	Turnaround	⊠	Optional Pre-haul Maint.
⊙	Spot Patch	—	Existing Road
⚠	Waste Area	□	Unit Boundaries
◆	Survey Monument		
⊙	Landing		

0 200 400 Feet
1:4800 (1" = 400')



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>
C-2700	138.07	Pre-haul Maintenance
C-2710	25.34	Pre-haul Maintenance
C-2800	46.04	Pre-haul Maintenance
C-2700 Tie	2.15	Construction

0-3 OPTIONAL ROADS

The specified work on the following roads is not required. Any optional roads built by the Purchaser shall meet all the specifications in this Road Plan.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
1+00 Spur	1.00	Construction
C-2710.1	1.00	Pre-haul Maintenance
11+00 Spur	11.00	Reconstruction
1+80 Spur	1.80	Construction
7+86 Spur	7.86	Reconstruction
9+78 Spur	9.78	Pre-haul Maintenance
20+45 Spur	20.45	Pre-haul Maintenance
0+85 Spur	0.85	Construction
1+16 Spur	1.16	Construction
1+69 Spur	1.69	Construction
9+88 Spur	9.88	Reconstruction
1+64 Spur	1.64	Construction
0+70 Spur	0.70	Construction

0-4 CONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
1+00 Spur	0+00 – 1+00	See below.
C-2700 Tie	0+00 – 2+15	See below.
1+80 Spur	0+00 – 1+80	See below.
0+85 Spur	0+00 – 0+85	See below.
1+16 Spur	0+00 – 1+16	See below.
1+69 Spur	0+00 – 1+69	See below.
1+64 Spur	0+00 – 1+64	See below.
0+70 Spur	0+00 – 0+70	See below.

Construction includes, but is not limited to:

Clearing, grubbing, right-of-way debris disposal, excavation and/or embankment to subgrade, end hauling material for construction, constructing ditchlines, constructing ditchouts, constructing turnouts and turnarounds, curve widening, acquisition and installation of drainage structures, application of rock, spreading grass seed and hay.

0-5 RECONSTRUCTION

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

Road	Stations	Requirements
11+00 Spur	0+00 – 11+00	Remove all vegetative material with a minimum loss of rock and dispose of in accordance with Clause 3-23. Remove waste material on running surface and dispose of in accordance with Clause 4-36 through Clause 4-38. End haul waste in accordance with Clause 4-37. Clean ditches in accordance with Clause 2-7. Construct ditchouts in accordance with Clause 4-29. Install culverts in accordance with Culvert List. Apply rock in accordance with Rock List. Compact road surface in accordance with Compaction List.
7+86 Spur	0+00 – 7+86	Reconstruct approach from STA 0+00 to STA 1+50. Remove all vegetative material with a minimum loss of rock and dispose of in accordance with Clause 3-23. Remove waste material on running surface and dispose of in accordance with Clause 4-36 through Clause 4-38. End haul waste in accordance with Clause 4-37. Clean ditches in accordance with Clause 2-7. Construct ditchout in accordance with Clause 4-29. Construct rip rap keyed embankment from STA 1+50 to STA 3+50 in accordance with Roadway Rip Rap Section Detail and Clause 4-11. Apply rock in accordance with Rock List. Compact road surface in accordance with Compaction List.
9+88 Spur	0+00 – 9+88	Remove all vegetative material with a minimum loss of rock and dispose of in accordance with Clause 3-23. Reconstruct approach from STA 0+00 to STA 1+96. Remove waste material on running surface and dispose of in accordance with Clause 4-36 through Clause 4-38. End haul waste in accordance with Clause 4-37. Clean ditches in accordance with Clause 2-7. Construct ditchouts in accordance with Clause 4-29. Install culverts in accordance with Culvert List. Apply rock in accordance with Rock List. Compact road surface in accordance with Compaction List.

Reconstruction includes, but is not limited to:

Installing additional culvert, realigning road segments, application of rock, removing culvert.

0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
C-2700	MP 0.000 – MP 2.615	Perform bridge maintenance in accordance with Clause 7-30 and Shorelines Permit. Regrade bridge approach in accordance with Bridge Profile View 1 and Bridge Profile View 2. End haul waste in accordance with Clause 4-37. Clean ditches in accordance with Clause 2-7. Install culvert in accordance with Culvert List. Construct ditchout in accordance with Clause 4-29. Install sediment control in accordance with Clause 8-1. Apply rock in accordance with Rock List. Grade and shape road. Compact rock in accordance with Compaction List.
C-2710	MP 0.000 – MP 0.480	Brush road in accordance with Clause 3-1 and Brushing Detail. Remove all vegetative material with a minimum loss of rock and dispose of in accordance with Clause 3-23. Install culvert in accordance with Culvert List. Construct ditchout in accordance with Clause 4-29. Install sediment control in accordance with Clause 8-1. Apply rock in accordance with Rock List. Grade and shape road. Compact rock in accordance with Compaction List.
C-2710.1	0+00 – 1+00	Remove all vegetative material with a minimum loss of rock and dispose of in accordance with Clause 3-23. Install culvert in accordance with Culvert List. Apply rock in accordance with Rock List. Grade and shape road. Compact road surface in accordance with Compaction List.
9+78 Spur	0+00 – 9+78	Remove all vegetative material with a minimum loss of rock and dispose of in accordance with Clause 3-23. Clean ditches in accordance with Clause 2-7. Install culvert in accordance with Culvert List. Construct ditchout in accordance with Clause 4-29. Remove sidecast material between STA 1+20 and 2+20 and end haul all material to landing at STA 2+81 to be used as landing fill in accordance with Clause 8-11. Apply rock in accordance with Rock List. Grade and shape road. Compact road surface in accordance with Compaction List.
20+45 Spur	0+00 – 20+45	Remove all vegetative material with a minimum loss of rock and dispose of in accordance with Clause 3-23. Clean ditches in accordance with Clause 2-7. Widen road to original 12' width from STA 14+68 – STA 16+58 in accordance with Clause 4-10. Construct ditchouts in accordance with Clause 4-29. Apply rock in accordance with Rock List. Grade and shape road. Compact road surface in accordance with Compaction List.
C-2800	MP 0.795 – MP 1.667	Install sediment control in accordance with Clause 8-1. Install culverts in accordance with Culvert List. Construct ditchouts in accordance with Clause 4-29. At MP 1.332 redirect stream into existing culvert.

		Apply rock in accordance with Rock List. Grade and shape road. Compact rock in accordance with Compaction List.
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Maintenance includes, but is not limited to:

Brushing right-of-way, right-of-way debris disposal, cleaning ditches, constructing ditches, installing additional culverts, widening road segments, constructing headwalls, cleaning culvert inlets and outlets, cross drain culvert replacement, installing erosion control materials and sediment removal structures, spot rocking, grading and shaping existing road surface and turnouts, constructing additional turnouts, compaction of road surface, application of rock, acquisition and application of grass seed and hay.

0-7 POST-HAUL MAINTENANCE

This project includes, but is not limited to post-haul road maintenance listed in Clause 9-5 Post Haul Maintenance.

0-9 DEACTIVATION

This project includes, but is not limited to deactivation listed in Clause 9-20 Road Deactivation.

0-12 DEVELOP ROCK SOURCE

The Purchaser shall develop a rock source called Copper Pit in accordance with Clause 6-10. Development will involve stripping approximately 0.7 acre to useable rock as determined by the Contract Administrator. The Purchaser shall also manufacture at Copper Pit 10,000 yds³ of 1½-inch minus crushed rock in accordance with Clause 6-20.

0-13 STRUCTURES

The Purchaser shall acquire and install all structures. Requirements for these structures are listed in Section 7 Structures.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORSEEN 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 shall 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

Unless controlled by construction stakes or design data (plan, profile, and cross-sections), road work shall be performed in accordance with the dimensions shown on the Typical Section Sheet and the specifications within this Road Plan.

1-6 ORDER OF PRECEDENCE

Any conflict or inconsistency in this Road Plan shall be resolved by giving the documents precedence in the following order:

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

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

1-7 TEMPORARY ROAD CLOSURE

The Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before the closure of any road. Road work shall not close any road for more than 3 consecutive days.

<u>Road</u>	<u>Number of Allowable Closed Days</u>
C-2700	3
C-2710	3
C-2800	3

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

The Purchaser is responsible for the repair or replacement of all materials, roadway infrastructure, and road components damaged during roadwork or operation activities. Repairs and replacements shall be directed by the Contract Administrator. Repairs to structural materials will be made according to the manufacturer's recommendation, and shall 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 shall be cleaned and treated with a minimum of two coats of zinc rich paint.

1-11 FPA/HPA REQUIREMENTS

The following work is subject to requirements under a Hydraulics Project Approval (FPA/HPA) issued by the state of Washington.

<u>Road</u>	<u>Station(s)</u>	<u>Work</u>
C-2700	MP 0.202 – MP 0.219 (10+67 – 11+59)	Rip rap armoring along ordinary high water mark, below bridge abutments.

1-12 SURVEY MONUMENTS

At no time during construction, reconstruction, or maintenance shall survey monuments, witness trees, or bearing trees be disturbed or damaged. If damaged or disturbed, Purchaser shall hire a licensed land surveyor to repair, replace, and/or reset them.

SUBSECTION ROAD MARKING

1-15 ROAD MARKING

Road work must be in accordance with the State's marked location. All road work is marked as follows:

- Orange ribbon and paint for construction centerlines.
- Construction stakes for everything else.

1-16 CONSTRUCTION STAKES SET BY STATE

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
7+86 Spur	1+50 – 6+89	Centerline & Slope Stakes
9+88 Spur	0+70 – 1+96	Centerline & Slope Stakes
1+69 Spur	0+71 – 1+69	Centerline & Slope Stakes

1-18 REFERENCE POINT DAMAGE

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

SUBSECTION TIMING

1-20 COMPLETE BY DATE

On all roads, road work shall be completed before the start of timber haul.

1-21 HAUL APPROVAL

The Purchaser shall not use roads under this Road Plan without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

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

1-23 ROAD WORK PHASE APPROVAL

Written approval by Contract Administrator needs to be given at these phases of road work:

- Subgrade approval
- Drainage installation
- Subgrade compaction
- Rock application
- Rock compaction

SUBSECTION RESTRICTIONS

1-25 ACTIVITY TIMING RESTRICTION

On the following road(s), the specified activities are not permitted during the listed closure period(s) unless authorized in writing by the Contract Administrator.

<u>Road</u>	<u>Stations</u>	<u>Activity</u>	<u>Closure Period</u>
11+00 Spur	All	All	October 15 th – April 15 th
1+80 Spur	All	All	October 15 th – April 15 th

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 Activity Timing Restriction, 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.

1-27 TIMING RESTRICTION FOR MARBLED MURRELET

On the following road(s), any road work, right-of-way timber falling and yarding, rock pit operations, or operation of heavy equipment is not permitted from one hour before official sunrise to two hours after official sunrise, and from one hour before official sunset to one hour after official sunset from April 1 through September 23. This restriction does not apply to the hauling of timber, rock, or equipment.

<u>Road</u>	<u>Stations</u>
C-2700	MP 1.393 – MP 1.957
Mainline_48728	All

1-29 SEDIMENT RESTRICTION

Silt-bearing runoff shall not be permitted to go into streams.

1-30 CLOSURE TO PREVENT DAMAGE

In accordance with Contract Clause G-220 State Suspends Operation, the Contract Administrator shall suspend road work or hauling of right-of-way timber, forest products, or rock under the following conditions:

- In the opinion of the Contract Administrator excessive road damage or rutting may occur.

Operations must stop unless authority to continue working or hauling is granted, in writing, by the Contract Administrator. In the event that surface or base stability problems persist, the Purchaser will be required to cease operations, or perform corrective maintenance or repairs, subject to specifications within this Road Plan. Before and during any suspension, the 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, as approved in writing by Contract Administrator, shall be used.

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all road work and hauling operations. Any dirt, rock, or other material tracked or spilled on bridge or asphalt surface(s) shall be removed immediately. Any damage to the surface(s) shall be repaired at the Purchaser’s expense as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

On all roads, snow plowing shall be permitted only 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.

1-34 BRIDGE WEIGHT LIMIT RESTRICTIONS

The C-2700 Bridge, over the Snahapish River, between MP 0.202 – MP 0.219 shall be limited to highway legal loads not exceeding a maximum gross vehicle weight limit of 105,500 pounds. Loads not within the maximum gross vehicle weight limits specified above shall be restricted to using the bridge bypass route on the C-2710 road as shown on the Project Map.

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

All roads used under this contract shall be maintained 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. Maintenance work shall be in accordance with Forest Access Road Maintenance Specifications.

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), a grader shall be used to shape the existing surface.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
C-2700	MP 0.000 – MP 2.615	Grade and shape road
C-2710	MP 0.000 – MP 0.480	Grade and shape road
C-2710.1	0+00 – 1+00	Grade and shape and compact road
11+00 Spur	0+00 – 11+00	Grade and shape and compact road
7+86 Spur	0+00 – 7+86	Grade and shape and compact road
9+78 Spur	0+00 – 9+78	Grade and shape and compact road
20+45 Spur	0+00 – 20+45	Grade and shape and compact road
C-2800	MP 0.795 – MP 1.667	Grade and shape road
9+88 Spur	0+00 – 9+88	Grade and shape and compact road

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean and/or construct the ditches, headwalls, and catch basins. Work shall be completed before the start of timber haul and shall be done in accordance with the Typical Section Sheet. Pulling ditch material across the road or mixing in with the road surface will not be allowed. Ditchlines, headwalls, and catch basins shall not encroach into the existing road.

<u>Road</u>	<u>Stations</u>	<u>L or R</u>
C-2700	MP 0.973 – MP 0.983	R
C-2700	MP 1.484 – MP 1.497	R
11+00 Spur	0+35 – 4+03	R
11+00 Spur	4+03 – 7+05	L
11+00 Spur	7+86 – 10+50	L

7+86 Spur	2+69 – 6+74	L
9+78 Spur	0+10 – 9+78	L
20+45 Spur	0+10 – 4+20	L
20+45 Spur	6+10 – 11+95	L
9+88 Spur	0+20 – 2+00	L
9+88 Spur	2+62 – 3+30	L
9+88 Spur	5+27 – 9+88	R

2-9 REMOVING VEGETATIVE MATERIAL

On the following road(s), Purchaser shall remove all vegetative material, dirt, mud, and other debris on the existing road surface with a minimum loss of rock. Material removed shall be disposed of in accordance with Clause 4-36 through Clause 4-38. A motor grader shall not be used to remove material.

