WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

TIMBER NOTICE OF SALE

***SALE NAME**: FALLS CREEK* ***AGREEMENT NO**: 30-99249*

AUCTION: February 26, 2020 starting at 10:00 a.m., Olympic Region Office, Forks, WA **COUNTY:** Clallam

SALE LOCATION: Sale located approximately 30 miles east of Forks

PRODUCTS SOLD AND SALE AREA: All timber except trees with a band of blue paint or bounded out by leave tree area tags, timber that has been on the ground for five years or more (five years is defined by more than 1.5 inches of sap rot), any downed red cedar, bounded by timber sale boundary tags and the P-1100 road in Unit 1; timber sale boundary tags, the P-1200S road and timber type change in Units 2; timber sale boundary tags, timber type change and property line in Unit 3; timber sale boundary tags and Jailhouse Ln road in Unit 4; timber sale boundary tags in Units 5, 6 and 7; timber sale boundary tags and the P-1900 road in Units 8 and 9; all timber bounded by right-of-way boundary tags and the P-1110 road in Unit 10; on part(s) of Sections 13, 14, 23 and 24 all in Township 31 North, Range 13 West, Sections 19, 29 and 30 all in Township 32 North, Range 12 West, W.M., containing 215 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade 1P	2P	3P	SM	1S	2S	3S	4S	UT
Hemlock	14.7	6	2,528						775	1,387	354	12
Douglas fir	17.7	6	1,659						667	823	156	13
Spruce	20.6	5	1,621						1,074	452	94	1
Red alder	13		267						31	15	176	45
Silver fir	15.7		234							195	39	
Red cedar	21.1		123							108	15	
Sale Total			6,432									

MINIMUM BID: $705,000.00 **BID METHOD:** Sealed Bids

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

EXPIRATION DATE: October 15, 2022 **ALLOCATION:** Export Restricted

BID DEPOSIT: $70,500.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: 42% Cable / 58% Ground. No rubber tire skidders will be allowed unless skid trail and rutting requirements can be met and a harvest plan is submitted and approved. 30' Equipment Limitation Zones on all typed waters. Falling and Yarding will not be permitted from October 15 to April 15 unless authorized in writing by the Contract Administrator in Unit 1 and from October 1 through June 30 for Units 5-6. All falling and yarding in Units 4-6 must be completed by September 30, 2020.

TIMBER NOTICE OF SALE

ROADS: 19.50 stations of optional construction. 25.00 stations of optional reconstruction. 764.15 stations of optional prehaul maintenance. 44.50 stations of decommissioning. Decommissioning shall be completed by the Purchaser on the P-1200 New from station (0+00 to 19+50) by September 30, 2020 and the 25+00 Spur from station (0+00- 25+00).

On the P-1200 New road, all activities are restricted from October 1 to June 30. Purchaser shall complete all activities between July 1, 2020 to September 30, 2020. All activities are restricted from October 15 to April 15 on the P-1100 from stations (3+95-33+50) and the 25+00 spur, unless authorized in writing by the Contract Administrator. All activities in Units 4-6 must be completed by September 30, 2020.

ACREAGE DETERMINATION

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

FEES: Within seven days of sale date, Purchaser must provide Department of Natural Resources with checks made payable to Rayonier Operating Company, LLC in the amount of $2,823.00, Dale Fincher in the amount of $500.00 and Rod Konopaski in the amount of $1,000.00 for road use permits. $109,344.00 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 locked gates on the P-1200S, Jailhouse Ln., and P-1000. Contact Olympic Region Dispatch Center at 360-374-2800 to check out an AA-1 key.

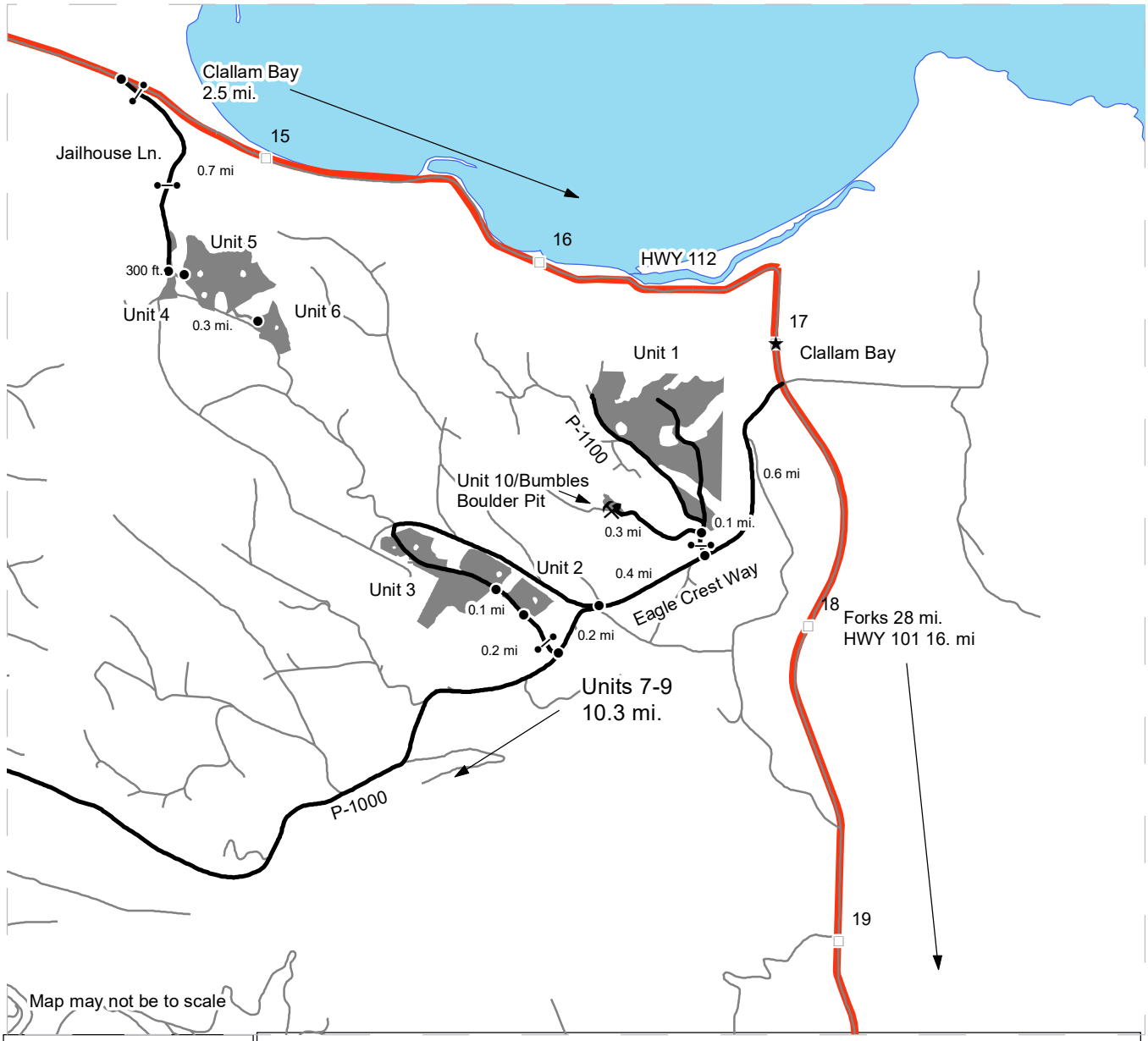
All work on the P-1200 New must be completed by September 30, 2020.

This sale has hazard abatement requirements, see map for details.

DRIVING MAP

SALE NAME: FALLS CREEK
AGREEMENT#: 30-099249
TOWNSHIP(S): T31R13W, T32R12W
TRUST(S): State Forest Transfer (1)

REGION: Olympic Region
COUNTY(S): Clallam
ELEVATION RGE: 120'-1960'



- Timber Sale Unit
- Haul Route
- Milepost Markers
- Highway 112
- Distance Indicator
- Gate (AA1 lock)
- Rock Pit
- Town
- Other Roads

DRIVING DIRECTIONS:

Unit 1: From Clallam Bay, drive west on Eagle Crest Way for 0.6 mi. Turn right on the P-1100 and continue for 0.1 mi. and unit 1 will be on the right.
Unit 2: From Clallam Bay, drive west on Eagle Crest Way for 1 mi. Turn left on the P-1000 and continue for 0.2 mi. Take a right on the P-1200 and continue through the gate for 0.2 mi and unit 2 will be on the right.
Unit 3: From unit 2, continue for 0.1 mi. and unit 3 will be on the right.
Unit 4: From Clallam Bay, drive west on HWY 112 for 2.5 mi. Take a left on Jailhouse ln. Continue for 0.7 mi through two gates (AA1) and unit 4 will be on the left.
Unit 5: From unit 4, walk east through unit 4 for 300 feet and unit 5 will be on the left and right.
Unit 6: From the beginning of unit 5, walk east through unit 5 for 0.3 mi. and unit 6 will be on the left and right.
Unit 10/Bumble's Boulder Pit: From the beginning of unit 1 and P-1100/P-1110 junction, take a left on the P-1110 and continue for 0.3 mi and unit 10 will be on the right.

N

Prepared By: bgar490

Modification Date: bsis490 8/22/2019

DRIVING MAP

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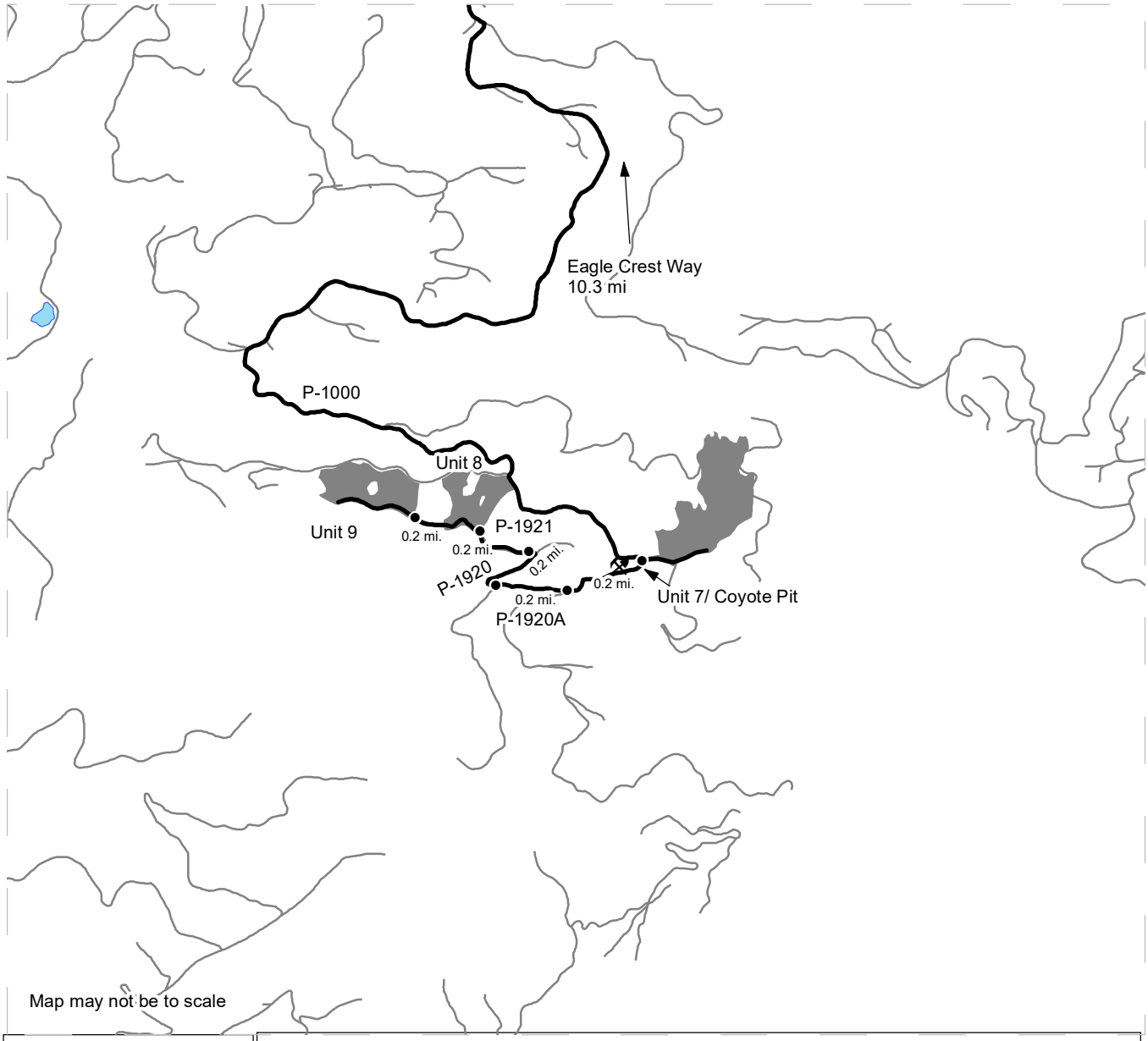

Timber Sale Unit
Haul Route
Distance Indicator
Rock Pit
Other Roads

DRIVING DIRECTIONS:

Unit 7/Coyote Pit: From Eagle Crest way, turn left on the P-1000. Continue for 10.3 mi and unit 7 will be on the left and Coyote Pit will be on the right.
Unit 8: From unit 7, continue on the P-1000 for 0.2 mi.
Stay right on the P-1920A for 0.2 mi and continue right on the P-1920. Continue for 0.2 mi to the P-1921 and turn left. Continue 0.2 miles on the P-1921 and Unit 8 will be on the right and left.
Unit 9: From unit 8, continue on the P-1921 for 0.2 mi. and unit 9 will be on the right and left.

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Modification Date: bsis490 8/22/2019

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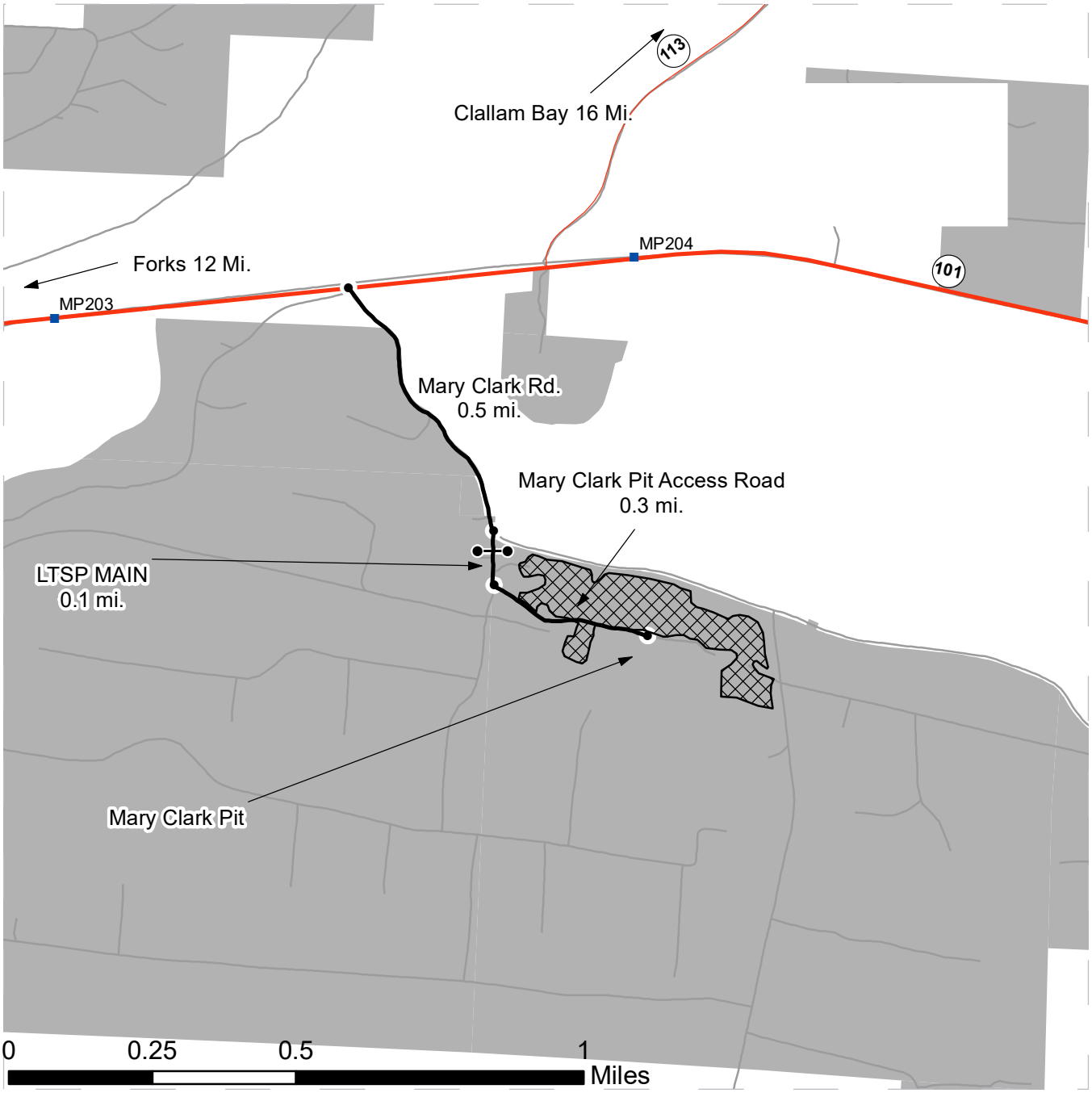
COUNTY(S): CLALLAM



Haul Route Other Route Milepost Markers Distance Indicator Gate (AA1) DNR Managed Land Mary Clark Pit	DRIVING DIRECTIONS: From Forks, WA, travel north on US 101 12 mi.Turn right on Mary Clark Rd. Continue for 0.5 mi., then turn right on LTSP Main road. After 0.1 mi., turn left on the Mary Clark Pit Access Road and continue for 0.3 mi. to the Mary Clark Pit.

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Prepared By: bsis490 Creation Date: 01/19/2016 Modification Date: 3/13/2018

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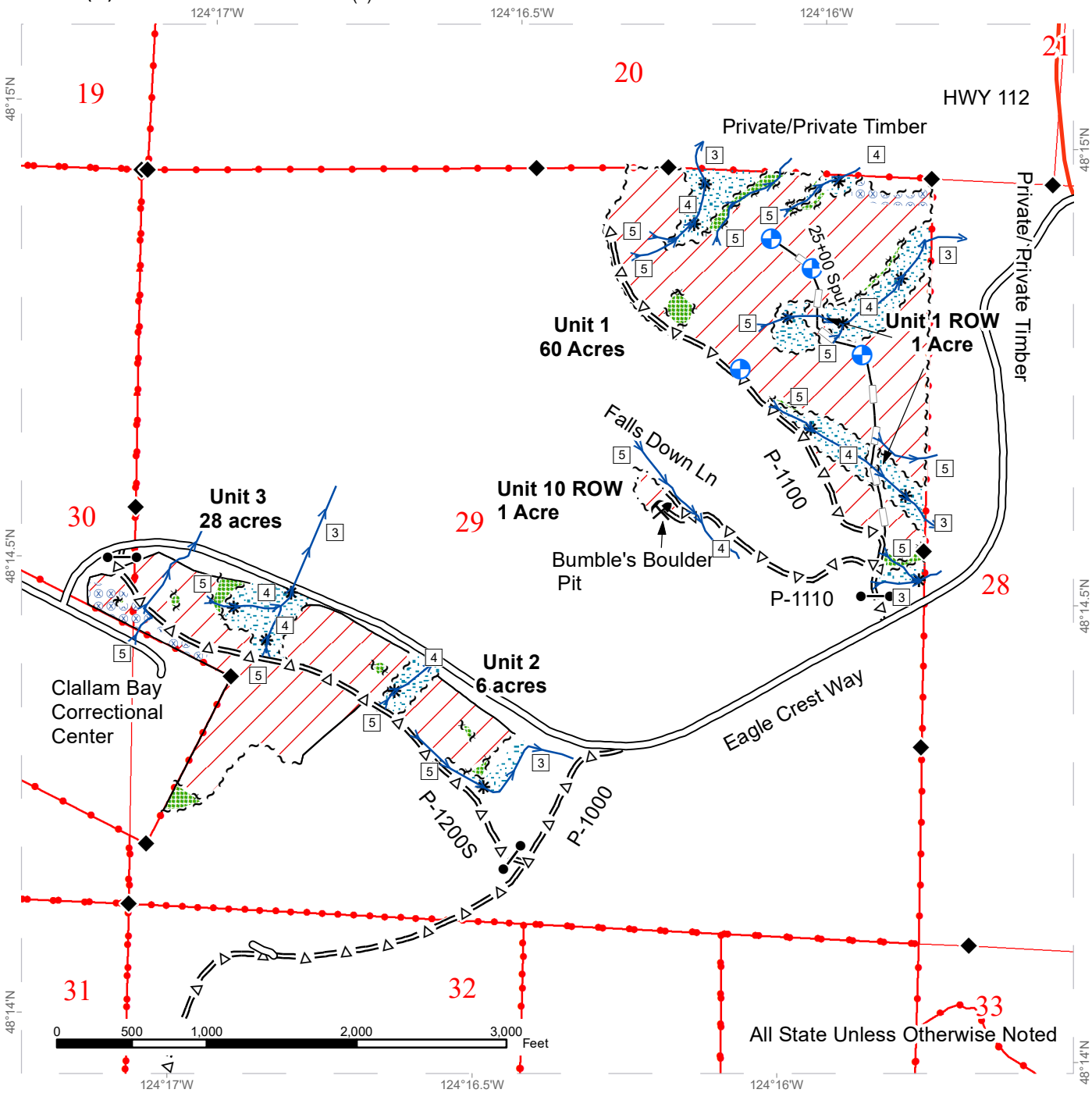

Variable Retention Harvest	Existing Roads	Survey Monument
Sale Boundary Tags	Optional Pre-Haul Maintenance	DNR Managed Lands
Leave Tree Tags	Optional Reconstruction	Hazard Abatement Area
Right of Way Tags	Highway	Gate
Timber Type Change	Streams	Rock Pit
Leave Tree Area	Stream Type	Proposed Landing
Riparian Mgt Zone	Stream Type Break	Public Land Survey Sections

N

Prepared By: bsis490

Modification Date: bsis490 10/7/2019

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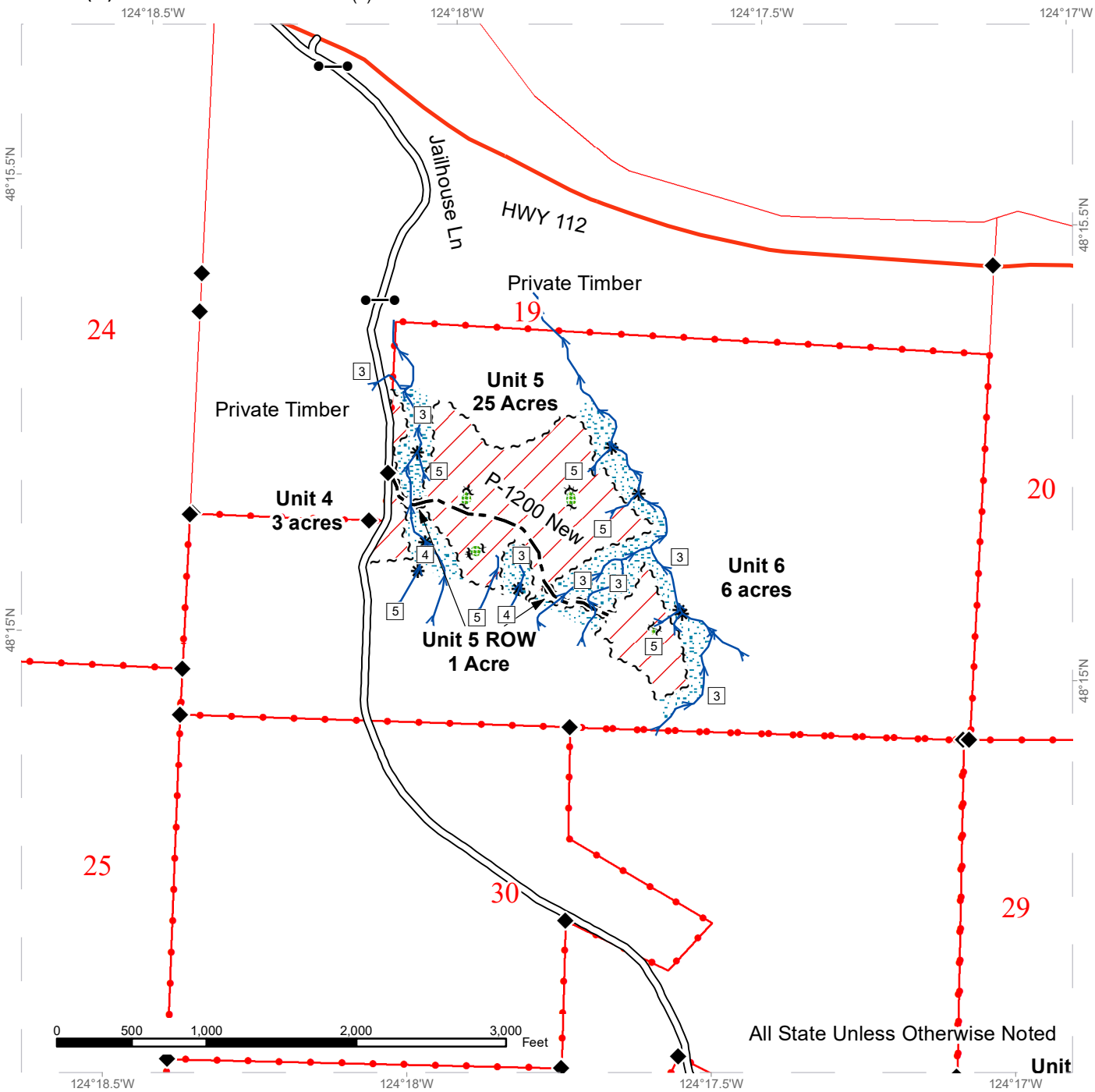

Variable Retention Harvest	Optional Construction	DNR Managed Lands
Sale Boundary Tags	Highway	Gate
Leave Tree Tags	Streams	Public Land Survey Sections
Leave Tree Area	Stream Type	
Riparian Mgt Zone	Stream Type Break	
Existing Roads	Survey Monument	

N

Prepared By: bsis490

Modification Date: bsis490 10/7/2019

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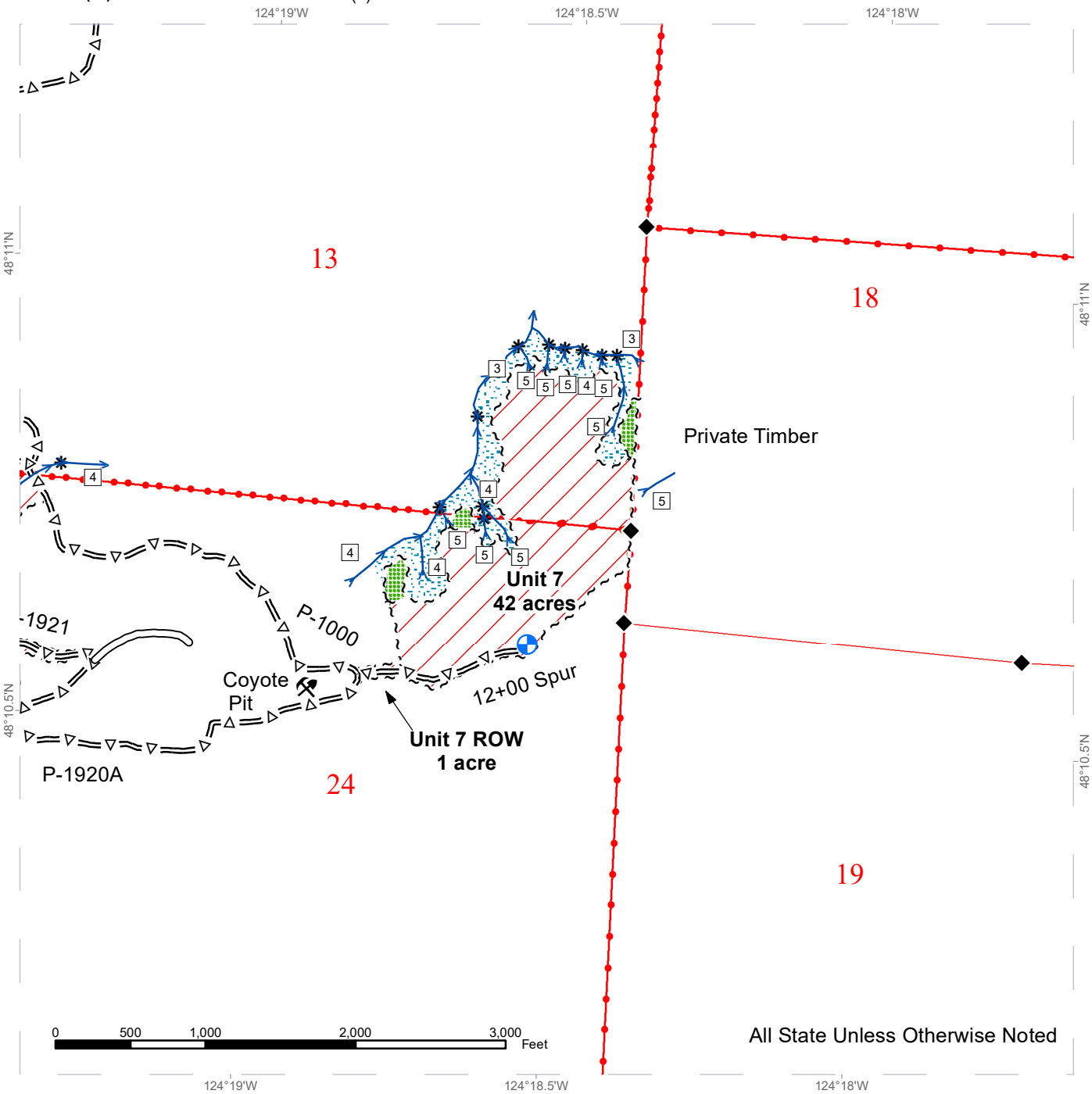

Variable Retention Harvest	Existing Roads	Survey Monument
Sale Boundary Tags	Optional Pre-Haul Maintenance	DNR Managed Lands
Leave Tree Tags	Streams	Rock Pit
Leave Tree Area	Stream Type	Proposed Landing
Riparian Mgt Zone	Stream Type Break	Public Land Survey Sections

N

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Modification Date: bsis490 10/7/2019

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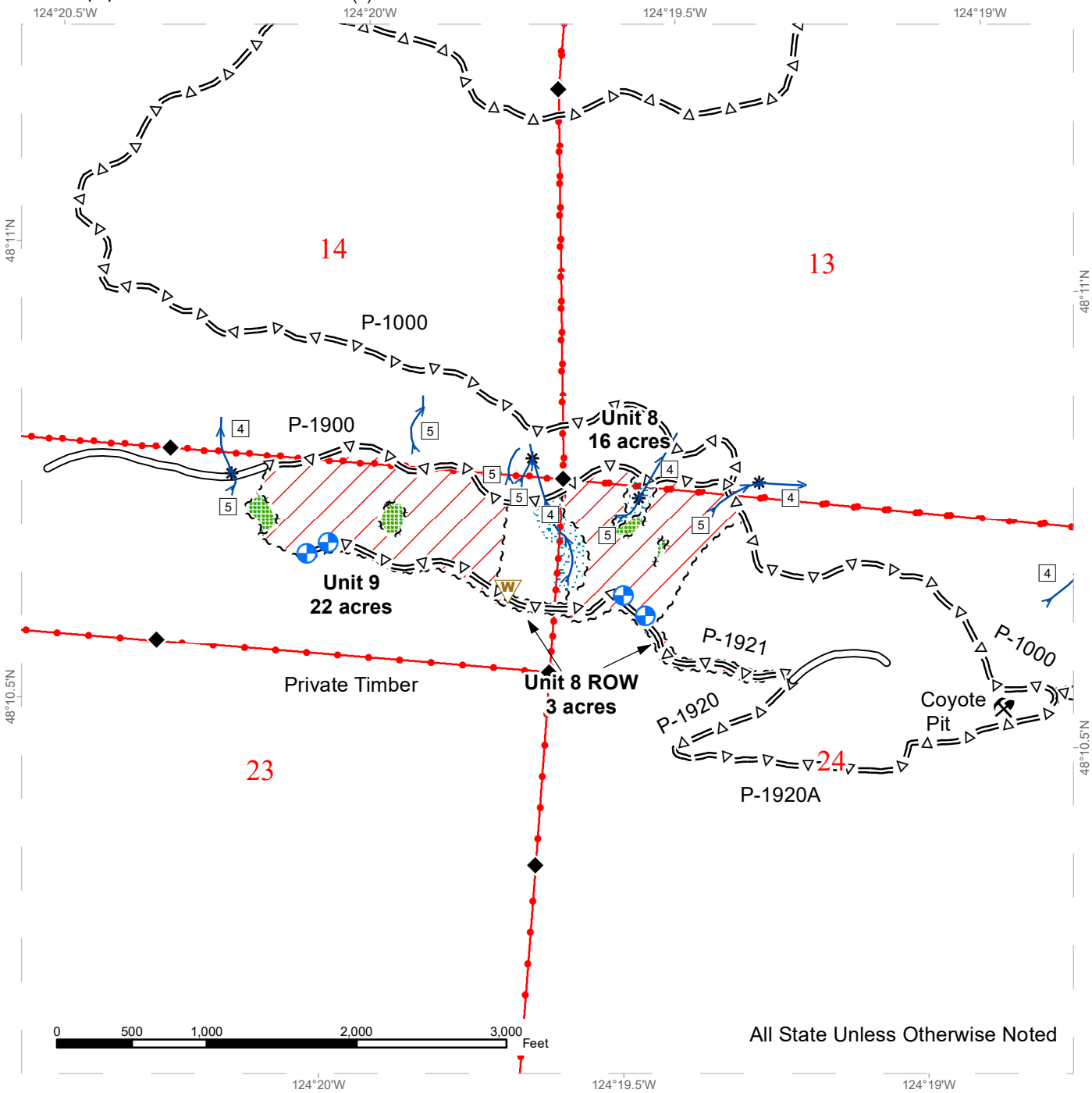

Variable Retention Harvest
Sale Boundary Tags
Leave Tree Tags
Leave Tree Area
Riparian Mgt Zone
Existing Roads
Optional Pre-Haul Maintenance
Streams
Stream Type
Stream Type Break
Survey Monument
DNR Managed Lands
Rock Pit
Proposed Landing
Waste Area
Public Land Survey Sections

N

Prepared By: bsis490

Modification Date: bsis490 10/7/2019

LOGGING PLAN MAP

SALE NAME: FALLS CREEK
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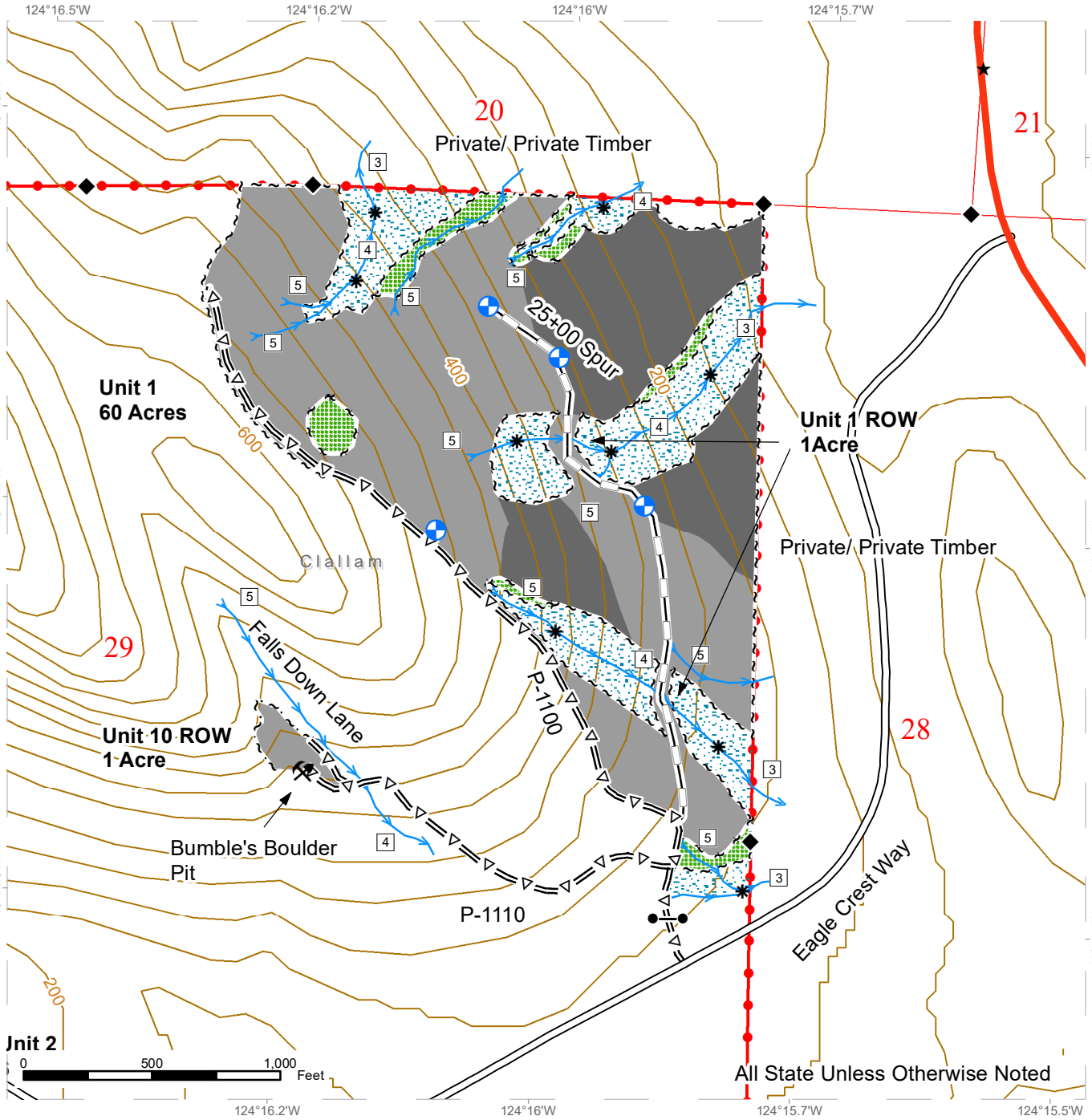

Ground	Optional Pre-Haul Maintenance	Riparian Mgt Zone
Cable	Optional Reconstruction	Proposed Landing
Timber Sale Boundary Tags	Highway	DNR Managed Lands
Leave Tree Tags	Streams	Survey Monument
Right of Way Tags	Stream Break	Public Land Survey Sections
Existing Roads	Leave Tree Area	

N

Prepared By: bsis490

Modification Date: 7/19/19

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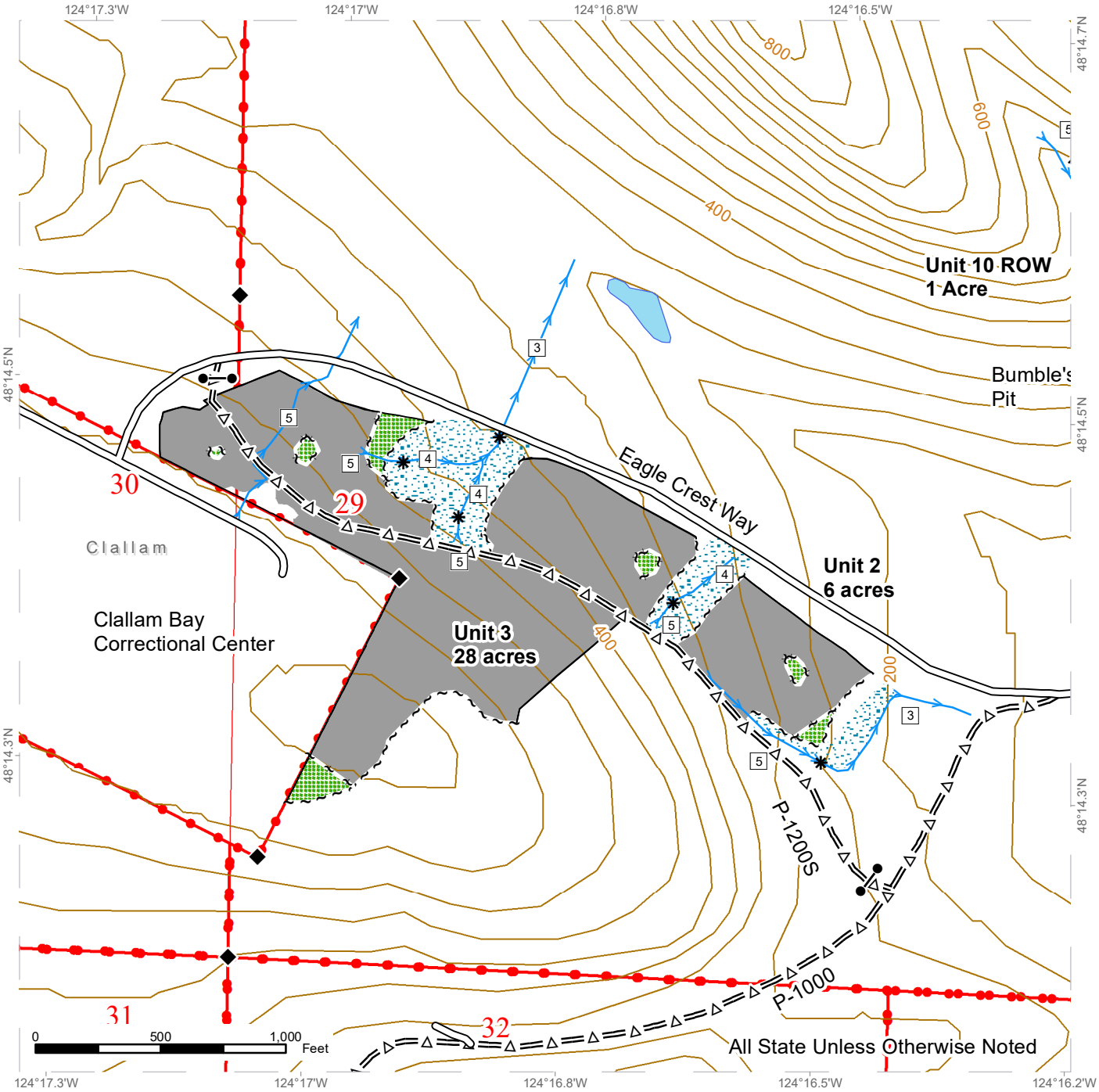

Ground
Timber Sale Boundary Tags
Timber Type Change
Leave Tree Tags
Existing Roads
Optional Pre-Haul Maintenance
Streams
Stream Break
Leave Tree Area
Riparian Mgt Zone
DNR Managed Lands
Survey Monument
Public Land Survey Sections

N

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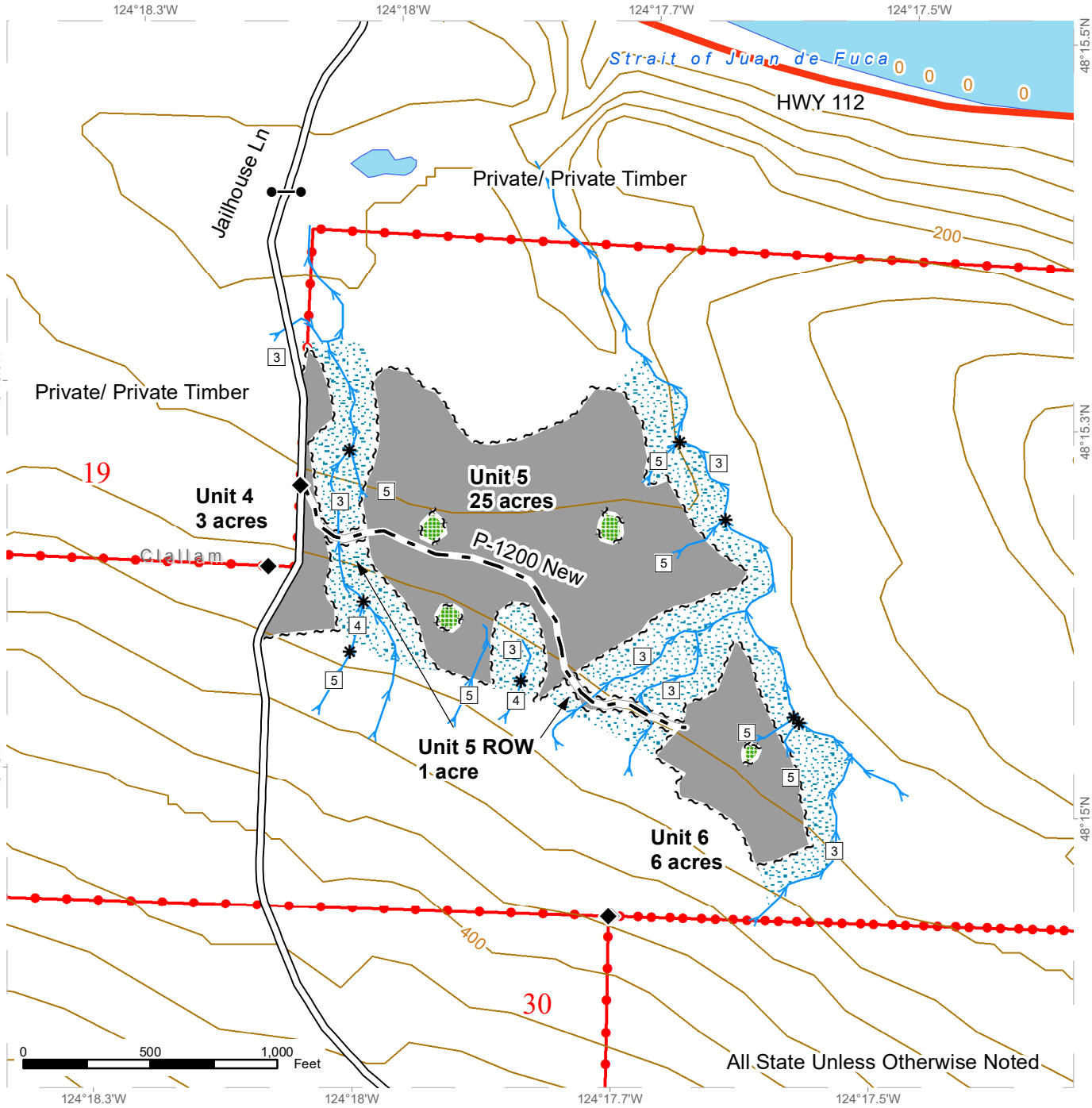

Ground
Timber Sale Boundary Tags
Leave Tree Tags
Existing Roads
Optional Construction
Highway
Streams
Stream Break
Leave Tree Area
Riparian Mgt Zone
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Survey Monument
Public Land Survey Sections

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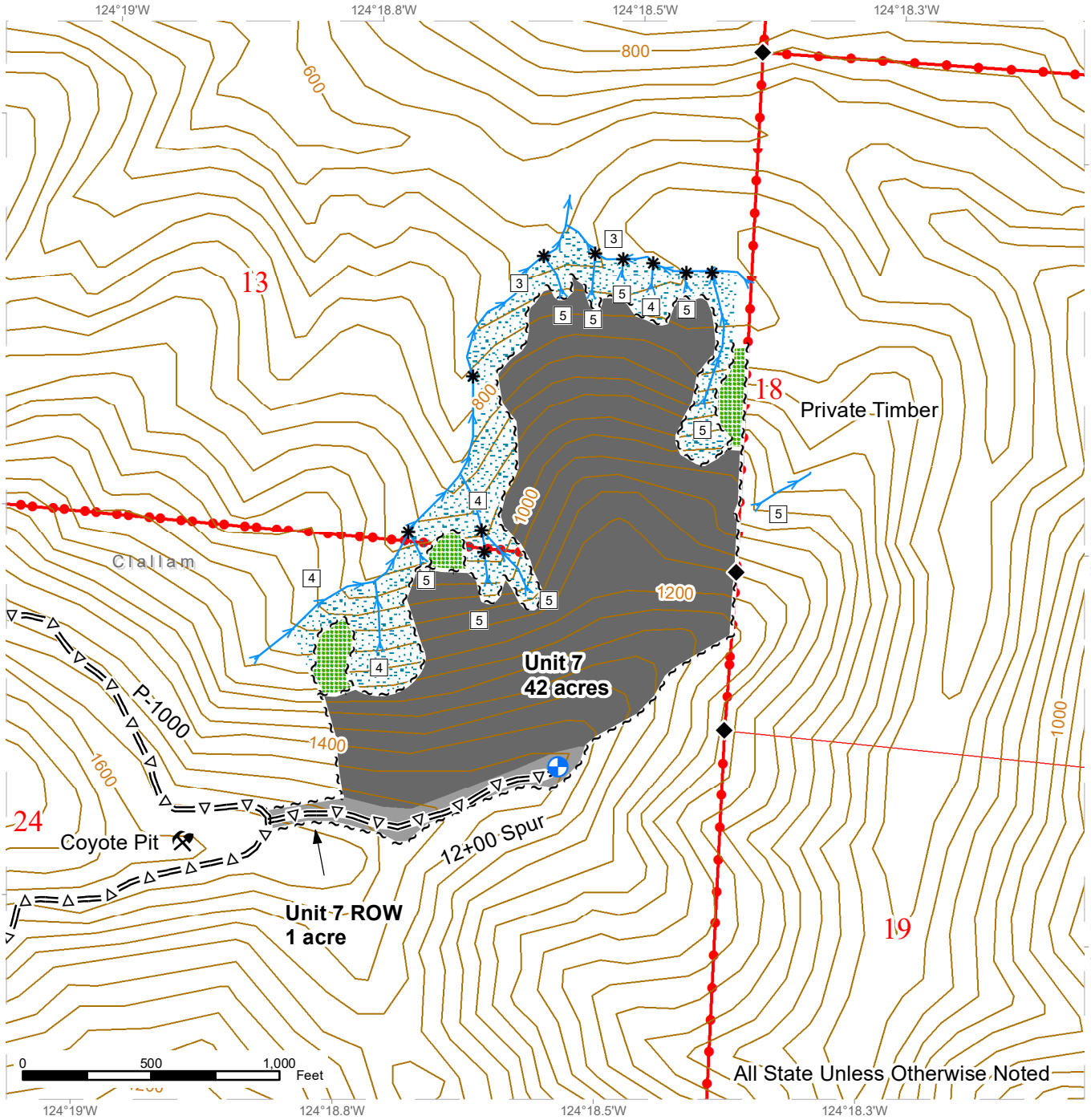

Ground	Stream Break	Public Land Survey Sections
Cable	Leave Tree Area	
Timber Sale Boundary Tags	Riparian Mgt Zone	
Leave Tree Tags	Proposed Landing	
Optional Pre-Haul Maintenance	DNR Managed Lands	
Streams	Survey Monument	

N

Prepared By: bsis490

Modification Date: 7/19/19

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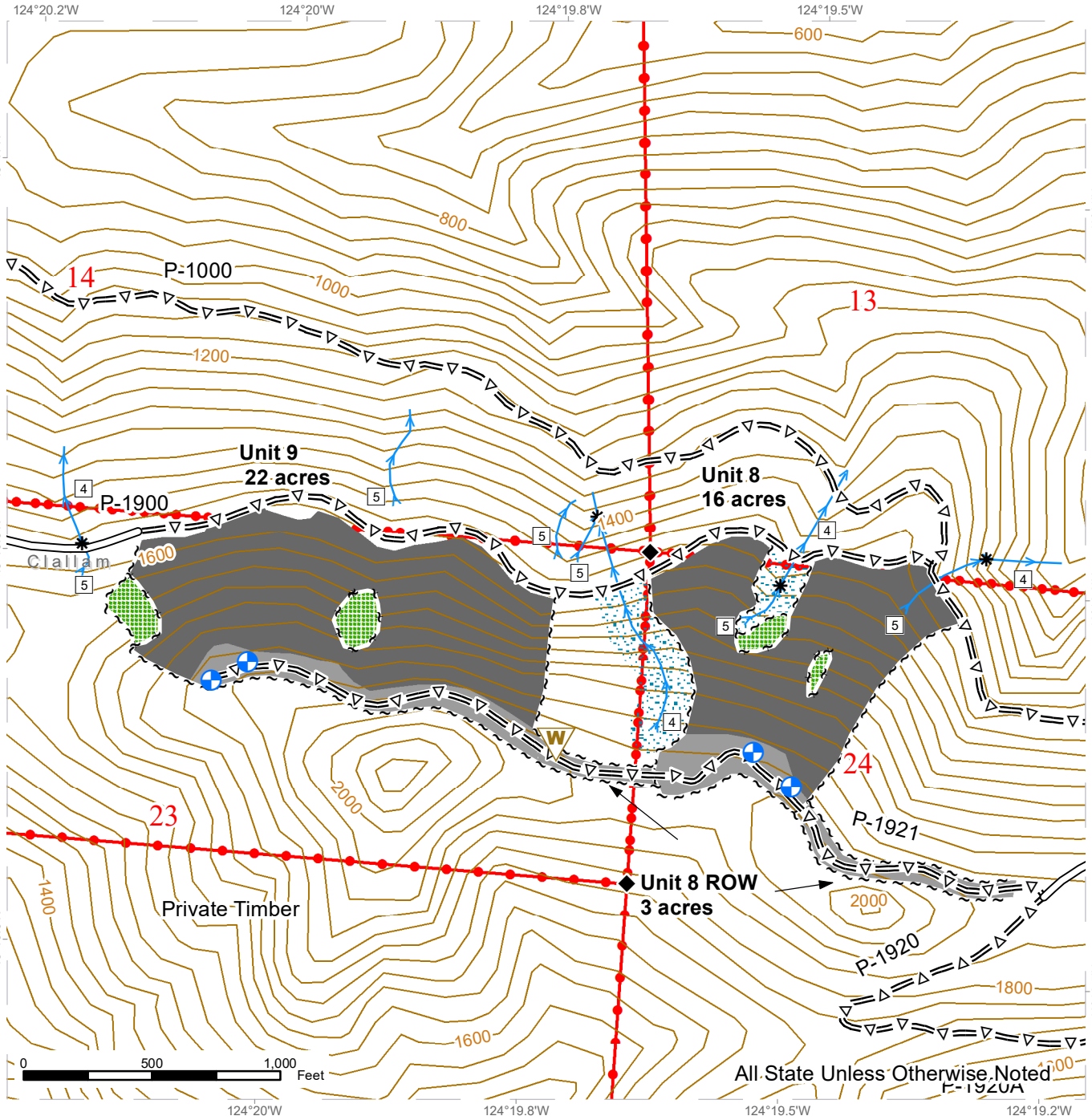


Prepared By: bsis490

Modification Date: 7/19/19

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-099249

SALE NAME: FALLS CREEK

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on February 26, 2020 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber except trees with a band of blue paint or bounded out by leave tree area tags, timber that has been on the ground for five years or more shall be left undisturbed and not yarded. Five years is defined by more than 1.5 inches of sap rot, bounded by timber sale boundary tags and the P-1100 road in Unit 1; timber sale boundary tags, the P-1200S road and timber type change in Units 2; timber sale boundary tags, timber type change and property line in Unit 3; timber sale boundary tags and Jailhouse Ln road in Unit 4; timber sale boundary tags in Units 5, 6 and 7; timber sale boundary tags and the P-1900 road in Units 8 and 9; all timber bounded by right-of-way boundary tags and the P-1110 road in Unit 10; in no instance shall downed red cedar be removed from the sale area., located on approximately 215 acres on part(s) of Sections 13, 14, 23, and 24 all in Township 31 North, Range 13 West, Sections 19, 29, and 30 all in Township 32 North, Range 12 West W.M. in Clallam 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-COAST DISTRICT
B	GREEN TREE RETENTION PLAN - COAST

G-031 Contract Term

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

G-040 Contract Term Adjustment - No Payment

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

a. Road and bridge failures which deny access.

b. Access road closures imposed by road owner.

c. Excessive suspensions as provided in clause G-220.

d. Regulatory actions not arising from Purchaser's failure to comply with this contract which will prevent timber harvest for a period less than 6 months.

G-051 Contract Term Extension - Payment

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

a. A written request for extension of the contract term must be received prior to the expiration date of the contract.

b. Completion of all required roads and compliance with all contract and regulatory requirements.

c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the total contract price.

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

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

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

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

e. Payment of $727.00 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 via endorsement on all general liability, excess, umbrella, and property insurance policies.

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

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

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

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

that include, but are not limited to, fire suppression expenses, accidental timber trespasses, and wildfire property damage with limits of not less than $2,000,000.00 each occurrence.

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

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

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

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

Business Auto Policy (BAP). Purchaser shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit not less than $1,000,000.00 per accident. Such insurance shall cover liability arising out of "Any Auto". Business auto coverage shall be written on ISO form CA 00 01, or substitute liability form providing equivalent coverage. If necessary the policy shall be endorsed to provide contractual liability coverage and cover a "covered pollution cost or expense" as provided in the 1990 or later editions of CA 00 01. Purchaser waives all rights against State for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

G-160 Agents

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

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

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

G-210 Violation of Contract

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

State may terminate the rights of Purchaser under this contract and collect damages.

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

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

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

G-220 State Suspends Operation

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

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

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

If it reasonably appears that the damage that the State is suffering, or can reasonably be expected to suffer if the operation is allowed to continue, will prevent harvest for a period that will exceed 6 months, and Purchaser has complied with this contract, the provisions of clause G-066 shall govern just as if the harvest was prevented by an applicable foreign or domestic governmental regulation or order.

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

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

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

All equipment owned or in the possession of Purchaser, its employees, agents, or invitees, including independent contractors, shall be removed from the sale area and other State land by the termination date of this contract. Equipment remaining unclaimed on State land 60 days after the expiration of the contract period is subject to disposition as provided by law. Purchaser shall pay to the State all costs of moving, storing, and disposing of such equipment. The State shall not be responsible for any damages to or loss of the equipment or damage caused by the moving, storing or disposal of the equipment.

G-280 Operating Release

An operating release is a written document, signed by the State and Purchaser, indicating that Purchaser has been relieved of certain rights or responsibilities with regard to the entire or a portion of the timber sales contract. Purchaser and State may agree to an operating release for this sale, or portion of this sale, prior to the contract

expiration, when all contract requirements pertaining to the release area have been satisfactorily completed. Upon issuance of a release, Purchaser's right to cut and remove forest products on the released area will terminate.

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; P-1000, P-1100, P-1200S, 25+00 Spur, P-1110, P-1200 New, P-1900, P-1900A, P-1920, P-1921, 12+00 Spur, Falls Down Lane, Jailhouse Ln., Mary Clark Pit Access Road, FS-2902, and the LTSP Main. 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 P-1000 and Jailhouse Ln., 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:

RUP-55-098397- Ron Konopaski
RUP-55-098399-Dale Fincher

RUP-55-098398-Rayonier
Easement-55-002316-Department of Corrections

G-430 Open Fires

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

G-450 Encumbrances

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

DATA MISSING

Section P: Payments and Securities

P-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 $167,232.00. The total contract price consists of a $0.00 contract bid price plus $167,232.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Falling and Yarding will not be permitted from October 15 to April 15 in Unit 1 and from October 1 to June 30 in Units 5 and 6, unless authorized in writing by the Contract Administrator.

H-013 Reserve Tree Damage Definition

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

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

a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 100 square inches.

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

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

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

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

H-017 Preventing Excessive Soil Disturbance

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

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for utilizing rubber tired 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 and removed using cable or ground methods, with rubber tire skidders allowed only if skidding and rutting requirements can be met and a harvest plan is submitted and approved. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities. Purchaser shall fully suspend one end of logs during logging operations.

H-130 Hauling Schedule

The hauling of forest products will not be permitted on the P-1200 New road from October 1 to June 30 and on the 25+00 Spur road and the P-1100 from stations 3+95-33+50 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. Purchaser shall immediately repair all gate damage resulting from operations to an equal or better condition than existed at the time of the sale.

2. While felling timber, two warning signs must be posted on the P-1000, Eagle Crest, Jailhouse Ln, and P-1100 roads.

3. Yarding equipment shall not cross live streams without a FPHP.

4. 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.

5. All timber haul, falling and yarding and road work tributary in Units 4-6, must be completed by September 30, 2020.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

H-260 Fall Leaners

Trees >6" DBH that have been pushed over in falling or skidding operations shall be felled.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 8/30/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on the P-1100, 25+00 Spur, P-1110, P-1200 New, P-1200S, P-1921, 12+00 Spur and Falls Down Lane. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on Mary Clark Pit Access Rd, FS-2902, LTSP Main, Jailhouse Ln., P-1000, P-1900, P-1900A, P-1920 and all other roads not listed in clause C-050. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-080 Landing Locations Approved Prior to Construction

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

C-140 Water Bars

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

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-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

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 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 30' of any typed water 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 without prior approval from the Contract Administrator.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 10 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain &

recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

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

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

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

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

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

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

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

The following clauses provide for payments by Purchaser to the State for breaches of the terms of this contract other than failure to perform. These payments are agreed to

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

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

D-041 Reserve Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-013, Reserve Tree Damage Definition, and when the Contract Administrator determines that a suitable replacement for a damaged reserve tree is not possible, the damaged trees result in substantial injury to the State. The value of the damaged reserve trees at the time of the breach is not readily ascertainable. Therefore, the Purchaser agrees to pay the State as liquidated damages at the rate of $1,000.00 per tree for all damaged reserve trees that are not replaced in Units 1-9.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

_____
Purchaser

_____
Print Name

Date: _____
Address:

_____
Mona Griswold
Olympic Region Manager

Date: _____

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

STATE OF _____)
)
COUNTY OF _____)

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

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

Schedule A
SLASH PILING SPECS-COAST DISTRICT

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.

7. Slash shall be placed in skid roads or ahead of machinery. Slash which accumulates on landings and/or roads shall be lopped and scattered within the harvest area or as designated by the Contract Administrator.

8. Slash generated during cable yarding shall be stacked in dirt free piles and shall not block roads or interfere with functioning of drainage structures, ditches, or stream channels.

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	32	6	448	480
2	4	2	44	48
3	22	5	202	224
4	24	0	0	24
5	31	3	169	200
6	18	1	30	48
7	20	3	316	336
8	25	2	103	128
9	10	2	166	176

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Olympic

Timber Sale Name: Falls Creek

Application Number: 30 099249

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 1,950 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 2,500 **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: 4,450 **linear feet**
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 76,415 **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 contact. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.
(Revised 1/17)

DNR Timber Sale Trust Distribution Form

Sale Name	Agreement Number
FALLS CREEK	99249

Region	District	Unit
Olympic	OZETTE	

Legal Location

Section(s)	19, 29, 30	Township	32	Range	12	E/W	W
Section(s)	13, 14, 23, 24	Township	31	Range	13	E/W	W

Auction Date	Contract Expiration Date	Sale Acres
12/18/2019	10/15/2022	215

Sale Class	Sale Method	Stand Origin Year
Board	Lump Sum	1969

FPA Number	FPA Renewal Date

Sale Volume Ratio

Conifer		
Spruce	1621	25.20%
Silver fir	234	3.60%
Red cedar	123	1.90%
Hemlock	2528	39.30%
Douglas fir	1659	25.80%
Totals For Conifer	**6165**	**95.80%**
Hardwood		
Red alder	267	4.20%
Totals For Hardwood	**267**	**4.20%**
Total	**6432**	**100.00%**

Harvest Type

Harvest Type	% of Sale
Variable Retention Harvest	100.00%
Total	**100.00%**

Trust Distribution Table

County	1	Totals						
5 - Clallam	100.00%	100.00%						
		100.00%						

DNR Timber Sale Trust Distribution Form

Trust Levy Codes

5 - Clallam	
302	100.00%
TOTAL:	100.00%

Instructions:

To ensure proper distribution of funds to the trust beneficiaries of this sale, the State Lands Assistant must review the data in NaturE and sign in the space provided below.

NaturE Data Reviewed by:

X

(Print Name) (Signature)

Date:

DNR Timber Sale Trust Distribution Form

Trust Distribution Details

5-Clallam

Trust	Harvest Area	Acres
1	1	61.00
	2	6.00
	3	28.00
	4	3.00
	5	26.00
	6	6.00
	7	43.00
	8	19.00
	9	22.00
	10	1.00
Total for 1		215.00

Total For 5-Clallam 215.00

Total Acres 215.00

State of Washington
Department of Natural Resources
Timber Bill of Sale Extension Charges

Extension Per Acre Charge Worksheet

Agreement No.: 30-099249
Sale Name: Falls Creek

Region: Olympic

Sale Method: Lump Sum

Harvest Type: Evenaged

Geographic Area: Western Washington

Site Class (westside only): III

	Westside PC/Thin		Westside Evenage		Eastside PC/Thin		Eastside Evenage	
	scale	lump	scale	lump	scale	lump	scale	lump
1. Growth Loss				15.00				
2. Additional Growth				677.82				
3. Loss thru Disrupt.				33.89				
Per Acre Charge	**$0.00**	**$0.00**	**$0.00**	**$726.71**	**$0.00**	**$0.00**	**$0.00**	**$0.00**

Total Per Acre Charge: **$727.00**

This figure to be Input into the G-050 or G051 clause.

Revision Date: 08/29/2018

Cruise Narrative

Sale Name: Falls Creek	**Region:** Olympic
Agreement #: 30-099249	**District**: Coast
Lead Cruiser: Kevin Peterson	**Completion Date**: 8/13/2019
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	61	Y	
2	6	Y	
3	28	Y	
4	3	Y	
5	26	Y	
6	6	Y	
7	43	Y	
8	19	Y	
9	22	Y	
10	1	Y	
Total	215	Y	

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	62.50/40	4.5'	290 X 290	1:2	30
2	VP	54.44/40	4.5'	290 X 290	All	3
3	VP	54.44/40	4.5'	290 X 290	1:1	15
4	VP	54.44/40	4.5'	290 X 290	All	2
5	VP	54.44/40	4.5'	290 X 290	1:1	13
6	VP	54.44/40	4.5'	290 X 290	All	3
7	VP	54.44/40	4.5'	290 X 290	1:1	21
8	VP	54.44/40	4.5'	290 X 290	1:1	10
9	VP	54.44/40	4.5'	290 X 290	1:1	11
10	VP	20	4.5'	290 X 290	All	1

Sale/Cruise Description:

Minor species cruise intensity	Minor species sampled using same cruise plots. Red Cedar and Red Alder were cruised at a 40 BAF					
Minimum cruise spec:	40% of Form Factor at 16 ft. D.O.B or 5 inch top.					
Average ring count:	**DF** =	6	**WH** =	6	**SS** =	5

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

Sort Description:	**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".) **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.

Field Observations:

Falls Creek is a 9 unit sale with ROW located near Clallam Bay and is off of the P-1000 road system and Jailhouse Ln. The Sale has a total volume of 6,432. Access to all units is pretty good and an AA1 key is needed.

The sale is comprised of 39% Western Hemlock, 26% Douglas-fir and 25% Sitka Spruce; with traces of Red Alder, Red Cedar and Pacific Silver-fir. The average WH has a DBH of 14.7" and a bole height of 61'. The average DF has a DBH of 17.7" and a bole height of 74'. The average SS has a DBH of 20.6 and bole height of 74'. Common defects were sweep, spike knots and forked tops.

This sale is 46% cable harvest and 54% ground based.

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T000 R000 S00 TyU1
THRU
T000 R000 S00 TyU9

Project: **FALLS**

Acres **215.00**

Page **1**
Date **8/13/2019**
Time **3:03:21PM**

Spp	S T	So Gr rt	ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU														2	6		0.00	3.2
DF	D	2S		40	8.2	3,379	3,101	667			97	3				100	40	13	245	1.80	12.7
DF	D	3S		49	1.6	3,887	3,826	823	27	73					4	96	39	8	99	0.79	38.7
DF	D	4S		10	2.6	745	725	156	100				33	26	24	17	24	5	26	0.31	28.2
DF	D	UT		1		62	62	13	100				100				15	6	13	0.22	4.7
DF	**Totals**			26	4.4	8,073	7,715	1,659	23	36	39	1	4	2	4	89	32	8	88	0.84	87.4
SS		CU	CU														2	7		0.00	2.6
SS	D	2S		66	5.4	5,282	4,998	1,074			65	35				100	40	14	282	2.04	17.7
SS	D	3S		28	3.1	2,167	2,100	452	22	78				4	6	91	38	8	103	0.89	20.5
SS	D	4S		5	2.0	444	435	94	99	1			14	61	25		26	6	30	0.45	14.4
SS	D	UT		1		6	6	1	100				100				11	6	2	0.05	2.8
SS	**Totals**			25	4.6	7,899	7,539	1,621	12	22	43	23	1	5	3	92	33	9	130	1.21	58.0
WH		CU	CU															7		0.00	1.5
WH	D	2S		30	3.9	3,754	3,606	775			100					100	40	13	224	1.71	16.1
WH	D	3S		55	3.6	6,692	6,450	1,387	44	56				1	12	87	38	8	82	0.68	79.0
WH	D	4S		14		1,648	1,648	354	100				22	65	3	11	22	5	23	0.30	70.4
WH	D	UT		1		53	53	11	100				85	15			11	5	2	0.06	23.2
WH	**Totals**			39	3.2	12,147	11,757	2,528	38	31	31		3	10	7	80	29	7	62	0.67	190.2
RA	D	2S		11	15.7	172	145	31			100			100			30	13	143	1.47	1.0
RA	D	3S		6	4.5	75	72	15	23	77				77		23	33	8	86	0.82	.8
RA	D	4S		66	8.9	897	816	176	42	58				54	17	29	32	7	53	0.59	15.3
RA	D	UT		17		211	211	45	100				50	50			20	5	20	0.27	10.4
RA	**Totals**			4	8.2	1,354	1,244	267	46	43	12		8	60	11	20	27	6	45	0.55	27.6
RC		CU	CU														10	5		0.00	1.2
RC	D	3S		88	17.8	613	504	108	15	39	28	18				100	36	11	131	1.69	3.8
RC	D	4S		12		66	66	14	82	18			82	18			19	6	25	0.54	2.6
RC	**Totals**			2	16.0	679	570	123	23	37	25	16	9	2		88	26	8	74	1.30	7.7
SF	D	3S		83	4.5	950	907	195		100						100	40	9	120	0.90	7.5
SF	D	4S		17		183	183	39	100				35	65			24	5	24	0.32	7.5
SF	**Totals**			4	3.8	1,133	1,090	234	17	83			6	11		83	32	7	72	0.69	15.1
Totals					4.4	31,286	29,915	6,432	27	33	34	6	3	8	5	83	30	7	77	0.80	386.0

TC PSTATS

PROJECT STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U1	THR	215.00	109	568	S	W
000	000	00	CREEK	U9						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	109	568	5.2		
CRUISE	54	284	5.3	42,118	.7
DBH COUNT					
REFOREST					
COUNT	55	284	5.2		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	109	100.8	14.7	61	31.1	119.4	12,147	11,757	3,660	3,660
S SPRUCE	74	26.7	20.6	74	13.6	61.6	7,899	7,539	2,305	2,305
DOUG FIR	57	40.2	17.7	74	16.3	68.3	8,073	7,715	2,349	2,349
R ALDER	20	16.9	13.0	51	4.3	15.6	1,354	1,244	411	411
PS FIR	9	7.5	15.7	67	2.5	10.1	1,133	1,090	330	330
WR CEDAR	15	3.8	21.1	54	2.0	9.4	679	570	261	261
TOTAL	*284*	*195.9*	*16.3*	*64*	*70.4*	*284.3*	*31,286*	*29,915*	*9,315*	*9,315*

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	83.3	8.0	93	101	109			
S SPRUCE	163.9	15.7	22	27	31			
DOUG FIR	124.5	11.9	35	40	45			
R ALDER	338.7	32.4	11	17	22			
PS FIR	238.5	22.8	6	8	9			
WR CEDAR	280.7	26.9	3	4	5			
TOTAL	*36.4*	*3.5*	*189*	*196*	*203*	*53*	*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	78.7	7.5	110	119	128			
S SPRUCE	158.5	15.2	52	62	71			
DOUG FIR	125.8	12.1	60	68	77			
R ALDER	326.2	31.2	11	16	20			
PS FIR	236.2	22.6	8	10	12			
WR CEDAR	282.8	27.1	7	9	12			
TOTAL	*23.9*	*2.3*	*278*	*284*	*291*	*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	77.8	7.5	10,881	11,757	12,634			
S SPRUCE	153.3	14.7	6,432	7,539	8,646			
DOUG FIR	130.2	12.5	6,753	7,715	8,677			
R ALDER	325.7	31.2	856	1,244	1,632			
PS FIR	236.2	22.6	844	1,090	1,337			
WR CEDAR	288.7	27.7	412	570	728			
TOTAL	*30.9*	*3.0*	*29,029*	*29,915*	*30,801*	*38*	*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
WHEMLOCK			91	99	106			
S SPRUCE	116.8	11.2	104	122	140			
DOUG FIR	42.5	4.1	99	113	127			
R ALDER	176.9	16.9	55	80	105			

TC PSTATS

PROJECT STATISTICS

PROJECT **FALLS**

DATE 8/13/2019

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U1	THR	215.00	109	568	S	W
000	000	00	CREEK	U9						

CL	68.1	COEFF		V_BAR/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
PS FIR		145.3	13.9	84	108	133			
WR CEDAR		190.3	18.2	44	61	78			
TOTAL		*26.5*	*2.5*	*102*	*105*	*108*	*28*	*14*	*7*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U1	61.00	30	49	S	W

T000 R000 S00 TU1

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU														3	7		0.00	7.2
DF		D	2S	51	8.5	7,284	6,665	407			100					100	40	13	239	1.75	27.9
DF		D	3S	40		5,241	5,241	320	24	76					11	89	39	8	104	0.80	50.5
DF		D	4S	7	6.8	1,017	948	58	100				20	14	37	29	28	5	28	0.35	33.9
DF		D	UT	2		155	155	9	100				100				16	6	20	0.34	7.7
DF	**Totals**			38	5.0	13,697	13,009	794	18	31	51		3	1	7	89	33	8	102	0.94	127.3
WH		CU	CU															7		0.00	2.5
WH		D	2S	36	5.4	3,551	3,361	205			100					100	40	13	244	1.77	13.7
WH		D	3S	54	1.4	5,115	5,041	308	36	64					9	91	39	8	84	0.72	60.3
WH		D	4S	10		894	894	55	100				24	76			19	5	19	0.25	46.6
WH	**Totals**			27	2.8	9,560	9,296	567	29	35	36		2	7	5	85	31	7	75	0.76	123.2
SS		CU	CU														2	8		0.00	8.0
SS		D	2S	73	5.2	7,181	6,811	415			40	60				100	40	14	309	2.15	22.0
SS		D	3S	23	1.2	2,172	2,146	131	21	79						100	39	8	104	0.87	20.7
SS		D	4S	4		309	309	19	100					35	65		29	6	36	0.45	8.6
SS		D	UT														10	7		0.00	1.8
SS	**Totals**			27	4.1	9,663	9,267	565	8	18	29	44		1	2	97	32	10	151	1.37	61.2
RA		D	2S	12	13.3	356	308	19			100			100			30	12	130	1.28	2.4
RA		D	4S	70	7.5	1,853	1,715	105	33	67				69	13	18	31	7	58	0.62	29.6
RA		D	UT	18		426	426	26	100				39	61			21	5	22	0.28	19.6
RA	**Totals**			7	7.1	2,635	2,449	149	41	47	13		7	72	9	12	27	7	47	0.56	51.6
Type Totals					4.3	35,555	34,021	2,075	20	30	38	12	2	8	5	85	31	8	94	0.91	363.4