<u>Road</u>	<u>Stations</u>
C-2710	MP 0.000 – MP 0.480
C-2710.1	0+00 – 1+00
11+00 Spur	0+00 – 11+00
7+86 Spur	0+00 – 7+86
9+78 Spur	0+00 – 9+78
20+45 Spur	0+00 – 20+45
9+88 Spur	0+00 – 9+88

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

SUBSECTION BRUSHING

3-1 BRUSHING

On the following road(s), vegetative material up to 5 inches in diameter, including limbs, shall be cut as shown on the Brushing Detail. Brushing shall be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation shall not be disturbed unless directed by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
C-2710	MP 0.000 – MP 0.480 (As needed)

3-2 BRUSHING RESTRICTION

Pulling, digging, pushing over, and other non-cutting methods used for vegetation removal shall not be used for brushing. Excavator buckets, log loaders and similar equipment shall not be used for brushing.

3-3 BRUSH REMOVAL

Remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets. Brush should be disposed of so that it will not fall back onto the road prism.

SUBSECTION CLEARING

3-5 CLEARING

Fell 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 shall be completed before starting excavation and embankment.

3-7 RIGHT-OF-WAY DECKING

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

3-8 PROHIBITED DECKING AREAS

Right-of-way timber shall not be decked 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.

SUBSECTION GRUBBING

3-10 GRUBBING

Remove all stumps between the grubbing limits specified on the Typical Section Sheet. Those stumps outside the grubbing limits but with undercut roots shall also be removed. Stump removal shall be accomplished using a hydraulic mounted excavator unless authorized, in writing, by the Contract Administrator. Grubbing shall be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

Grubbed stumps shall be placed outside of the clearing limits, as directed by the Contract Administrator and in compliance with all other clauses in this road plan. Stumps shall be positioned upright with root wads in contact with the forest floor and on stable locations.

SUBSECTION ORGANIC DEBRIS

3-20 ORGANIC DEBRIS DEFINITION

Organic debris is defined as all vegetative material not eligible for removal by Contract Clauses G-010 Products Sold And Sale Area or G-011 Right To Remove Forest Products And Contract Area, that is larger than one cubic foot in volume within the grubbing Typical Section Sheet.

3-21 DISPOSAL COMPLETION

All disposal of organic debris, shall be completed before the application of rock.

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris at the following locations shall be located as listed below. Unless listed below, organic waste shall be disposed of in accordance with Clause 3-23.

<u>Road</u>	<u>Stations</u>	<u>Waste Area Location</u>
C-2700	MP 0.219 – MP 0.262 (STA 11+59 - STA 13+85)	C-2710 MP 0.025

C-2700	MP 1.920	C-2700 MP 1.110
11+00 Spur	7+86 – 8+37	11+00 Spur STA 9+45
7+86 Spur	0+00 – 6+88	C-2700 MP 1.110 or C-2710 MP 0.025
1+69 Spur	0+00 – 0+45	0+85 Spur STA 0+85
9+88 Spur	0+00 – 1+96	0+85 Spur STA 0+85
9+88 Spur	6+50 – 7+50	0+85 Spur STA 0+85

3-23 PROHIBITED DISPOSAL AREAS

Organic debris shall not be deposited in the following areas:

- Within 5 feet of a cross drain culvert.
- Within 50 feet of a live stream, or wetland.
- On road subgrades road prism 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 will fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

Organic debris shall not be buried unless otherwise stated in this Road Plan.

3-25 SCATTERING ORGANIC DEBRIS

Organic debris shall be scattered outside of the grubbing limits in accordance with Clause 3-23 unless otherwise detailed in this Road Plan and as directed by the Contract Administrator.

SUBSECTION PILE

3-32 END HAULING ORGANIC DEBRIS

On the following road(s), organic debris shall be end hauled to the designated waste areas specified in Clause 3-22 Designated Waste Area For Organic Debris, or to a waste area located by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
C-2700	MP 0.219 – MP 0.262 (STA 11+59 - STA 13+85)
C-2700	MP 1.920
11+00 Spur	7+86 – 8+37
7+86 Spur	0+00 – 6+88
1+69 Spur	0+00 – 0+45
9+88 Spur	0+00 – 1+96
9+88 Spur	6+50 – 7+50

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

All roads shall be constructed, reconstructed, and maintained using a track mounted hydraulic excavator unless stated otherwise within this Road Plan, or permission to do otherwise is granted in writing by the Contract Administrator.

4-2 PIONEERING

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

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

The following road grade and alignment standards shall be followed:

- Grade and alignment shall have smooth continuity, without abrupt changes in direction.
- Maximum grade shall not exceed 18 percent favorable and 16 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Sag vertical curves shall not have a grade change greater than 5% in 100 feet.
- Crest vertical curves shall not have a grade change greater than 4% in 100 feet.

4-5 CUT SLOPE RATIO

Unless construction staked or designed excavation slopes shall be constructed no steeper than shown on the following table:

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

4-6 EMBANKMENT SLOPE RATIO

Unless construction staked or designed embankment slopes shall be constructed no steeper than shown on the following table:

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

4-7 SHAPING CUT AND FILL SLOPE

Excavation and embankment slopes shall be constructed 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.

Embankment widening shall be applied equally to both sides of the road to achieve the required width.

4-10 WIDEN THE EXISTING SUBGRADE

On the following road(s), the Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the Typical Section Sheet. If necessary, the Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches. Excavated slopes shall be consistent with Clause 4-5. Pulling excavation material across the road or mixing in with the existing road surface is not allowed.

<u>Road</u>	<u>Stations</u>
20+45 Spur	14+68 – 16+58

4-11 KEYED EMBANKMENT

On the following road(s), embankments shall be keyed into the native slope in accordance with the Roadway Riprap Section Detail Sheet.

<u>Road</u>	<u>Stations</u>
7+86 Spur	1+50 – 3+50

4-12 FULL BENCH CONSTRUCTION

On the following roads, 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>
7+86 Spur	0+00 – 7+86	See Roadway Rip Rap Section Detail

4-16 EXCAVATION FOR RIP RAP EMBANKMENT

On the 7+86 Spur, between stations 1+50 – 3+50, the outer half of the road subgrade shall be excavated to a depth of 10’ below top of the subgrade, as shown in the Roadway Rip Rap Section Detail. Excavated material shall be inspected and approved for reuse by the District Engineer or their designee.

4-17 CONSTRUCTION OF RIP RAP EMBANKMENT

Purchaser shall install a Rip Rap embankment to stabilize the subgrade material from STA 1+50 – STA 3+50. The native ground beneath the rip rap shall be bucket-tamped prior to placement of the rip rap. Light loose rip rap shall be placed by an excavator in such a manner that all large pieces shall be in close contact and voids in-between filled with finer material to provide a well graded compact embankment. The light loose rip rap shall be placed on the slope in a manner that will ensure the rip rap attains its specified thickness in one operation. When placing the light loose rip rap, care shall be used to avoid disturbing the underlying material. Placing in layers parallel to the slope will not be permitted.

SUBSECTION INTERSECTIONS, TURNOUTS AND TURNAROUNDS

4-21 TURNOUTS

Turnouts shall be intervisible with maximum of 1,000 feet between turnouts unless shown otherwise on drawings. Locations shall be adjusted to fit the final subgrade alignment and sight distances. Turnout locations shall be subject to written approval by the Contract Administrator.

4-22 TURNAROUNDS

Turnarounds shall be no larger than 50 feet long and 30 feet wide. Locations shall be subject to written approval by the Contract Administrator.

4-23 SUBGRADE FLARE FOR INTERSECTIONS

The Hoh-Clearwater Mainline/1+00 Spur intersection, C-2800/0+85 Spur intersection, the C-2800/1+16 Spur intersection and the 9+88 Spur/ 1+64 Spur intersection shall be constructed/reconstructed to include additional intersection flare.

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

The Purchaser shall construct ditches into the subgrade as specified on the Typical Section Sheet. Excavated slopes shall be consistent with Clause 4-5 Cut Slope Ratio. Ditches shall be constructed concurrently with construction of the subgrade.

4-27 DITCH WORK – MATERIAL USE PROHIBITED

On all roads, pulling ditch material across the road or mixing in with the road surface will not be allowed. Excavated material shall be disposed of as specified in Clause 4-36 through Clause 4-38.

4-28 DITCH DRAINAGE

Ditches shall drain to cross-drain culverts and ditchouts.

4-29 DITCHOUTS

Ditchouts shall be constructed at locations shown on the list below, and as needed to fit as built conditions. Ditchouts shall be constructed in a manner that diverts ditch water onto the forest floor and shall have excavation backslopes no steeper than a 1:1 ratio. L or R denotes ditchout left or ditchout right heading in.

<u>Road</u>	<u>Stations</u>	<u>L or R</u>
C-2710	MP 0.038 (approx. 40')	R
C-2710	MP 0.326 (approx. 40')	R
11+00 Spur	3+73 (approx. 40')	L
11+00 Spur	7+86 (approx.. 10')	L
1+80 Spur	0+70 (approx. 20')	L
7+86 Spur	6+74 (approx. 40')	L
9+78 Spur	9+78 (approx. 60')	L
20+45 Spur	0+10 (approx. 30')	L
20+45 Spur	5+10 (approx.. 20')	L
C-2800	MP 0.924 (approx. 30')	L
C-2800	MP 0.971 (approx. 30')	R
C-2800	MP 1.185 (approx. 30')	L & R
C-2800	MP 1.347 (approx. 40')	L
0+85 Spur	0+85 (approx. 30')	L
9+88 Spur	0+20 (approx. 20')	L
9+88 Spur	5+27 (approx. 40')	R
9+88 Spur	9+88 (approx. 40')	R

SUBSECTION WASTE MATERIAL (DIRT)

4-35 WASTE MATERIAL DEFINITION

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

4-36 DISPOSAL OF WASTE MATERIAL

Waste material may be sidecast on side slopes up to 45% if the waste material is compacted and free of organic debris. On side slopes greater than 45%, all excavation shall be end hauled or pushed to designated embankment sites and waste areas.

4-37 WASTE AREA LOCATION

Waste material shall be deposited in the listed designated areas. The amount of material to be contained in a waste area shall be at the discretion of the Contract Administrator. Note: All amount values are estimated bank yards.

<u>Road</u>	<u>Stations</u>	<u>Waste Area Location</u>	<u>Volume</u>
C-2700	MP 0.219 – MP 0.262 (STA 11+59 - STA 13+85)	C-2710 MP 0.025	850yd ³
C-2700	MP 1.920	C-2700 MP 1.110	840yd ³
11+00 Spur	7+86 – 8+37	11+00 Spur STA 9+45	110yd ³
7+86 Spur	0+00 – 6+88	C-2700 MP 1.110	2780yd ³
1+69 Spur	0+00 – 0+45	0+85 Spur STA 0+85	30yd ³
9+88 Spur	0+00 – 1+96	0+85 Spur STA 0+85	900yd ³
9+88 Spur	6+50 – 7+50	0+85 Spur STA 0+85	70yd ³

4-38 PROHIBITED WASTE DISPOSAL AREAS

Waste material shall not be deposited in the following areas:

- Within 5 feet of a cross drain culvert.
- Within 50 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.

4-39 WASTE AREA COMPACTION

Excavated material may be deposited adjacent to the road prism on side slopes up to 45% if the waste material is compacted and free of debris. On side slopes of 45% or more, all excavation shall be end hauled or pushed to designated waste areas. All waste material shall be compacted. The minimum acceptable compaction is achieved by placing embankments in 2 foot or shallower lifts and routing excavation equipment over the entire width of the lifts, except on side hill embankments too narrow to accommodate excavation equipment waste may be placed by end-dumping or sidecasting until sufficiently wide to support the equipment.

. Except for side hill embankments too narrow to accommodate excavation equipment may be placed by end-dumping or side casting until sufficiently wide to support the equipment.

SUBSECTION BORROW

4-47 NATIVE MATERIAL

Native material shall be excavated material free of organic debris, trash, and rocks greater than 12" in any dimension.

SUBSECTION SHAPING

4-55 ROAD SHAPING

The road subgrade and surface shall be shaped as shown on the Typical Section Sheet. The subgrade and surface shape shall ensure runoff in an even, un-concentrated manner, and shall be uniform, firm, and rut-free.

4-56 DRY WEATHER SHAPING

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

SUBSECTION COMPACTION

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the Compaction List by routing equipment over the entire width of each lift. A plate compactor must be used for areas specifically requiring keyed embankment construction, and embankment segments too narrow to accommodate equipment.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades in accordance with the Compaction List by routing equipment over the entire width, except ditch. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before placement of rock.

4-62 DRY WEATHER COMPACTION

At any time of the 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.

4-64 WASTE MATERIAL COMPACTION

All waste material shall be compacted by running equipment over it or bucket tamping.

4-65 CULVERT BACKFILL COMPACTION

Culvert backfills on all pre-haul maintenance and reconstruction shall be accomplished by using a jumping jack compactor, performing at least 2 passes per lift, in lifts not to exceed 8 inches.

4-66 COMPACTION BY METHOD

Compaction shall consist of three complete passes over the entire width of each lift with a vibratory drum roller weighing a minimum of 6,000 pounds at a maximum operating speed of 3 mph. For embankment segments too narrow to accommodate a drum roller, a plate compactor shall be used.

SECTION 5 – DRAINAGE START

5-4 PUNCHEON RESTRICTED

At no time shall puncheon be used in the subgrade, unless approved by the Contract Administrator.

SUBSECTION CULVERTS

5-5 CULVERTS

Culverts shall be installed as part of this contract. Culverts shall be installed concurrently with subgrade work and shall 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 shall be adjusted to fit as-built conditions and shall not terminate directly on unprotected soil. Culverts shall be new and meet the material specifications in Clauses 10-15 through 10-23.