TC TSTATS

STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U1	61.00	30	149	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	30	149	5.0		
CRUISE	10	49	4.9	10,481	.5
DBH COUNT					
REFOREST COUNT	20	100	5.0		
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	17	56.2	18.8	78	25.0	108.3	13,697	13,009	3,896	3,895
WHEMLOCK	13	60.3	16.3	67	21.7	87.5	9,560	9,296	2,897	2,897
S SPRUCE	12	25.7	22.2	80	14.6	68.8	9,663	9,267	2,711	2,711
R ALDER	7	29.6	13.5	53	8.0	29.3	2,635	2,449	781	781
TOTAL	*49*	*171.8*	*17.7*	*70*	*69.8*	*293.9*	*35,555*	*34,021*	*10,286*	*10,285*

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	85.2	15.8	47	56	65			
WHEMLOCK	104.1	19.3	49	60	72			
S SPRUCE	105.1	19.5	21	26	31			
R ALDER	243.5	45.2	16	30	43			
TOTAL	*35.2*	*6.5*	*161*	*172*	*183*	*51*	*26*	*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
DOUG FIR	82.9	15.4	92	108	125			
WHEMLOCK	96.7	18.0	72	88	103			
S SPRUCE	105.0	19.5	55	69	82			
R ALDER	237.4	44.1	16	29	42			
TOTAL	*23.2*	*4.3*	*281*	*294*	*307*	*22*	*11*	*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
DOUG FIR	83.2	15.5	10,998	13,009	15,021			
WHEMLOCK	94.7	17.6	7,661	9,296	10,932			
S SPRUCE	103.1	19.2	7,491	9,267	11,042			
R ALDER	237.6	44.1	1,368	2,449	3,530			
TOTAL	*25.7*	*4.8*	*32,396*	*34,021*	*35,646*	*27*	*14*	*7*

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			102	120	139			
WHEMLOCK			88	106	125			
S SPRUCE			109	135	161			
R ALDER	84.1	15.6	47	83	120			
TOTAL	*296.2*	*55.0*	*110*	*116*	*121*	*3,636*	*1,855*	*909*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U2	6.00	3	13	S	W

T000 R000 S00 TU2

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		D	3S	75	1.1	9,483	9,380	56	30	70						100	40	8	93	0.71	101.2
WH		D	4S	25		3,041	3,041	18	100				11	79	10		25	5	28	0.25	107.0
WH		D	UT														11	5		0.00	46.2
WH	**Totals**			53	.8	12,524	12,421	75	47	53			3	19	2	76	29	6	49	0.49	254.5
DF		D	3S	82	4.9	9,427	8,962	54	31	69						100	40	8	95	0.76	94.5
DF		D	4S	18		1,879	1,879	11	100				39	21	40		24	5	26	0.30	71.4
DF		D	UT														11	5		0.00	23.1
DF	**Totals**			47	4.1	11,306	10,841	65	43	57			7	4	7	83	30	7	57	0.59	189.1
Type Totals					2.4	23,830	23,262	140	45	55			5	12	5	79	29	6	52	0.53	443.6

TC TSTATS

STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U2	6.00	3	13	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	3	13	4.3		
CRUISE	3	13	4.3	1,487	.9
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	7	153.2	12.3	55	36.2	127.0	12,524	12,421	3,541	3,541
DOUG FIR	6	94.5	14.5	67	28.6	108.9	11,306	10,841	3,372	3,372
TOTAL	*13*	*247.8*	*13.2*	*60*	*64.9*	*235.9*	*23,830*	*23,262*	*6,913*	*6,913*

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	76.1	52.7	73	153	234			
DOUG FIR	40.9	28.3	68	95	121			
TOTAL	*48.0*	*33.2*	*165*	*248*	*330*	*133*	*68*	*33*

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	49.5	34.3	83	127	171			
DOUG FIR	50.0	34.6	71	109	147			
TOTAL	*13.3*	*9.2*	*214*	*236*	*258*	*10*	*5*	*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
WHEMLOCK	40.8	28.3	8,911	12,421	15,931			
DOUG FIR	57.2	39.6	6,544	10,841	15,138			
TOTAL	*5.7*	*4.0*	*22,337*	*23,262*	*24,187*	*2*	*1*	*0*

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	40.8	28.3	70	98	125			
DOUG FIR	57.2	39.6	60	100	139			
TOTAL	*5.7*	*4.0*	*95*	*99*	*103*	*2*	*1*	*0*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU3

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U3	28.00	15	37	S	W

T000 R000 S00 TU3

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		CU	CU															7		0.00	6.0
WH		D	2S	33	5.6	4,340	4,099	115			100					100	40	13	240	1.64	17.0
WH		D	3S	46	10.1	6,048	5,436	152	19	81						100	40	8	84	0.70	65.1
WH		D	4S	21		2,536	2,536	71	100					83		17	27	5	30	0.24	85.7
WH	**Totals**			36	6.6	12,924	12,071	338	29	37	34			17		83	32	7	69	0.63	173.9
DF		CU	CU															6		0.00	7.4
DF		D	2S	40	8.7	5,522	5,042	141			87	13				100	40	14	270	1.95	18.6
DF		D	3S	51	1.7	6,461	6,349	178	17	83						100	40	9	112	0.81	56.9
DF		D	4S	7		964	964	27	100				4	14	45	37	30	5	35	0.33	27.9
DF		D	UT	2		142	142	4	100				100				15	6	10	0.13	13.9
DF	**Totals**			37	4.5	13,089	12,496	350	17	42	35	5	1	1	3	94	33	8	100	0.88	124.7
SS		CU	CU														8	5		0.00	2.4
SS		D	2S	67	5.9	5,364	5,049	141			40	60				100	40	15	327	2.11	15.4
SS		D	3S	30	5.5	2,387	2,257	63	20	80				3		97	39	9	107	0.82	21.1
SS		D	4S	3		182	182	5	88	12			66	34			18	6	21	0.36	8.5
SS		D	UT														10	6		0.00	5.9
SS	**Totals**			22	5.6	7,933	7,487	210	8	24	27	40	2	2		97	31	10	140	1.21	53.4
RA		D	2S	27	19.0	543	440	12			100			100			30	14	170	1.85	2.6
RA		D	3S	7	16.7	155	129	4	100							100	38	6	50	0.63	2.6
RA		D	4S	53	19.4	1,059	853	24		100						100	40	8	83	0.84	10.3
RA		D	UT	13		206	206	6	100				100				19	5	20	0.26	10.3
RA	**Totals**			5	17.1	1,963	1,628	46	21	52	27		13	27		60	30	7	63	0.78	25.7
Type Totals					6.2	35,909	33,682	943	20	37	33	11	2	8	1	89	32	8	89	0.80	377.7

TC TSTATS

STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U3	28.00	15	76	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	15	76	5.1		
CRUISE	7	37	5.3	5,244	.7
DBH COUNT					
REFOREST COUNT	8	39	4.9		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	8	102.8	13.7	62	28.4	105.3	12,924	12,071	3,481	3,481
DOUG FIR	15	52.2	18.6	83	22.8	98.0	13,089	12,496	3,596	3,595
S SPRUCE	11	19.5	21.1	89	10.3	47.2	7,933	7,487	2,033	2,033
R ALDER	3	12.9	16.3	64	4.6	18.7	1,963	1,628	603	603
TOTAL	*37*	*187.3*	*16.2*	*70*	*66.8*	*269.1*	*35,909*	*33,682*	*9,713*	*9,712*

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	96.8	25.9	76	103	129			
DOUG FIR	97.3	26.0	39	52	66			
S SPRUCE	152.0	40.6	12	19	27			
R ALDER	205.2	54.9	6	13	20			
TOTAL	*39.6*	*10.6*	*167*	*187*	*207*	*67*	*34*	*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
WHEMLOCK	92.7	24.8	79	105	131			
DOUG FIR	98.9	26.4	72	98	124			
S SPRUCE	150.2	40.2	28	47	66			
R ALDER	196.2	52.4	9	19	28			
TOTAL	*28.6*	*7.6*	*249*	*269*	*290*	*35*	*18*	*9*

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	93.4	25.0	9,058	12,071	15,083			
DOUG FIR	102.0	27.3	9,087	12,496	15,905			
S SPRUCE	154.0	41.2	4,405	7,487	10,570			
R ALDER	195.4	52.2	777	1,628	2,478			
TOTAL	*35.3*	*9.4*	*30,500*	*33,682*	*36,864*	*54*	*27*	*13*

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			86	115	143			
DOUG FIR	16.5	4.4	93	128	162			
S SPRUCE	141.1	37.7	93	159	224			
R ALDER	73.3	19.6	42	87	133			
TOTAL	*185.8*	*49.7*	*113*	*125*	*137*	*1,481*	*756*	*370*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU4

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U4	3.00	2	10	S	W

T000 R000 S00 TU4

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
SS		D	2S	64	4.6	16,386	15,627	47			100					100	40	13	244	1.88	64.2
SS		D	3S	26	4.6	6,675	6,367	19	25	75					25	75	37	8	87	0.79	73.1
SS		D	4S	10		2,249	2,249	7	100				23	20	57		26	5	31	0.44	72.8
SS	**Totals**			82	4.2	25,310	24,243	73	16	20	64		2	2	12	84	34	9	115	1.08	210.1
WH		D	3S	83		4,407	4,407	13	47	53						100	40	8	90	0.72	49.0
WH		D	4S	17		880	880	3	100				34	66			18	5	18	0.25	49.0
WH	**Totals**			18		5,287	5,287	16	56	44			6	11		83	29	6	54	0.58	98.1
Type Totals					3.5	30,597	29,530	89	23	24	53		3	4	10	84	33	8	96	0.94	308.1

TC TSTATS

STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U4	3.00	2	10	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	10	5.0		
CRUISE	2	10	5.0	462	2.2
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
S SPRUCE	8	105.0	19.5	71	49.3	217.8	25,310	24,243	7,782	7,782
WHEMLOCK	2	49.0	14.3	63	14.4	54.4	5,287	5,287	1,638	1,638
TOTAL	*10*	*154.1*	*18.0*	*68*	*64.2*	*272.2*	*30,597*	*29,530*	*9,420*	*9,420*

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
S SPRUCE	13.9	13.1	91	105	119			
WHEMLOCK	28.9	27.1	36	49	62			
TOTAL	*18.7*	*17.5*	*127*	*154*	*181*	*25*	*13*	*6*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
S SPRUCE			218	218	218			
WHEMLOCK			54	54	54			
TOTAL			*272*	*272*	*272*			

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
S SPRUCE	5.6	5.2	22,975	24,243	25,512			
WHEMLOCK	15.0	14.1	4,542	5,287	6,031			
TOTAL	*1.9*	*1.8*	*29,006*	*29,530*	*30,054*	*0*	*0*	*0*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
S SPRUCE	5.6	5.2	106	111	117			
WHEMLOCK	15.0	14.1	83	97	111			
TOTAL	*1.9*	*1.8*	*107*	*108*	*110*	*0*	*0*	*0*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU5

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U5	26.00	13	39	S	W

T000 R000 S00 TU5

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
SS		D	2S	60	5.6	14,674	13,857	360			90	10				100	40	14	264	2.00	52.6
SS		D	3S	32	2.1	7,326	7,175	187	24	76				7	8	85	37	8	100	0.92	71.9
SS		D	4S	7	4.0	1,842	1,769	46	100				19	81			25	5	29	0.44	61.5
SS		D	UT	1		47	47	1	100				100				11	5	4	0.09	12.9
SS	**Totals**			73	4.4	23,890	22,848	594	15	24	54	6	2	9	3	87	33	9	115	1.14	198.9
WH		D	3S	76		6,129	6,129	159	47	53					12	88	39	8	85	0.68	72.2
WH		D	4S	22		1,721	1,721	45	100				24	76			22	5	26	0.26	66.4
WH		D	UT	2		118	118	3	100				100				11	5	4	0.08	32.4
WH	**Totals**			25		7,969	7,969	207	59	41			7	16	9	68	27	6	47	0.50	171.0
DF		D	3S	84	11.1	383	340	9		100						100	40	11	160	1.31	2.1
DF		D	4S	16		64	64	2	100					100			25	5	30	0.40	2.1
DF	**Totals**			1	9.5	447	404	11	16	84				16		84	33	8	95	0.96	4.3
RA		D	4S	100		169	169	4	100					100			30	5	30	0.34	5.6
RA	**Totals**			1		169	169	4	100					100			30	5	30	0.34	5.6
Type Totals					3.3	32,475	31,390	816	27	29	40	4	3	11	4	82	30	7	83	0.86	379.8

TC TSTATS

STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U5	26.00	13	72	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	13	72	5.5		
CRUISE	7	39	5.6	5,357	.7
DBH COUNT					
REFOREST COUNT	6	33	5.5		
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
S SPRUCE	28	99.4	19.6	68	47.2	209.4	23,890	22,848	7,352	7,351
WHEMLOCK	9	98.9	12.5	55	23.7	83.8	7,969	7,969	2,308	2,308
DOUG FIR	1	2.1	19.0	67	1.0	4.2	447	404	133	133
R ALDER	1	5.6	10.0	38	1.0	3.1	169	169	58	58
TOTAL	*39*	*206.0*	*16.3*	*61*	*74.3*	*300.4*	*32,475*	*31,390*	*9,851*	*9,850*

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
S SPRUCE	52.7	15.2	84	99	115			
WHEMLOCK	101.0	29.2	70	99	128			
DOUG FIR	360.6	104.0		2	4			
R ALDER	360.6	104.0		6	12			
TOTAL	*37.3*	*10.8*	*184*	*206*	*228*	*60*	*31*	*15*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
S SPRUCE	55.0	15.9	176	209	243			
WHEMLOCK	104.9	30.3	58	84	109			
DOUG FIR	360.6	104.0		4	9			
R ALDER	360.6	104.0		3	6			
TOTAL	*20.7*	*6.0*	*283*	*300*	*318*	*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
S SPRUCE	58.3	16.8	19,008	22,848	26,688			
WHEMLOCK	105.8	30.5	5,536	7,969	10,402			
DOUG FIR	360.6	104.0		404	824			
R ALDER	360.6	104.0		169	345			
TOTAL	*27.7*	*8.0*	*28,884*	*31,390*	*33,896*	*33*	*17*	*8*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
S SPRUCE			91	109	127			
WHEMLOCK	41.2	11.9	66	95	124			
DOUG FIR	360.6	104.0		96	197			
R ALDER	360.6	104.0		55	112			
TOTAL	*169.5*	*48.9*	*96*	*104*	*113*	*1,244*	*635*	*311*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU6

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U6	6.00	3	18	S	W

T000 R000 S00 TU6

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
SS		D	2S	61	5.3	19,447	18,416	110			100					100	40	13	231	1.84	79.6
SS		D	3S	29	7.7	9,347	8,628	52	23	77				4	9	87	37	9	112	0.97	77.3
SS		D	4S	10		2,815	2,815	17	100					59	41		30	6	33	0.47	84.4
SS	**Totals**			83	5.5	31,609	29,858	179	16	22	62			7	7	87	35	9	124	1.15	241.4
WH		D	3S	78	8.9	3,334	3,038	18		100						100	40	9	109	0.87	27.8
WH		D	4S	22		834	834	5	100					100			25	5	30	0.29	27.8
WH	**Totals**			11	7.1	4,168	3,872	23	22	78				22		78	33	7	70	0.65	55.6
DF		CU	CU															6		0.00	7.5
DF		D	2S	78	8.3	1,811	1,660	10			100					100	40	13	220	1.66	7.5
DF		D	3S	22		453	453	3	100							100	40	6	60	0.56	7.5
DF	**Totals**			6	6.7	2,263	2,112	13	21		79					100	27	8	93	1.11	22.6
Type Totals					5.8	38,040	35,843	215	17	27	56			8	5	87	34	9	112	1.06	319.6

TC TSTATS

STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U6	6.00	3	18	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	3	18	6.0		
CRUISE	3	18	6.0	936	1.9
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
S SPRUCE	15	120.7	20.3	73	60.4	272.2	31,609	29,858	9,783	9,787
WHEMLOCK	2	27.8	15.5	69	9.2	36.3	4,168	3,872	1,173	1,173
DOUG FIR	1	7.5	21.0	85	4.0	18.1	2,263	2,112	671	671
TOTAL	*18*	*156.0*	*19.6*	*73*	*73.8*	*326.6*	*38,040*	*35,843*	*11,626*	*11,630*

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
S SPRUCE	15.9	11.0	107	121	134			
WHEMLOCK	87.1	60.3	11	28	45			
DOUG FIR	173.2	120.0		8	17			
TOTAL	*10.6*	*7.3*	*145*	*156*	*167*	*6*	*3*	*2*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
S SPRUCE	20.0	13.9	234	272	310			
WHEMLOCK	86.6	60.0	15	36	58			
DOUG FIR	173.2	120.0		18	40			
TOTAL	*.0*	*.0*	*327*	*327*	*327*	*0*	*0*	*0*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
S SPRUCE	16.5	11.4	26,454	29,858	33,262			
WHEMLOCK	86.6	60.0	1,549	3,872	6,194			
DOUG FIR	173.2	120.0		2,112	4,646			
TOTAL	*3.2*	*2.2*	*35,042*	*35,843*	*36,643*	*1*	*0*	*0*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
S SPRUCE	16.5	11.4	97	110	122			
WHEMLOCK	86.6	60.0	43	107	171			
DOUG FIR	173.2	120.0		116	256			
TOTAL	*3.2*	*2.2*	*107*	*110*	*112*	*1*	*0*	*0*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU7

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U7	43.00	21	56	S	W

T000 R000 S00 TU7

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		D	2S	35	3.0	5,356	5,196	223			100					100	40	13	218	1.73	23.8
WH		D	3S	52	3.7	7,811	7,524	324	49	51				2	16	82	38	8	81	0.68	92.8
WH		D	4S	12		1,794	1,794	77	100				27	50	5	18	22	5	23	0.37	79.0
WH		D	UT	1		58	58	3	100				100				10	5	2	0.04	38.3
WH	**Totals**			55	3.0	15,019	14,572	627	38	26	36		4	7	9	80	28	7	62	0.71	234.0
DF		D	2S	40	6.6	2,715	2,537	109			100					100	40	13	242	1.83	10.5
DF		D	3S	49	1.3	3,062	3,021	130	41	59						100	40	8	86	0.77	35.0
DF		D	4S	11		668	668	29	100				46	54			21	5	23	0.28	29.2
DF	**Totals**			24	3.4	6,444	6,225	268	31	29	41		5	6		89	32	7	83	0.83	74.7
RC		CU	CU														10	5		0.00	3.0
RC		D	3S	88	18.2	1,636	1,338	58	13	35	31	20				100	36	11	137	1.76	9.8
RC		D	4S	12		178	178	8	80	20			80	20			19	6	26	0.56	6.8
RC	**Totals**			6	16.4	1,814	1,516	65	21	33	28	18	9	2		88	26	8	77	1.35	19.6
SF		D	3S	83	5.0	2,170	2,061	89		100						100	40	9	118	0.90	17.5
SF		D	4S	17		416	416	18	100				26	74			24	5	24	0.32	17.5
SF	**Totals**			9	4.2	2,587	2,478	107	17	83			4	12		83	32	7	71	0.68	35.0
RA		D	3S	18		275	275	12		100				100			30	10	110	0.97	2.5
RA		D	4S	66	6.6	1,062	992	43	81	19				42	39	20	32	6	41	0.47	24.3
RA		D	UT	16		228	228	10	100				67	33			16	5	16	0.25	14.0
RA	**Totals**			6	4.5	1,565	1,495	64	69	31			10	51	26	13	26	6	37	0.46	40.8
Type Totals					4.2	27,429	26,286	1,130	35	33	31	1	5	10	6	79	29	7	65	0.74	404.1

TC TSTATS

STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U7	43.00	21	117	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	21	117	5.6		
CRUISE	10	56	5.6	9,139	.6
DBH COUNT					
REFOREST COUNT	11	61	5.5		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	29	121.1	15.3	60	39.7	155.5	15,019	14,572	4,697	4,697
DOUG FIR	11	37.3	17.5	68	14.9	62.2	6,444	6,225	1,999	1,999
WR CEDAR	6	9.8	21.5	54	5.3	24.8	1,814	1,516	693	692
PS FIR	4	17.5	15.6	68	5.9	23.3	2,587	2,478	763	763
R ALDER	6	26.8	12.0	47	6.1	21.0	1,565	1,495	495	495
TOTAL	*56*	*212.5*	*15.7*	*60*	*72.3*	*286.8*	*27,429*	*26,286*	*8,647*	*8,647*

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	63.4	14.2	104	121	138			
DOUG FIR	131.5	29.4	26	37	48			
WR CEDAR	158.3	35.4	6	10	13			
PS FIR	140.6	31.5	12	18	23			
R ALDER	317.3	71.0	8	27	46			
TOTAL	*32.2*	*7.2*	*197*	*213*	*228*	*44*	*22*	*11*

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	61.9	13.8	134	156	177			
DOUG FIR	141.9	31.7	42	62	82			
WR CEDAR	157.3	35.2	16	25	33			
PS FIR	139.4	31.2	16	23	31			
R ALDER	317.3	71.0	6	21	36			
TOTAL	*19.4*	*4.3*	*274*	*287*	*299*	*16*	*8*	*4*

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	62.8	14.1	12,523	14,572	16,620			
DOUG FIR	146.7	32.8	4,183	6,225	8,268			
WR CEDAR	159.8	35.7	974	1,516	2,058			
PS FIR	139.7	31.3	1,703	2,478	3,252			
R ALDER	317.3	71.0	434	1,495	2,556			
TOTAL	*26.7*	*6.0*	*24,713*	*26,286*	*27,859*	*30*	*15*	*8*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK			81	94	107			
DOUG FIR	98.2	22.0	67	100	133			
WR CEDAR	57.8	12.9	39	61	83			
PS FIR	76.9	17.2	73	106	139			
R ALDER	234.7	52.5	21	71	122			
TOTAL	*194.3*	*43.5*	*86*	*92*	*97*	*1,586*	*809*	*397*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU8

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U8	19.00	10	25	S	W

T000 R000 S00 TU8

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		D	2S	37	2.1	5,830	5,710	108			100					100	40	12	201	1.62	28.4
WH		D	3S	51	5.0	8,040	7,635	145	63	37					20	80	38	7	74	0.62	103.5
WH		D	4S	11		1,610	1,610	31	100				35	65			20	5	21	0.37	77.8
WH		D	UT	1		104	104	2	100				100				11	5	2	0.05	54.1
WH		**Totals**		61	3.4	15,585	15,060	286	43	19	38		4	7	10	79	27	7	57	0.68	263.8
DF		D	3S	81	3.2	4,487	4,344	83	30	70						100	40	8	88	0.78	49.2
DF		D	4S	19		985	985	19	100				71	29			19	5	20	0.25	49.2
DF		**Totals**		22	2.6	5,471	5,328	101	43	57			13	5		82	30	6	54	0.61	98.5
SF		D	3S	83	5.0	3,039	2,886	55		100						100	40	9	118	0.90	24.5
SF		D	4S	17		583	583	11	100				52	48			23	5	24	0.32	24.5
SF		**Totals**		14	4.2	3,621	3,469	66	17	83			9	8		83	32	7	71	0.69	49.0
RC		CU	CU														10	5		0.00	2.9
RC		D	3S	89	14.1	731	628	12	27	73						100	36	9	99	1.29	6.4
RC		D	4S	11		70	70	1	100				100				18	5	20	0.41	3.5
RC		**Totals**		3	12.9	801	698	13	35	65			10			90	25	7	55	1.00	12.7
Type Totals					3.6	25,479	24,555	467	39	37	23		7	7	6	80	28	7	58	0.67	424.0

TC TSTATS

STATISTICS

PAGE 1

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U8	19.00	10	50	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	10	50	5.0		
CRUISE	5	25	5.0	4,028	.6
DBH COUNT					
REFOREST COUNT	5	25	5.0		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	17	131.9	15.1	60	42.1	163.3	15,585	15,060	4,857	4,857
DOUG FIR	3	49.2	14.9	64	15.5	59.9	5,471	5,328	1,772	1,772
PS FIR	2	24.5	15.6	67	8.3	32.7	3,621	3,469	1,063	1,063
WR CEDAR	3	6.4	18.6	53	2.8	12.0	801	698	322	322
TOTAL	*25*	*212.0*	*15.2*	*62*	*68.7*	*267.9*	*25,479*	*24,555*	*8,013*	*8,013*

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	55.9	18.6	107	132	156			
DOUG FIR	138.5	46.1	27	49	72			
PS FIR	118.1	39.3	15	25	34			
WR CEDAR	212.1	70.7	2	6	11			
TOTAL	*30.4*	*10.1*	*191*	*212*	*233*	*41*	*21*	*10*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	52.1	17.4	135	163	192			
DOUG FIR	138.5	46.1	32	60	88			
PS FIR	116.5	38.8	20	33	45			
WR CEDAR	225.0	74.9	3	12	21			
TOTAL	*15.5*	*5.2*	*254*	*268*	*282*	*11*	*5*	*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
WHEMLOCK	52.7	17.5	12,418	15,060	17,702			
DOUG FIR	138.5	46.1	2,870	5,328	7,787			
PS FIR	116.9	38.9	2,118	3,469	4,819			
WR CEDAR	242.4	80.7	134	698	1,262			
TOTAL	*15.7*	*5.2*	*23,267*	*24,555*	*25,843*	*11*	*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
WHEMLOCK			76	92	108			
DOUG FIR			48	89	130			
PS FIR			65	106	148			
WR CEDAR	242.4	80.7	11	58	105			
TOTAL	*191.5*	*63.8*	*87*	*92*	*96*	*1,627*	*830*	*407*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU9

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U9	22.00	11	33	S	W

T000 R000 S00 TU9

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		D	2S	31	3.4	5,812	5,614	124			100					100	40	13	215	1.71	26.2
WH		D	3S	55	3.6	9,969	9,610	211	56	44				2	21	77	38	7	77	0.66	124.1
WH		D	4S	13		2,290	2,290	50	100				36	33	7	24	21	5	22	0.36	106.1
WH		D	UT	1		100	100	2	100				100				11	5	2	0.05	51.8
WH	**Totals**			70	3.1	18,171	17,614	388	44	24	32		5	5	12	77	28	7	57	0.67	308.1
RC		CU	CU														10	5		0.00	3.9
RC		D	3S	88	18.2	2,162	1,769	39	13	35	31	20				100	36	11	137	1.76	12.9
RC		D	4S	12		235	235	5	80	20			80	20			19	6	26	0.56	9.0
RC	**Totals**			8	16.4	2,397	2,004	44	21	33	28	18	9	2		88	26	8	77	1.35	25.9
DF		D	3S	81	3.2	2,225	2,154	47	30	70						100	40	8	88	0.78	24.4
DF		D	4S	19		488	488	11	100				71	29			19	5	20	0.25	24.4
DF	**Totals**			11	2.6	2,713	2,642	58	43	57			13	5		82	30	6	54	0.61	48.8
SF		D	3S	83	3.2	2,421	2,344	52		100						100	40	9	128	0.92	18.3
SF		D	4S	17		472	472	10	100				33	67			24	5	26	0.33	18.3
SF	**Totals**			11	2.7	2,892	2,815	62	17	83			5	11		83	32	7	77	0.70	36.6
Type Totals					4.2	26,174	25,076	552	39	35	25	1	6	6	9	79	28	7	60	0.70	419.4

TC TSTATS

STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	000	00	CREEK	U9	22.00	11	59	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	11	59	5.4		
CRUISE	6	33	5.5	4,766	.7
DBH COUNT					
REFOREST COUNT	5	26	5.2		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	21	161.0	14.8	59	50.1	193.0	18,171	17,614	5,681	5,681
WR CEDAR	6	12.9	21.5	54	7.1	32.7	2,397	2,004	915	915
DOUG FIR	3	24.4	14.9	64	7.7	29.7	2,713	2,642	879	879
PS FIR	3	18.3	15.7	67	6.2	24.7	2,892	2,815	817	817
TOTAL	*33*	*216.7*	*15.4*	*60*	*71.4*	*280.2*	*26,174*	*25,076*	*8,291*	*8,291*

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	41.4	13.1	140	161	182			
WR CEDAR	133.2	42.1	7	13	18			
DOUG FIR	189.9	60.0	10	24	39			
PS FIR	117.5	37.2	11	18	25			
TOTAL	*34.9*	*11.0*	*193*	*217*	*241*	*54*	*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	31.8	10.1	174	193	212			
WR CEDAR	131.8	41.7	19	33	46			
DOUG FIR	189.9	60.0	12	30	48			
PS FIR	114.9	36.3	16	25	34			
TOTAL	*17.9*	*5.6*	*264*	*280*	*296*	*14*	*7*	*4*

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	31.0	9.8	15,888	17,614	19,340			
WR CEDAR	135.3	42.8	1,147	2,004	2,861			
DOUG FIR	189.9	60.0	1,056	2,642	4,228			
PS FIR	116.0	36.7	1,783	2,815	3,847			
TOTAL	*18.7*	*5.9*	*23,590*	*25,076*	*26,561*	*15*	*8*	*4*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK			82	91	100			
WR CEDAR	69.7	22.0	35	61	87			
DOUG FIR	138.7	43.9	36	89	142			
PS FIR	61.4	19.4	72	114	155			
TOTAL	*160.3*	*50.7*	*84*	*89*	*95*	*1,131*	*577*	*283*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: FALLS

Date 8/13/2019

Time 3:03:22PM

T000 R000 S00 TU10

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
000	000	00	CREEK	U10	1.00	1	4	S	W

T000 R000 S00 TU10

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
RA		D	UT	100		3,770	3,770	4	100					100			23	5	24	0.26	159.9
RA	**Totals**			69		3,770	3,770	4	100					100			23	5	24	0.26	159.9
WH		D	UT	100		1,719	1,719	2	100					100			24	5	30	0.24	57.3
WH	**Totals**			31		1,719	1,719	2	100					100			24	5	30	0.24	57.3
Type Totals						5,489	5,489	5	100					100			24	5	25	0.25	217.2

TC TSTATS

STATISTICS

PROJECT FALLS

DATE 8/13/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
000	**000**	**00**	**CREEK**	**U10**	1.00	1	4	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	1	4	4.0		
CRUISE	1	4	4.0	217	1.8
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
R ALDER	3	159.9	8.3	34	20.8	60.0	3,770	3,770	955	955
WHEMLOCK	1	57.3	8.0	38	7.1	20.0	1,719	1,719	334	334
TOTAL	*4*	*217.2*	*8.2*	*35*	*27.9*	*80.0*	*5,489*	*5,489*	*1,288*	*1,288*

CONFIDENCE LIMITS OF THE SAMPLE

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

TC PSPCTLTCM

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

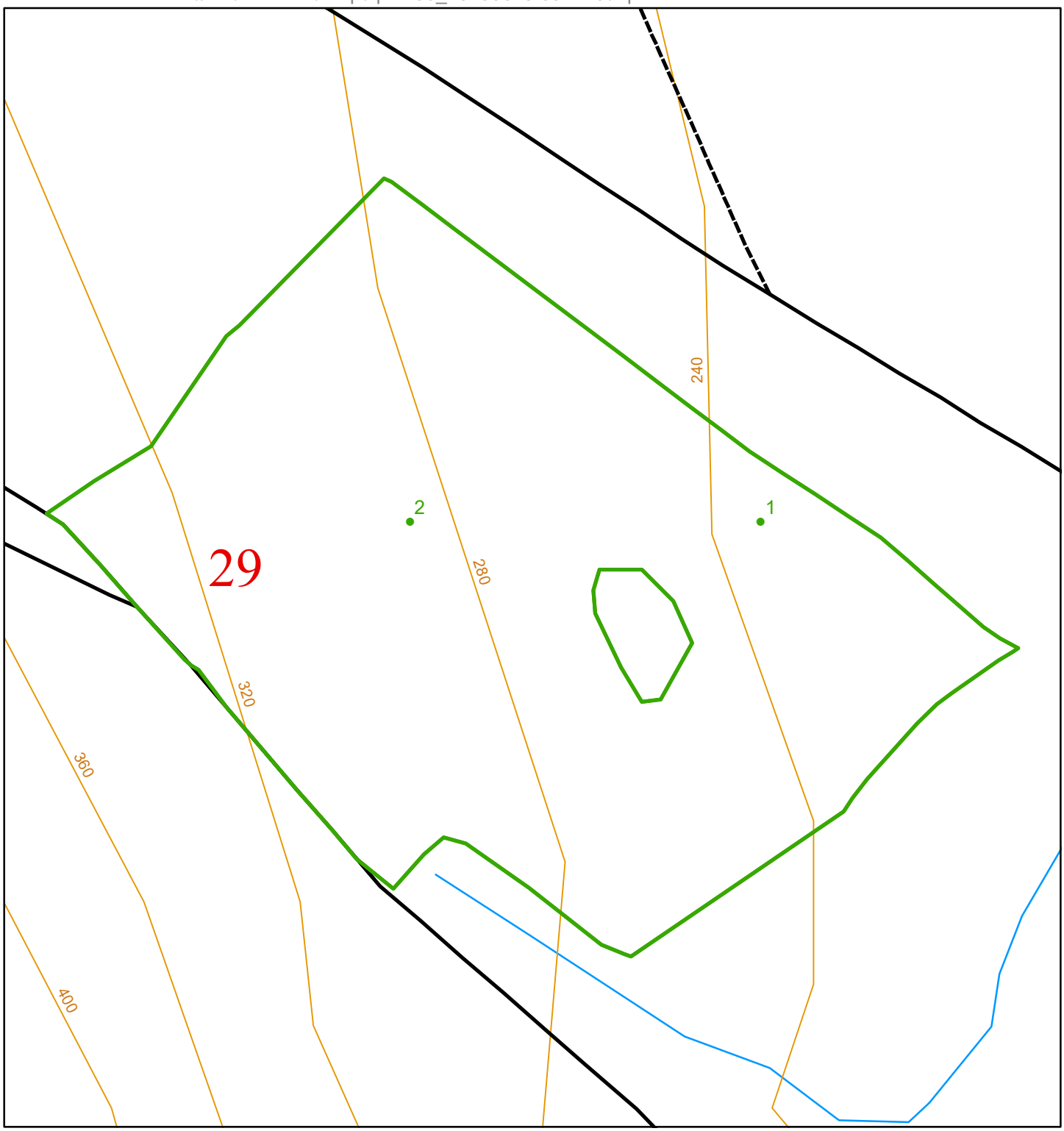
T000 R000 S00 TyU1	61.0
T000 R000 S00 TyU10	1.0
T000 R000 S00 TyU9	22.0

Project FALLS
Acres 215.00

Page No 1
Date: 8/13/2019
Time 3:03:22PM

Species	S T	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
WHEMLOCK		21,673	40,572	25,183	36.31	19.40	0.68	7,870	7,870	2,612	2,528
DOUG FIR		8,634	18,104	14,393	58.48	27.89	0.83	5,050	5,050	1,736	1,659
S SPRUCE		5,735	11,917	12,883	86.40	41.58	1.21	4,955	4,955	1,698	1,621
R ALDER		3,628	5,930	2,428	24.34	14.89	0.54	883	883	291	267
PS FIR		1,621	3,243	2,033	43.77	21.89	0.68	710	710	244	234
WR CEDAR		827	1,386	1,317	67.76	40.42	1.39	560	560	146	123
Totals		42,118	81,152	58,237	47.55	24.68	0.81	20,028	20,027	6,726	6,432

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
C	38,490	75,222	55,809	49.74	25.45	0.83	19,145	19,144	6,435	6,164
H	3,628	5,930	2,428	24.34	14.89	0.54	883	883	291	267
Totals	42,118	81,152	58,237	47.55	24.68	0.81	20,028	20,027	6,726	6,432



Cruiser Sample Point Locations

LAYER NAME:	falls_creek	Township:	T32R12W
POLY ID:	1	Total Sample Points:	2
Acres:	6	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0