5-7 TEMPORARY STREAM CULVERT INSTALLATION

On the following roads, temporary stream culverts shall be located in the natural channel of the stream. Temporary culverts shall be installed as shown in the Typical Type Ns, Np Culvert Installation Detail Sheet. Temporary culverts shall be removed as directed by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
11+00 Spur	7+73
1+80 Spur	0+50

5-11 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the Culvert List and Rock List that are not installed shall become the property of the State. Purchaser shall stockpile materials as directed by the Contract Administrator.

5-12 ADDITIONAL CULVERT WORK

On the following road(s), Purchaser shall perform the additional culvert work listed below. Work shall be completed before the start of timber haul and shall be done in accordance with all pertaining clauses contained in this Road Plan. Excavated material shall be disposed of in accordance with Clause 4-35 through Clause 4-38.

<u>Road</u>	<u>Stations</u>	<u>Work Needed</u>
C-2800	MP 1.332	Redirect stream into existing culvert inlet.

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Installation shall be in accordance with the Typical Cross Drain Culvert Installation Detail, Typical Type Ns Np Culvert Installation Detail, 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 shall be installed in a manner consistent with the manufacturer's recommendations.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Installation of culverts 30 inches in diameter and over shall be subject to written approval by the District Engineer or their designee before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

Cross drains on road grades in excess of 3% shall 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. Where the cross drain is at the low point in the road, culverts shall not be skewed. Cross drain culverts shall be installed at a slope steeper than the incoming ditch grade, but not less than 3% or more than 10%.

5-18 CULVERT DEPTH OF COVER

Cross drain culverts shall be installed with a depth of cover of not less than 18 inches of compacted depth over the top of the culvert at the shallowest point. Stream crossing culverts shall be installed with a depth of cover specified in the Engineer's design, Type Ns Np Typical Detail Sheet, or to the minimum depth recommended by the culvert manufacturer for the type of cover material over the pipe, whichever is greater.

SUBSECTION ENERGY DISSIPATERS

5-20 ENERGY DISSIPATERS

Energy dissipaters shall be installed to prevent erosion and are subject to approval by the Contract Administrator. Rock shall weigh at least 10 pounds and be placed by zero-drop-height method. Energy dissipater shall extend a minimum of $\frac{3}{4}$ foot to each side of the culvert at the outlet and a minimum of 2 feet beyond the outlet.

5-21 DOWNSPOUTS AND FLUMES

Downspouts and flumes longer than 10 feet shall be staked on both sides at maximum intervals of 10 feet with 6-foot heavy-duty steel posts or 1 $\frac{1}{2}$ " X 3/16" angle iron, and fastened securely to the posts with No. 10 galvanized smooth wire, or bolted using minimum 5/16" bolts and 2 washers per bolt, in accordance with the Culvert Installation Typical Details Page.

5-24 PLASTIC CULVERT BANDS

All plastic culvert bands shall be secured using No. 10 galvanized smooth wire.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

Catch basins shall be constructed to resist erosion. Approximate dimensions are 1-2 feet deep, 1-2 feet wide, and 2-4 feet long.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Headwalls shall be constructed in accordance with the Typical Cross Drain Culvert Installation Detail at all cross drain culverts that specify the placement of rock. Rock used for headwalls shall consist of oversize or quarry spall material. Rock shall be placed on shoulders, slopes, and around culvert inlets and outlets. Rock shall not restrict the flow of water into culvert inlets or catch basins. No end dumping of rock is allowed.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culvert(s), rip rap shall be set in place immediately following construction of the embankment. Rock shall be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the Typical Type Ns Np Culvert Installation Detail as directed by the Contract Administrator. Rock shall not restrict the flow of water into culvert inlets or catch basins. Rock shall be set in place by machine. Placement shall be by zero-drop-height method only. No placement by end dumping or dropping of rock shall be allowed.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>
11+00 Spur	7+73	Light Loose Rip Rap
1+80 Spur	0+50	Light Loose Rip Rap

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the Rock List may be obtained from the following source(s) on state land at no charge to the Purchaser. Use of material from any other source must have prior written approval from the Contract Administrator. If other operators are using, or desire to use, the rock source(s), a joint operating plan shall be developed. All parties shall follow this plan. The 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>
Copper Pit	T25N, R11W, Sec.18 and T25N, R12W, Sec. 13	Pit Run, 1½-inch minus crushed (purchaser manufactured).
Red Creek Quarry	T27N, R11W, Sec. 34	Light Loose Rip Rap

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the Rock List may be obtained from any commercial source at the Purchaser's expense. Rock sources will be subject to written approval by the Contract Administrator before their use. Rock source(s) shall be a WSDOT certified source.

SUBSECTION ROCK SOURCE DEVELOPMENT

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

All rock source development and use shall be in accordance with a written Rock Source Development and Reclamation Plan prepared by the State and included in this Road Plan. Rock source operations shall be conducted as directed by the Contract Administrator and in accordance with the plan. Upon completion of operations, the rock source shall be left in the condition specified in the Rock Source Development and Reclamation Plan, and approved in writing by the Contract Administrator. The

Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the rock source.

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources shall be in accordance with the following unless otherwise specified in Rock Source Development and reclamation plan:

- Pit walls shall not be undermined or over-steepened. The maximum slope of the walls shall 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 shall be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches shall be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches shall be uniform and free-draining at a minimum 2% outslope gradient.
- All operations shall be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- Block all vehicle access to the top of the pit faces.

6-15 REQUIRED ROCK SOURCE WORK

The following rock source work is required. Work is to be done according to the approved Rock Source Development And Reclamation Plan and as directed by the Contract Administrator.

<u>Site</u>	<u>Requirements</u>
Copper Pit	Development will involve stripping approximately 0.7 acre to useable rock as determined by the Contract Administrator. The Purchaser shall also manufacture at Copper Pit 10,000 yds ³ of 1½-inch minus crushed rock in accordance with Clause 6-20. Required rock source work shall be completed by October 31, 2016.

SUBSECTION ROCK MANUFACTURE

6-20 ROCK GRADATION TYPES

Purchaser shall manufacture rock in accordance with the types and amounts listed in the Manufacturing List. Rock shall meet the following specifications for gradation and uniform quality during manufacture and placement into a stockpile. Purchaser shall supply a sieve analysis upon request from the Contract Administrator.

<u>Rock Type</u>	<u>Amount</u>
1½-inch minus crushed	10,000 yds ³

6-22 FRACTURE REQUIREMENT FOR ROCK

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

6-23 ROCK CRUSHING OPERATIONS

Rock crushing operations shall conform to the following specifications:

- Operations and placement of oversize material shall be conducted in or near the rock source site, as approved in writing by the Contract Administrator.
- The Purchaser is required to test the rock.
- All testing and operations must be performed in accordance with the attached ROCK CRUSHING COMPLIANCE PROCEDURE.

SUBSECTION ROCK GRADATIONS

6-29 1 ½-INCH MINUS CRUSHED ROCK

% Passing 1 ½" square sieve	100%
% Passing 1" square sieve	50 - 85%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	16% maximum
% Passing U.S. #200 sieve	5% maximum

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

6-43 QUARRY SPALLS

% Passing 12" square sieve	100%
% Passing 8" square sieve	10% maximum

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

6-50 LIGHT LOOSE RIP RAP

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

<u>At Least/Not More Than</u>	<u>Weight Range</u>	<u>Size Range</u>
20% / 90%	300 lbs. to 1 ton	12" - 36"

SUBSECTION ROCK MEASUREMENT

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths are defined as the compacted depth(s) using the compaction methods required in this Road Plan. Estimated quantities specified in the Rock List are estimated truck yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

SUBSECTION ROCK APPLICATION

6-70 APPROVAL BEFORE ROCK APPLICATION

Subgrade drainage installation including grading and compaction, shall be completed and approved in writing by the Contract Administrator, before rock application.

6-71 ROCK APPLICATION

Rock shall be applied in accordance with the specifications and quantities shown on the Rock List. Rock shall be spread, shaped, and compacted full-width concurrent with rock hauling operations. Rock shall be compacted in accordance with Compaction List, in lifts not to exceed 6 inches.

6-73 ROCK FOR WIDENED PORTIONS

Turnarounds, turnouts, and areas with curve widening shall have rock applied to the same depth and specifications as the traveled way.

6-78 ROCK FOR SPOT PATCHING

Rock for spot patching shall be applied before any grading is done and before any rock lifts are applied. Once applied, spot patches shall be graded into the existing running surface.

SECTION 7 – STRUCTURES

SUBSECTION STREAM CROSSING STRUCTURES GENERAL

7-5 STRUCTURE DEBRIS

The Purchaser shall ensure that debris from the installation or removal of structures does not enter any stream. Components removed from the existing structures(s) shall be placed at designated site(s), as directed in writing by the Contract Administrator. The Purchaser is responsible for maintaining a clean jobsite, with all materials stored away from any high water mark or other area presenting a risk of the materials entering a stream. Debris entering any stream shall be removed immediately and placed in the site(s) designated for stockpiling or disposal. The Purchaser is responsible for retrieving all material carried downstream from the jobsite by the stream current.

7-6 STREAM CROSSING INSTALLATION

Installation of stream crossing structures shall be in accordance with the manufacturer's requirements, and as directed by the District Engineer or their designee.

7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES

Bank protection shall be designed and constructed to prevent the undermining of the structure.

SUBSECTION BRIDGE MAINTENANCE

7-30 BRIDGE MAINTENANCE

On the following road(s), bridge maintenance, as listed below, is required as part of this contract. All old bridge material shall be removed from state land by the Purchaser before the termination of the contract. In-stream work below the ordinary high water line shall only occur from July 1st through September 30th.

<u>Road</u>	<u>Station</u>	<u>Requirements</u>	<u>Detail Sheet</u>
C-2700	MP 0.202 (10+67) – MP 0.219 (11+59)	Place 100 yds ³ of Light Loose Rip Rap in accordance with Shorelines Permit.	Bridge Profile View 1
Same	Same	Re-Secure Dolphin	C-2700 Bridge Plan View
Same	Same	Replace eleven (11) Bull Rails 12”X12”X20’	N/A
Same	Same	Replace two (2) Guard Planks 2”X12”X20’	N/A
Same	Same	Remove Vegetation & Cap Exposed Pile Tops	N/A

SUBSECTION LARGE CULVERTS

7-55 LARGE CULVERT INSTALLATION

On the following road(s), Purchaser shall install large culverts as specified below. The installation of the culvert shall follow the appropriate detail sheet. Culvert designs shall meet or exceed the following specifications:

<u>Road</u>	11+00 Spur
<u>Station</u>	7+73
<u>Type</u>	Temporary Culvert
<u>Material and Coating Type*</u>	Corrugated Steel or Plastic
<u>Span (in.)</u>	36”
<u>Rise (in.)</u>	36”
<u>Length (ft.)</u>	36’
<u>Depth of Cover Material (ft.)</u>	2’
<u>Corrugations</u>	Not specified
<u>Gauge</u>	14
<u>Detail Sheet</u>	None

* See Clause 10-15 Corrugated Steel Culvert or Clause 10-18 Corrugated Steel Structural Plate

7-56 STEEL PIPE, PIPE ARCH, AND STRUCTURAL PLATE INSTALLATION

Steel pipe, pipe arches, and structural plate culverts shall be installed according to the National Corrugated Pipe Association Installation Manual, and are subject to the inspection and approval of the Contract Administrator before placement and backfill. The latest edition of the NCSPA Installation Manual can be found at www.ncspa.org.

7-57 CULVERT SHAPE CONTROL

Purchaser shall monitor the culvert shape during backfill and compaction. Special attention shall be paid to maintaining the structure’s rise dimensions, concentricity and smooth, uniform curvature. If compaction methods are resulting in peaking and/or deflection of the culvert, Purchaser shall, in consultation with the District Engineer or their designee, modify their compaction method to achieve the appropriate end-result. The National Corrugated Steel Pipe Association "Installation Manual for Corrugated Steel Pipe, Pipe Arches, and Structural Plate" includes guidance on how to monitor culvert shape control and recommends corrective actions to take when shape control problems arise.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL

On the following road(s), sediment control shall be accomplished as listed below. Conveyor Belt berms shall be constructed in accordance with the Conveyor Belt Berm Detail and shall be approved, in writing, by the District Engineer or their designee.

<u>Road</u>	<u>Station</u>	<u>Comments</u>
C-2700	MP 0.447 – MP 0.466	Install rock berms on both sides of the road.
C-2700	MP 0.448	Install silt fence in ditch on right.
C-2700	MP 0.510	Install silt fence in ditch on left and right.
C-2700	MP 0.522	Install silt fence in ditch on right.
C-2700	MP 0.628	Install silt fence in ditch on right.
C-2700	MP 0.654	Install silt fence in ditch on right.
C-2700	MP 0.723	Install silt fence in ditch on right.
C-2700	MP 0.803	Install silt fence in ditch on right.
C-2700	MP 0.894	Install silt fence in ditch on right.
C-2700	MP 0.916	Install silt fence in ditch on right.
C-2800	MP 1.083	Install silt fence in ditch on right.
C-2800	MP 1.089	Install silt fence in ditch on left.
C-2800	MP 1.429	Install silt fence in ditch on left.

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall furnish and evenly spread a 3-inch layer of straw to all exposed soils at stream culvert installations. Soils shall not be allowed to sit exposed during any rain event.

8-7 ROAD SHOULDER BERM INSTALLATION

On the following road(s), the Purchaser shall construct berms on the road shoulder.

<u>Road</u>	<u>Stations</u>	<u>Remarks</u>
C-2700	MP 0.447 – MP 0.466	Install 1’X1’X100’ crushed rock berms on left and right shoulders of the road.

SUBSECTION SLOPE STABILIZATION

8-11 STABILIZE SLOPES – MATERIAL REMOVAL

On the following road(s), Purchaser shall stabilize embankment slopes by removing approximately 100 cubic yards of sidecast material. End haul all material to landing along the 9+78 Spur at STA 2+81 to be used as landing fill or as directed by the Contract Administrator. All work is subject to approval by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
9+78 Spur	STA 1+20 – STA 2+20

SUBSECTION REVEGETATION

8-15 REVEGETATION

Purchaser shall grass seed and hay mulch all exposed soils including, but not limited to, stream culverts, waste areas, sidecast pull back areas, stream crossing removals, bridge installations, and other areas directed by the Contract Administrator. Revegetation of exposed soils shall be accomplished by manual dispersal of grass seed unless otherwise detailed in this Road Plan. Other methods of revegetation must be approved in writing by the Contract Administrator.

8-16 REVEGETATION SUPPLY

All seed, mulch, hay, matting, etc. will be provided by the Purchaser.

8-17 REVEGETATION TIMING

Purchaser shall perform revegetation during the first available opportunity. Soils shall not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator. Soils shall not be allowed to sit exposed during any rain event.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover over the revegetated area. The protective cover may consist of, but not be limited to, such items as dispersed hay mulch 3” thick or jute matting.

8-19 ASSURANCE FOR SEEDED AREA

The Purchaser shall be responsible to ensure a uniform and dense crop of grass. The Purchaser shall reapply the seed and/or mulch in areas that have been damaged through any cause, before approval from the Contract Administrator. The Purchaser shall restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the seed and/or mulch at no additional cost to the state.

SUBSECTION SEED, FERTILIZER, AND MULCH

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soils at a rate of 60 pounds per acre of exposed soil.

- Perennial Ryegrass 40.00
- Creeping Red Fescue 40.00
- White Dutch Clover 10.00
- Colonial Bentgrass 10.00

Grass seed shall 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

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

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. Excavated material shall be end hauled to an approved waste area designated in Clause 4-37 Waste Area Location. Culvert removal from live streams shall be in accordance with the Typical Culvert Removal Detail Sheet.

<u>Road</u>	<u>Stations</u>	<u>Excavated Channel Width</u>	<u>Slope Ratio</u>	<u>Comments</u>
11+00 Spur	7+73	5'	2:1 - 3:1	See Typical Culvert Removal Detail Sheet.
1+80 Spur	0+50	3'	2:1 – 3:1	See Typical Culvert Removal Detail Sheet.

SUBSECTION POST-HAUL MAINTENANCE

9-5 POST-HAUL MAINTENANCE

Post-haul maintenance shall be performed in accordance with the Forest Access Road Maintenance Specifications and as specified below.

<u>Road</u>	<u>Stations</u>	<u>Additional Requirements</u>
All but Deactivation	All	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator.

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

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

9-11 LANDING EMBANKMENT

On all roads, landing embankments shall be sloped to original construction specifications.

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SUBSECTION DEACTIVATION AND ABANDONMENT

9-20 ROAD DEACTIVATION

The following road(s) shall be deactivated by the Purchaser before the termination of this contract.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
11+00 Spur	0+00 – 11+00	Light Deactivation
1+80 Spur	0+00 – 1+80	Light Deactivation

9-22 LIGHT DEACTIVATION

Deactivation shall consist of:

1. Removing all culverts. Resulting back slopes shall be 1:1 or shallower. Material removed shall be placed on the roadbed and compacted, with slopes of 2:1 or shallower. Culverts removed shall become the property of the Purchaser and removed from State land.
2. Construct non-drivable water bars as directed by the Contract Administrator. On grades in excess of 3%, non-drivable water bars shall be skewed 30 degrees from the perpendicular of the road centerline.
3. Restore all ditchouts to drain water.
4. Repair or construct ditchlines.
5. Remove any berms, except as directed.
6. Restoration of natural stream channels across road prism, as directed by the Contract Administrator.
7. Removing all fill material as approved by the Contract Administrator.
8. All material from fill removals, culvert removals, and bridge removals shall be placed on roadbed and compacted, except that material listed in Clause 4-37.
9. Purchaser shall furnish and apply grass seed to all areas of exposed soil, including but not limited to: water bars, waste piles, and culvert removal sites. Grass seed shall be applied at a rate of 60 pounds per acre.
10. Block road to vehicular traffic using logs, slash, and stumps, as directed by the Contract Administrator.

SECTION 10 MATERIALS

SUBSECTION GEOTEXTILES

10-6 GEOTEXTILE FOR TEMPORARY SILT FENCE

Geotextiles shall meet the following minimum requirements for strength and property qualities, and shall be designed by the manufacturer to be used for filtration. Woven slit-film geotextiles will not be allowed. Material shall be free of defects, cuts, and tears.

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Unsupported between posts
Apparent opening size	D 4751	No. 30 max., No. 100 min.>
Water permittivity	D 4491	0.02 sec ⁻¹
Grab tensile strength	D 4632	180 lb in machine direction, 100lb in cross-machine direction
Grab tensile elongation	D 4632	30% max. at 180 lb or more
Ultraviolet stability	D 4355	70% retained after 500 hours of exposure

SUBSECTION EROSION CONTROL AND REVEGETATION

10-10 JUTE EROSION CONTROL MATTING

Jute mesh shall have a uniform open plain weave made from jute yarn that does not vary by more than half its nominal diameter. Erosion control matting shall conform to the specifications listed below, and shall be recommended by the manufacturer for use on embankments with a slope of 1½:1 (H:V) or steeper.

- Mesh size: 1 inch max.
- Mesh mass: 0.9 lb/yd² ±5%

10-11 COCONUT EROSION CONTROL MATTING

Coconut mat shall have a uniform open plain weave made from jute, coconut coir, synthetic polypropylene fibers, or other approved yarn. Erosion control matting shall conform to the specifications listed below, and shall be recommended by the manufacturer for use on embankments with a slope of 1½:1 (H:V) or steeper.

- Mesh size: 0.5 to 1 inch.
- Mesh mass: 0.4 lb/yd² min.
- Netting shall be photodegradable on one side.
- Moisture content shall not exceed 20%.

10-12 WOOD EXCELSIOR EROSION CONTROL MATTING

Excelsior blanket shall have a uniform thickness made of curled wood excelsior secured on the top side to a biodegradable, photodegradable extruded plastic mesh. Matting shall be smolder resistant without the use of additional chemical additives. Erosion control matting shall conform to the specifications listed below, and shall be recommended by the manufacturer for use on embankments with a slope of 1½:1 (H:V) or steeper.

- Mesh size: 1 to 2 inch.
- Blanket mass: 1 lb/yd² ±10%
- Excelsior fibers: 7.8 inch (200-mm) length 80% min.

SUBSECTION CULVERTS

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts shall meet AASHTO M-36 (ASTM A-760) specifications. Culverts shall be aluminized (aluminum type 2 coated meeting AASHTO M-274).

10-16 CORRUGATED ALUMINUM CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

Polyethylene culverts shall meet AASHTO M-294 specifications. Culverts shall be Type S – double walled with a corrugated exterior and smooth interior.

10-20 FLUME AND DOWNSPOUT

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

10-21 METAL BAND

Metal coupling and end bands shall meet the AASHTO specification designated for the culvert and shall have matching corrugations. On culverts 24 inches and smaller, bands shall have a minimum width of 12 inches. On culverts over 24 inches, bands shall have a minimum width of 24 inches.

10-22 PLASTIC BAND

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

10-23 RUBBER CULVERT GASKETS

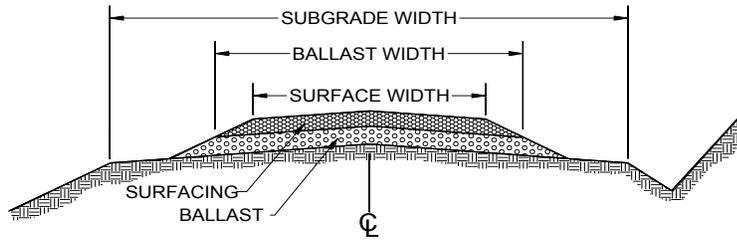
Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAGE AND CORRUGATION

Metal culverts shall 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 42"	14 (0.079")	2 ² / ₃ " X 1/2"
48" to 54"	12	3" X 1"
60" +	10	5" X 1"

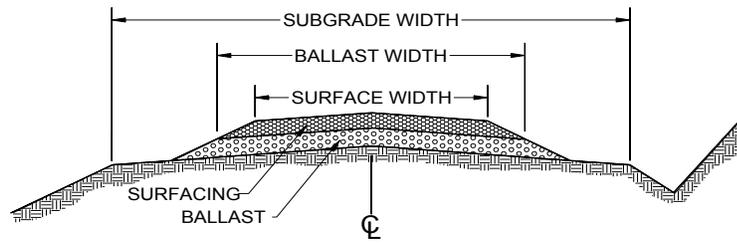
ROCK LIST SHEET



1. Rock quantities, subtotals and totals are "truck measure" estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼" minus to 4" minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1: Copper Pit Pitrun, 2: Copper Pit 1½" minus, 3: Red Creek Quarry Light Loose Rip Rap

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd³)
1+00 Spur	0+10	1+00	17'	1	12'	18"	110	100							
Flared Approach	0+10			1				40							
C-2700															
Bridge Rip Rap	MP 0.202 (10+67)	MP 0.219 (11+59)												3	100
Lift	MP 0.219 (11+59)	MP 0.262 (13+85)		1	14'	18"	125	280	2	12'	6"	35	80		
Culvert	MP 0.246													3	2
Shoulder Berms	MP 0.447	MP 0.463							2				10		
Spot Patch	MP 0.473	MP 0.488							2				10		
Spot Patch	MP 0.600								2				10		
Spot Patch	MP 0.647								2				10		
Turnout	MP 0.678			1				50							
Spot Patch	MP 0.808								2				10		
Lift	MP 0.894	MP 0.916							2	12'	6"	35	40		
Lift	MP 1.050	MP 1.156							2	12'	6"	35	200		
Spot Patch	MP 1.205								2				10		
Spot Patch	MP 1.223								2				10		
Lift	MP 1.245	MP 1.290							2	12'	6"	35	80		
Spot Patch	MP 1.314								2				10		
Spot Patch	MP 1.423								2				10		
Spot Patch	MP 1.665								2				10		
Spot Patch	MP 1.709								2				10		
Lift	MP 1.838	MP 1.863							2	12'	6"	35	50		
Lift	MP 1.935	MP 1.957							2	12'	6"	35	40		
Totals:								470					600		102

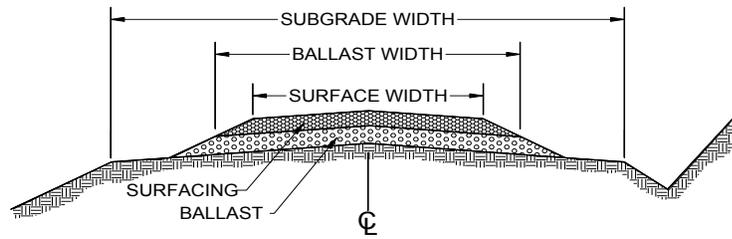
ROCK LIST SHEET CONTINUED



1. Rock quantities, subtotals and totals are "truck measure" estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼" minus to 4" minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1: Copper Pit Pitrun, 2: Copper Pit 1½" minus, 3: Red Creek Quarry Light Loose Rip Rap

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd³)
C-2710															
Landing	MP 0.034			1			50								
Culvert	MP 0.326			1			20	2					10	3	2
Spot Patch	MP 0.360							2					10		
Landing	MP 0.476			1			30								
C-2710.1	0+00	1+00		1	12'	6"	35	40							
Culvert	0+10			1			30								
C-2700 Tie	0+65	2+15	17'	1	12'	18"	110	170							
Curve Widening	0+00	2+15	6'	1	6'	18"	55	120							
11+00 Spur															
Lift	0+00	7+05		1	12'	12"	70	490							
Culvert	0+35			1			30								
Lift	7+05	8+37		1	12'	18"	110	150							
Culvert	7+73													3	10
Lift	8+37	11+00		1	12'	6"	35	90							
Landing	10+50			1			30								
1+80 Spur	0+00	1+80		1	12'	18"	110	200							
Culvert	0+50													3	2
Landing	1+80			1			50								
7+86 Spur	0+00	7+86		1	12'	18"	110	870							
Landing	7+86			1			50								
Rip Rap Fill	1+50	3+50												3	420
Totals:								2420					20		434

ROCK LIST SHEET CONTINUED



SECTION VIEW

1. Rock quantities, subtotals and totals are "truck measure" estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼" minus to 4" minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1: Copper Pit Pitrun, 2: Copper Pit 1½" minus, 3: Red Creek Quarry Light Loose Rip Rap

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd ³ /sta)	Pitrun SUBTOTAL(yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd ³ /sta)	Crushed Subtotal(yd ³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd ³)
9+78 Spur	0+00	9+78		1	12'	6"	35	340							
Spot Patch	0+10			1				30							
Landing	2+81			1				50							
Spot Patch	3+89			1				10							
Culvert	4+97			1				30						3	2
Landing	6+22			1				50							
Landing	9+78			1				50							
20+45 Spur															
Lift	0+10	4+20		1	12'	6"	35	150							
Spot Patch	0+10			1				20							
Lift	7+20	9+50		1	12'	6"	35	80							
Landing	8+15			1				50							
Lift	14+20	20+45		1	12'	6"	35	220							
Landing	14+20			1				50							
C-2800															
Lift	MP 0.900	MP 0.971							2	12'	6"	35	130		
Culvert	MP 0.971								2				20		
Lift	MP 1.049	MP 1.089							2	12'	6"	35	70		
Landing	MP 1.295			1				20							
Lift	MP 1.317	MP 1.355							2	12'	6"	35	70		
Turnaround	MP 1.398			1				20							
Lift	MP 1.417	MP 1.452							2	12'	6"	35	70		
Culvert	MP 1.635								2				30		
Totals:								1170					390		2

FISH STREAM WORK PROVISIONS

1. TIMING LIMITATIONS: The fish culvert project may begin July 1 and shall be completed by September 30.
2. Work shall conform to plans and specifications in the road plan.
3. Prior to the commencement of in-stream work, the Purchaser shall isolate the work area in a manner that fish cannot enter the work area, capture and safely move fish and other fish life from the work area. The Purchaser shall have fish capture and transportation equipment ready and on the job site. Captured fish shall be immediately and safely transferred to free-flowing water downstream of the work area.