N

0 40 80 160 240 320 Feet

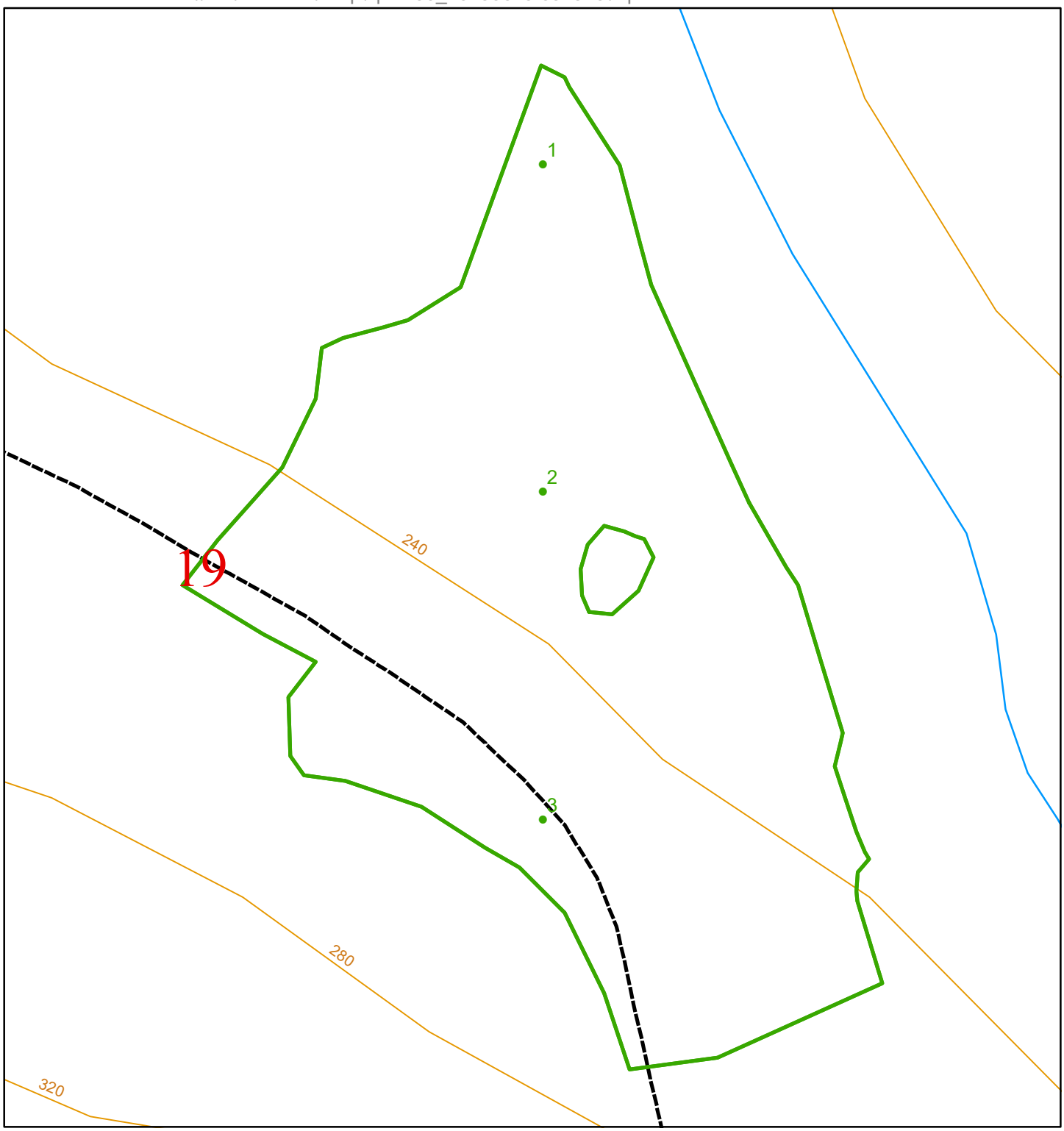
Scale 1:1,400

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Jun 19, 2019 09:22 AM



Cruiser Sample Point Locations

LAYER NAME:	falls_creek	Township:	T32R12W
POLY ID:	1	Total Sample Points:	3
Acres:	6	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0

N

0 40 80 160 240 320 Feet

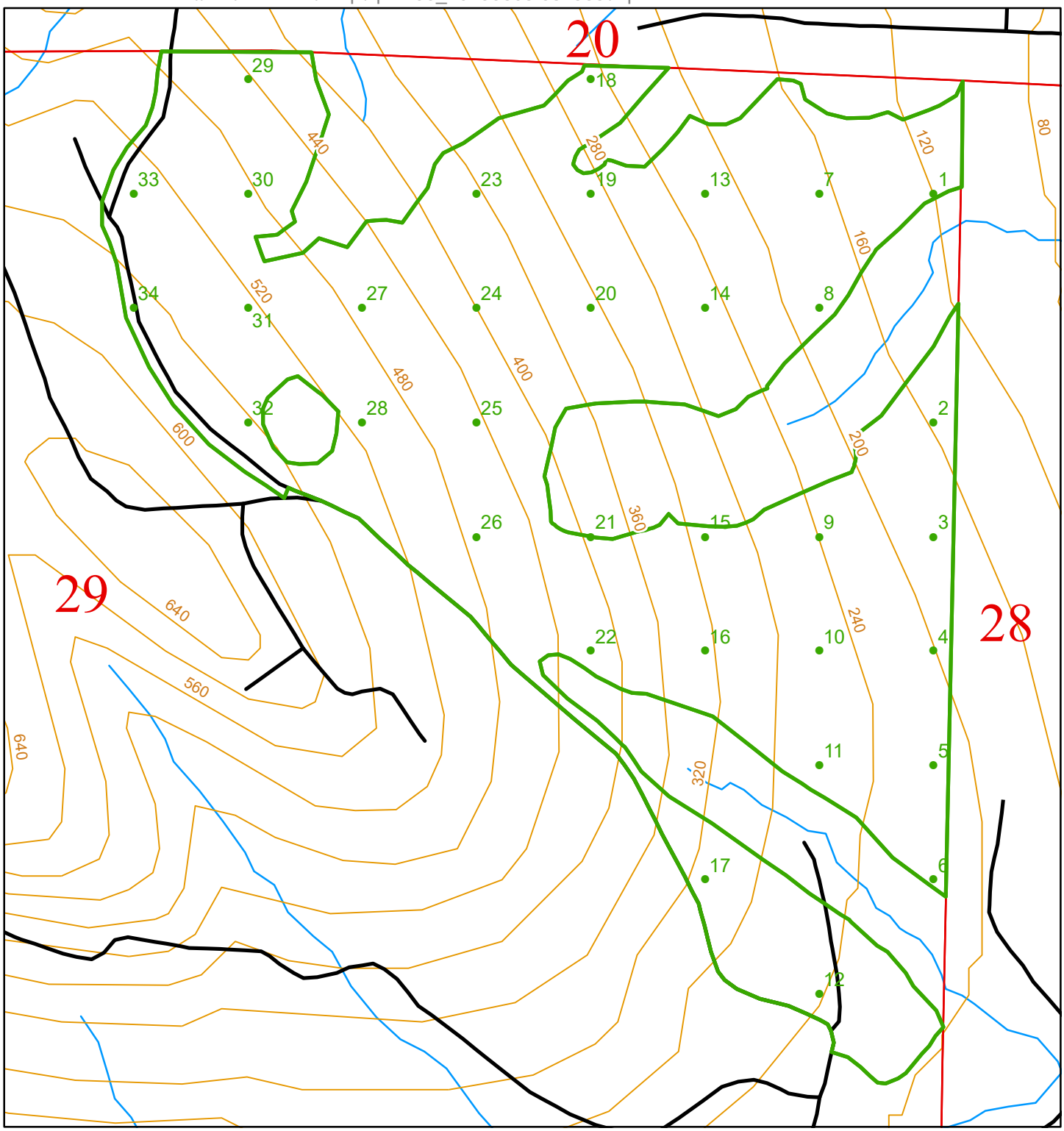
Scale 1:1,500

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Jun 19, 2019 09:26 AM



Cruiser Sample Point Locations

LAYER NAME:	falls_creek	Township:	T32R12W
POLY ID:	1	Total Sample Points:	34
Acres:	60	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0

N

0 125 250 500 750 1,000 Feet

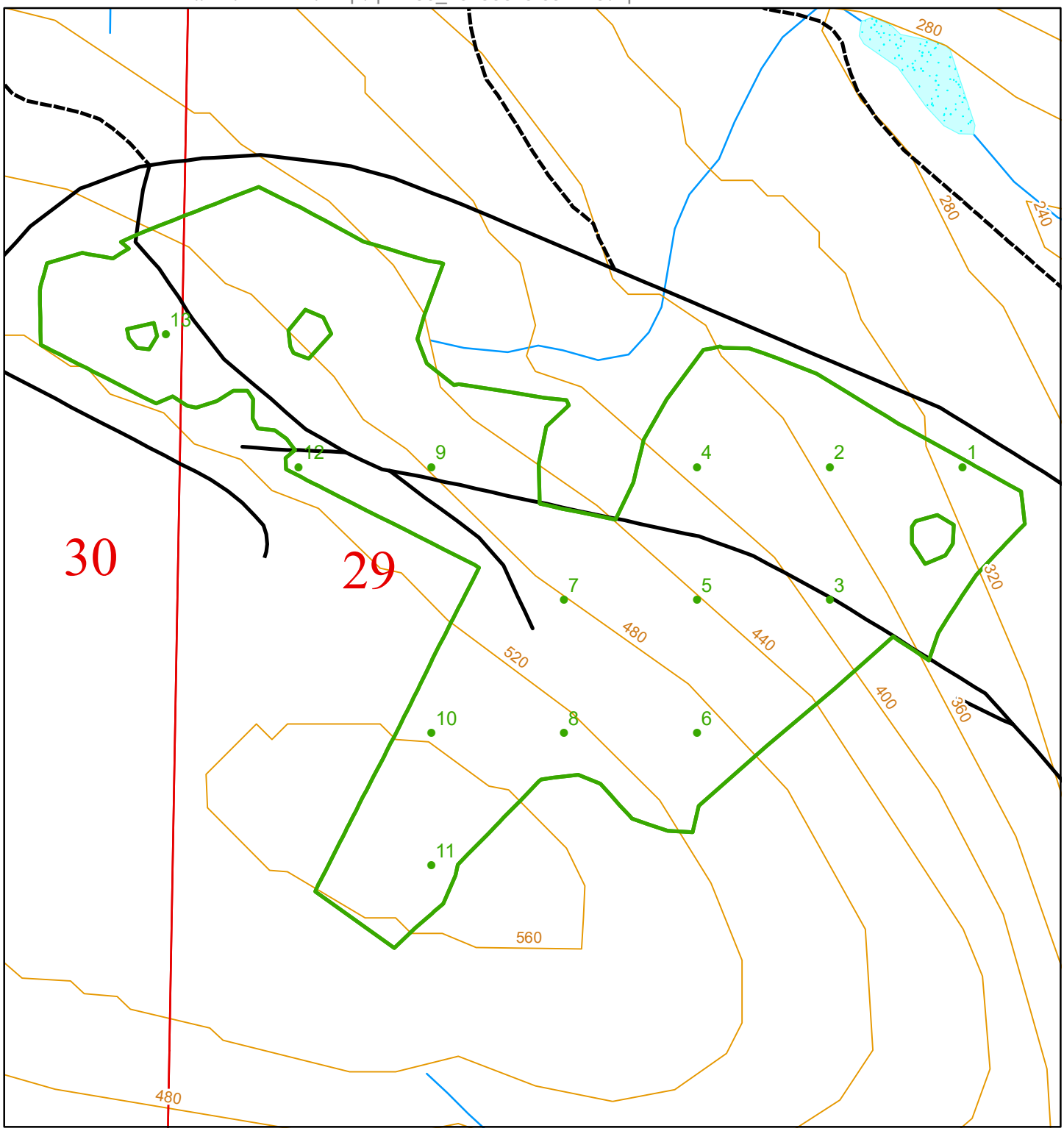
Scale 1:4,300

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Aug 08, 2019 08:46 AM



Cruiser Sample Point Locations

LAYER NAME:	falls_creek	Township:	T32R12W
POLY ID:	1	Total Sample Points:	13
Acres:	31	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0

N

0 105 210 420 630 840 Feet

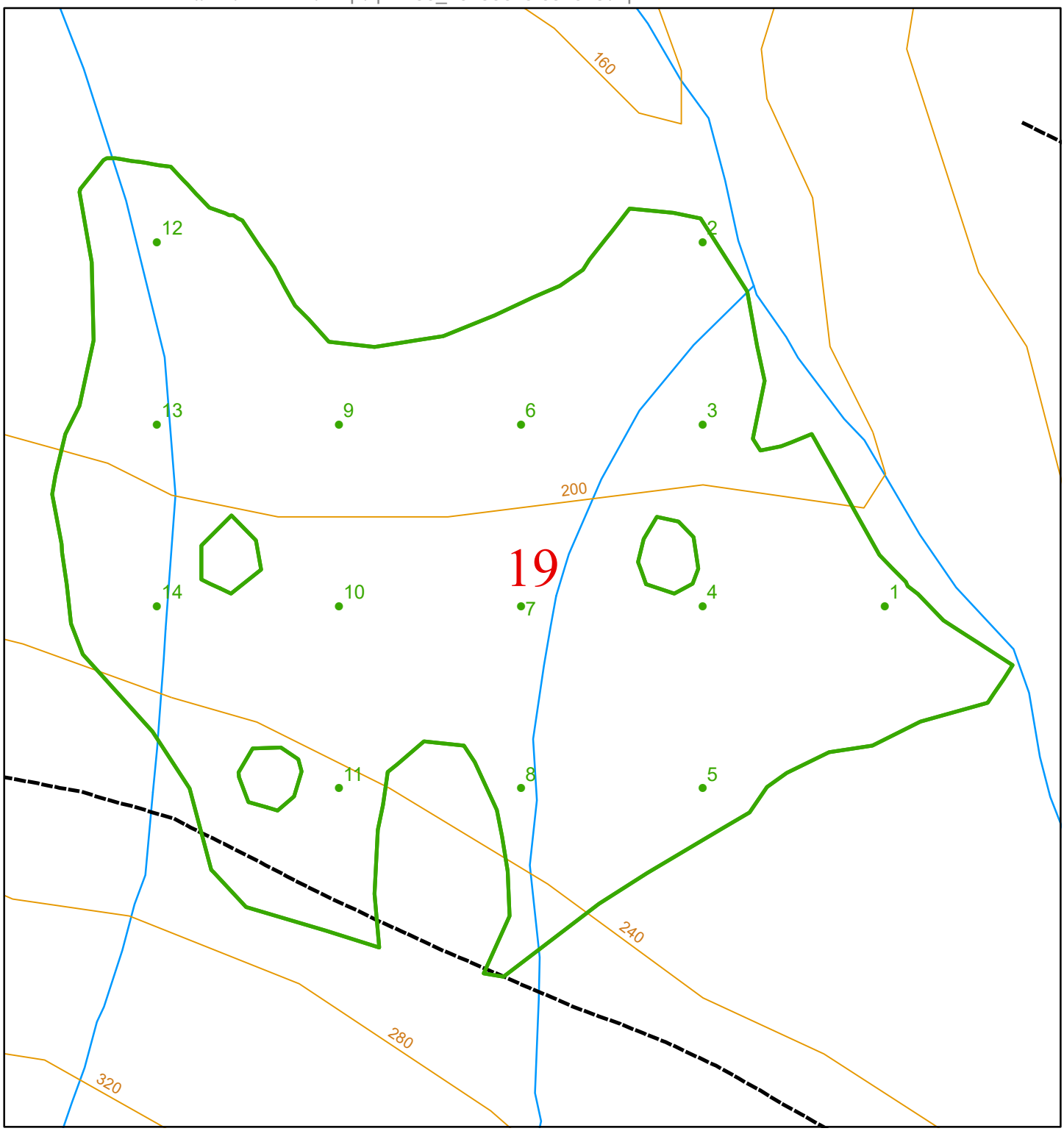
Scale 1:3,700

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Jun 19, 2019 09:25 AM



Cruiser Sample Point Locations

LAYER NAME:	falls_creek	Township:	T32R12W
POLY ID:	1	Total Sample Points:	14
Acres:	25	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0

N

0 75 150 300 450 600 Feet

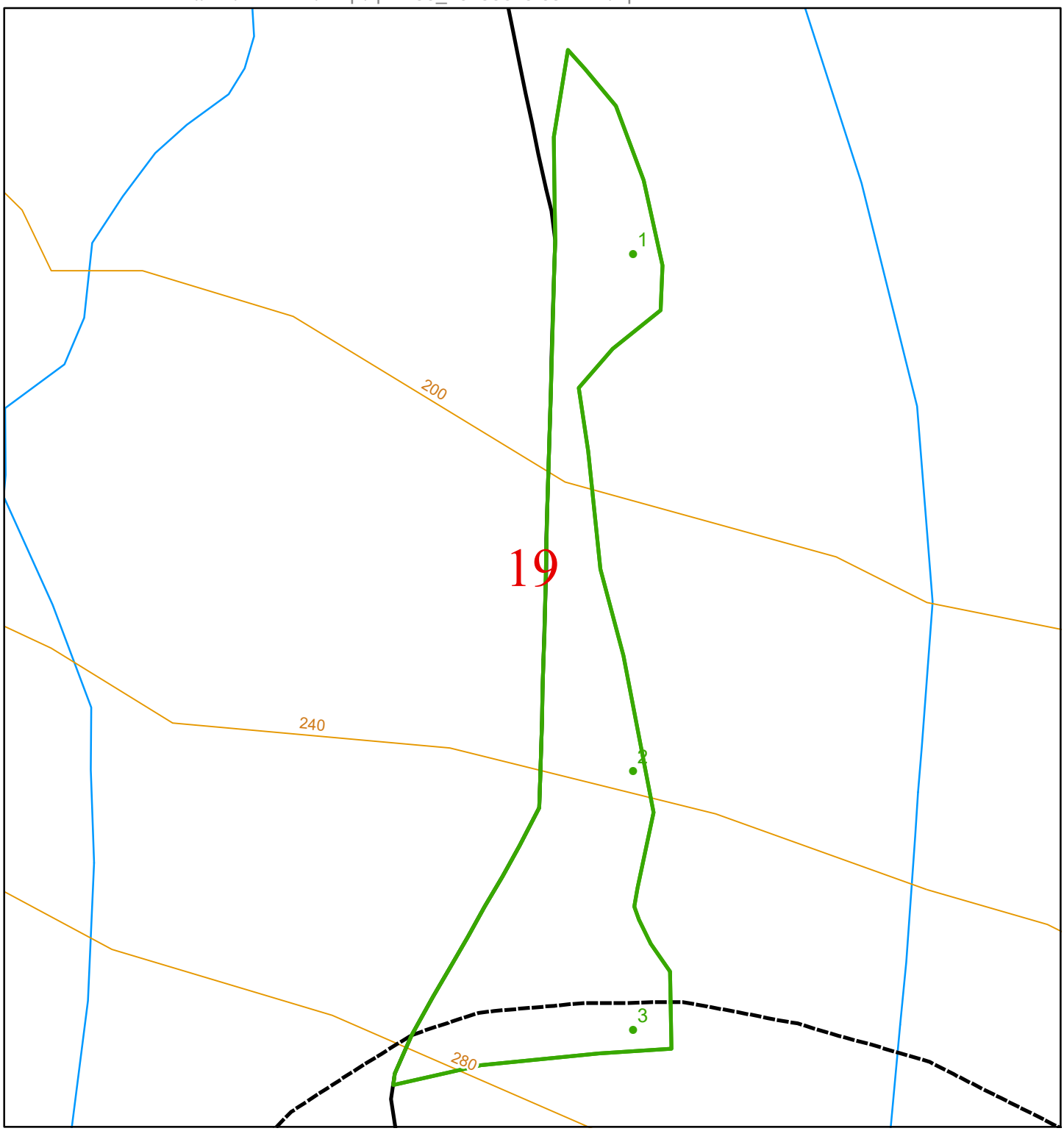
Scale 1:2,700

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Jun 19, 2019 09:27 AM



Cruiser Sample Point Locations

LAYER NAME:	falls_creek	Township:	T32R12W
POLY ID:	1	Total Sample Points:	3
Acres:	acres	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0

N

0 55 110 220 330 440 Feet

Scale 1:1,900

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
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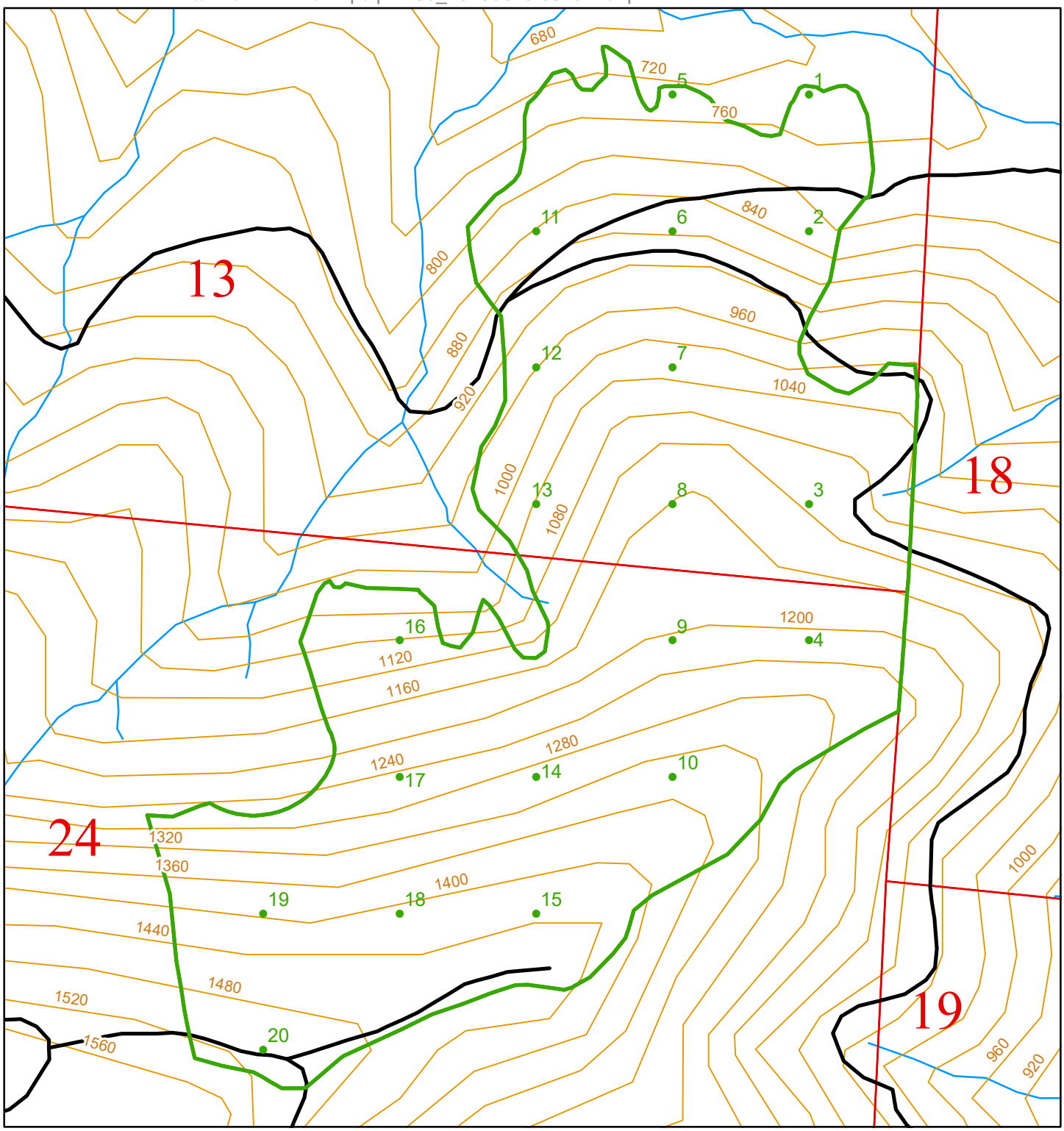
Jun 19, 2019 09:28 AM



Cruiser Sample Point Locations

LAYER NAME:	falls_creek	Township:	T31R13W
POLY ID:	1	Total Sample Points:	20
Acres:	42	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0

N

0 105 210 420 630 840 Feet

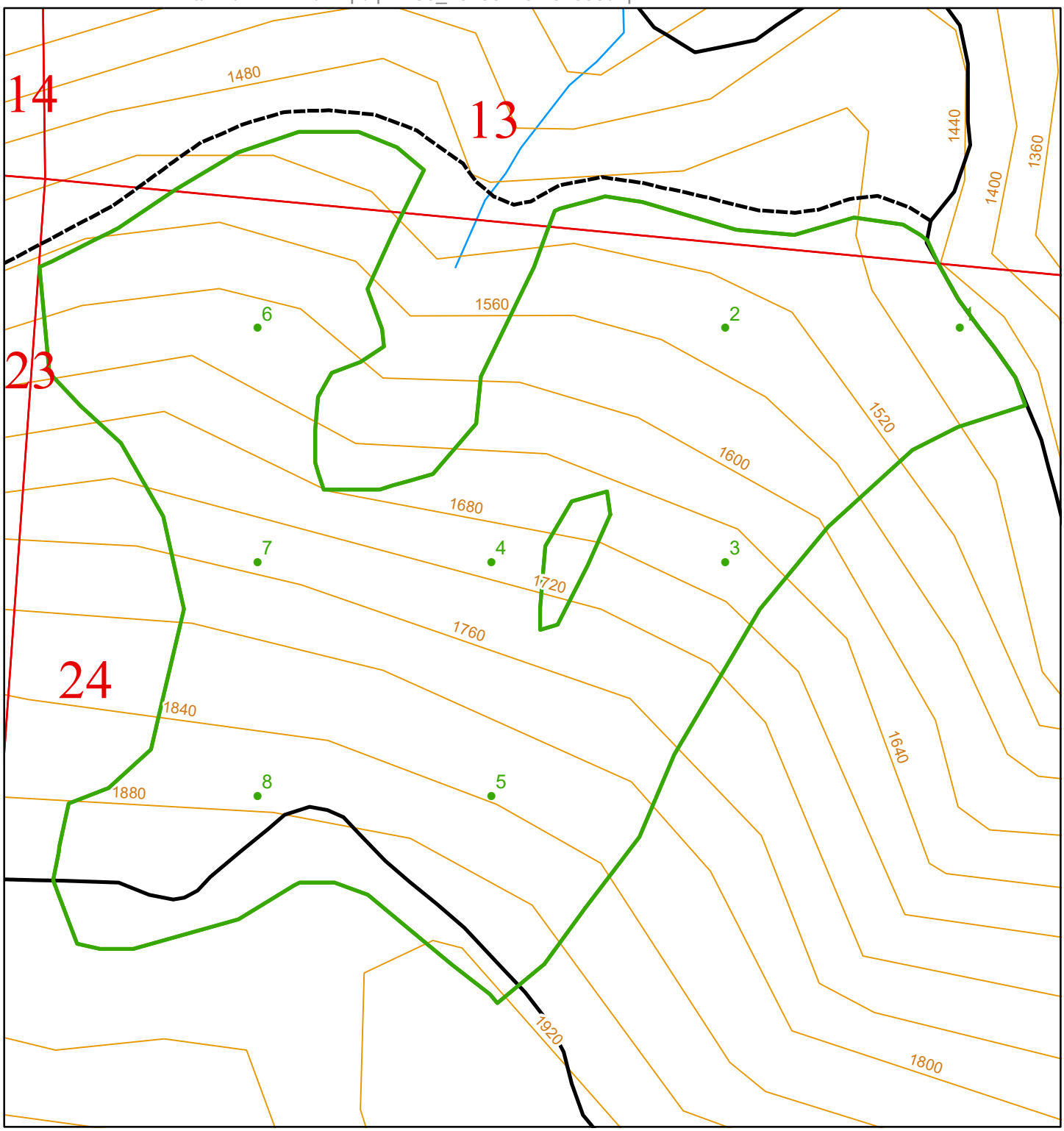
Scale 1:3,600

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Jun 19, 2019 09:29 AM



Cruiser Sample Point Locations

LAYER NAME:	falls_creek	Township:	T31R13W
POLY ID:	1	Total Sample Points:	8
Acres:	17	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0

N

0 60 120 240 360 480 Feet

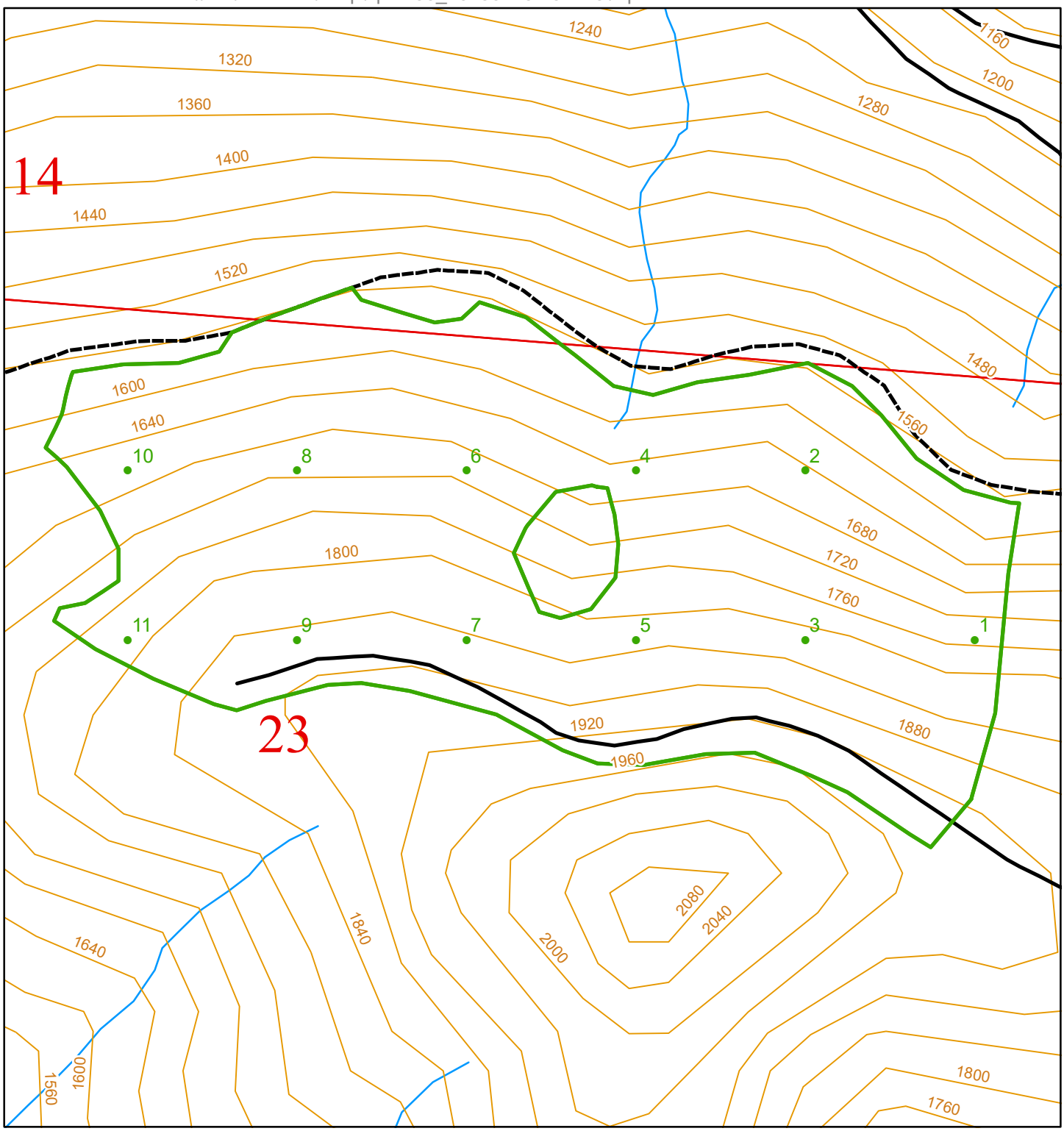
Scale 1:2,100

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Jul 29, 2019 10:17 AM



Cruiser Sample Point Locations

LAYER NAME:	falls_creek	Township:	T31R13W
POLY ID:	1	Total Sample Points:	11
Acres:	22	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0

N

0 80 160 320 480 640 Feet

Scale 1:2,900

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Jul 29, 2019 10:18 AM

HCP CHECKLIST

(Used to identify which HCP strategies are actually applied to this proposed management activity, i.e. those that affect the activity.)

Name of Proposed Activity Falls Creek Agreement # 30-099249 FPA# _____ Planning Unit Clallam River LPU

Location (provide for activities other than timber sales) T 32 N R 12 W Sec 19,29,30; T 31 N R 13 W Sec 13,14,23,24

HCP strategy or component	Criteria for strategy application	Applicable planning units	Yes	No
Riparian conservation				
Potentially unstable slopes	Area of proposed activity includes potentially unstable landforms or proposal is modified to avoid potentially unstable landforms	W O	☒	☐
Rain-on-snow	Proposed activity is in the rain-on-snow zone of a subbasin where greater than 2/3 of DNR managed land must remain hydrologically mature	W	☐	☒
Roads – General	Road construction or maintenance activities are proposed	W O	☒	☐
Roads – In RMZ	Proposed road or recreation trail construction in an RMZ	W O	☒	☐
Roads – In WMZ	Proposed road or recreation trail construction in a WMZ	W O	☐	☒
RMZ – Managed	Proposed activity includes riparian forest restoration (RMZ thinning, riparian hardwood conversion, or riparian individual conifer release)	W O	☒	☐
RMZ – Unmanaged	Proposed activity is adjacent to an unmanaged RMZ	W O	☒	☐
WMZ – Managed	Proposed activity includes WMZ thinning	W O	☐	☒
WMZ – Unmanaged	Proposed activity is adjacent to an unmanaged WMZ	W O	☐	☒
Northern spotted owl conservation				
Northern spotted owl	Proposed activity is in a NRF or dispersal/DFC management area or a timing restriction area; or adjacent to a 300-acre nest patch core area or a 200-acre buffer area	W O E	☐	☒
Marbled murrelet conservation				
Marbled murrelet	Different thresholds and strategies apply depending on Planning Unit	W O	☒	☐
Uncommon Habitats, Federally listed species and unlisted species conservation				
Large, structurally unique trees	Proposed final harvest activity retains 2 upland large structurally unique trees, 3 additional upland green trees, and 3 snags, if available (if snags are unavailable, replace with upland green trees), for each acre of final harvest	W O	☒	☐
Balds	Proposed activity is on or adjacent to a bald	W O	☐	☒
Caves	Proposed activity is adjacent to a cave buffer	W O	☐	☒
Cliffs	Proposed activity is on or adjacent to cliffs greater than 25 feet tall at an elevation of less than 5000 feet or cliffs greater than 150 feet tall	W O	☐	☒
Mineral springs	Proposed activity is within 200 feet of a mineral spring	W O	☐	☒
Oak woodlands	Proposed activity is in or adjacent to oak woodlands	W O	☐	☒
Talus	Proposed activity area is within or adjacent to non-forested or forested talus fields or a buffer or requires road construction or rock mining through forested or non-forested talus	W O	☐	☒
Bats	Area of proposed activity includes myotis bats communal roosts or maternity colonies	W	☐	☒
California wolverine	Proposed activity is within 0.5 miles of an active California wolverine den site located in a spotted owl NRF management area	W	☐	☒
Common loon	Proposed activity is within 500 feet of a common loon nest	W	☐	☒
Gray wolf	Proposed activity is within 8 miles of a class 1 gray wolf observation that occurred in the past 5 years	W O E	☐	☒
Harlequin duck	Proposed activity is within 165 feet of a harlequin duck nest	W	☐	☒
Northern goshawk	Proposed activity is within 0.55 miles of a northern goshawk nest site located in a NRF management area	W	☐	☒
Oregon silverspot butterfly	Proposed activity is within 0.25 miles of an Oregon silverspot butterfly occurrence	W O	☐	☒
Pacific fisher	Proposed activity is within 0.5 miles of an active Pacific fisher den site located in a northern spotted owl NRF management area	W	☐	☒
Pileated woodpecker	Area of proposed activity includes known pileated woodpecker nesting sites	W	☐	☒
Vaux's swift	Area of proposed activity includes Vaux's swift night roosts	W	☐	☒

W=Westside HCP Planning Units O=OESF E=Eastside HCP Planning Units

SIGNATURES

Proponent: _____ Title: _____ Date:_____

Approved by:_____ Title:_____ Date:_____

This checklist is required for the following activities: 1) Timber harvest activities 2) Construction or expansion of footprint of a road, rock pit, recreation site, communication site, leasing site (for example: antenna, wind turbine, etc.), or right-of-way.