TEMPORARY STREAM FLOW BYPASS

4. All in-stream work shall be conducted in the dry or in isolation from the stream flow by the installation of a bypass flume/pipe or by pumping the flow around the work area, back into the stream below the work area. Waste water pumped from within the work area shall terminate on the forest floor, sufficient distance from the stream to filter sediment prior to entering the stream.
5. The temporary bypass to divert flow around the work area shall be in place prior to initiation of other work in the wetted perimeter.
6. A sandbag revetment or similar device shall be installed at the bypass inlet to divert the entire flow through the bypass.
7. The bypass shall be of sufficient size to pass all flows and debris for the duration of the project.
8. If a pump is used for diverting water from the stream where fish are present, as per RCW 77.57.010 and 77.57.070, the pump intake shall be equipped with a fish guard to prevent passage of fish into the diversion pump. The pump intake shall be screened with 1/8 inch mesh to prevent fish from entering the pump. Velocity through the screened intake shall be less than 0.4 feet per second. Screens shall be maintained to prevent injury or entrapment of juvenile fish.

WATER QUALITY

9. Extreme care shall be taken to ensure that no petroleum products, hydraulic fluid, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into the stream.

COMPACTION LIST

Road	Stations	Type	Max Depth per Lift (In)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
Construction	All	Subgrade, Rock, Embankment	6	Vibratory Smooth Drum Roller	14,000	2	3
11+00 Spur	0+00 – 11+00	Reconstruction Surface	6				
7+86 Spur	0+00 – 7+86	Reconstruction Surface	6				
9+88 Spur	0+00 – 9+88	Reconstruction Surface	6				
C-2710.1	0+00 – 1+00	Pre-haul Surface	6				
9+78 Spur	0+00 – 9+78	Pre-haul Surface	6				
20+45 Spur	0+00 – 20+45	Pre-haul Surface	6				
Pre-haul Maintenance, Reconstruction	All	Rock Lifts	6				
Pre-haul Maintenance, Reconstruction	All	Culvert Backfills	6	Jumping Jack	N/A	3	N/A

ROCK CRUSHING COMPLIANCE PROCEDURE

Phase I. Equipment Adjustment

Step 1:

At start up of crushing operations, the Purchaser will notify the Contract Administrator when the rock meets the gradation specifications in the contract. None of the rock crushed during this calibration period will be counted toward the amount required to be crushed, and this rock must be kept separate from accepted rock crushed later.

Step 2:

The Purchaser will test the rock. Two samples will be taken. If the rock meets specifications, crushing may begin. If the rock does not meet specifications, return to Step 1.

Phase II. Production

Step 3:

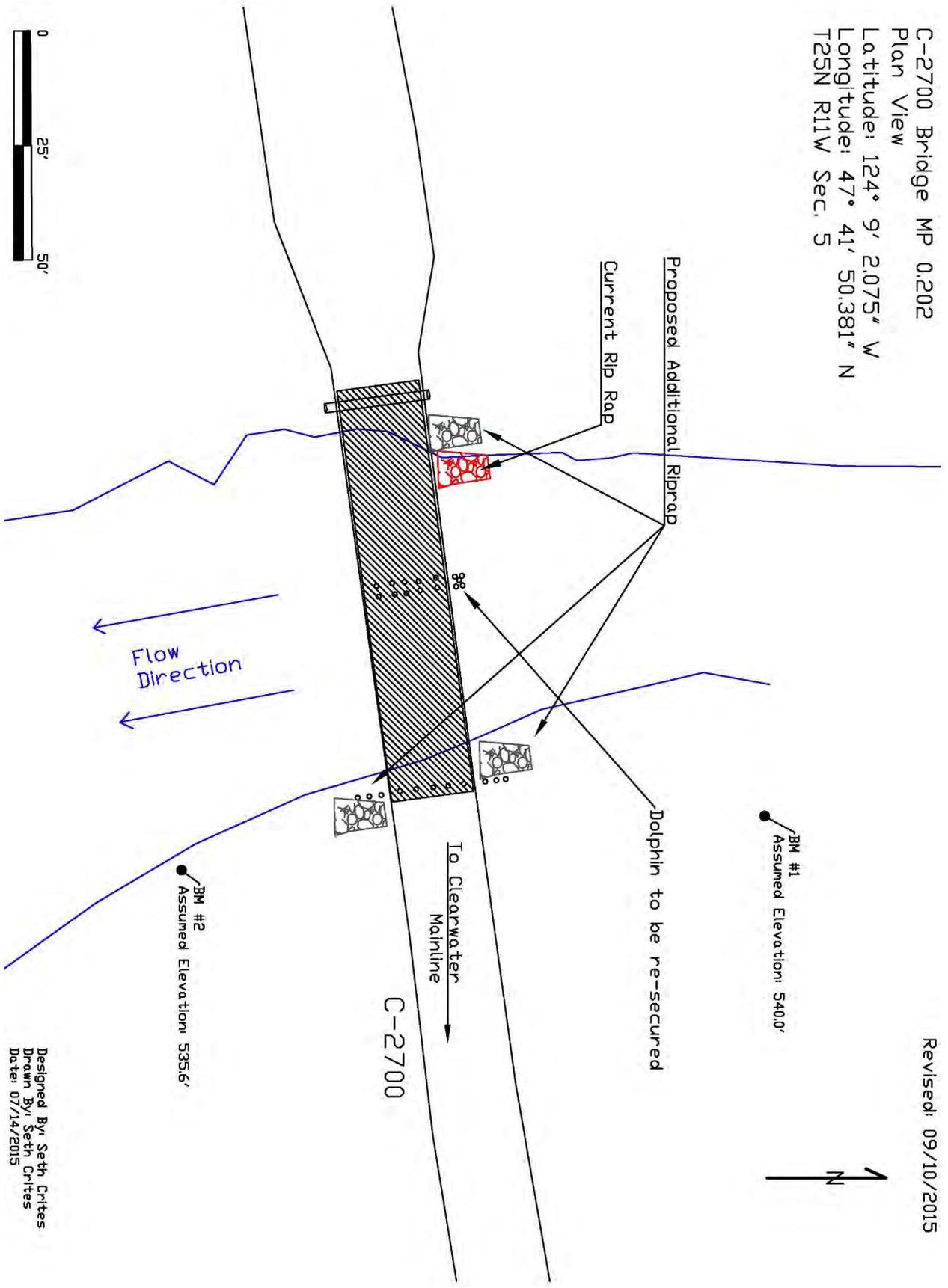
The Purchaser will continue periodic testing to ensure that rock stays in spec. Testing will take place according to the following schedule:

- After the first 500 yards
- After every 2,000 yards thereafter.

- a) Any time a sample is out of spec, but is within 5%*, the Purchaser will be notified and a second sample will be taken later in the day. If the second sample meets specifications, the rock crushed during that day will be accepted. If the second sample also fails to meet spec, none of the rock crushed since the last acceptable test will be counted toward the amount to be crushed.
- b) Any time a sample is out of spec and is more than 5% off in any category, none of the rock crushed since the last acceptable test will be accepted and that rock must be kept separate from the stockpile. Return to Step 1.
- c) Purchaser is strongly encouraged to take their own samples regularly and keep their operations in spec to avoid unnecessary expenses.
 - The 5% will be applied only to sieve specs for 2" to 1/4"; rock that is out of spec in larger sizes must be kept separate from the acceptable rock.

C-2700 Bridge MP 0.202
Plan View
Latitude: 124° 9' 2.075" W
Longitude: 47° 41' 50.381" N
T25N R11W Sec. 5

Revised: 09/10/2015

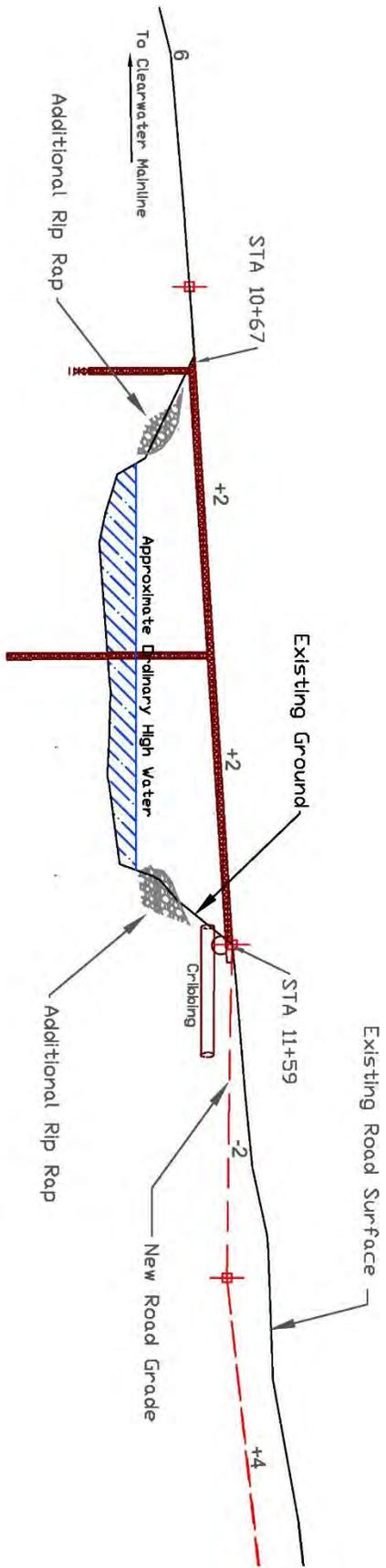


Designed By: Seth Crites
Drawn By: Seth Crites
Date: 07/14/2015

C-2700 Bridge MP 0.202
 Bridge Profile View 1

Latitude: 124° 9' 2.075" W
 Longitude: 47° 41' 50.381" N
 T25N R11W Sec. 5

Revised: 09/10/2015

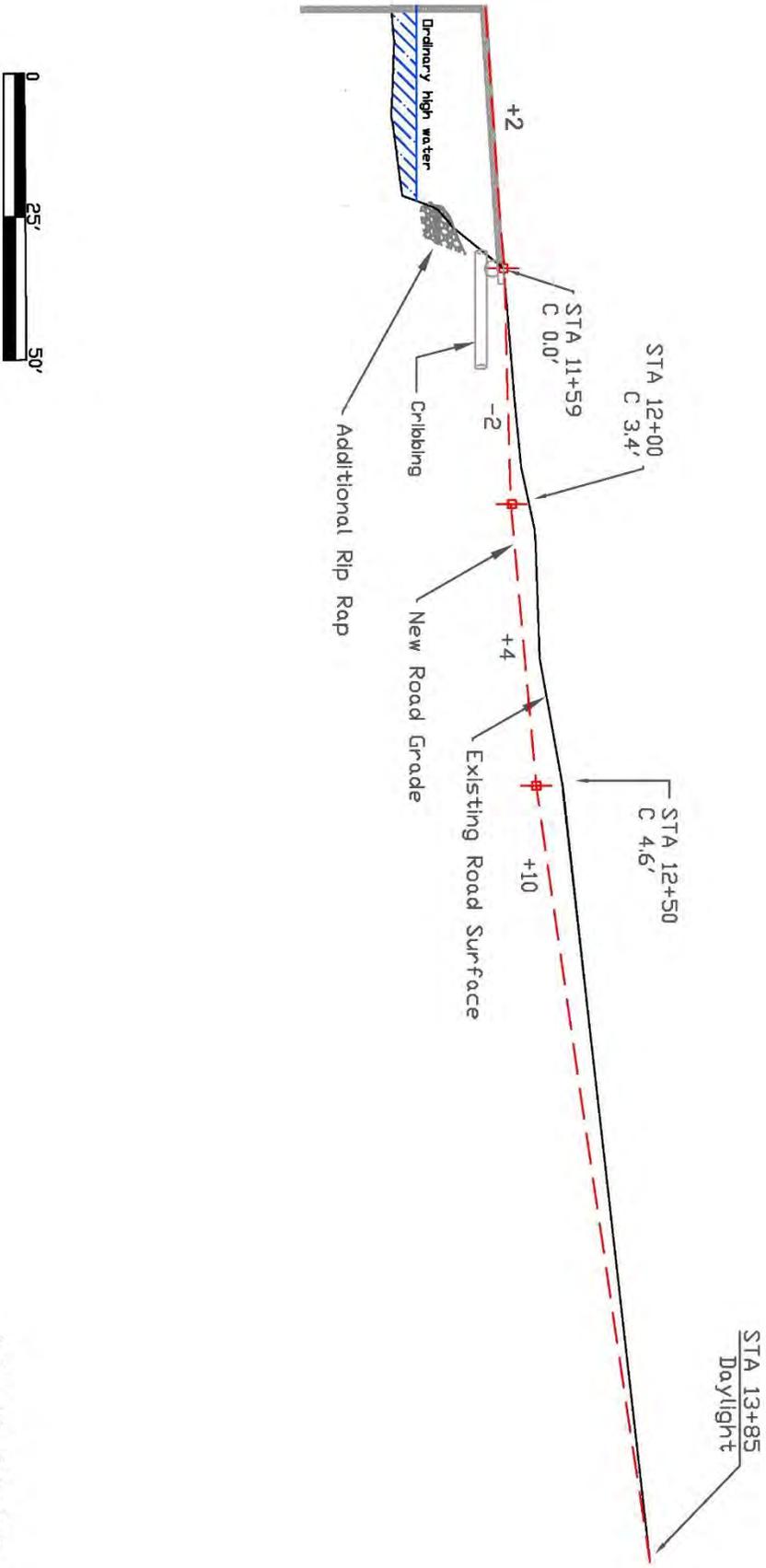


Designed By: Seth Crites
 Drawn By: Seth Crites
 Date: 07/14/2015

C-2700 Bridge Approach Regrade MP 0.202
 Bridge Profile View 2

Latitude: 124° 9' 2.075" W
 Longitude: 47° 41' 50.381" N
 T25N R11W Sec. 5

Revised: 09/10/2015



Designed By: Seth Crites
 Drawn By: Seth Crites
 Date: 07/14/2015

BRIDGE MAINTENANCE AND REPAIR PROVISIONS

TIMING LIMITATIONS:

In-stream work below the ordinary high water line of Type 1-3 STREAMS SHALL ONLY OCCUR BETWEEN July 1st through September 30th. General fish stream work provisions shall apply.