Checklist must be filed with the timber sale packet or sent to implementation.monitoring@dnr.wa.gov Revised 12/2013

FPA/N No:	2616191
Effective Date:	10/5/2019
Expiration Date:	10/5/2022
Shut Down Zone:	650
EARR Tax Credit:	[x] Eligible [ ] Non-eligible
Reference:	DNR Falls Creek VRH

Forest Practices Application/Notification
Notice of Decision

Decision

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

FPA/N Classification

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

Number of Years Granted on Multi-Year Request

[ ] 4 years [ ] 5 years

Conditions on Approval / Reasons for Disapproval

Issued By: Erik Dukes **Region:** Olympic

Title: Forest Practice Forester **Date:** 10/5/2019

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

Issued in person: **[x] Landowner [ ]Timber Owner [ ] Operator By:** Kate Kerschner

Appeal Information

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:
Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501
Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903
Information regarding the Pollution Control Hearings Board can be found at: http://www.eluho.wa.gov/
At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

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

And

Department Of Natural Resources
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 #____2616191____

_____ _____
(Printed name) (Signature)

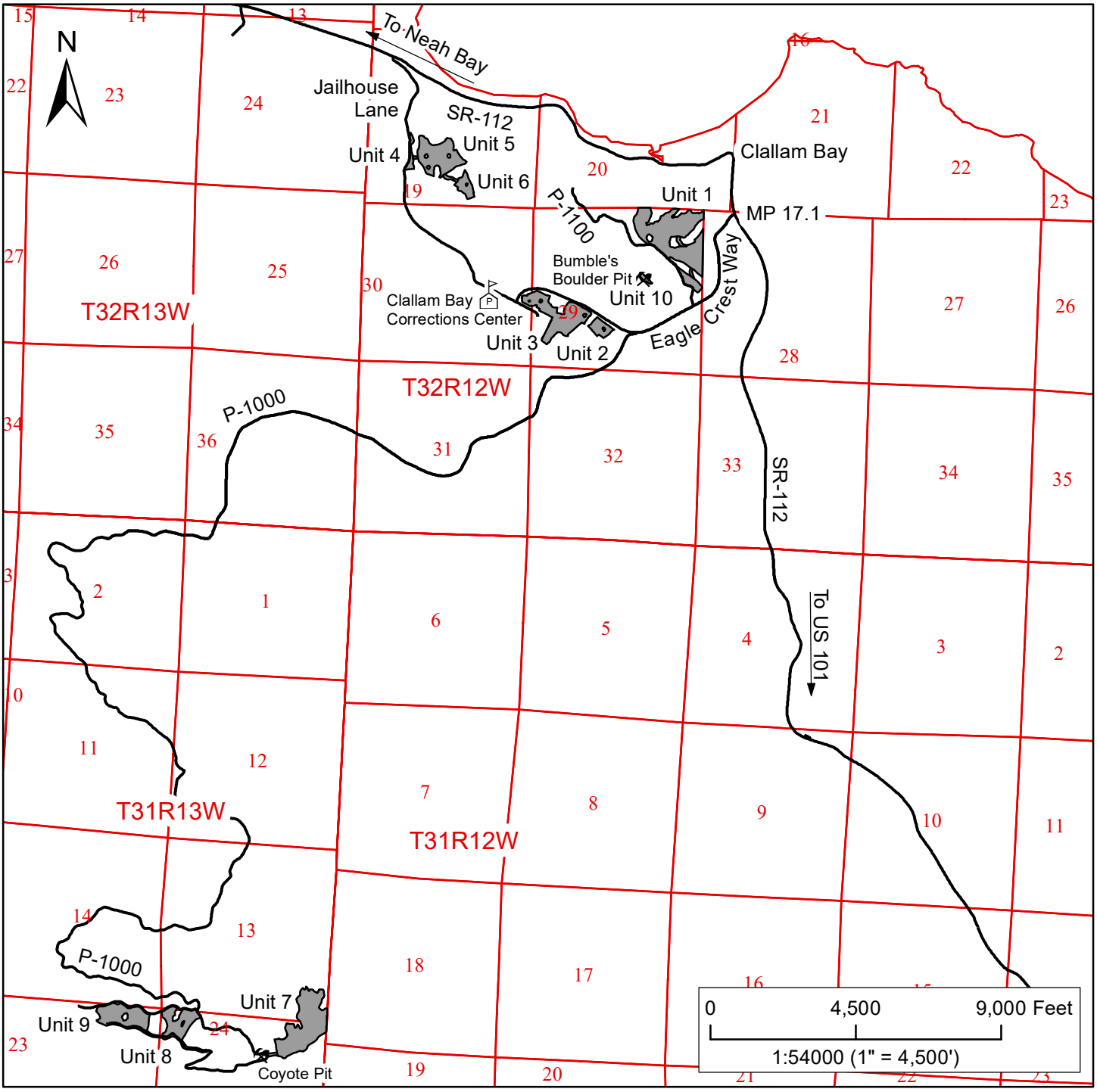
STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

FALLS CREEK TIMBER SALE ROAD PLAN
CLALLAM COUNTY
COAST DISTRICT

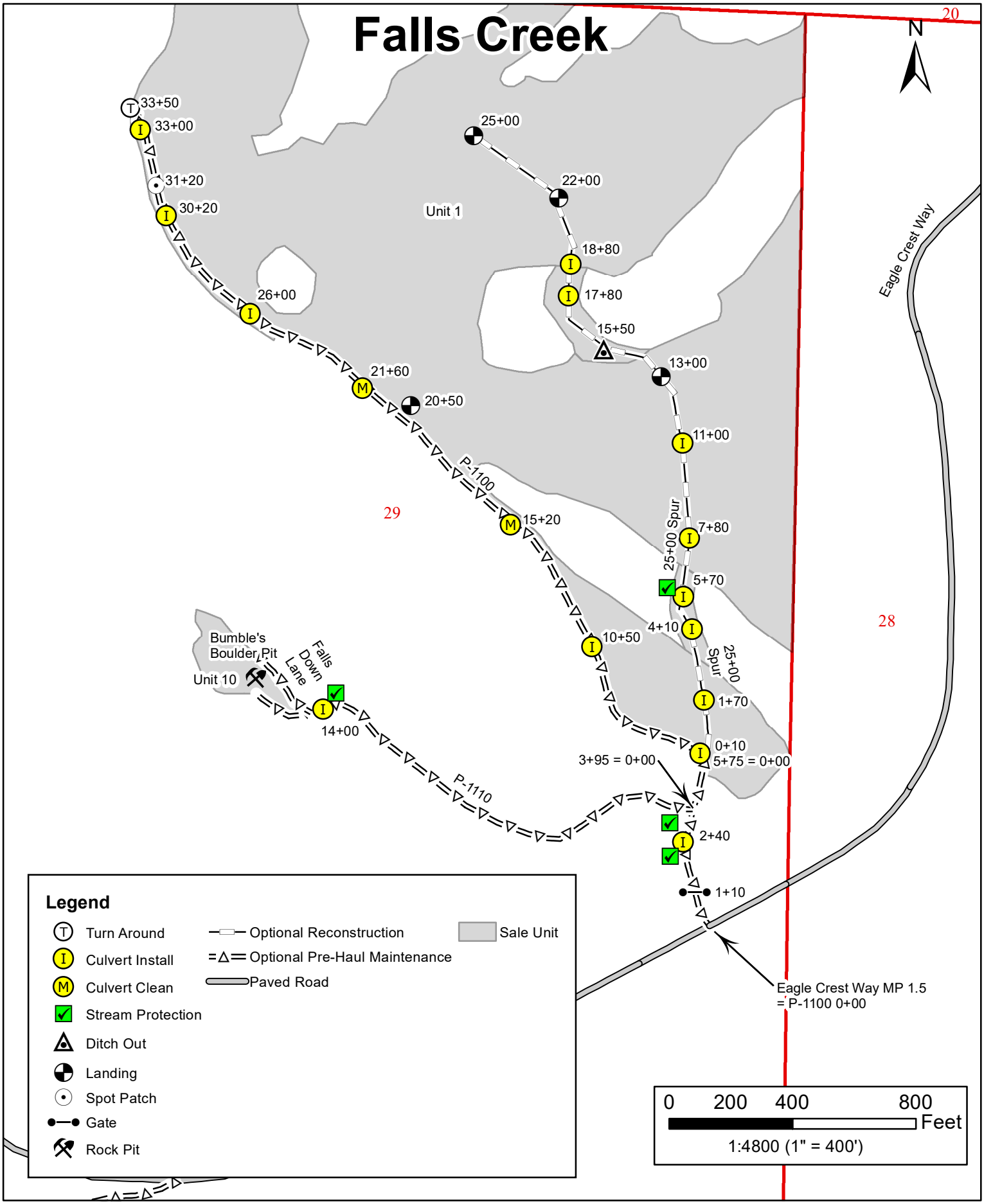
AGREEMENT NO.: 30-099249 DISTRICT ENGINEER: BILL MEHL

DATE 30 AUGUST 2019 DRAWN AND COMPILED BY: TYLER KERSCHNER

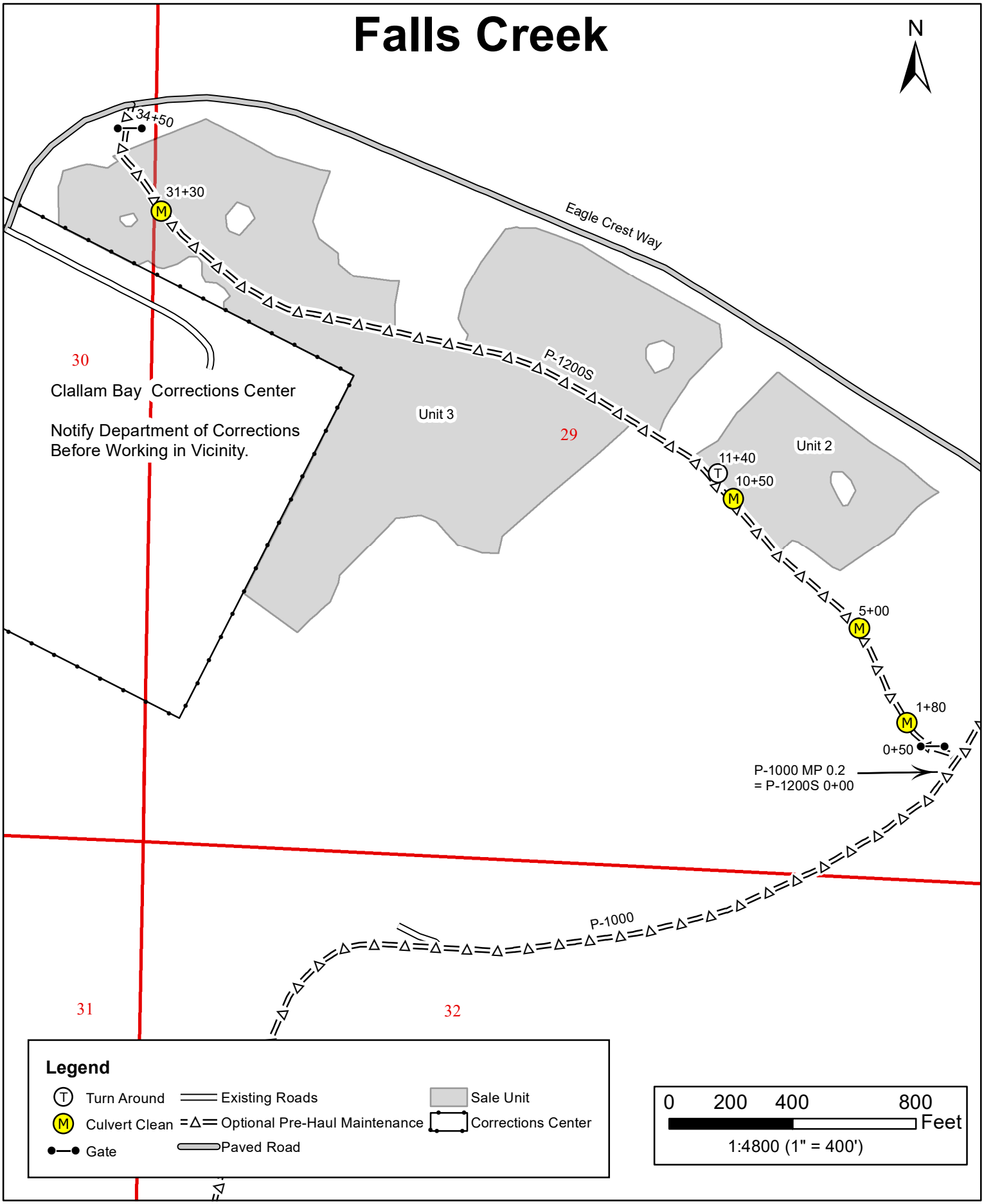
Project Map



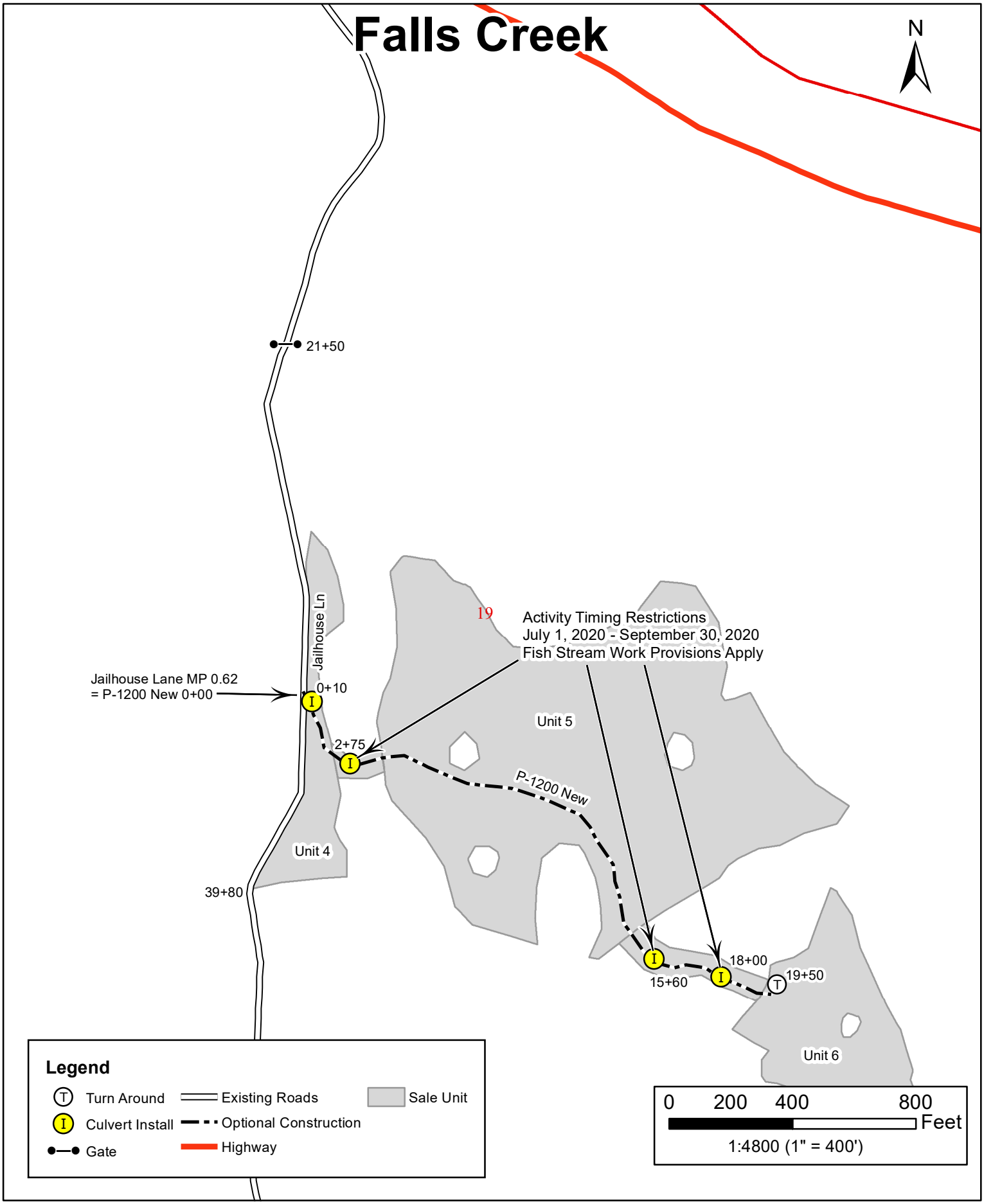
Falls Creek


N
20
29
28
Unit 1
Unit 10
Bumble's Boulder Pit
Falls Down Lane
P-1100
P-1110
25+00 Spur
25+00 Spur
Eagle Crest Way
33+50
33+00
31+20
30+20
26+00
21+60
20+50
15+20
14+00
10+50
25+00
22+00
18+80
17+80
15+50
13+00
11+00
7+80
5+70
4+10
1+70
0+10
5+75 = 0+00
3+95 = 0+00
2+40
1+10
Eagle Crest Way MP 1.5 = P-1100 0+00
Legend
Turn Around
Culvert Install
Culvert Clean
Stream Protection
Ditch Out
Landing
Spot Patch
Gate
Rock Pit
Optional Reconstruction
Optional Pre-Haul Maintenance
Paved Road
Sale Unit
0 200 400 800
Feet
1:4800 (1" = 400')

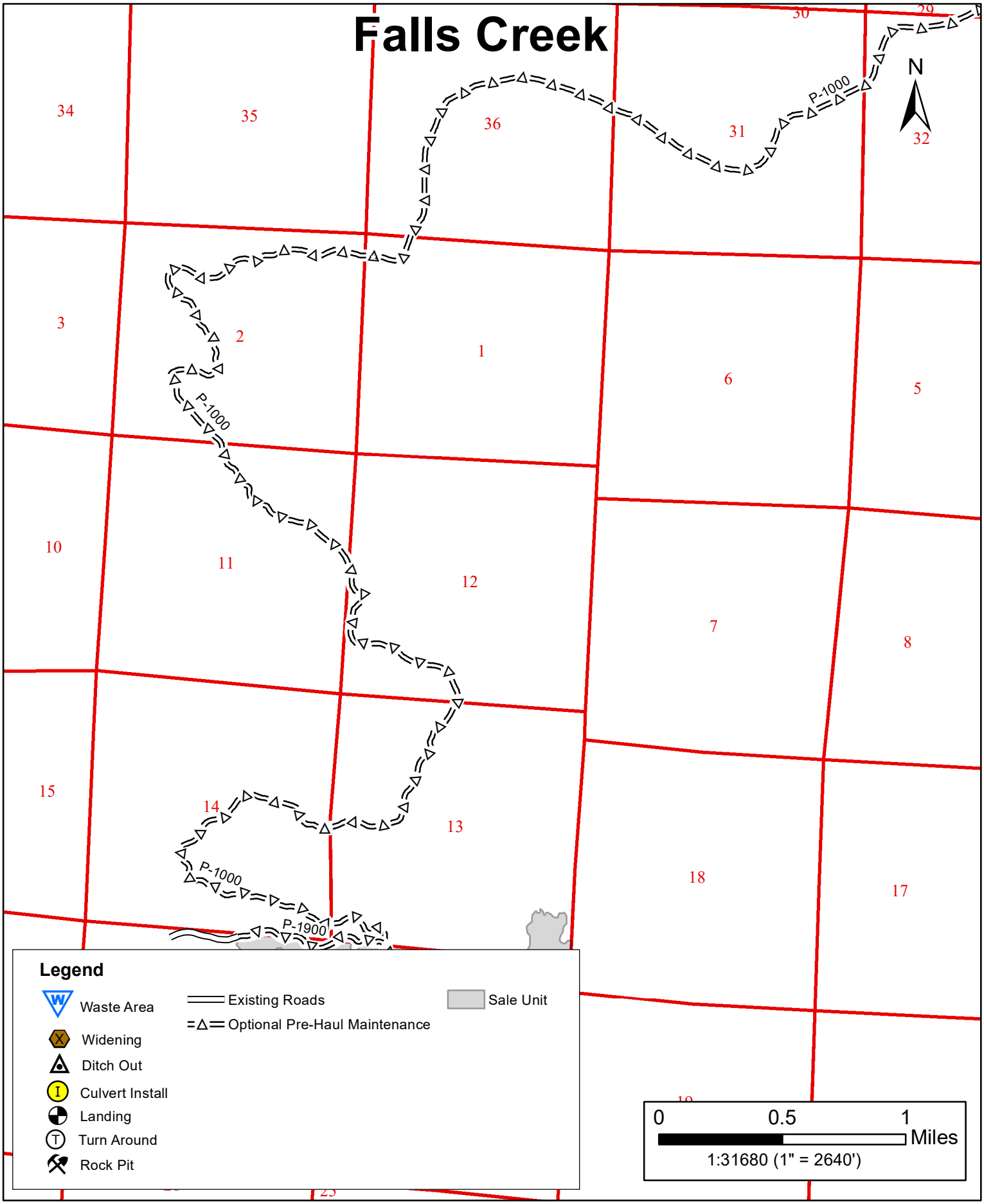
Falls Creek


N
34+50
31+30
Eagle Crest Way
P-1200S
30
Clallam Bay Corrections Center
Notify Department of Corrections
Before Working in Vicinity.
Unit 3
29
Unit 2
11+40
10+50
5+00
1+80
0+50
P-1000 MP 0.2
= P-1200S 0+00
P-1000
31
32
Legend
Turn Around
Culvert Clean
Gate
Existing Roads
Optional Pre-Haul Maintenance
Paved Road
Sale Unit
Corrections Center
0 200 400 800
Feet
1:4800 (1" = 400')

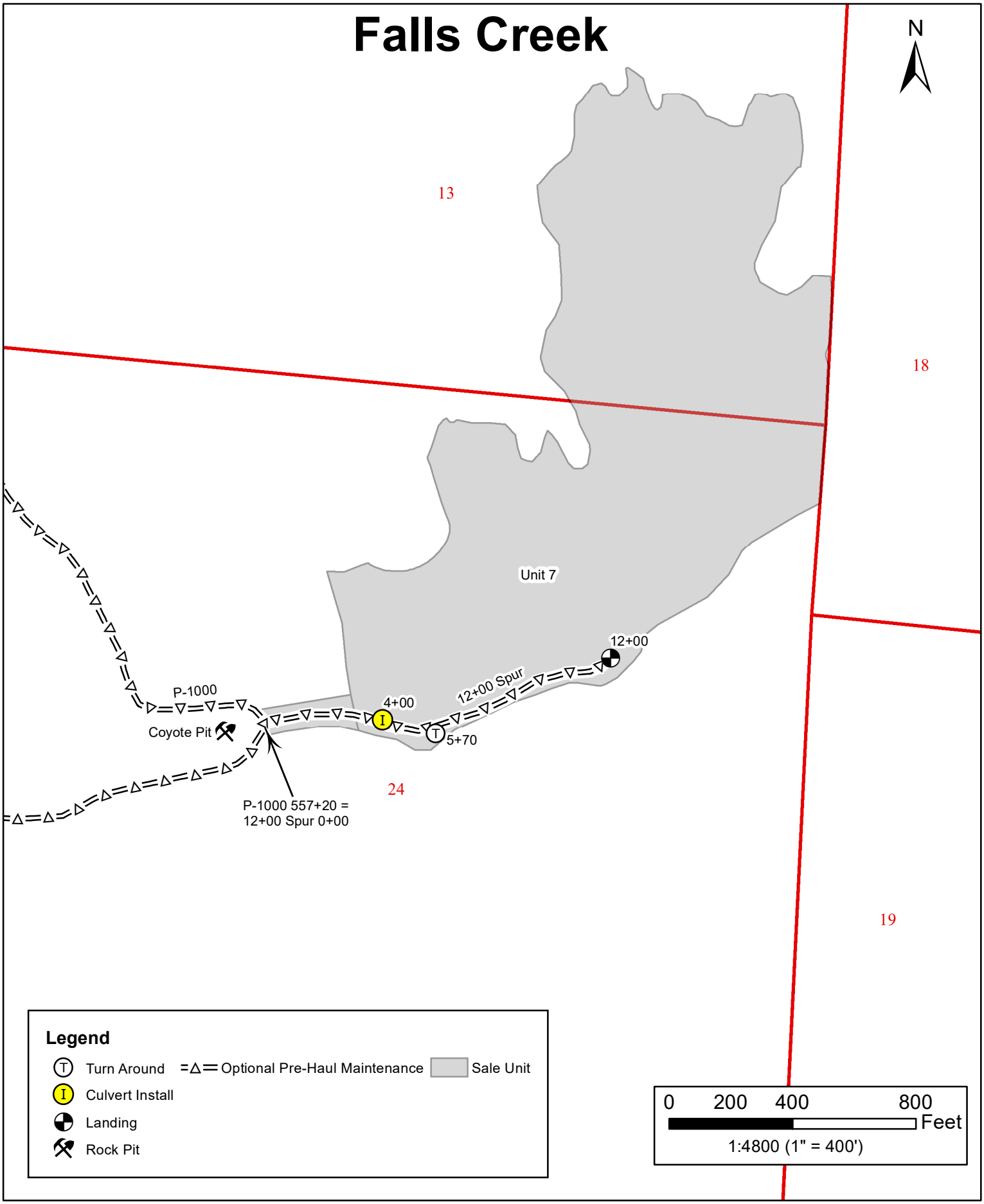
Falls Creek


N
21+50
Jailhouse Ln
19
Activity Timing Restrictions
July 1, 2020 - September 30, 2020
Fish Stream Work Provisions Apply
Jailhouse Lane MP 0.62
= P-1200 New 0+00
0+10
2+75
Unit 5
P-1200 New
Unit 4
39+80
15+60
18+00
19+50
Unit 6
Legend
Turn Around
Culvert Install
Gate
Existing Roads
Optional Construction
Highway
Sale Unit
0
200
400
800
Feet
1:4800 (1" = 400')

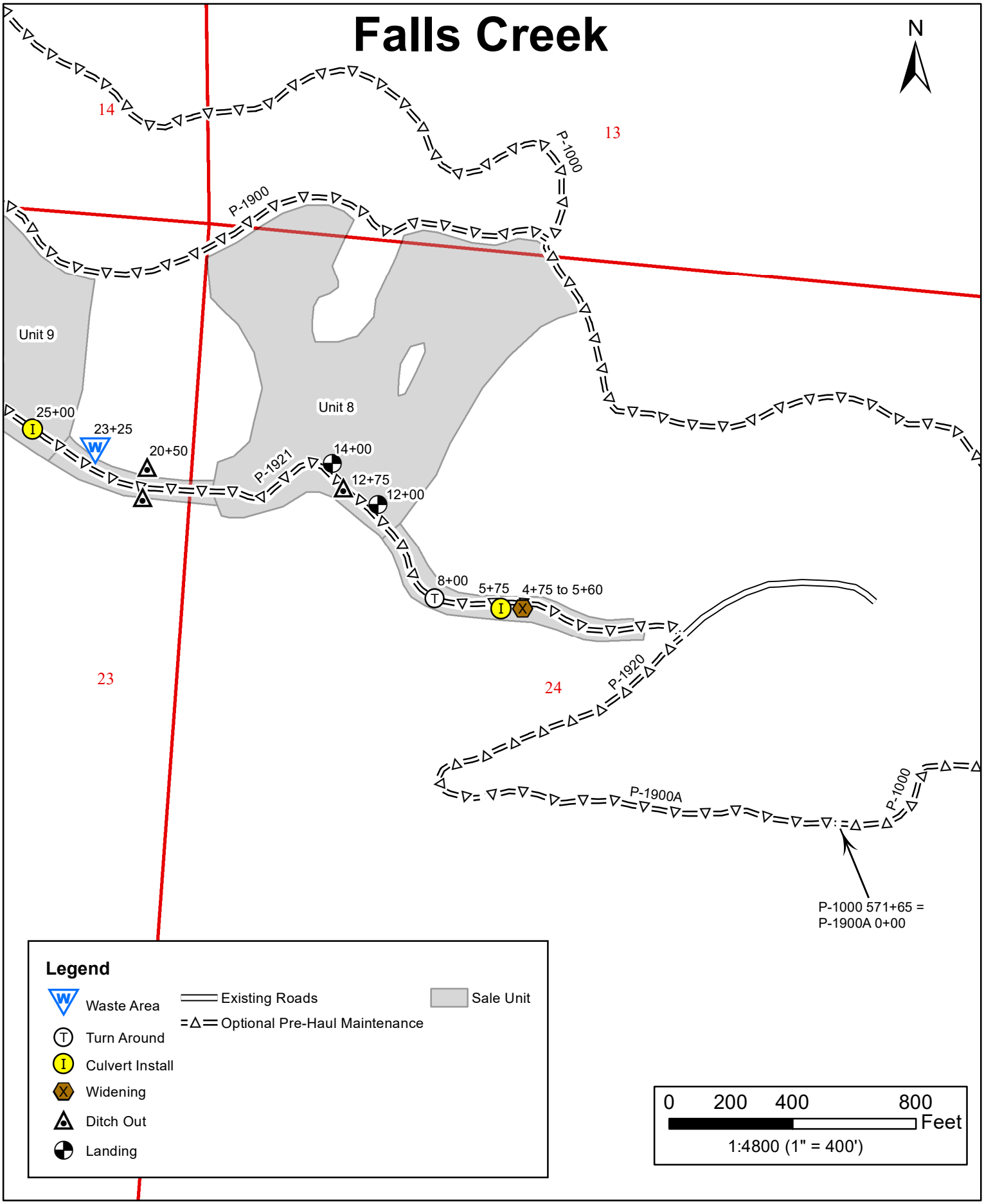
Falls Creek


N
34
35
36
31
32
30
29
3
2
1
6
5
10
11
12
7
8
15
14
13
18
17
P-1000
P-1000
P-1000
P-1900
Legend
Waste Area
Widening
Ditch Out
Culvert Install
Landing
Turn Around
Rock Pit
Existing Roads
Optional Pre-Haul Maintenance
Sale Unit
0
0.5
1
Miles
1:31680 (1" = 2640')

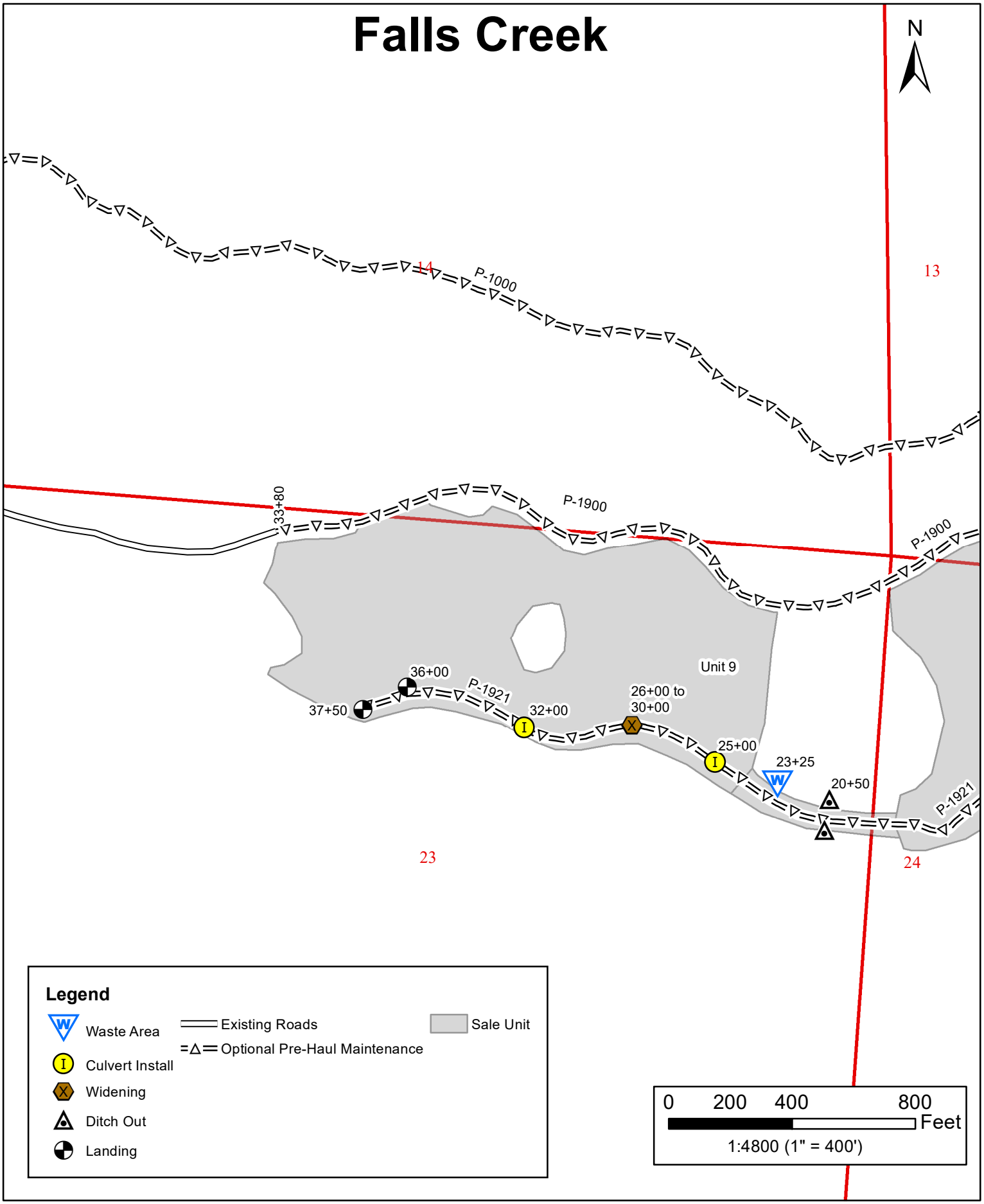
Falls Creek


N
13
18
19
24
Unit 7
12+00
12+00 Spur
4+00
5+70
P-1000
Coyote Pit
P-1000 557+20 =
12+00 Spur 0+00
Legend
Turn Around
Optional Pre-Haul Maintenance
Sale Unit
Culvert Install
Landing
Rock Pit
0
200
400
800
Feet
1:4800 (1" = 400')

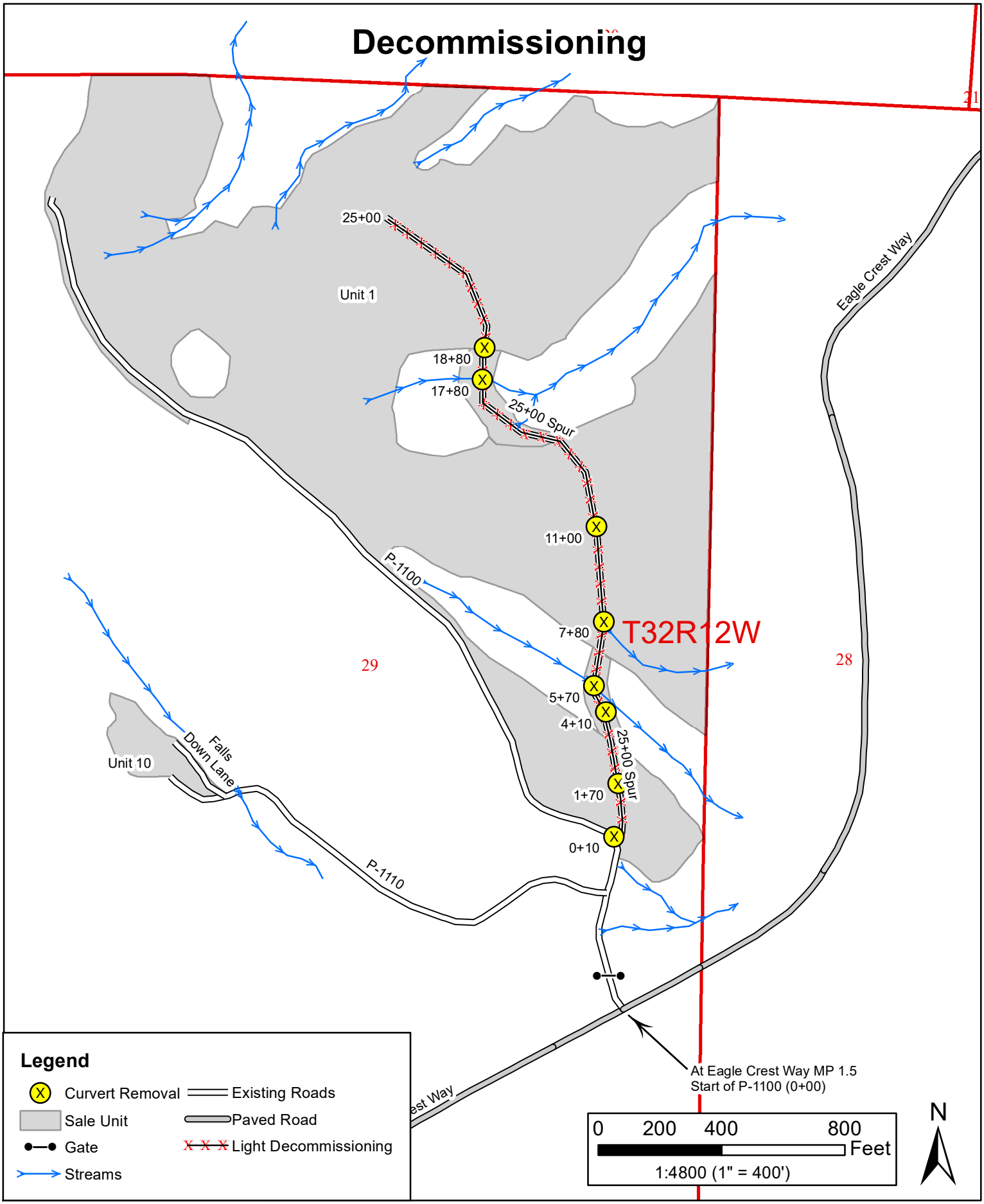
Falls Creek


N
14
13
23
24
P-1000
P-1900
P-1921
P-1920
P-1900A
Unit 9
Unit 8
25+00
23+25
20+50
14+00
12+75
12+00
8+00
5+75
4+75 to 5+60
P-1000 571+65 =
P-1900A 0+00
Legend
Waste Area
Turn Around
Culvert Install
Widening
Ditch Out
Landing
Existing Roads
Optional Pre-Haul Maintenance
Sale Unit
0
200
400
800
Feet
1:4800 (1" = 400')

Falls Creek

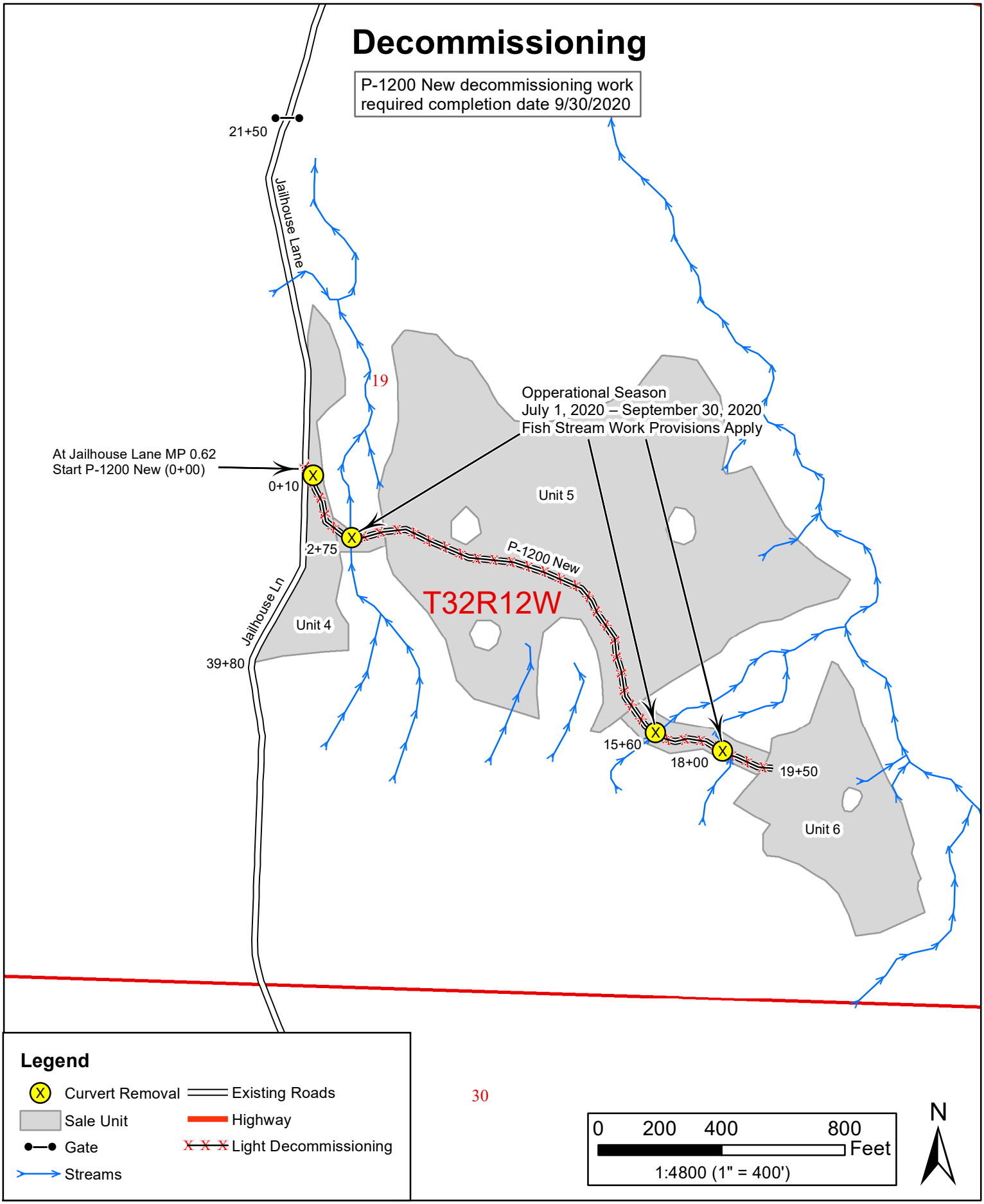

N
14
13
23
24
P-1000
P-1900
P-1900
P-1921
P-1921
33+80
36+00
37+50
32+00
26+00 to
30+00
25+00
23+25
20+50
Unit 9
Legend
Waste Area
Existing Roads
Sale Unit
Optional Pre-Haul Maintenance
Culvert Install
Widening
Ditch Out
Landing
0
200
400
800
Feet
1:4800 (1" = 400')

Decommissioning



Decommissioning

P-1200 New decommissioning work required completion date 9/30/2020



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.