WORK PROVISIONS OUTSIDE OHWL:

1. For all work to be conducted outside the ordinary high water line for the inspection/removal/replacement of log stringer structures, steel bridge structures and associated gravel and wood decking material and bridge abutment structures provided, all work is conducted outside the ordinary high water line (OHWL) with no impacts to the stream channel or banks.
2. Abutment and sill replacement shall only be accomplished when the activity does not result in disturbance to the stream channel.
3. No riparian trees shall be damaged or removed as a result of these activities.
4. All waste material such as construction debris, bridge surfacing, silt, dirt or overburden resulting from these activities shall be prevented from entering waters of the state by disposing this material in appropriate upland locations.
5. Riprap or other containment structures shall only be installed to confine road fill material and shall not modify or disturb the stream channel.
6. Bridge wheel guards and curbs shall be repaired and maintained to prevent this material from falling off the bridge and into the stream.
7. Where aggregate or earth type material is used for the running surface, a semi-permeable fabric shall be placed on the top surface of the log stringers and below the material surfacing to contain fine sediments.

EQUIPMENT LIMITATIONS:

8. Equipment used for a project shall be clean and free of external petroleum-based products while working around or over a channel. Equipment shall be checked daily for leaks and any necessary repairs shall be completed prior to commencing work activities near the channel.
10. Equipment shall not enter or operate within the ordinary high water line.
11. Equipment shall only operate from the existing road prism or bridge deck.

WATER QUALITY PROVISIONS:

12. Best Management Practices in the DNR Forest Practice Roads Board Manual shall be implemented during all phases of the project to ensure that silt, road and bridge surface gravel and sediment-laden water do not enter waters of the state. If sediment delivery occurs to the stream as the result of bridge repair activities, operations shall cease and the source of sedimentation shall be controlled. When the sedimentation source has been eliminated, the bridge repair activities may resume.
13. Gravel surfacing material on the bridges shall be carefully removed to the maximum extent practicable using equipment, hand methods or a combination of both before conducting any log stringer removal and/or replacement.
14. No petroleum products, hydraulic fluid, fresh cement, grout, chemicals, or any toxic or deleterious materials are allowed to enter or leach into waters of the state as a result of these activities.
15. All disturbed or exposed areas resulting from this project with the potential to deliver fine sediment to any stream, pond, or wetland shall be protected from erosion using straw blankets hydro-mulch, vegetation or other means immediately upon completion of the project.

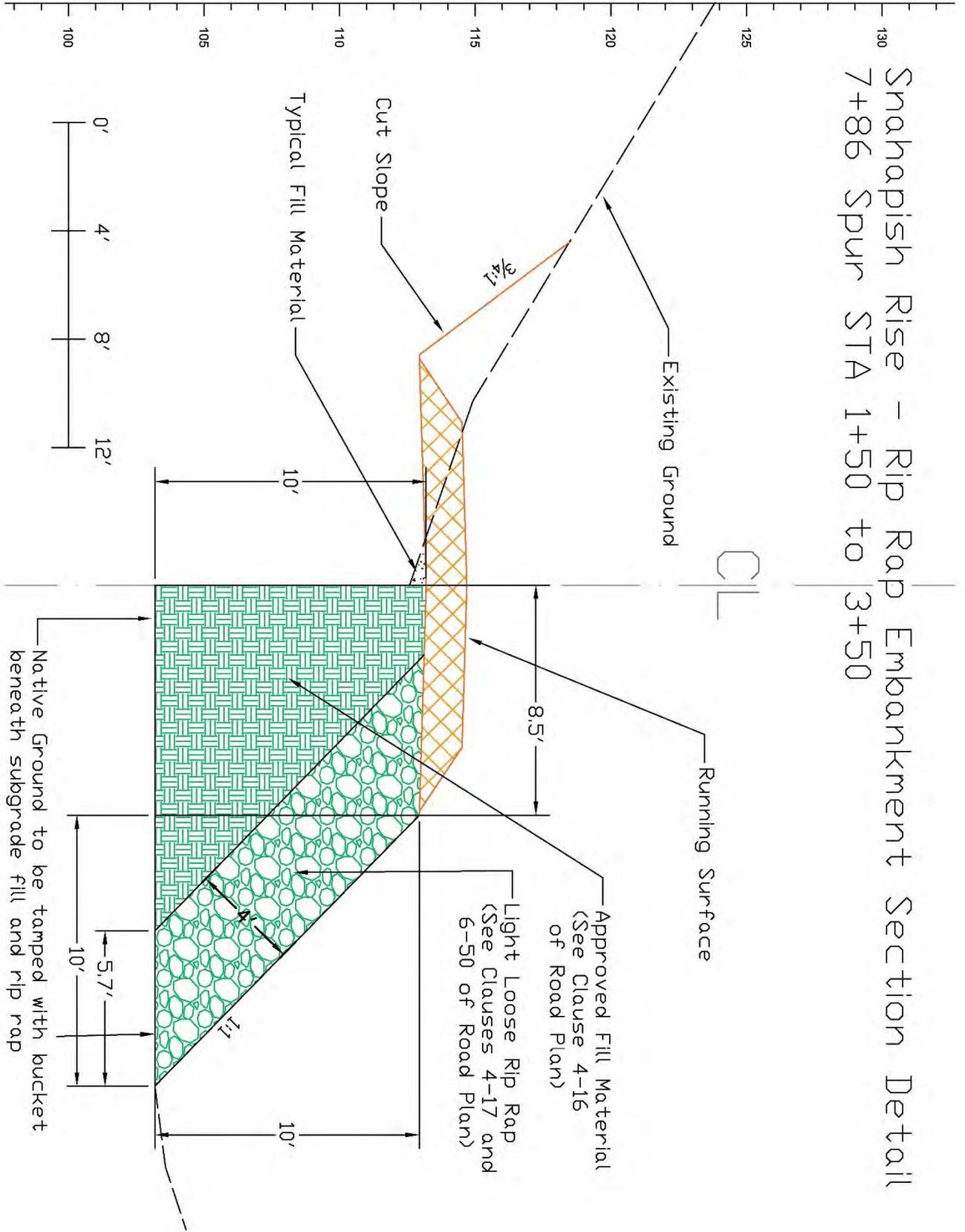
SITUATION RESPONSE AND CONTACTS:

If at any time, as a result of project activities, the following conditions are observed, immediate notification shall be made to the appropriate person or agency listed below:

- Water quality, sedimentation delivery, notify DNR Forest Practices Forester
- Fish are observed in distress or a fish kill occurs, notify WDFW Area Habitat Biologist.
- Equipment leaks, or spills of oil, fuel or chemicals, the spiller is responsible for notifying:

Dept. of Ecology-Southwest Region, (360) 407-6300;
National Response Center, 1-800-424-8802; and
Washington Emergency Management Division, 1-800-258-5990.

Snahapish Rise - Rip Rap Embankment Section Detail 7+86 Spur STA 1+50 to 3+50



Typical Type Ns, Np Culvert Installation Detail Sheet.

-Water shall be diverted away from the work site before any "in stream" work begins, and shall continue until culvert installation is complete.

-Culvert lay shall match stream gradient up to 5%.

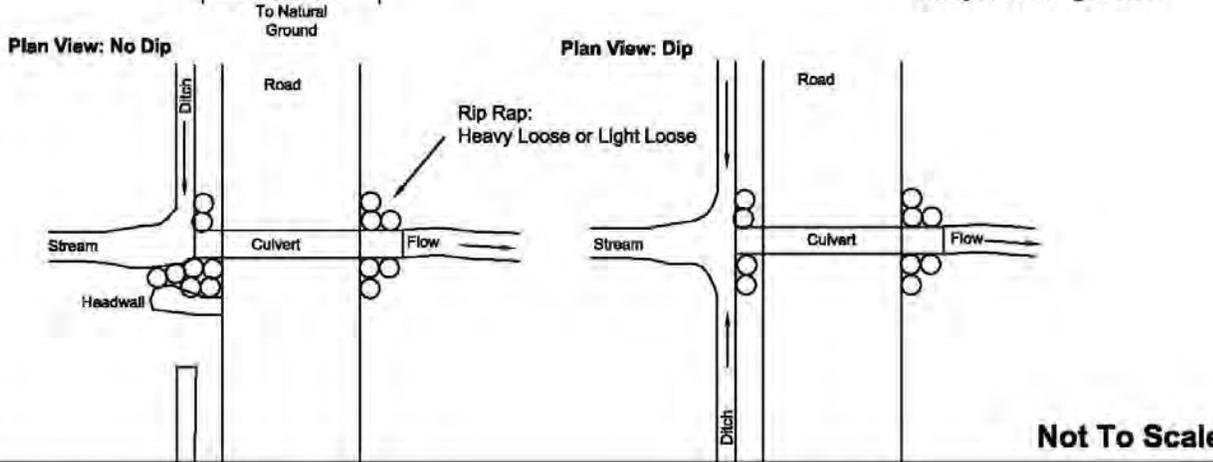
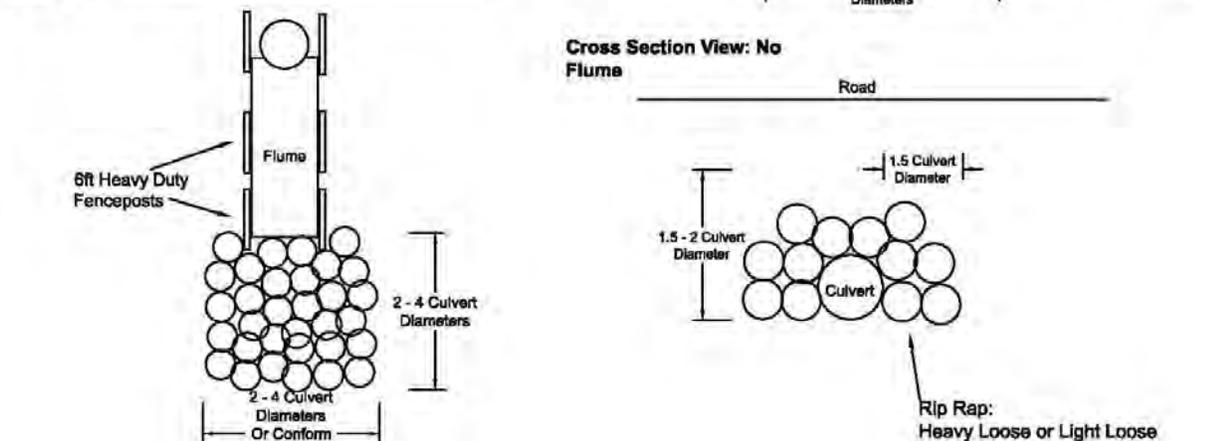
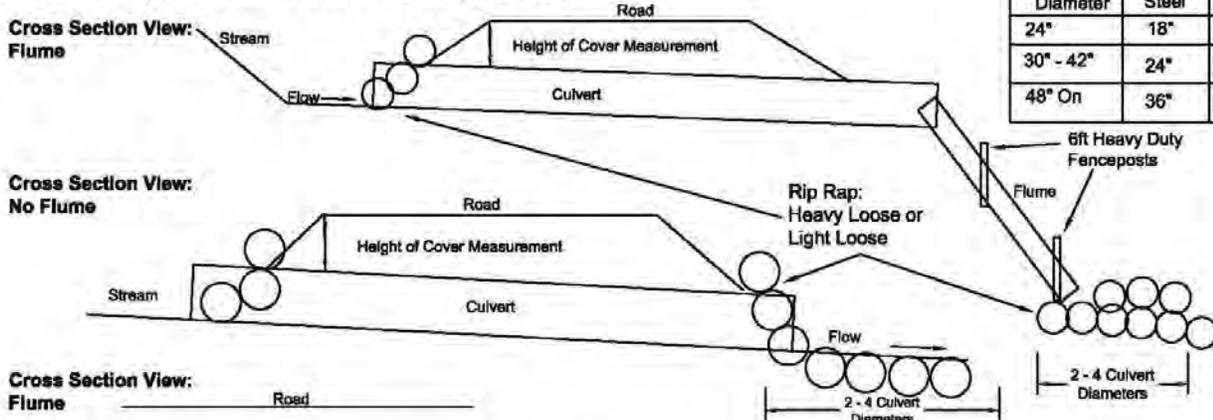
-Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.

-Rip rap shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.

-Rip rap shall be placed at headwalls, along the fill at the inlet, and at the end off flumes in accordance with this Detail. On culverts with no flume rip rap shall be placed along the fill at the outlet, unless there is stream drop or it is called for in the Road Plan, at which point it will be installed as an energy dissipater at the end of the culvert as specified in this Detail. All rip rap distance to be determined by the Contract Administrator or the District Engineer.

-Backfill compaction shall be achieved using a jumping jack, walk behind vibratory roller, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus 3 times the width of the compactor footprint used.