0-3 OPTIONAL ROADS

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

Road	Stations	Type
P-1000	0+00 to 571+65	Pre-Haul Maintenance
P-1100	0+00 to 33+50	Pre-Haul Maintenance
25+00 Spur	0+00 to 25+00	Reconstruction
P-1110	0+00 to 16+00	Pre-Haul Maintenance
P-1200 New	0+00 to 19+50	Construction
P-1200S	0+00 to 34+50	Pre-Haul Maintenance
P-1900	0+00 to 33+80	Pre-Haul Maintenance
P-1900A	0+00 to 11+90	Pre-Haul Maintenance
P-1920	0+00 to 10+80	Pre-Haul Maintenance
P-1921	0+00 to 37+50	Pre-Haul Maintenance
12+00 Spur	0+00 to 12+00	Pre-Haul Maintenance
Falls Down Lane	0+00 to 2+50	Pre-Haul Maintenance
Jailhouse Ln	0+00 to 39+80	Post-Haul Maintenance

0-4 CONSTRUCTION

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

Road	Stations	Requirements
P-1200 New	0+00 to 19+50	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, compacting road surfaces, 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
25+00 Spur	0+00 to 25+00	See Below

Reconstruction includes, but is not limited to:
Clearing, grubbing, excavation, Installing additional culverts, realigning road segments, application of rock.

0-6 PRE-HAUL MAINTENANCE

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

Road	Stations	Requirements
P-1000	0+00 to 571+65	Grade and shape road in accordance with Clause 2-5. Maintain erosion control structures in accordance with Clause 2-8, 4-38 and as directed by Contract Administrator. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1100	0+00 to 33+50	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Construct ditches in accordance with Clause 2-7 and 4-28. Clean culverts in accordance with clause 2-6, 4-38, and Culvert List. Install culverts in accordance with Culvert List. Construct catch basins with silt fence in accordance with Clause 8-1 and 4-38. Maintain erosion control structures in accordance with Clause 2-8, 4-38 and as directed by Contract Administrator. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List. Paint gate in accordance with Clause 7-75.
P-1110	0+00 to 16+00	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Clean ditches in accordance with Clause 2-7 and 4-38. Install culverts in accordance with Culvert List. Construct catch basins with silt fence in accordance with Clause 8-1 and 4-38. Maintain erosion control structures in accordance with Clause 2-8 and as directed by Contract Administrator. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1200S	0+00 to 34+50	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean ditches in accordance with Clause 2-7 and 4-38. Clean culverts in accordance with clause 2-6, 4-38, and Culvert List. Maintain erosion control structures in accordance with Clause 2-8 and as directed by Contract

		Administrator. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1900	0+00 to 33+80	Grade and shape road in accordance with Clause 2-5. Maintain erosion control structures in accordance with Clause 2-8 and as directed by Contract Administrator. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1900A	0+00 to 11+90	Grade and shape road in accordance with Clause 2-5. Maintain erosion control structures in accordance with Clause 2-8 and as directed by Contract Administrator. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1920	0+00 to 10+80	Grade and shape road in accordance with Clause 2-5. Maintain erosion control structures in accordance with Clause 2-8 and as directed by Contract Administrator. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
12+00 Spur	0+00 to 12+00	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Construct ditches in accordance with Clause 2-7 and 4-28. Install culverts in accordance with Culvert List. Maintain erosion control structures in accordance with Clause 2-8 and as directed by Contract Administrator. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1921	0+00 to 37+50	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Construct ditches and ditchouts in accordance with Clause 2-7, 4-29, and 4-28. Install culverts in accordance with Culvert List. Maintain erosion control structures in accordance with Clause 2-8 and as directed by Contract Administrator. Stabilize Slopes in accordance with Clauses 8-10 and 8-11. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.

Falls Down Lane	0+00 to 2+50	Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23.
Total:	**764.15**	

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

0-9 DECOMMISSIONING

This project includes, but is not limited to decommissioning listed in Clause 9-20 ROAD DECOMMISSIONING.

0-12 DEVELOP ROCK SOURCE

The Purchaser shall develop a new rock source called Bumble's Boulder Pit. Development will involve stripping approximately 1 acre to useable rock as determined by the Contract Administrator and drilling and shooting to obtain ballast material.

Purchaser shall also strip ½ acre and Use Jaw Rock Crusher in Coyote Pit to obtain the volume of ballast as called for in the Rock List. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

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 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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.

1-5 DESIGN DATA

Design data is available upon request at the Department of Natural Resources Olympic Region Office in Forks, WA.

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.

1-8 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 must be cleaned and treated with a minimum of two coats of zinc rich paint.

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

References in this road plan to "WSDOT Standard Specifications" mean the Washington State Department of Transportation's Standard Specifications for Road, Bridge, and Municipal Construction 2018 (M41-10).

1-11 FPHP REQUIREMENTS

The following work is subject to requirements under a Forest Practice Hydraulics Project Approval issued by the State of Washington.

Road	Stations	Work Type
P-1200 New	2+75(C1),15+60(C3),18+00(C2)	Temporary Fish Culverts Timing Window July 1st- September 30th See Attached Drawings

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.

1-13 LOG LOADING

At no time shall the loading of logs occur on the Eagle Crest Way road. In addition, no debris from harvesting operations shall be allowed on this road.

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

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

Road	Stations	Type
Coyote Pit	N/A	Stakes With Orange Ribbon

SUBSECTION TIMING

1-20 COMPLETE BY DATE

Purchaser shall complete pre-haul road work before the start of timber haul.

Purchaser shall complete pre-haul, post-haul, and light decommissioning within the following dates.

Road	Stations/Comment	Date/Comment
P-1200 New	0+00 to 19+50 All Work	July 1, 2020 – Sept. 30, 2020 Due to activity timing restrictions and expiration date of road use permit.

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.

Road	Stations	Activity	Closure Period
P-1100	3+95 – 33+50	All	October 15th – April 15th
25+00 Spur	All	All	October 15th – April 15th
P-1200 New*	0+00 to 19+50	All	October 1st – June 30th

- **All work on P-1200 New shall be completed by September 30th 2020 due to expiring Road Use Permit.**

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.

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

In accordance with Contract Clause G-220 State Suspends Operation, the Contract Administrator 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.

SUBSECTION OTHER INFRASTRUCTURE

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

At existing road approaches to county roads and state highways, any mud, dirt, rock or other material tracked or spilled on the asphalt surface shall be removed immediately by the Purchaser.

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

The following county roads and state highways are affected by this sale:

Road Name
Mary Clark Road

1-41 REQUIREMENTS FOR PAVED ROAD APPROACHES

Requirements for the paved road approaches:
Purchaser shall build up approaches to allow a smooth grade transition to the top of the rocked road surfacing must be kept level with the surface of the paved roads at all times.

Road Name
Eagle Crest Way

1-43 ROAD WORK AROUND UTILITIES

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

Road	Stations	Utility	Utility Contact
Jailhouse Lane	0+00 to 39+80	Clallam County PUD, Unknown	**811**
Eagle Crest Way	All	Clallam County PUD, Unknown	**811**

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

C-060 Designated Roads

Road	Stations
Mary Clark Pit Access Rd	0+00 to 22+00
FS-2902	0+00 to 6+70
LTSP Main	0+00 to 4+85
Jailhouse Ln	0+00 to 39+80
P-1000	0+00 to 571+65
P-1900	0+00 to 33+80
P-1900A	0+00 to 11+90
P-1920	0+00 to 10+80

2-4 PASSAGE OF LIGHT VEHICLES

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

Road	Stations
P-1000	0+00 to 571+65
Jailhouse Ln	0+00 to 39+80

2-5 MAINTENANCE GRADING – EXISTING ROAD

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

Road	Stations	Requirements
P-1000	0+00 to 571+65	Grade, shape, and remove shoulder and surface vegetation.
P-1100	0+00 to 33+50	Grade, shape, and remove shoulder and surface vegetation.
P-1110	0+00 to 16+00	Grade, shape, and remove shoulder and surface vegetation.
P-1200S	0+00 to 34+50	Grade, shape, and remove shoulder and surface vegetation.
P-1900	0+00 to 33+80	Grade, shape, and remove shoulder and surface vegetation.
P-1900A	0+00 to 11+90	Grade, shape, and remove shoulder and surface vegetation.
P-1920	0+00 to 10+80	Grade, shape, and remove shoulder and surface vegetation.
P-1921	0+00 to 37+50	Grade, shape, and remove shoulder and surface vegetation.
12+00 Spur	0+00 to 12+00	Grade, shape, and remove shoulder and surface vegetation.

2-6 CLEANING CULVERTS

On the following road(s), all inlets and outlets of culverts shall be cleaned before the start of timber haul and shall be subject to the written approval of the Contract Administrator.

Road	Stations
P-1100	15+20,21+60,
P-1200S	1+80,5+00,10+50,31+30

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.

Road	Stations	Left or Right	Comments
P-1100	0+00 to 33+50	Left	Ditching
P-1110	0+00 to 16+00	Right	Ditching
P-1200S	0+00 to 34+50	Left	Ditching
P-1921	0+00 to 37+50	Left	Ditching
12+00 Spur	0+00 to 12+00	Right	Ditching
25+00 Spur	0+00 to 25+00	Left	Ditching

2-8 MAINTAINING EROSION CONTROL STRUCTURES

On the following road(s), Purchaser shall clean and maintain all erosion control devices. 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.

Road	Stations	Work Needed
P-1000	0+00 to 571+65	As Directed by C/A
P-1100	0+00 to 33+50	As Directed by C/A
P-1110	0+00 to 16+00	As Directed by C/A
P-1200S	0+00 to 34+50	As Directed by C/A
P-1900	0+00 to 33+80	As Directed by C/A
P-1900A	0+00 to 11+90	As Directed by C/A
P-1920	0+00 to 10+80	As Directed by C/A
P-1921	0+00 to 37+50	As Directed by C/A
12+00 Spur	0+00 to 12+00	As Directed by C/A

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 3-21 through Clause 3-25 and Clause 4-36 through Clause 4-38.

Road	Stations
P-1100	0+00 to 33+50
P-1110	0+00 to 16+00
P-1921	0+00 to 37+50
12+00 Spur	0+00 to 12+00
25+00 Spur	0+00 to 25+00
Falls Down Lane	0+00 to 2+50

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.

Road	Stations
P-1200S	0+00 to 34+50

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

Purchaser shall fall all vegetative material larger than 5 inches DBH or over 15 feet high between the marked right-of-way boundaries or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

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

Purchaser shall place a log, with length equal to two (2) times the width of the ordinary high water, from the largest diameter class conifer tree cut from within the Inner Zone (25 feet either side of the stream) in the stream as directed by the Contract Administrator.

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.

3-13 STUMPS FOR PUNCHEON MATERIAL

On the following road(s), stumps from within the grubbing limits may be overturned and driven flush with the ground surface for use as subgrade puncheon material.

Road	Stations
P-1200 New	0+00 to 19+50

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.

3-23 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

3-31 PILING

Organic debris shall be piled no closer than 20 feet from standing timber and no higher than 20 feet. Piles shall be free of rock and soil.

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.

4-4 SWITCHBACK STANDARDS

A switchback is defined as a curved segment of road between a beginning and end of the same curve, where the change of traffic travel direction is greater than 90 degrees. The following standards for switchbacks shall be followed:

- Adverse grades on switchbacks shall not exceed 10%.
- Favorable grades through switchbacks shall not exceed 12%.
- Transition grades entering and leaving switchbacks shall not exceed a 5% grade change.
- Transition grades required to meet switchback grade limitations shall be constructed on the tangents preceding and departing from the switchbacks.

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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.

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 Road Widening Detail Sheets. 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.

Road	Stations
P-1921	4+75 to 5+60
P-1921	26+00 to 30+00

4-12 FULL BENCH CONSTRUCTION

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

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.

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 must drain to cross-drain culverts or 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.

Road	Stations
25+00 Spur	15+50 DOL
P-1921	12+75 DOL,20+50 DOL/DOR

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

Purchaser may sidecast waste material on side slopes up to 45% if the waste material is compacted and free of organic debris. On side slopes greater than 45%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

4-37 WASTE AREA LOCATION

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.

Waste Area Location	Waste Generated From Road	Waste Generated at Stations	Estimated Volume
P-1921 STA 23+25	P-1921	4+75 to 5+60, 26+00 to 30+00	1500 CY

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, with the exception of side hill embankments too narrow to accommodate excavation equipment which may be placed by end-dumping or sidecasting until sufficiently wide to support the equipment.

SUBSECTION BORROW

4-45 SELECT BORROW

Select borrow shall consist of granular material, either naturally occurring or processed, and shall contain no more than 5% clay, organic debris, or trash by volume.

4-46 COMMON BORROW

Common borrow shall consist of soil, and/or aggregate that is non-plastic and shall contain no more than 5% clay, organic debris, or trash by volume. The material is considered non-plastic if the fines (passes the U.S. #40 sieve) in the sample cannot be rolled between the hand and a smooth surface into a thread at any moisture content.

4-47 NATIVE MATERIAL

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

4-48 BORROW MATERIAL
Borrow material shall contain no more than 5% clay, organic debris, or trash by volume.

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 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

5-3 PUNCHEON PLACEMENT

On the following road(s), puncheon may be utilized in the subgrade on the following road. Puncheon shall consist of logs of at least 4 inches in diameter and shall be at least 17 feet long.

Road	Stations
P-1200 New	0+00 to 19+50
25+00 Spur	0+00 to 25+00

5-4 PUNCHEON RESTRICTED

At no time shall puncheon be used in the subgrade, unless approved by the Contract Administrator or as Listed in Clause 5-3.

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.

5-6 USED CULVERT MATERIAL

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

Road	Stations
P-1200 New	0+00 to 19+50
25+00 Spur	0+00 to 25+00

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 Type Ns Np Detail and Temporary Log Fill Stream Crossing Detail or Attached Drawings. Temporary culverts shall be removed as directed by the Contract Administrator. Geotextile fabric shall meet the specifications in Clause 10-2 Geotextile For Separation.

Road	Stations
P-1200 New	2+75,15+60,18+00
25+00 Spur	4+10,17+80

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 CONTINGENCY CULVERTS

The following culverts will be supplied by the Purchaser and will be available for installation on any road listed in the TYPICAL SECTION SHEET as directed by the Contract Administrator. Contingency culverts not installed shall become property of the State and will be stockpiled in accordance with the Mary Clark Pit Plan, or as directed by the Contract Administrator

Road	Size
As Directed	18”x30’
By C/A	18”x30’

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 ¾ 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 ½" 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.

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.

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.

Source	Location	Rock Type
Bumble's Boulder Pit	T32R12W Sec 29	Ballast
Coyote Pit	T31R13W Sec 24	Ballast, Oversize
Mary Clark Pit	T30R12W Sec 32	Pit run, Crushed

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the Rock List may be obtained from the following existing stockpile(s) on state land at no charge to the Purchaser. Purchaser shall remove no more than 900 cubic yards of 1 ¼ " minus crushed rock Without written approval from the Contract Administrator.

Source	Location	Quantity (yd^3)
Mary Clark Pit	T30R12W Sec 32	900yd^3

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.

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.

6-14 DRILL AND SHOOT

Rock drilling and shooting shall meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale shall not exceed 5% of the total volume mined in that source.
- Oversize material is defined as rock fragments larger than five feet in any dimension.
- Oversized rock that exceeds the maximum allowable amount shall be shot or broken up.
- The Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- The Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 10 working days before any drilling (Form #M-126PAC).
- 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.

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.

Site	Requirements
Bumble's Boulder Pit	Strip 1 Acre, Drill and Shoot 10000 CY of Shot Ballast
Coyote Pit	Strip 1/2 Acre, Manufacture 5000 CY of 6-inch minus Jaw Run

6-16 TECHNICAL SPECIFICATIONS

DRILLING

The Purchaser shall drill in accordance to an approved Shot Plan. Drill depth shall not extend more than 5 feet below existing pit floor. The State's Engineer and Purchaser shall jointly measure and determine drill depths, hole spacing and pattern and must be approved prior to loading explosives. During drilling operation, drill operator shall keep a bore log which includes the depth and location of each hole drilled. The State's Engineer may ask to see the bore log during and after the drilling process has completed.

BLASTING

The Purchaser shall furnish and load appropriate explosives, detonators, and ignition sources in accordance to all State and Federal laws and in accordance to an approved Shot Plan.

DRILLING AND SHOOTING PLAN "SHOT PLAN"

The Purchaser shall submit a written drilling and shooting plan, including drawings, to the State's Engineer, which must meet the approval of the State's Engineer prior to the start of the drilling operation. The plan and drawing(s) shall include the following proposals:

drill hole diameter, drill hole spacing, drill hole pattern, drill hole depth, any stemming depths, type and depth of explosive including amount per drill hole, detonator and ignition type, and proposed delay pattern. Any adjustment or modifications to the proposals during operations must be noted and resubmitted prior to loading of explosives.

WEATHER LIMITATIONS
When, in the opinion of the State's Engineer, the weather is such that satisfactory results cannot be obtained in any phase of operation, Purchaser shall suspend operations until the weather is favorable. Before and during any suspension, Purchaser shall protect the work from damage or deterioration.

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.

Rock Type	Amount
6" Minus Jaw Run	5000 CY
Shot Ballast	10000 CY

6-22 FRACTURE REQUIREMENT FOR ROCK
A minimum of 50% by weight of coarse aggregate shall have at least one fractured face. Coarse aggregate is the material greater than 1/4-inch in size.

SUBSECTION ROCK GRADATIONS

6-28 1 ¼-INCH MINUS CRUSHED ROCK

% Passing 1 ¼" square sieve	100%
% Passing 5/8" square sieve	50 - 80%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	3 - 18%
% Passing U.S. #200 sieve	5%

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.

6-39 6-INCH JAW RUN ROCK

% Passing 6" in one dimension	100%
% Passing 3" square sieve	45 - 65%

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

6-42 CLEAN ROCK, SHOT BALLAST
Shot Ballast rock shall contain no more than 5% by weight of organic debris, dirt, and trash. Shot Ballast will meet the following specifications for rock gradation when placed on the subgrade:

- No more than 25% of the rock by weight shall exceed 8 inches in any dimension, and no rock shall be larger than 24 inches in any dimension. Rock may require processing to meet these requirements.

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:

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

6-52 OVERSIZE

% Passing 8” square sieve	100%
% Passing 4” square sieve	0%

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

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 STOCKPILE

6-65 ROCK STOCKPILE LOCATION

The Purchaser may stockpile rock with written consent from the Contract Administrator.

6-67 ROCK STOCKPILE SPECIFICATIONS

Rock stockpiles listed in Clause 6-65 Rock Stockpile Location shall meet the following specifications:

- Before placing aggregates upon the stockpile site, the site shall be cleared of vegetation, trees, stumps, brush, rocks or other debris and the ground leveled to a smooth, firm, uniform surface.
- When completed, the stockpile shall be neat and regular in shape.
- The stockpile height shall be limited to a maximum of 30 feet.
- Stockpiles in excess of 500 cubic yards shall be built up in layers not more than 8 feet in depth. Stockpile layers shall be constructed by trucks, clamshells, or other methods approved, in writing, by the Contract Administrator.
- Each layer shall be completed over the entire area of the pile before depositing aggregates in the next layer. The aggregates shall not be dumped so that they run down and over the lower layers in the stockpile. The method of dropping from

a bucket or spout in one location so as to form a cone shaped pile will not be permitted.

- Stockpiles of different types or sizes of aggregate shall be spaced far enough apart, or separated by suitable walls or partitions, to prevent the mixing of the aggregates.

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.

6-72 ROCK APPLICATION AFTER HAULING

On the following road(s), upon completion of all hauling operations, Purchaser shall apply 1 $^{1}/_{4}$" minus crushed rock in accordance with the quantities shown on the Rock List.

Road	Stations	Amount
P-1000	As Directed	150yd^3
Jailhouse Ln	As Directed	50yd^3

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 SIGNS

7-2 SIGN INSTALLATION (NON-HIGHWAY)

The Purchaser shall be responsible for the purchase, installation, and maintenance of the following road signs. Signs shall be installed a minimum of 7 days before road work begins. Signs shall be at least 2 feet in any direction, and shall be orange with black lettering.

Road	Station	Sign
Eagle Crest Way	MP 1.5	Trucks Entering Roadway
Jailhouse Ln	MP 0.62	Trucks Entering Roadway

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 GATE CLOSURE

7-70 GATE CLOSURE

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

Road	Station
P-1200S	0+50
P-1200S	34+00
Jailhouse Ln	21+50

SUBSECTION GATES AND FENCES

7-75 GATE MAINTENANCE

On the following road(s), gate maintenance as listed is required. All old gate material shall be removed from state land by the Purchaser before the termination of the contract.

Road	Station	Requirements
P-1100	1+10	Gate shall be painted Safety Yellow color using high gloss alkyd enamel paint. Prior to painting, surfaces shall be prepared by cleaning, sanding and removing all loose rust and paint. All surfaces shall be dry at the time of painting. Two coats of paint shall be applied, using the procedures described in the product instructions, with a minimum of eight hours drying time between coats.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

On the following road(s), Purchaser shall install catch basins and silt fence**.**

Road	Stations	Comments
P-1100	2+40	Install 2x catch basins with silt fence per location.
P-1110	14+00	Install catch basin with silt fence per location.
25+00 Spur	5+75 Left	Install catch basin with silt fence per location.

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.

SUBSECTION SLOPE STABILIZATION

8-10 STABILIZE SLOPES – ROCK APPLICATION

On the following road(s), Purchaser shall stabilize excavation and embankment slopes by applying rock as specified below. Rock must be set in place in conjunction with construction of the embankment. Rock must be applied in quantities specified in the Rock List to exposed soil on the entire embankment to a minimum depth of 12 inches. Rock must be set in place by machine.

Road	Stations	Rock Type
P-1921	4+75 to 5+60	Ballast/Oversize
P-1921	26+00 to 30+00	Ballast/Oversize

8-11 STABILIZE SLOPES – MATERIAL REMOVAL

On the following road(s), Purchaser shall stabilize embankment slopes by removing approximately 1500 cubic yards of sidecast material. End haul all material to a waste area designated in Clause 4-37 or by the Contract Administrator. All work is subject to approval by the Contract Administrator.

Road	Stations
P-1921	4+75 to 5+60
P-1921	26+00 to 30+00

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 even

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.

Seed Species	% by Weight
• 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 wasted in road prism or 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 attached drawings.

Road	Stations	Excavated Channel Width	Slope Ratio	Comments
P-1200 New	2+75	4’	1.5:1	See Attached Drawings
P-1200 New	15+60	3’	1.5:1	See Attached Drawings
P-1200 New	18+00	2’	1.5:1	See Attached Drawings
25+00 Spur	5+70	2’	1.5:1	
25+00 Spur	17+80	2’	1.5:1	

9-3 REMOVAL OF CULVERT MATERIAL FROM STATE LAND

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

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.

Road	Stations	Additional Requirements
All	All	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator.
P-1000	0+00 to 571+65	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator Apply post haul rock as per Clause 6-72.
Jailhouse Ln	0+00 to 39+80	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator Apply post haul rock as per Clause 6-72.

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.

SUBSECTION DECOMMISSIONING AND ABANDONMENT

9-20 ROAD DECOMMISSIONING

The following road(s) shall be decommissioned by the Purchaser by the specified date.

Road	Stations	Type	Date
P-1200 New	0+00 to 19+50	Light Decommissioning	September. 30, 2020
25+00 Spur	0+00 to 25+00	Light Decommissioning	October 14, 2022
Total Stations:	**44.50**		

9-22 LIGHT DECOMMISSIONING

Decommissioning shall consist of:

1. Remove all culverts. Resulting back slopes shall be 1:1 or shallower for cross drains and 1.5:1, or as specified in approved drawings, for all live stream culvert removals. Material removed shall be placed on the roadbed and compacted, with slopes of 2:1 or shallower, or end-hauled to designated waste areas. 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

10-2 GEOTEXTILE FOR SEPARATION

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

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

10-3 GEOTEXTILE FOR STABILIZATION

Geotextiles shall meet the following minimum requirements for strength and property qualities, and shall be designed by the manufacturer to be used for stabilization or reinforcement, and filtration. Material shall be free of defects, cuts, and tears.

	ASTM Test	Requirements
Type	--	Woven
Apparent opening size	D 4751	No. 40 max
Water permittivity	D 4491	0.10 sec^{-1}
Grab tensile strength	D 4632	315 lb
Grab tensile elongation	D 4632	<50%
Puncture strength	D 6241	620 lb
Tear strength	D 4533	112 lb
Ultraviolet stability	D 4355	50% retained after 500 hours of exposure

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.

	ASTM Test	Requirements
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 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

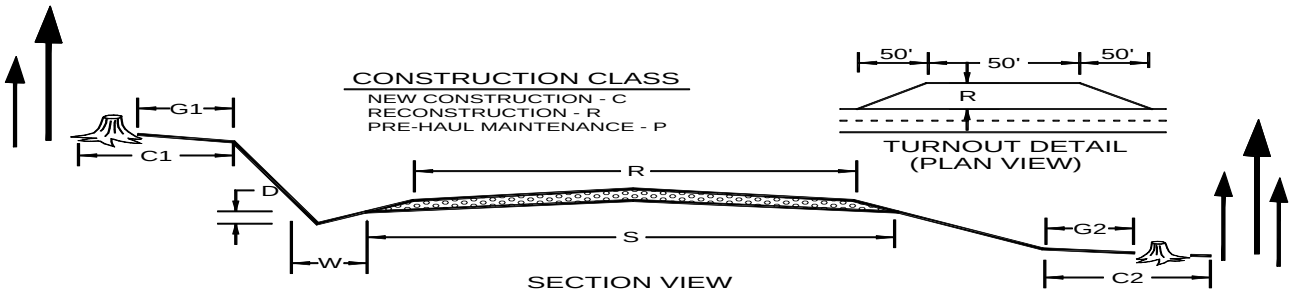
Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAGE AND CORRUGATION

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

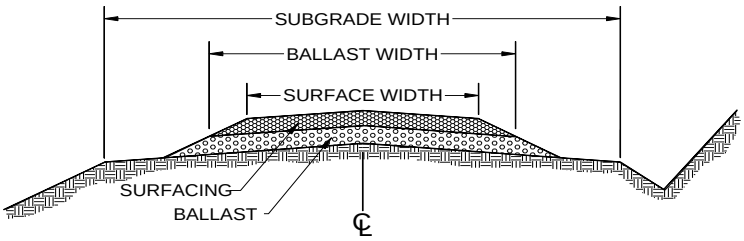
Diameter	Gage	Corrugation
18"	16 (0.064”)	2 $^{2}/_{3}$" X $^{1}/_{2}$"
24" to 42"	14 (0.079”)	2 $^{2}/_{3}$" X $^{1}/_{2}$"
48” to 54”	12	3” X 1”
60” +	10	5” X 1”

TYPICAL SECTION SHEET



ROAD NAME	START STATION	END STATION	CONSTRUCTION CLASS		SUBGRADE WIDTH (S)	ROAD WIDTH (R)	CROWN AT CL (in)	DITCH WIDTH (W)	DITCH DEPTH (D)	GRUBBING CUT BANK (G1)	GRUBBING FILL TOE (G2)	ROAD CUT CLEARING (C1)	ROAD FILL CLEARING (C2)
P-1000	0+00	571+65	P			14’	3”	3’	1’				
P-1100	0+00	33+50	P			12’	3”	3’	1’				
25+00 Spur	0+00	25+00	R		17’	12’	3”	3’	1’	3’	5’	10’	5’
P-1110	0+00	16+00	P			12’	3”	3’	1’				
P-1200 New	0+00	19+50	C		17’	12’	3”	3’	1’	3’	5’	10’	5’
P-1200S	0+00	34+50	P			12’	3”	3’	1’				
P-1900	0+00	33+80	P			12’	3”	3’	1’				
P-1900A	0+00	11+90	P			12’	3”	3’	1’				
P-1920	0+00	10+80	P			12’	3”	3’	1’				
P-1921	0+00	37+50	P			12’	3”	3’	1’				
12+00 Spur	0+00	12+00	P			12’	3”	3’	1’				
Falls Down	0+00	2+50	P			12’	-3”/+3”	3’	1’				
Jailhouse Ln	0+00	39+80	P			12’	3”	3’	1’				

ROCK LIST SHEET

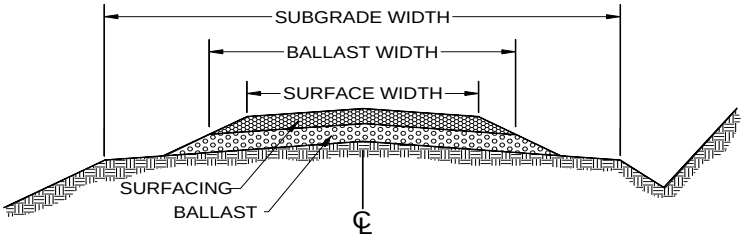


SECTION VIEW

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: Bumble’s Boulder Pit Ballast, 2: Mary Clark Pit Run 3: Mary Clark Crushed, 4: Coyote Pit Ballast 5: Coyote Pit Oversize

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)
P-1200 New															
Lift	0+00	19+50		1	12	9	50	980							
Lift	0+00	19+50		2	12	6	35	680							
Culvert	0+10			1				20							
Culvert	2+75			1				100							
Culvert	15+60			1				50							
Culvert	18+00			1				20							
Turnaround	19+50			2				50							
25+00 Spur															
Lift	0+00	25+00		1	12	9	50	1250							
Lift	0+00	25+00		2	12	6	35	880							
Culvert	0+10			1				20							
Culvert	1+70			1				20							
Culvert	4+10			1				20							
Culvert	5+70			1				20							
Culvert	7+80			1				20							
Culvert	11+00			1				20							
Landing	13+00			2				50							
Culvert	17+80			1				20							
Totals:	Bumble’s Boulder Ballast:2560 CY Mary Clark Pitrun:1660 CY														

ROCK LIST SHEET CONTINUED



SECTION VIEW

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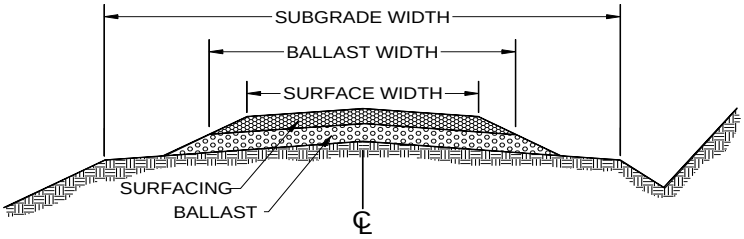
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼” minus to 4” minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1: Bumble’s Boulder Pit Ballast, 2: Mary Clark Pit Run 3: Mary Clark Crushed, 4: Coyote Pit Ballast 5: Coyote Pit Oversize

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)
25+00 Spur															
Culvert	18+80			1				20							
Landing	22+00			2				50							
Landing	25+00			2				50							
P-1000															
	Misc.								3				150		
P-1100															
Lift	0+00	33+50		1	12	9	50	1680							
Lift	0+00	33+50		2	12	6	35	1170							
Culvert	2+40			1				20							
Culvert	10+50			1				20							
Landing	20+50			1				100							
Culvert	26+00			1				20							
Culvert	30+20			1				20							
Spot Patch	31+20			2				20							
Culvert	33+00			1				20							
Turn Around	33+50			2				50							
P-1110															
Lift	0+00	16+00		1	12	9	50	800							
Lift	0+00	16+00		2	12	6	35	560							
Totals:	Bumble’s Boulder Ballast:2700 CY Mary Clark Pitrun:1900 CY								Mary Clark Crushed: 150CY						

ROCK LIST SHEET CONTINUED



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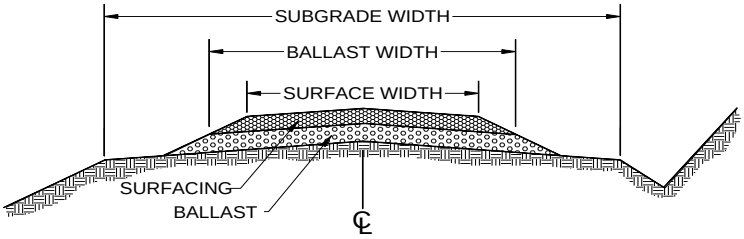
ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd^3/sta)	Pitrun SUBTOTAL(yd^3)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd^3/sta)	Crushed Subtotal(yd^3)	Oversize/ Rip Rap Source	Oversize/Rip Rap Quantity(yd^3)
P-1110															
Culvert	14+00			1				20							
P-1200S															
Misc.				1				600	3				100		
P-1900															
Misc.				4				40							
P-1900A															
Misc.				4				40							
P-1920															
Misc.				4				40							
12+00 Spur															
Lift	0+00	12+00		4	12	6	35	420							
Culvert	4+00			4				20							
Turnaround	5+70			4				20							
Landing	12+00			4				50							
P-1921															
Lift	0+00	37+50		4	12	12	70	2630							
Widening	4+75	5+60												5	100
Culvert	5+75			4				20							
Turnaround	8+00			4				50							
Landing	12+00			4				50							
Totals:	Bumble’s Boulder Ballast:620 CY Coyote Pit Ballast:3380 CY								Mary Clark Crushed: 100CY					Coyote: 100 CY	

ROCK LIST SHEET CONTINUED



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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)
P-1921															
Landing	14+00			4				50							
Culvert	25+00			4				20							
Widening	26+00	30+00												5	200
Culvert	32+00			4				20							
Landing	36+00			4				50							
Landing	37+50			4				50							
P-1000															
Post Haul	Misc.								3				150		
Contingency	Misc.			2				20							
Contingency	Misc.			2				20							
Jailhouse Ln															
Post Haul	Misc.								3				50		
Totals:	Mary Clark Pit run:40 CY Coyote Pit Ballast:190 CY								Mary Clark Crushed: 200 CY					Coyote: 200 CY	
Grand Totals:	**Bumble’s Boulder Ballast:5880 CY Mary Clark Pit Run: 3600 CY Coyote Pit Ballast: 3570 CY**								**Mary Clark Crushed: 450 CY**					**Coyote: 300 CY**	

CULVERT LIST

ROAD NAME	STATION	CULVERT DIAMETER (in)	CULVERT LENGTH (ft)	FLUME LENGTH (ft)		RIP RAP - INLET (cy)	RIP RAP – OUTLET (cy)	BACKFILL MATERIAL	NOTES
P-1200 New	0+10	18	40				1	PR	Installation
P-1200 New*	2+75	24	30					PR	Temporary Log Fill Culvert Installation
P-1200 New*	15+60	24	30					PR	Temporary Log Fill Culvert Installation
P-1200 New*	18+00	24	30					PR	Temporary Log Fill Culvert Installation
25+00 Spur	0+10	18	40				1	PR	Installation
25+00 Spur	1+70	18	26				1	PR	Installation
25+00 Spur	4+10	18	26				1	PR	Installation
25+00 Spur*	5+70	24	30				1	PR	Temporary Installation
25+00 Spur	7+80	18	26				1	PR	Installation
25+00 Spur	11+00	18	26				1	PR	Installation
25+00 Spur*	17+80	24	30				1	PR	Temporary Installation
25+00 Spur	18+80	18	26				1	PR	Installation
P-1100	2+40	18	26				1	PR	Installation
P-1100	10+50	18	26				1	PR	Installation
P-1100	15+20								Clean Culvert Inlet/Outlet
P-1100	21+60								Clean Culvert Inlet/Outlet
P-1100	26+00	18	26				1	PR	Installation
P-1100	30+20	18	26				1	PR	Installation
P-1100	33+00	18	26				1	PR	Installation
P-1110*	14+00	30	30				1	PR	Installation
12+00 Spur	4+00	18	26				1	PR	Installation
P-1921	5+75	18	26				1	PR	Installation
P-1921	25+00	18	26				1	PR	Installation
P-1921	32+00	18	26				1	PR	Installation
P-1200S	1+80								Clean Culvert Inlet/Outlet
P-1200S	5+00								Clean Culvert Inlet/Outlet
P-1200S	10+50								Clean Culvert Inlet/Outlet
P-1200S	31+30								Clean Culvert Inlet/Outlet
Contingency		18	30				1	PR	Installation as Directed by CA
Contingency		18	30				1	PR	Installation as Directed by CA

***Live Stream Culvert. All rip rap shall be Oversize unless specified in the Rock List, or in the field.**
All backfill shall be native material (NT) unless specified otherwise. CR= 1 ¼"- crushed rock, PR

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.

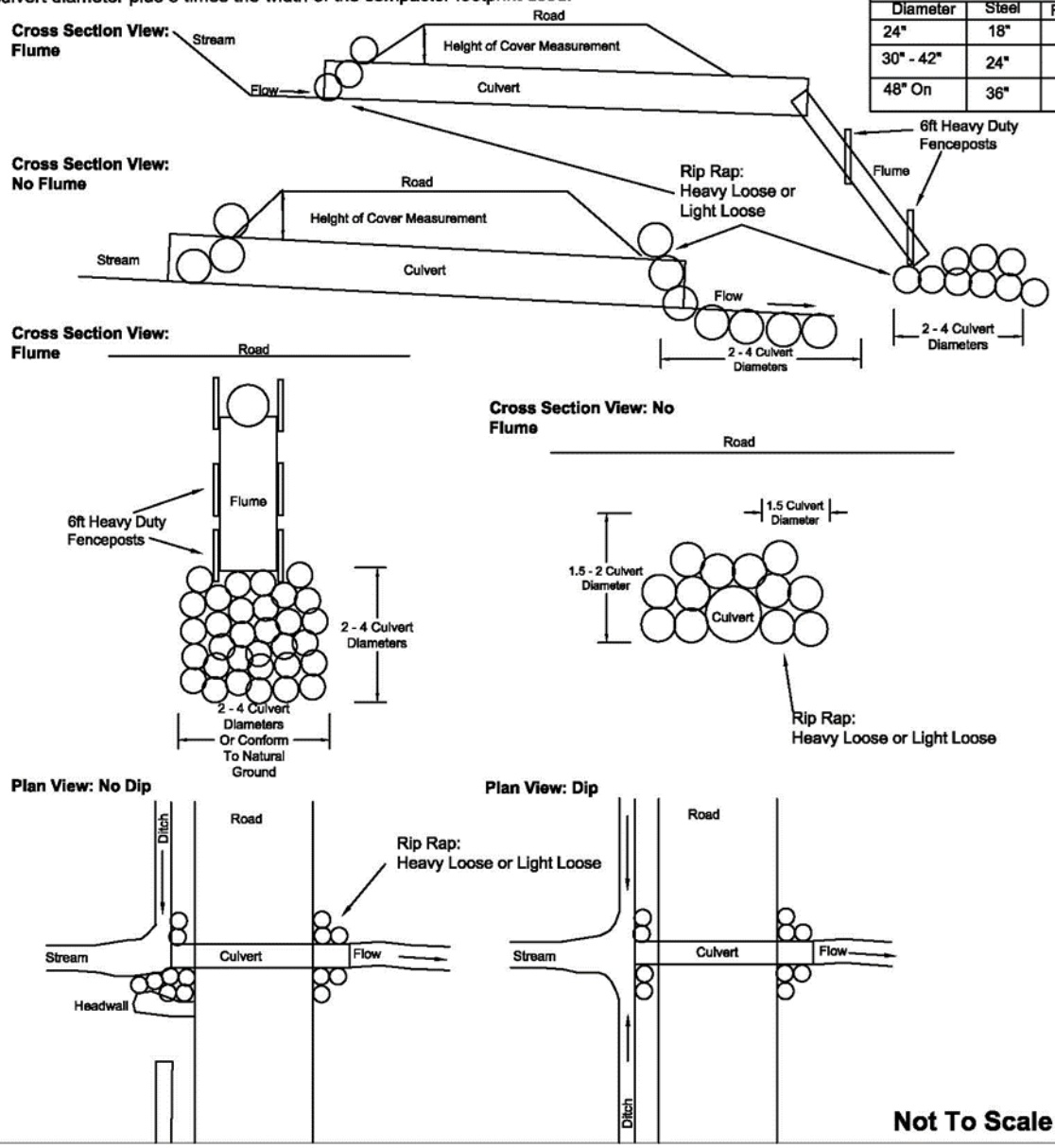
COMPACTION LIST

Road	Stations	Type	Max Depth Per Lift (inches)	Equipment Type	Minimum Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
Waste Areas	All	Waste Areas	24	Dozer/ Excavator	6000	2	3
Construction	All	Subgrade, Except Puncheon	6	Vibratory Smooth Drum	6000	3	3
Reconstruction	All	Fill					
Pre-Haul Maintenance	All	Pre-haul Surface					
Construction, Reconstruction, Pre-Haul Maintenance, Post-Haul Maintenance	All	Rock					
Pre-Haul	Slope Stabilization	Embankment					
Post-Haul Maintenance	All	Post-haul Surfaces					
Pre-Haul Maintenance, Reconstruction	All	Culvert Backfills	8	Jumping Jack	N/A	2	N/A

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.

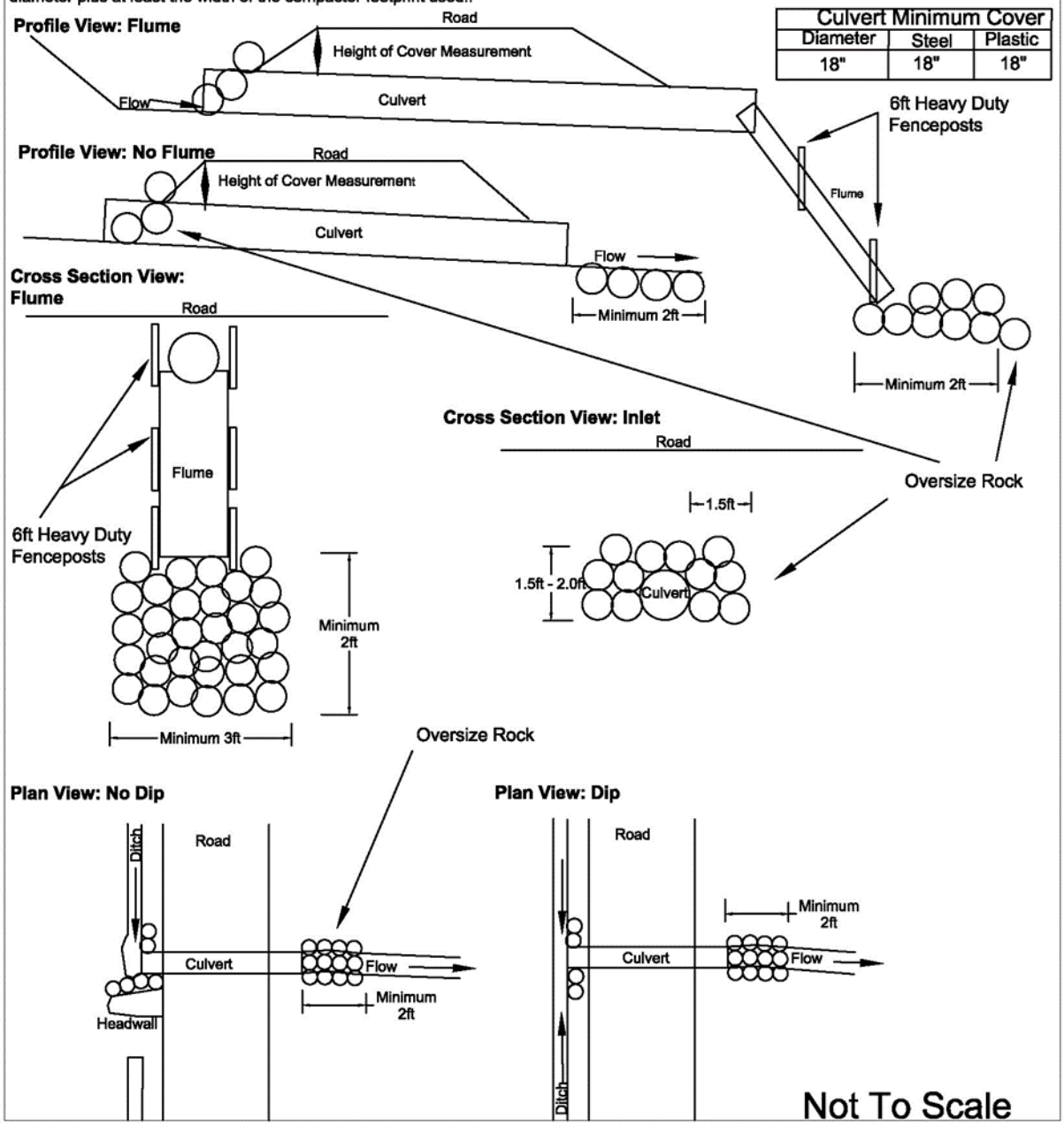
Culvert Minimum Cover		
Diameter	Steel	Plastic
24"	18"	24"
30" - 42"	24"	24"
48" On	36"	36"



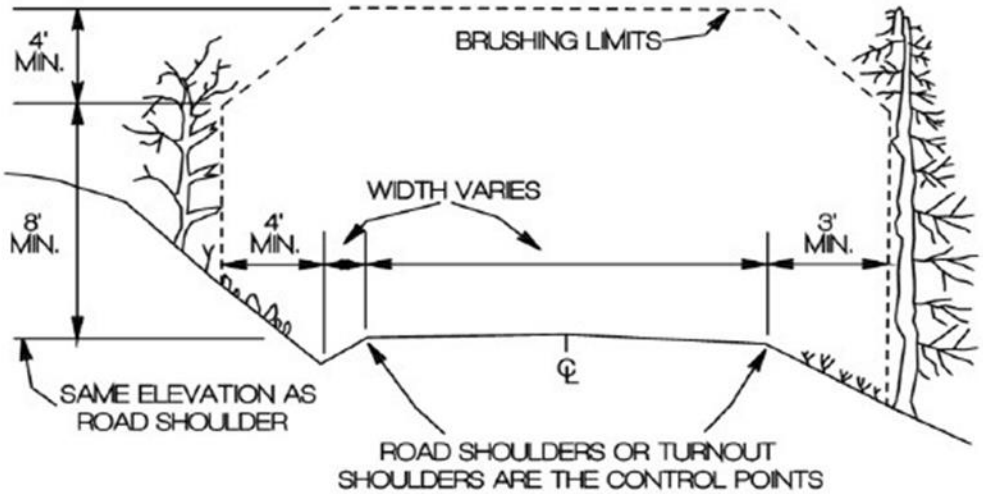
Typical Cross Drain Culvert Installation Detail Sheet

-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..

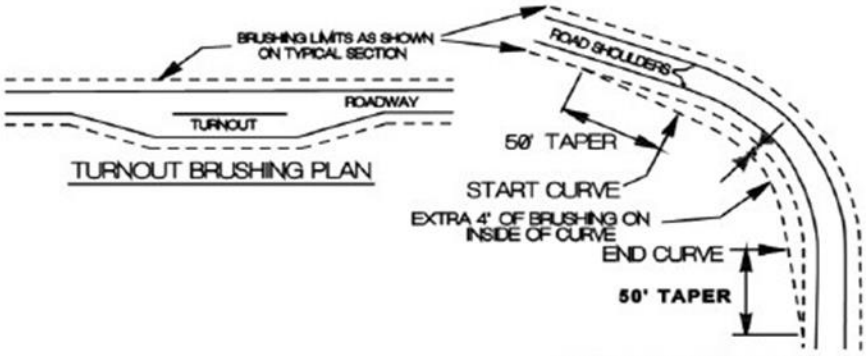
Culvert Minimum Cover		
Diameter	Steel	Plastic
18"	18"	18"



BRUSHING DETAIL



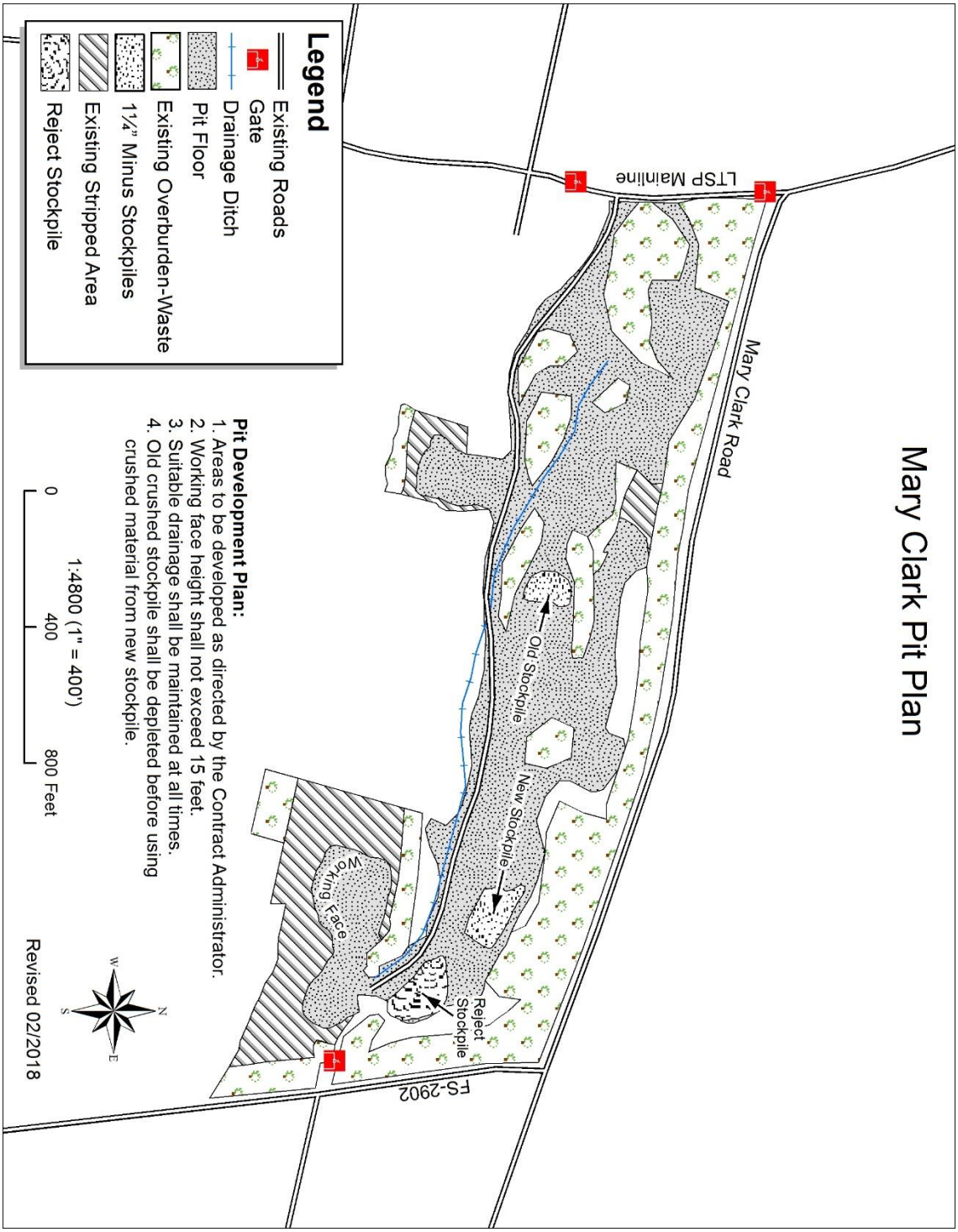
TYPICAL BRUSHING LIMITS SECTION



TURNOUT BRUSHING PLAN

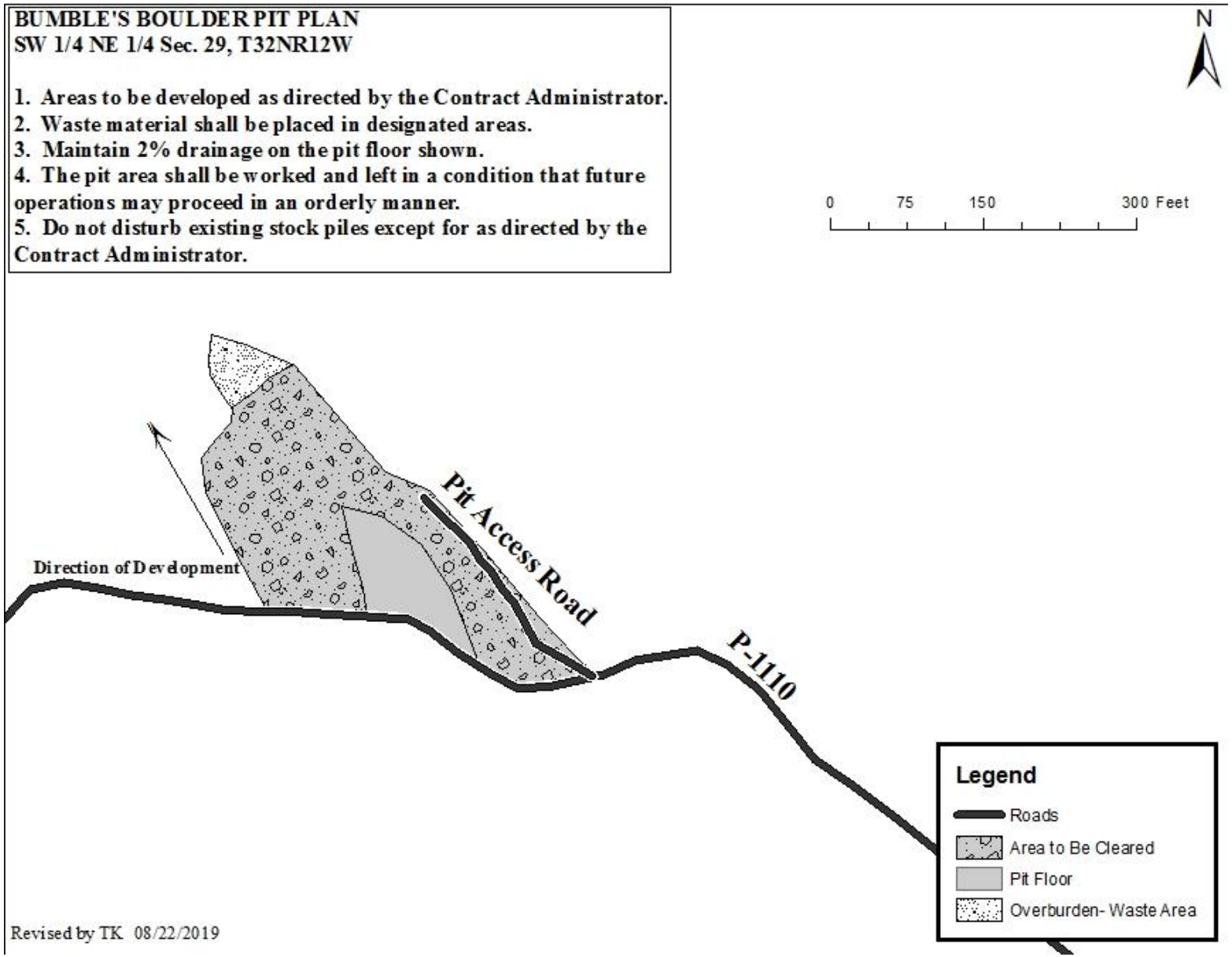
CURVE BRUSHING PLAN

1.) ALL VEGETATION WITHIN THE BRUSHING LIMITS SHALL BE CUT TO WITHIN 8" OF THE GROUND, UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR.
2.) ALL BRUSH, TREES, LIMBS, ETC. SHALL BE REMOVED FROM THE ROAD SURFACE.
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.


Mary Clark Pit Plan
Mary Clark Road
LTSP Mainline
Old Stockpile
New Stockpile
Reject Stockpile
Working Face
FS-2902
Legend
Existing Roads
Gate
Drainage Ditch
Pit Floor
Existing Overburden-Waste
1¼" Minus Stockpiles
Existing Stripped Area
Reject Stockpile
Pit Development Plan:
1. Areas to be developed as directed by the Contract Administrator.
2. Working face height shall not exceed 15 feet.
3. Suitable drainage shall be maintained at all times.
4. Old crushed stockpile shall be depleted before using crushed material from new stockpile.
1:4800 (1" = 400')
0
400
800 Feet
N
E
S
W
Revised 02/2018

BUMBLE'S BOULDER PIT PLAN
SW 1/4 NE 1/4 Sec. 29, T32NR12W

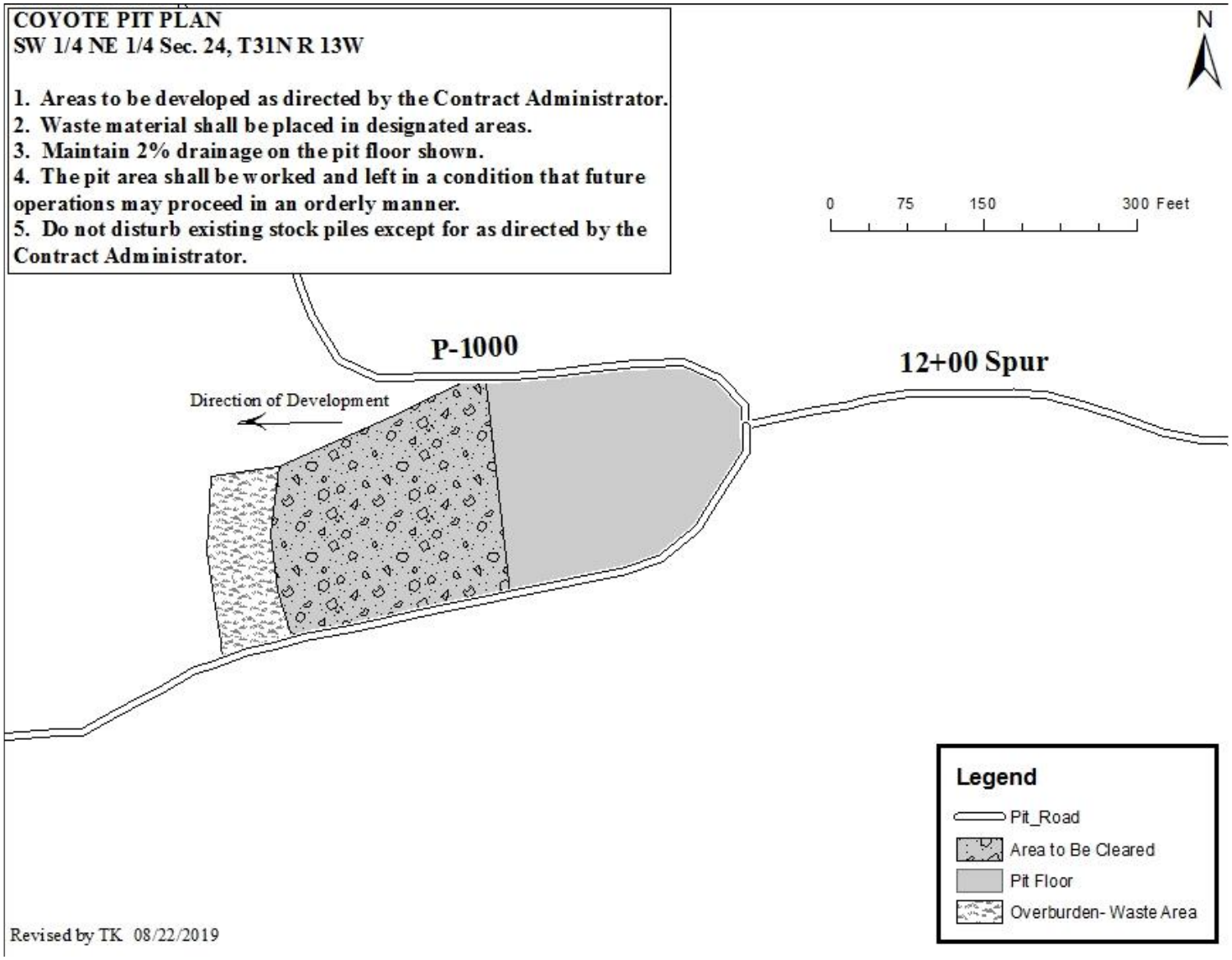
1. Areas to be developed as directed by the Contract Administrator.
2. Waste material shall be placed in designated areas.
3. Maintain 2% drainage on the pit floor shown.
4. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.
5. Do not disturb existing stock piles except for as directed by the Contract Administrator.



Revised by TK 08/22/2019

COYOTE PIT PLAN
SW 1/4 NE 1/4 Sec. 24, T31N R 13W

1. Areas to be developed as directed by the Contract Administrator.
2. Waste material shall be placed in designated areas.
3. Maintain 2% drainage on the pit floor shown.
4. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.
5. Do not disturb existing stock piles except for as directed by the Contract Administrator.



Revised by TK 08/22/2019

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 culvert headwalls to a level slightly below the road shoulder with material that will resist erosion. This is to allow for culverts that are overtopped to keep the water in the ditchline.
- 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

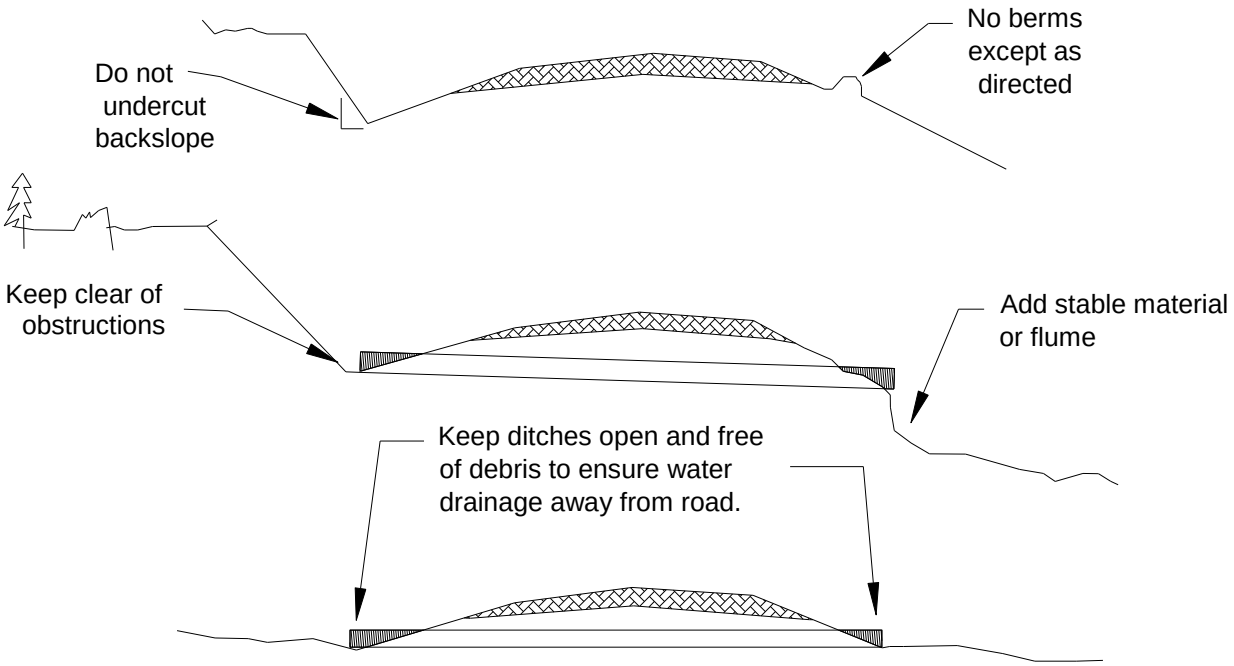
Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

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.



FORM 9-87(Rev. 01-08)

SUMMARY - Road Development Costs

SALE NAME: Falls Creek CONTRACT#: 30-099249 REGION: Olympic DISTRICT: Coast

LEGAL DESCRIPTION: T31R13W, T32R12W

ROAD NAME:	P-1200 New	25+00 Spur	P-1000	P-1100	P-1110	P-1200S	P-1900	P-1900A	P-1920	12+00 Spur	P-1921	Falls Down Lane	TOTAL:	TOTAL SHEET #2
ROAD TYPE:	Construction	Recon.	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul		
NUMBER OF STATIONS:	19.50	25.00	571.65	33.50	16.00	34.50	33.80	11.90	10.80	12.00	37.50	2.50	808.65	801.45
SIDESLOPE:	10%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	35%	0%
CLEARING AND GRUBBING:	$2,468	$3,164	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,631	$0
ROAD BRUSHING:	$0	$0	$0	$0	$0	$621	$0	$0	$0	$0	$0	$0	$621	$0
EXCAVATION AND FILL:	$3,305	$6,356	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,662	$0
ROAD GRADING:	$0	$163	$1,300	$218	$104	$224	$220	$77	$70	$78	$244	$0	$2,698	$5,209
DITCH CLEANING/CONSTRUCTION:	$0	$975	$0	$0	$0	$0	$0	$0	$0	$156	$1,053	$0	$2,184	$0
ROCK TOTALS (Cu. Yds.)/ROCK COSTS:														
Ballast/Oversize: 9750 9,750	1,170	1,410	0	1,880	820	600	40	40	40	510	3,240	0		
	$12,917	$14,833	$0	$13,611	$5,666	$4,614	$350	$299	$316	$3,524	$28,512	$0	$84,642	$0
Pit Run: 3600 3,600	730	1,030	40	1,240	560	0	0	0	0	0	0	0		
	$12,731	$16,521	$766	$20,882	$9,402	$0	$0	$0	$0	$0	$0	$0	$60,302	$0
Crushed: 450 450	0	0	150	0	0	100	0	0	0	0	0	0		
	$0	$0	$2,948	$0	$0	$646	$0	$0	$0	$0	$0	$0	$3,594	$3,694
CULVERTS AND FLUMES:	$3,221	$5,301	$1,320	$2,860	$941	$0	$0	$0	$0	$572	$1,716	$0	$15,930	$0
STRUCTURES:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MISC. EXPENSES:	$214	$2,391	$0	$2,741	$1,220	$298	$0	$0	$0	$915	$2,859	$764	$7,779	$4,736
OVERHEAD:	$2,788	$4,473	$507	$3,225	$1,387	$512	$46	$30	$31	$420	$2,751	$61	$16,230	$1,364
TOTAL COSTS:	$37,644	$54,177	$6,840	$43,536	$18,720	$6,915	$615	$406	$417	$5,665	$37,135	$825	$212,895	$15,004
COST PER STATION:	$1,930	$2,167	$12	$1,300	$1,170	$200	$18	$34	$39	$472	$990	$330	$263	$18.72

MOBILIZATION: $16,100

ROAD DECOMMISSIONING AND ABANDONMENT COSTS: $5,386

Pit Work $75,000

Structures: Gate Prep. & Painting $181

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

Sheet 1 of 3

Plans to be furnished by:

Road Standard	Const.	Reconst.	Prehaul	Posthaul	Road Closure
Total Costs =	$122,669	$58,202	$125,294	$19,029	$5,386
Total Sta. =	19.50	25.00	764.15	801.45	44.50
Cost per Sta. =	$6,291	$2,328	$164	$24	$121
Compiled by:	T. Kerschner				

TOTAL (All Roads) =	$330,580
SALE VOLUME MBF =	6,432
TOTAL COST PER MBF =	$51
TOTAL COST PER STATION=	$205
Date:	08/30/2019

Falls Creek Road Costs.xlsx

SUMMARY - Road Development Costs

SALE NAME: Falls Creek CONTRACT#: 30-099249 REGION: Olympic DISTRICT: Coast

LEGAL DESCRIPTION: T31R13W, T32R12W

ROAD NAME:	P-1000	P-1100	P-1110	P-1200S	P-1900	P-1900A	P-1920	12+00 Spur	P-1921	Jailhouse Ln
ROAD TYPE:	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul
NUMBER OF STATIONS:	571.65	33.50	16.00	34.50	33.80	11.90	10.80	12.00	37.50	39.80
SIDESLOPE:	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CLEARING AND GRUBBING:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
ROAD BRUSHING:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXCAVATION AND FILL:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
ROAD GRADING:	$3,716	$218	$104	$224	$220	$77	$70	$78	$244	$259
DITCH CLEANING/CONSTRUCTION	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
ROCK TOTALS (Cu. Yds.)/ROCK COS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Ballast/Oversize:	0	0	0	0	0	0	0	0	0	0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pit Run:	0	0	0	0	0	0	0	0	0	0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Crushed:	150	0	0	0	0	0	0	0	0	50
	$2,811	$0	$0	$0	$0	$0	$0	$0	$0	$883
CULVERTS AND FLUMES:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
STRUCTURES:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MISC. EXPENSES:	$3,392	$196	$94	$202	$198	$70	$63	$70	$219	$233
OVERHEAD:	$992	$41	$20	$43	$42	$15	$13	$15	$46	$137
TOTAL COSTS:	$10,911	$455	$217	$469	$459	$162	$147	$163	$509	$1,512
COST PER STATION:	$19	$14	$14	$14	$14	$14	$14	$14	$14	$38

	Total
Costs	$15,004
Stations	801.45
Cost/station	$18.72

Sheet 2 of 3

08/30/2019 REGION - ROAD COST ESTIMATE - ROAD CLOSURE

SALE NAME: Falls Creek CONTRACT NUMBER: 30-099249

Total stations Road Closure = 44.50

I. MISC. ROAD CLOSURE COSTS:

Road	Stations	Blocking $80.00	Waterbarring $20.00	Culvert Removal $40.00	Ripping $165.00	Guard Rail Install $153.00	Sidecast Pullback $75.00	Bridge Removal $1,195.00	Grass Seeding $116.00	Fill Removal $230.00	Large Fill Removal $256.25	Total
P-1200 New	19.50		$200.00	$160.00						$1,840.00		$2,200.00
25+00 Spur	25.00		$400.00	$320.00						$460.00		$1,180.00
	0.00											$0.00
	0.00											$0.00
	0.00											$0.00
	0.00											$0.00
	0.00											$0.00
	0.00											$0.00
	0.00											$0.00
	0.00											$0.00
	0.00											$0.00
	0.00											$0.00
	44.50	$0.00	$600.00	$480.00	$0.00		$0.00	$0.00	$0.00	$2,300.00	$0.00	$3,380.00

Total: 3,380

Overhead & General Exp. Add 12% $406

Sheet 3 of 3

SHEET TOTAL = $5,386

By: T. Kerschner

Date: 08/30/2019

VI. GENERAL EXPENSES:

VII. MOBILIZATION:

Description	$ per Move	# of Moves	Sub-total
Excavator	$800	2	$1,600
Dozer	$500	0	$0
Grader	$300	0	$0
Dump	$250	0	$0