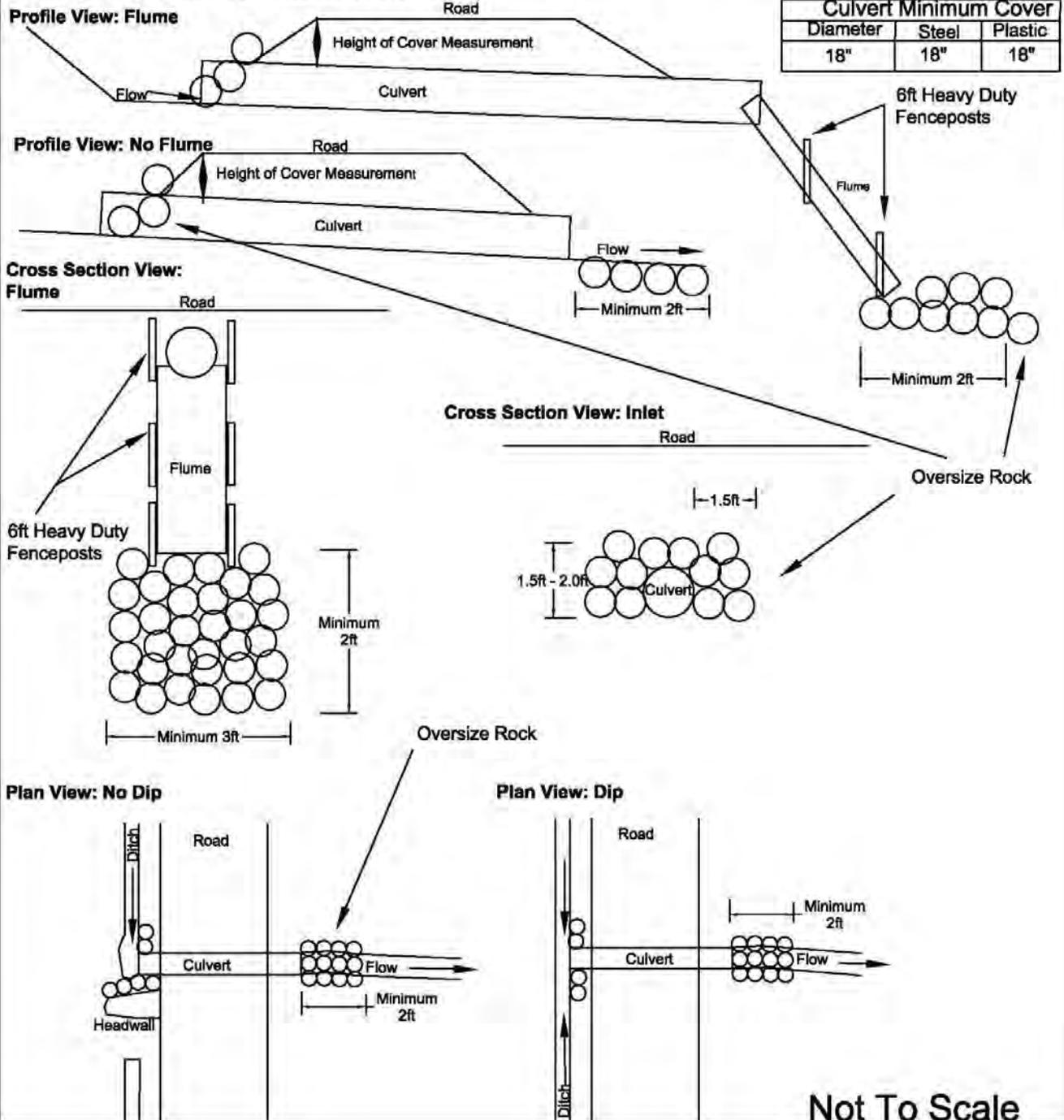
Culvert Minimum Cover		
Diameter	Steel	Plastic
24"	18"	24"
30" - 42"	24"	24"
48" On	36"	36"



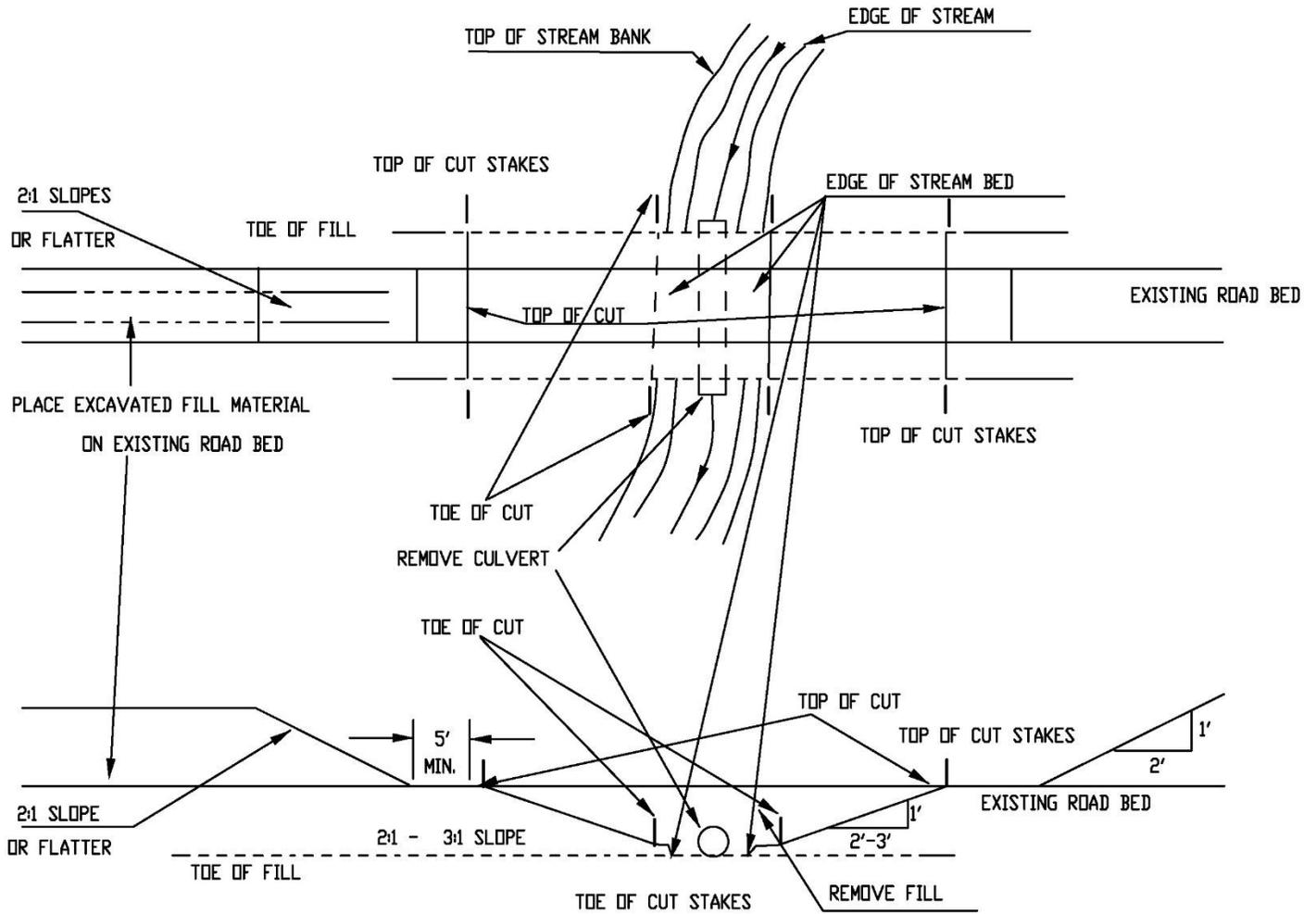
Not To Scale

Typical Cross Drain Culvert Installation Detail Sheet

- Culvert lay shall not exceed 10%.
- Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.
- Oversize shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.
- Oversize shall be placed at headwalls, along the fill at the inlet, and at the end off flumes in accordance with this Detail. On culverts with no flume oversize shall be placed at the outlet as an energy dissipater as specified in this Detail. All oversize distance to be determined by the Contract Administrator.
- Backfill compaction for installations on existing roads shall be achieved using a jumping jack, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus at least the width of the compactor footprint used..



TYPICAL CULVERT REMOVAL DETAIL SHEET

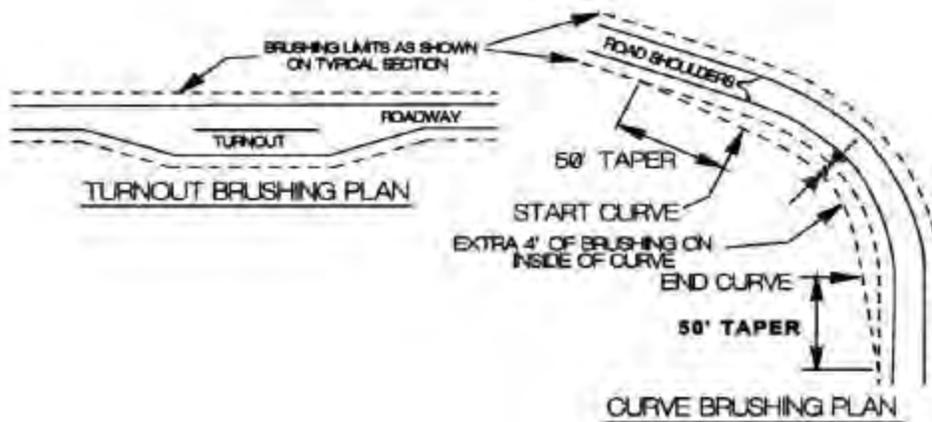
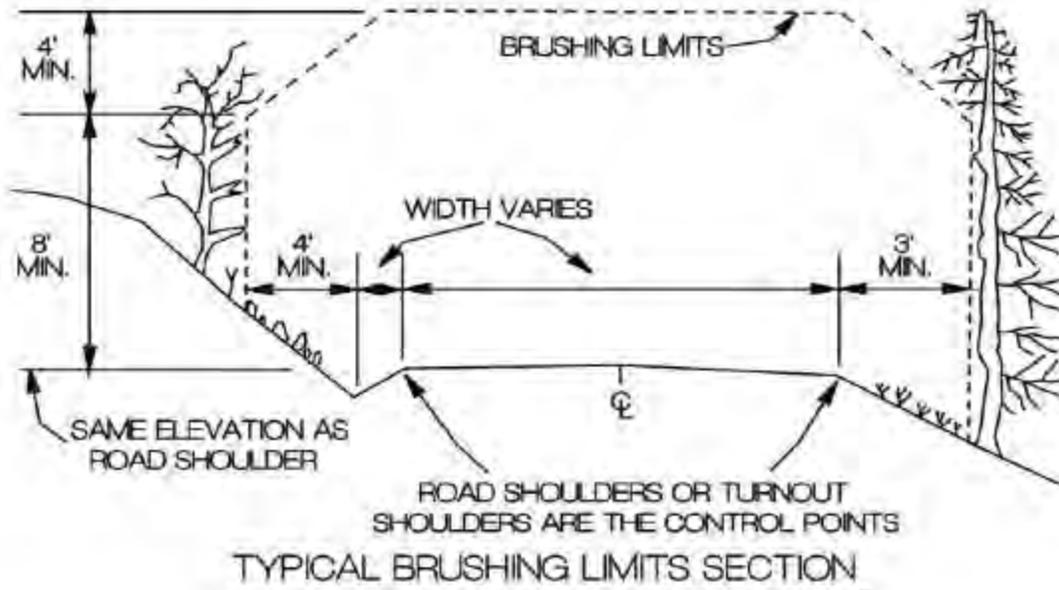


PLACE HAY MULCH ON CUT SLOPES, WASTE AREAS AND OTHER AREAS OF EXPOSED SOIL, 3' DEEP, OVER GRASS SEED

EXCAVATE FILL MATERIAL AS STAKED OR TO NATURAL GROUND AS STAKED. EXCAVATION IS TO BE TO ORIGINAL CREEK BED.

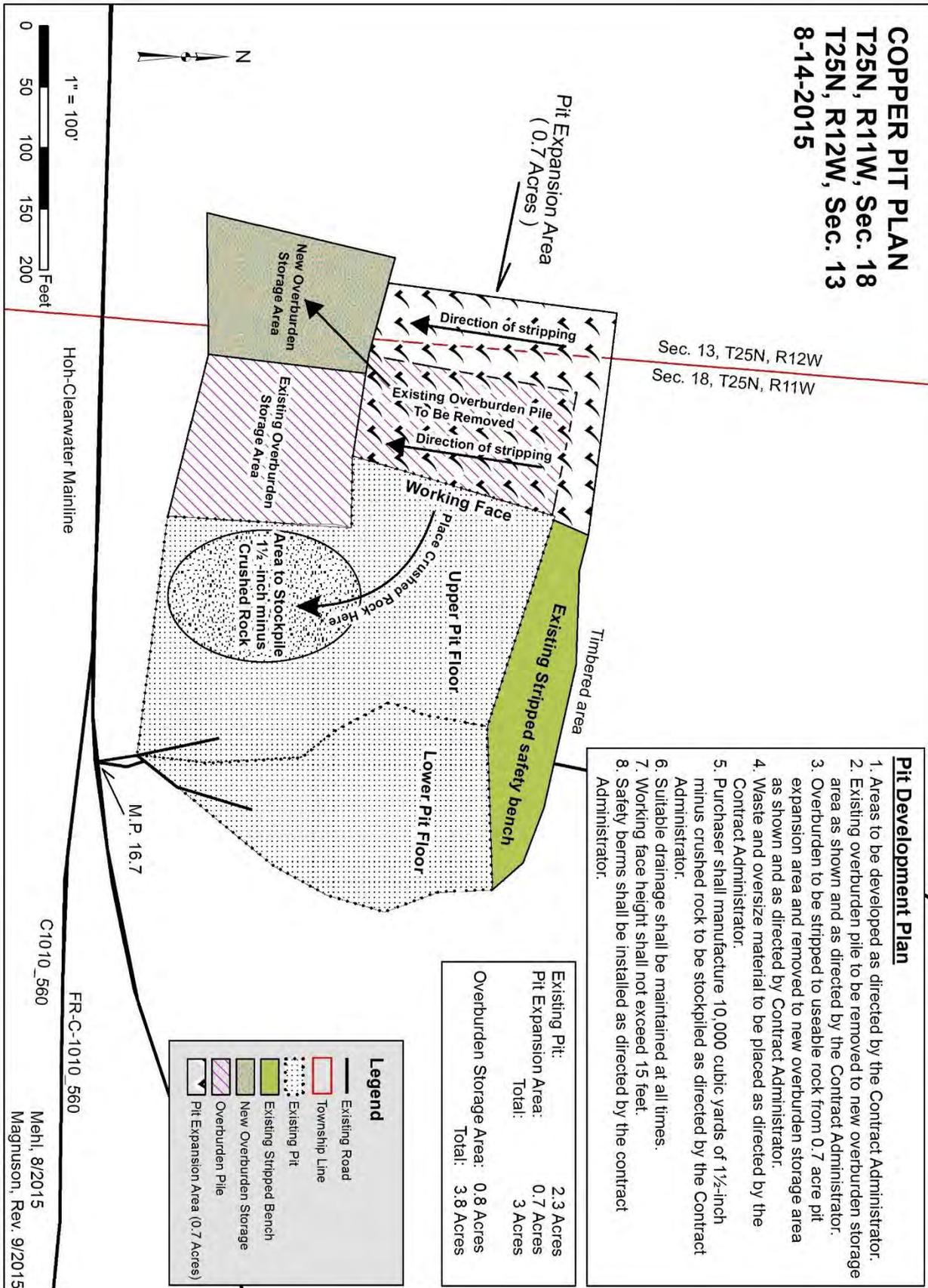
Road	Station	Min Stream Bed Width	N	W
11+00 Spur	7+73	5'	47 41.8960	124 9.6140
1+80 Spur	0+50	3'	47 41.8920	124 9.5280

BRUSHING DETAIL

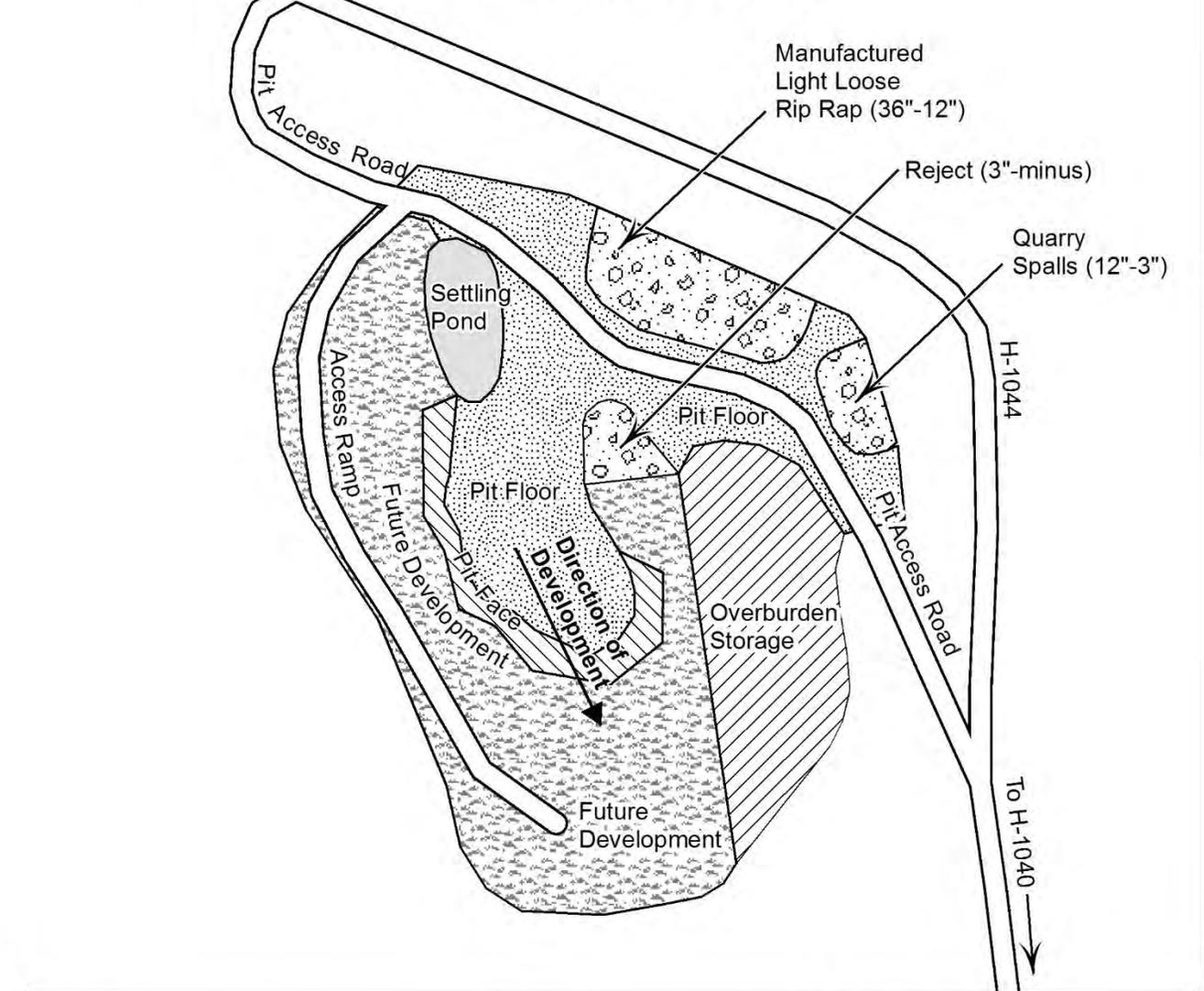


- 1) ALL VEGETATION WITHIN THE BRUSHING LIMITS SHALL BE CUT TO WITHIN 8' OF THE GROUND, UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR.
- 2) ALL BRUSH, TREES, LIMBS, ETC. SHALL BE REMOVED FROM THE ROAD SURFACE.
- 3) ALL BRUSH, TREES, LIMBS, ETC. THAT MAY RESTRICT THE FLOW OF WATER SHALL BE REMOVED FROM THE DITCH LINE.
- 4) ALL DEBRIS THAT MAY ROLL OR MIGRATE INTO THE DITCHLINE SHALL BE REMOVED.

COPPER PIT PLAN
T25N, R11W, Sec. 18
T25N, R12W, Sec. 13
8-14-2015



Red Creek Quarry T27N R11W Sec34



<h3 style="margin: 0;">Rock Source Development Plan</h3> <ol style="list-style-type: none"> 1. Areas to be developed as directed by the Contract Administrator. 2. Waste material and oversize material shall be placed as directed by the Contract Administrator. 3. Suitable drainage shall be maintained at all times. 4. Pit floor shall slope down 2% toward pit entrance. 5. Removal from existing stockpiles shall be as directed by the Contract Administrator. <p style="margin-top: 20px;">Not To Scale</p>	<h3 style="margin: 0;">Legend</h3> <ul style="list-style-type: none"> Pit Access Road Stockpiles Pit Face Overburden Storage Settling Pond Future Development Pit Floor
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8/31/15

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the cut slope/fill slope ratios. Remove slides from ditches and the roadway. Repair fill-failures in accordance with Clause 4-6 Embankment Slope Ratio, and with 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, unconcentrated manner.
- Blading shall not undercut the backslope or cut into geotextile fabric on the road.
- If required by the Contract Administrator, water shall be applied as necessary to control dust and retain fine surface rock.
- Surface material shall not be bladed off the roadway. Replace surface material when lost or worn away, or as directed by the Contract Administrator.
- Remove shoulder berms, created by grading, to facilitate drainage, except as marked or directed by the Contract Administrator.
- For roads with geotextile fabric: spread surface aggregate to fill in soft spots and wheel ruts (barrel spread) to prevent damage to the geotextile fabric.

Drainage

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

Preventative Maintenance

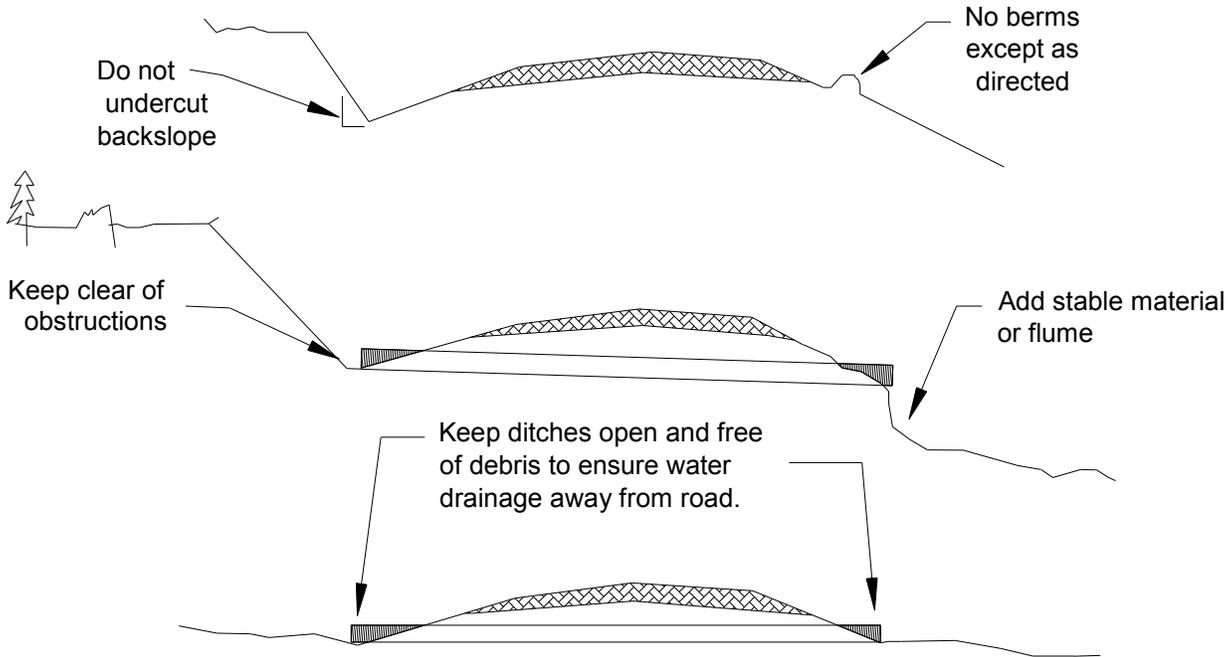
Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

Debris

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



DEPARTMENT OF NATURAL RESOURCES

FORM 9-87 (Rev. 01-08)

SUMMARY - Road Development Costs

SALE NAME: Snahapish Rise

CONTRACT#: 30-092836

REGION: Olympic

DISTRICT: Coast

LEGAL DESCRIPTION: Sec. 4, 5, 6, 9, T25N, R11W, Sec. 20, T26N, R11W

TOTAL SHEET #2-4

ROAD NAME:	C-2700 Tie	1+80 Spur	0+85 Spur	1-16 Spur	1+69 Spur	1+64 Spur	0-70 Spur	1+00 Spur	11-00 Spur	7+86 Spur	9+88 Spur	TOTAL:
ROAD TYPE:	Construction	Recon.	Recon.	Recon.	TOTAL							
NUMBER OF STATIONS:	2.15	1.80	0.85	1.16	1.69	1.64	0.70	1.00	11.00	7.86	9.88	39.73
SIDESLOPE:	5%	35%	15%	20%	50%	25%	20%	5%	30%	65%	40%	240.68
CLEARING AND GRUBBING:	\$236	\$301	\$77	\$104	\$342	\$196	\$63	\$120	\$2,034	\$2,274	\$1,654	\$7,402
ROAD BRUSHING:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EXCAVATION AND FILL:	\$242	\$486	\$134	\$209	\$2,111	\$332	\$126	\$113	\$2,475	\$7,074	\$3,779	\$17,080
ROAD GRADING:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$72	\$51	\$64	\$187
DITCH CLEANING/CONSTRUCTION:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$364	\$158	\$277	\$799
ROCK TOTALS (Cu. Yds.):												
Ballast:	6008	6,010	\$3,225	\$3,095	\$2,391	\$2,925	\$3,234	\$3,696	\$1,793	\$1,827	\$13,264	\$15,275
Surface:	1010	1,010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Oversize:	538	538	\$0	\$26	\$0	\$0	\$0	\$0	\$127	\$6,128	\$0	\$6,281
CULVERTS AND ELLUMES:	\$0	\$1,248	\$0	\$0	\$0	\$0	\$0	\$1,056	\$2,284	\$0	\$1,612	\$6,200
STRUCTURES:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
MISC. EXPENSES:	\$4	\$23	\$22	\$2	\$3	\$3	\$1	\$2	\$1,423	\$22,045	\$6,779	\$30,308
OVERHEAD:	\$297	\$414	\$210	\$259	\$455	\$338	\$159	\$249	\$1,763	\$4,240	\$2,131	\$10,516
TOTAL COSTS:	\$4,003	\$5,594	\$2,833	\$3,500	\$6,145	\$4,566	\$2,142	\$3,366	\$23,807	\$57,245	\$28,765	\$141,965
COST PER STATION:	\$1,862	\$3,108	\$3,333	\$3,017	\$3,636	\$2,784	\$3,059	\$3,366	\$2,164	\$7,283	\$2,911	\$3,573
MOBILIZATION:			\$15,350									
ROAD DEACTIVATION AND ABANDONMENT COSTS:			\$3,090									
Pre Work (Add'l Crashing Costs \$990@ \$6.50/cy):		\$58,435										
Pre Work Overhead:		\$4,675										
NOTE: This appraisal has no allowance for profit and risk.												
Sheet 1 of 5												
Turnished by: Craig Magnuson												

TOTAL (All Roads) = \$309,782
 SALE VOLUME MBF = 4,537
 TOTAL COST PER MBF = \$68.28
 TOTAL COST PER STATION = \$1,104.74
 Date: 09/10/2015
 Compiled by: Craig Magnuson

Snahapish_Rise_Road_Costs.xlsx

SUMMARY - Road Development Costs

SALE NAME: Snahapish Rise CONTRACT#: 30-092836 REGION: Olympic
 LEGAL DESCRIPTION: Sec. 4, 5, 6, 9, T25N, R11W; Sec. 20, T26N, R11W

DISTRICT: Coast

ROAD NAME:	C-2700	C-2710	C-2710.1	9+78 Spur20+45 Spu	C-2800
ROAD TYPE:	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul
NUMBER OF STATIONS:	138.07	25.34	1.00	9.78	20.45
SIDE SLOPE:	0%	0%	0%	0%	0%
CLEARING AND GRUBBING:	\$0	\$0	\$0	\$0	\$0
ROAD BRUSHING:	\$0	\$456	\$0	\$0	\$0
EXCAVATION AND FILL:	\$0	\$0	\$0	\$0	\$0
ROAD GRADING:	\$897	\$165	\$7	\$64	\$133
DITCH CLEANING/CONSTRUCTION	\$48	\$0	\$0	\$378	\$388
ROCK TOTALS (Cu. Yds.):					
Ballast:	3,628	1,166	814	7,614	7,880
Surface:	10,358	358	0	0	0
Oversize:	1,262	19	0	30	0
CULVERTS AND FLUMES:	\$1,040	\$936	\$1,056	\$1,040	\$0
STRUCTURES:	\$14,251	\$0	\$0	\$0	\$0
MISC. EXPENSES:	\$9,658	\$1,857	\$74	\$1,867	\$1,560
OVERHEAD:	\$3,703	\$446	\$176	\$989	\$896
TOTAL COSTS:	\$44,845	\$5,403	\$2,127	\$11,982	\$10,857
COST PER STATION:	\$325	\$213	\$2,127	\$1,225	\$531

Total
 Costs \$86,266
 Stations 240.68
 Cost/station \$358.43