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

Total Mobilization = $1,600

0

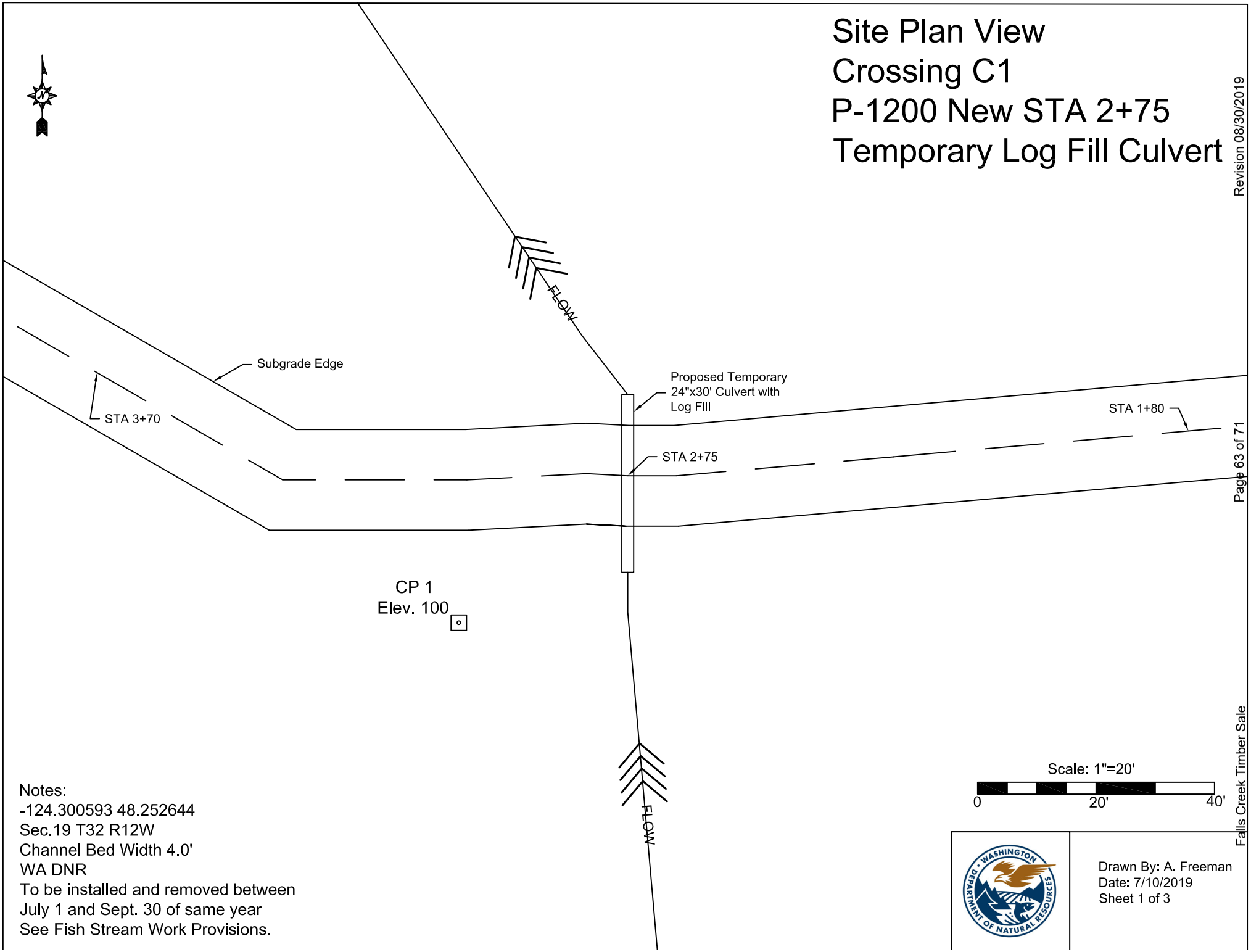
Road No. Road Closure

Standard: 44.50

Stations:

Sheet 5 of 5

Site Plan View
Crossing C1
P-1200 New STA 2+75
Temporary Log Fill Culvert



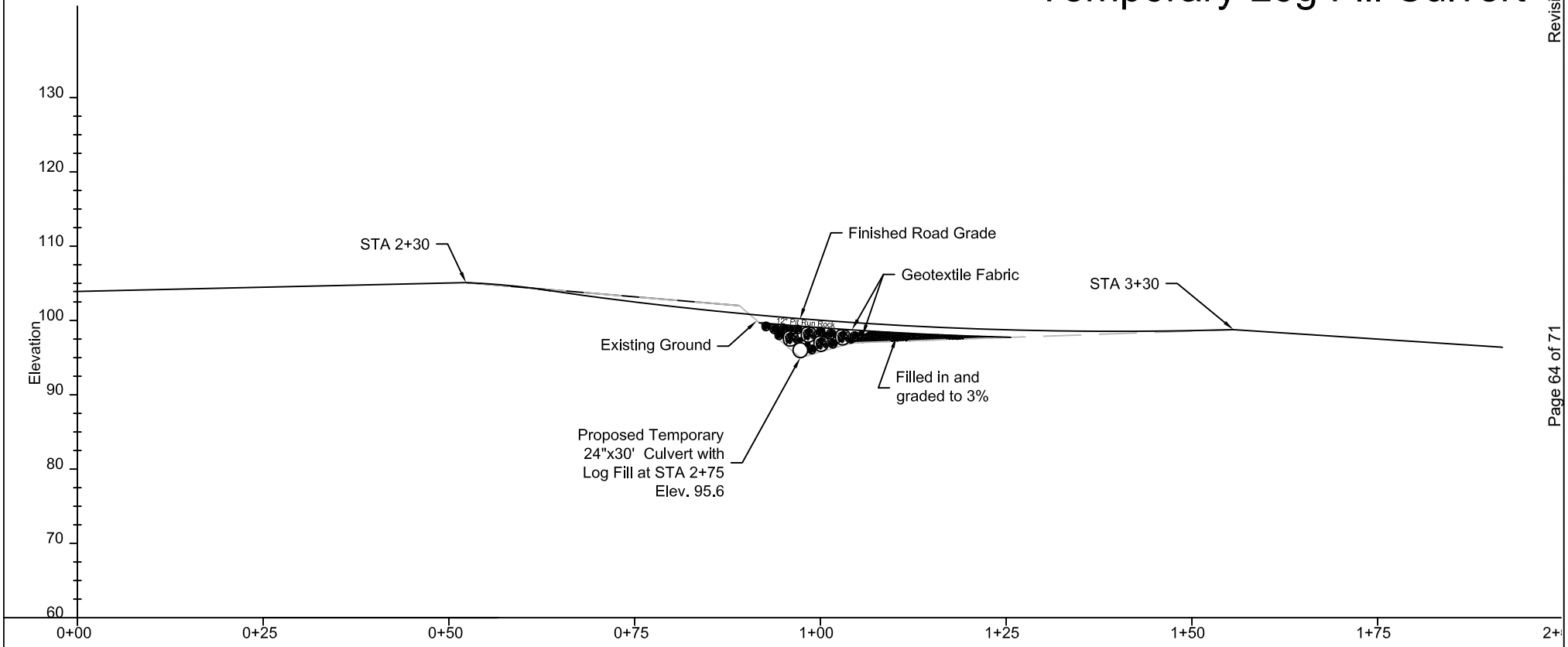
Notes:
-124.300593 48.252644
Sec.19 T32 R12W
Channel Bed Width 4.0'
WA DNR
To be installed and removed between
July 1 and Sept. 30 of same year
See Fish Stream Work Provisions.

Drawn By: A. Freeman
Date: 7/10/2019
Sheet 1 of 3

Revision 08/30/2019

Falls Creek Timber Sale
Agreement No. 30-099249

Road Profile View
Crossing C1
P-1200 New STA 2+75
Temporary Log Fill Culvert



Notes:
-124.300593 48.252644
Sec.19 T32 R12W
Channel Bed Width 4.0'
WA DNR
To be installed and removed between
July 1 and Sept. 30 of same year
See Fish Stream Work Provisions.

Scale: 1"=20'

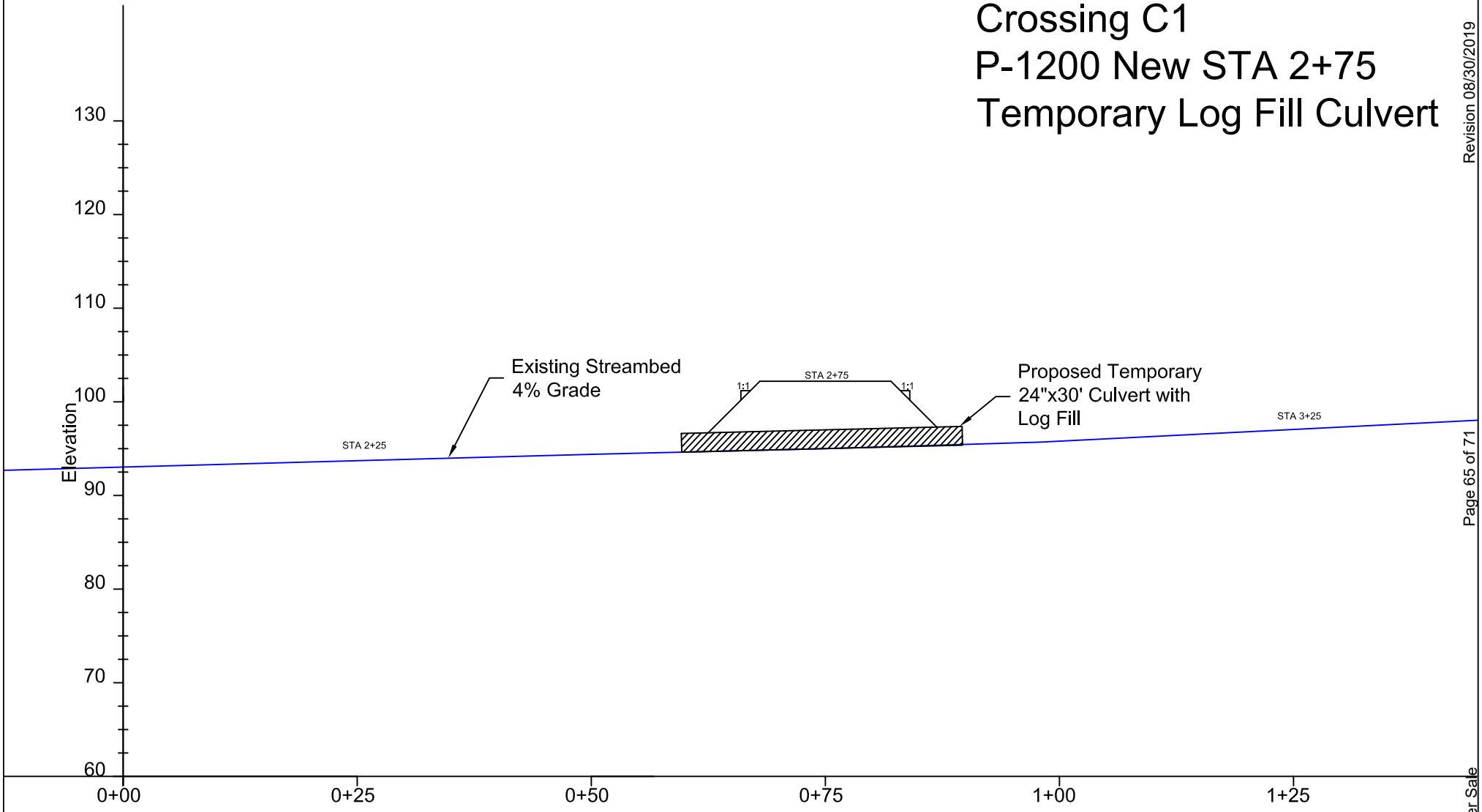
0 20' 40'

Drawn By: A. Freeman
Date:7/10/2019
Sheet 2 of 3

Revision 08/30/2019

Falls Creek Timber Sale
Agreement No. 30-099249

Channel Profile View
Crossing C1
P-1200 New STA 2+75
Temporary Log Fill Culvert



Scale: 1"=15'

0 15' 30'

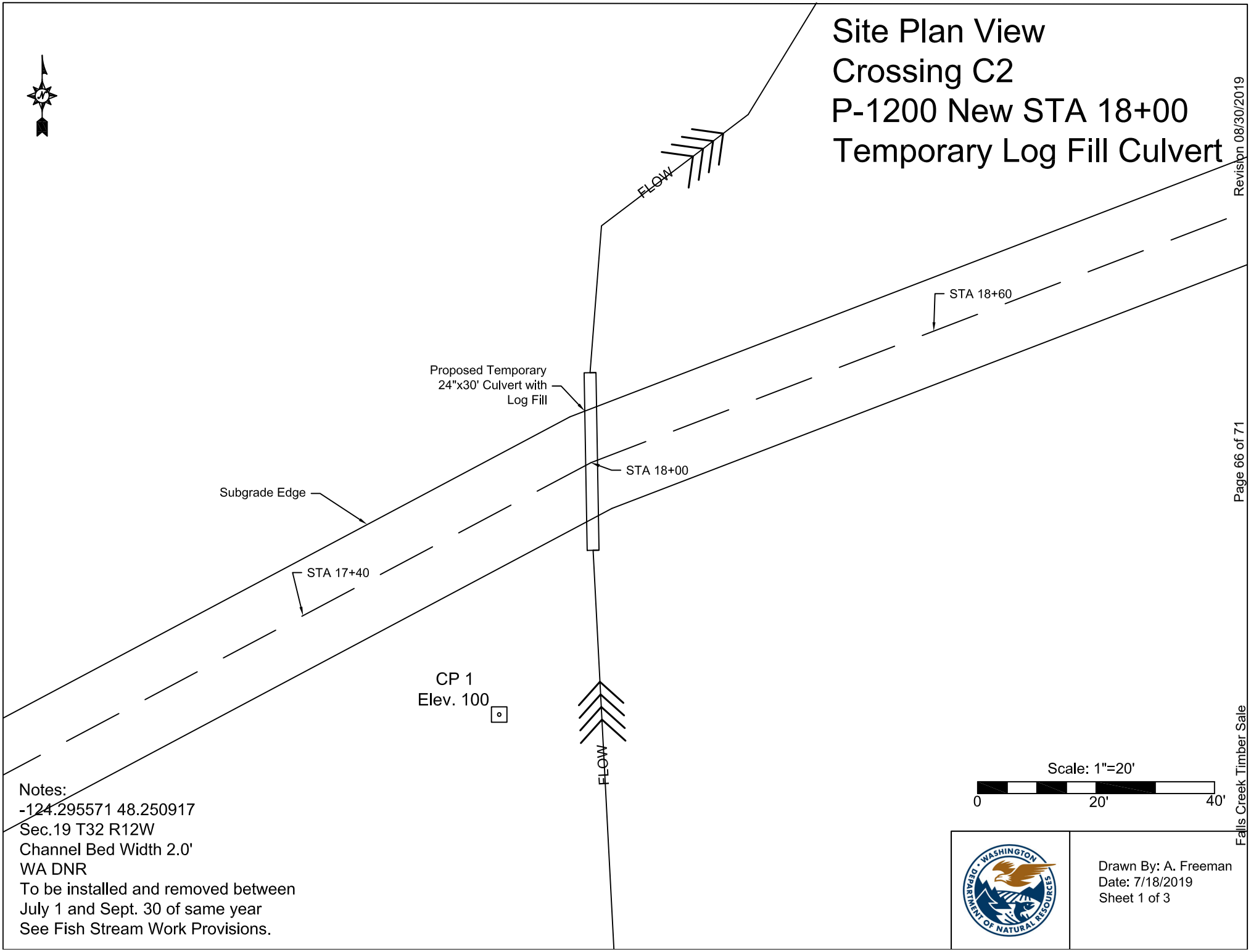
Notes:
-124.300593 48.252644
Sec.19 T32 R12W
Channel Bed Width 4.0'
WA DNR
To be installed and removed between
July 1 and Sept. 30 of same year
See Fish Stream Work Provisions.

Drawn By: A. Freeman
Date: 7/10/2019
Sheet 3 of 3

Revision 08/30/2019

Falls Creek Timber Sale
Agreement No. 30-099249

Site Plan View
Crossing C2
P-1200 New STA 18+00
Temporary Log Fill Culvert



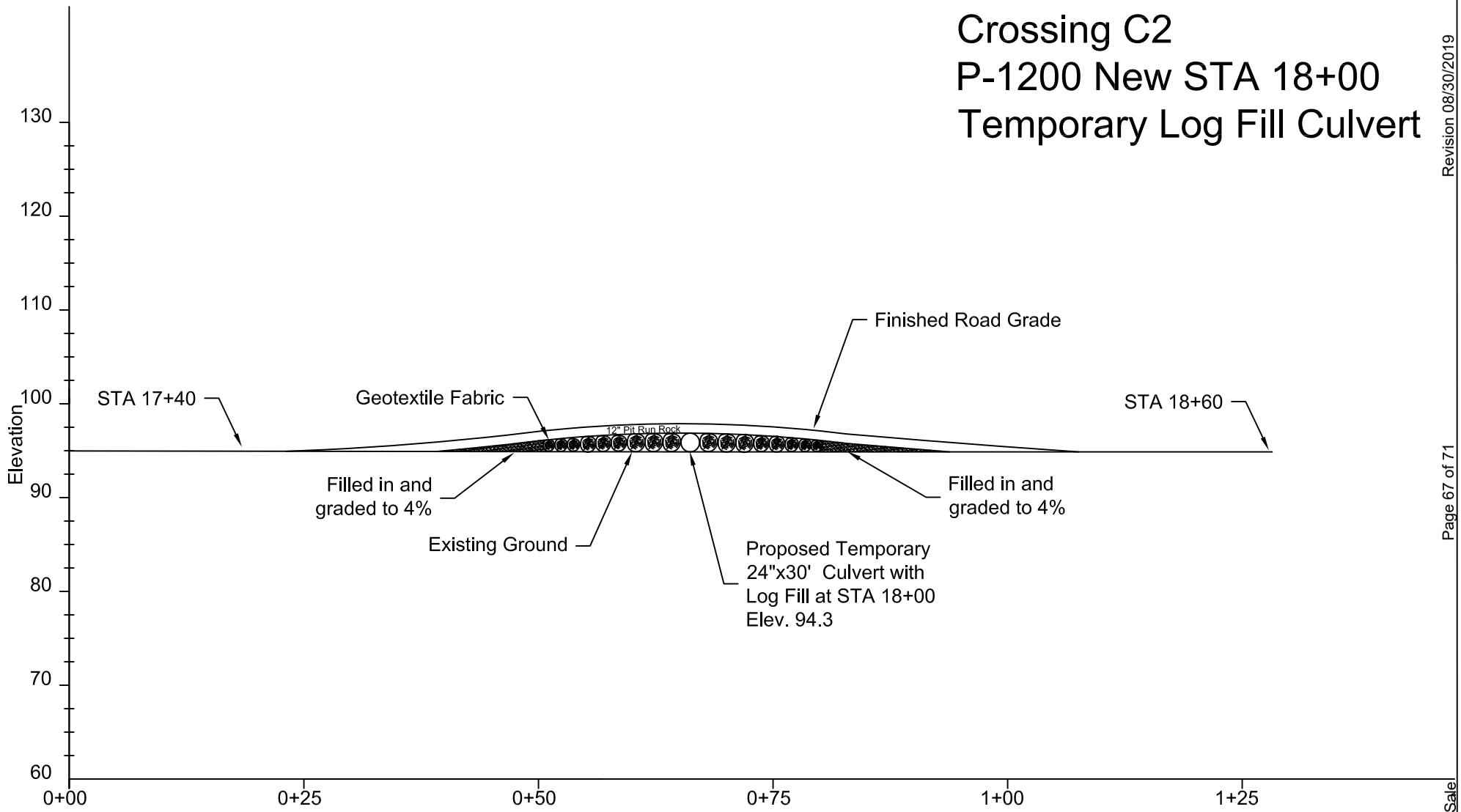
Notes:
-124.295571 48.250917
Sec.19 T32 R12W
Channel Bed Width 2.0'
WA DNR
To be installed and removed between
July 1 and Sept. 30 of same year
See Fish Stream Work Provisions.

Drawn By: A. Freeman
Date: 7/18/2019
Sheet 1 of 3

Revision 08/30/2019

Falls Creek Timber Sale
Agreement No. 30-099249

Road Profile View
Crossing C2
P-1200 New STA 18+00
Temporary Log Fill Culvert



Notes:
-124.295571 48.250917
Sec.19 T32 R12W
Channel Bed Width 2.0'
WA DNR
To be installed and removed between
July 1 and Sept. 30 of same year
See Fish Stream Work Provisions.

Scale: 1"=15'

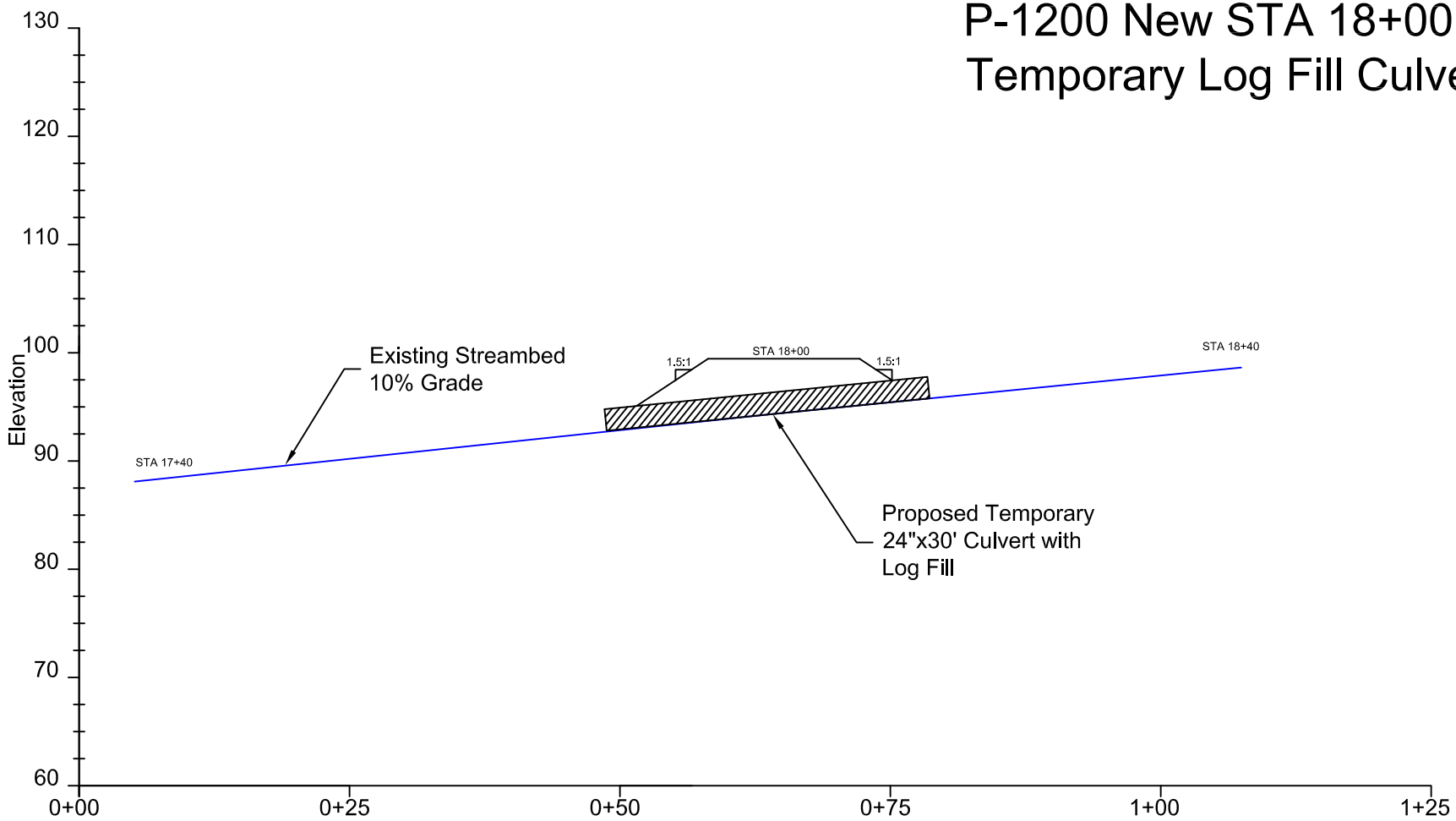
0 15' 30'

Drawn By: A. Freeman
Date:7/18/2019
Sheet 2 of 3

Revision 08/30/2019

Falls Creek Timber Sale
Agreement No. 30-099249

Channel Profile View
Crossing C2
P-1200 New STA 18+00
Temporary Log Fill Culvert



Scale: 1"=15'

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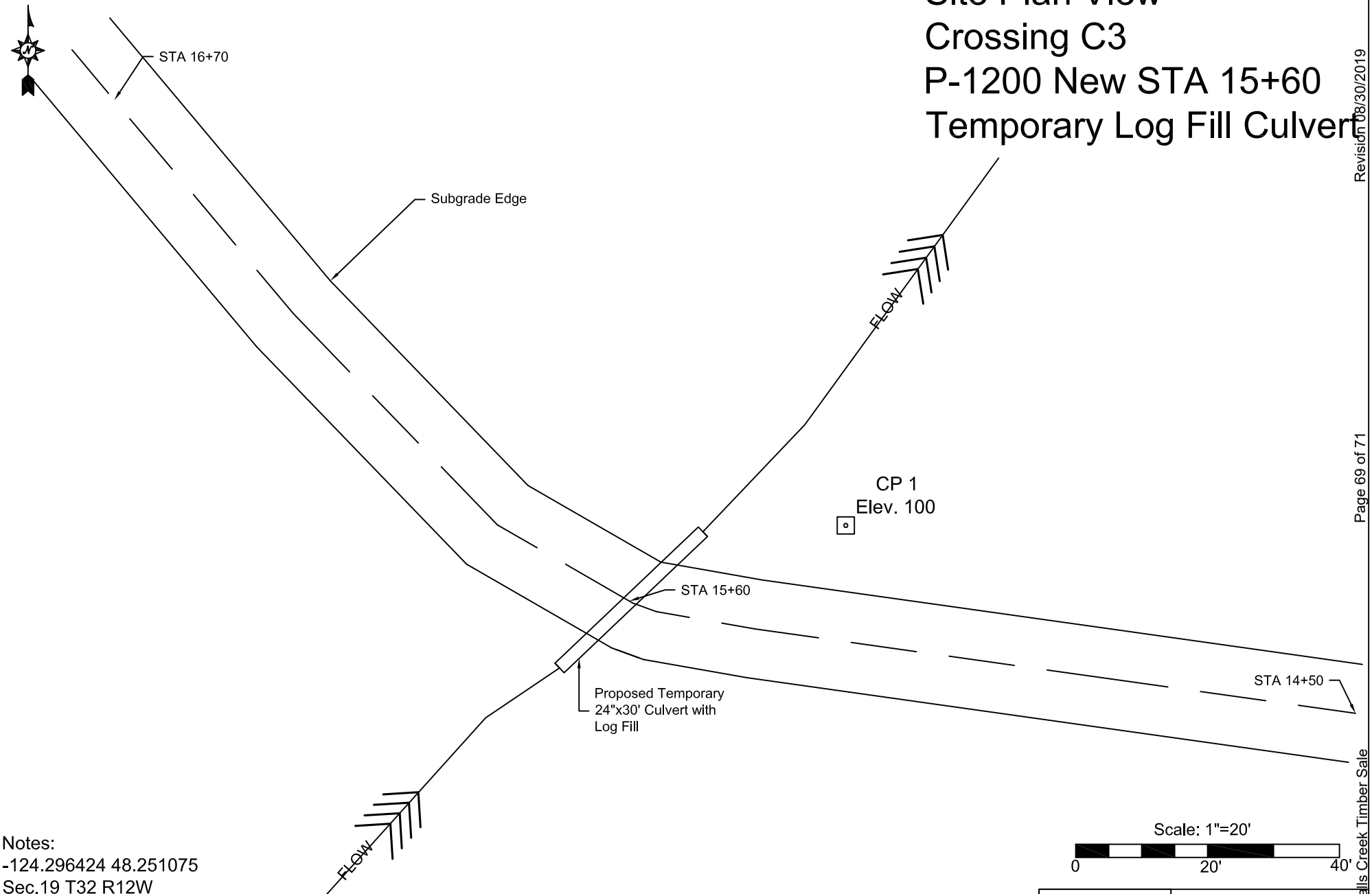
Notes:
-124.295571 48.250917
Sec.19 T32 R12W
Channel Bed Width 2.0'
WA DNR
To be installed and removed between
July 1 and Sept. 30 of same year
See Fish Stream Work Provisions.

Drawn By: A. Freeman
Date: 7/18/2019
Sheet 3 of 3

Site Plan View
Crossing C3
P-1200 New STA 15+60
Temporary Log Fill Culvert



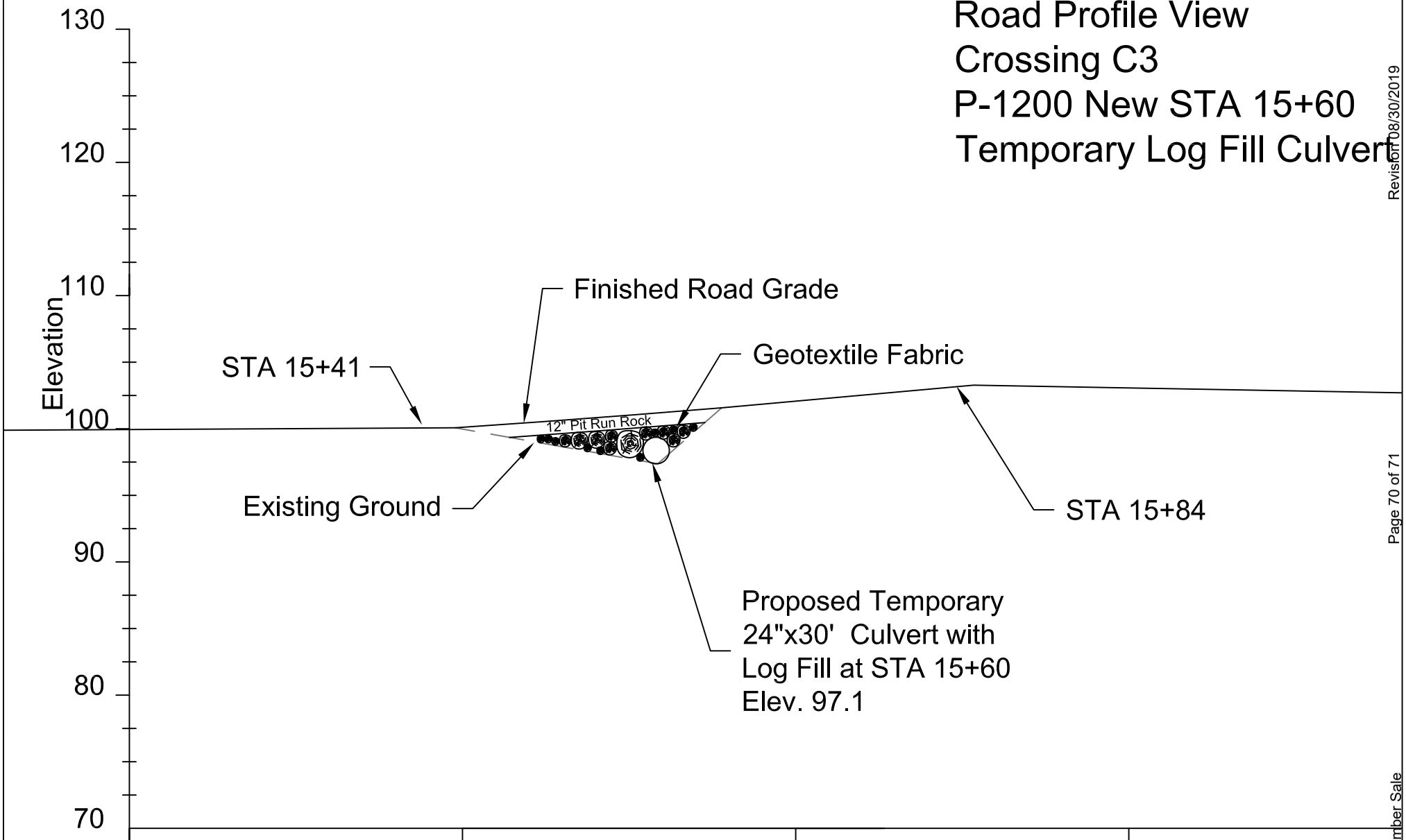
Notes:
-124.296424 48.251075
Sec.19 T32 R12W
Channel Bed Width 3.1'
WA DNR
To be installed and removed between
July 1 and Sept. 30 of same year
See Fish Stream Work Provisions.

Drawn By: A. Freeman
Date: 7/10/2019
Sheet 1 of 3

Revision 08/30/2019

Falls Creek Timber Sale
Agreement No. 30-099249

Road Profile View
Crossing C3
P-1200 New STA 15+60
Temporary Log Fill Culvert



Notes:
-124.296424 48.251075
Sec.19 T32 R12W
Channel Bed Width 3.1'
WA DNR
To be installed and removed between
July 1 and Sept. 30 of same year
See Fish Stream Work Provisions.

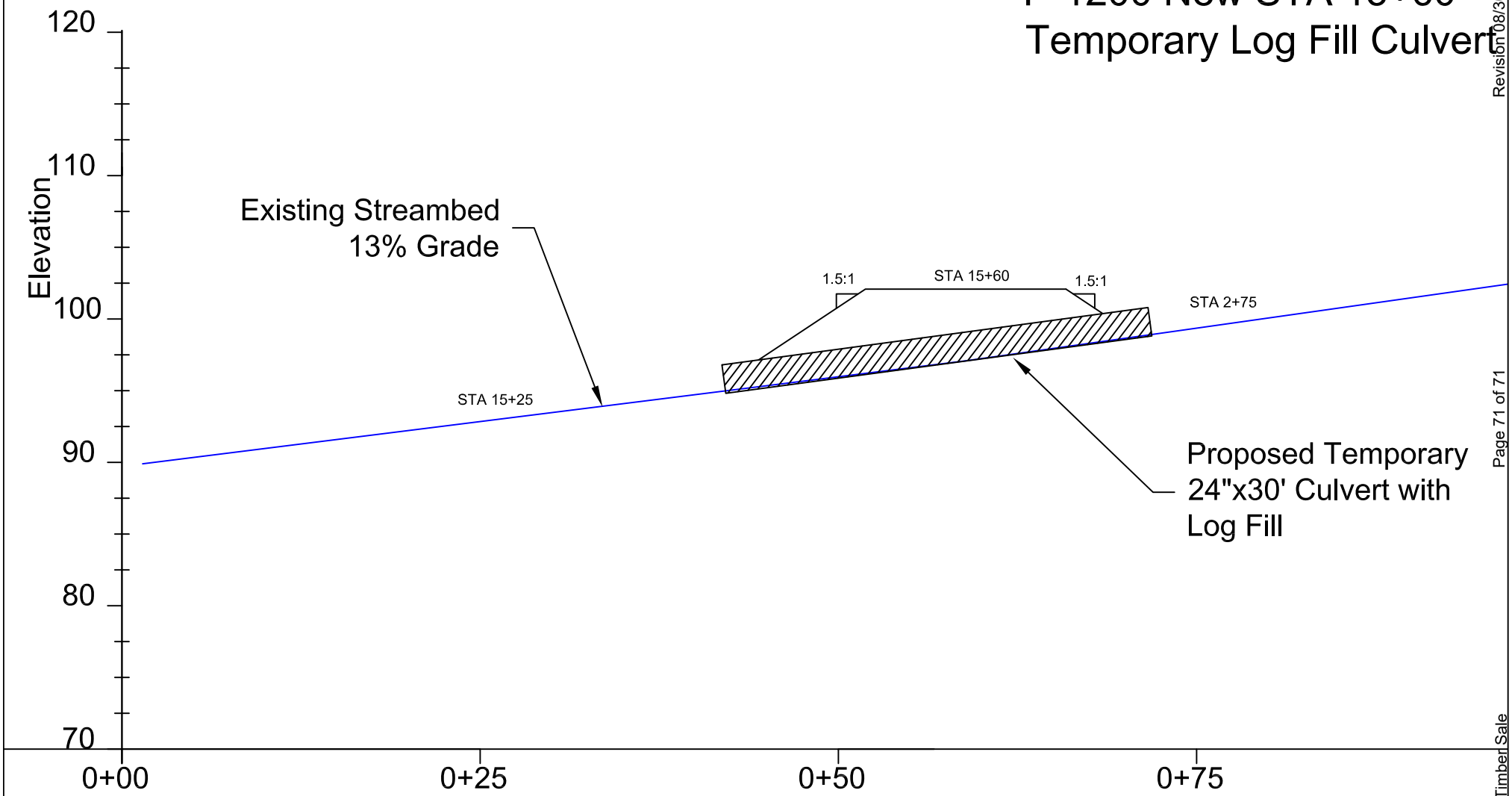
Scale: 1"=10'
0 10' 20'

Drawn By: A. Freeman
Date:7/10/2019
Sheet 2 of 3

Revision 08/30/2019

Falls Creek Timber Sale
Agreement No. 30-099249

Channel Profile View
Crossing C3
P-1200 New STA 15+60
Temporary Log Fill Culvert



Scale: 1"=10'

0 10' 20

Notes:
-124.296424 48.251075
Sec.19 T32 R12W
Channel Bed Width 3.1'
WA DNR
To be installed and removed between
July 1 and Sept. 30 of same year
See Fish Stream Work Provisions.

Drawn By: A. Freeman
Date: 7/10/2019
Sheet 3 of 3

Revision 08/30/2019

Falls Creek Timber Sale
Agreement No. 30-099249

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
HILARY S. FRANZ, Commissioner of Public Lands

ROAD USE PERMIT

Permit No. 55-098397

THIS PERMIT, made and entered into this 23rd day of May, 2019, by and between Ronald Konopaski, herein called the "Grantor," and the State of Washington, acting by and through the Department of Natural Resources, herein called the "Grantee."

Conveyance. Grantor, for and in consideration of the terms and conditions specified herein, hereby grants and conveys to the Grantee, for the purpose of hauling approximately 1,000 MBF of timber and approximately 2,800 cubic yards of rock over an existing road on the Grantor's property, a nonexclusive permit to use a road over and across a strip of land, hereinafter defined as the "premises," in a portion of Section 19, Township 32 North, Range 12 West, W.M., in Clallam County, State of Washington. The location of said premises is located approximately as shown on Exhibit A, attached hereto. Said premises shall be confined to 20 foot widths. The word premises, when used herein, means a strip of land whether or not there is an existing road located thereon. The word "road" shall mean roads now existing or hereafter constructed on the premises, or any segment of such road.

The permit is subject to the terms and conditions hereinafter set out.

Consideration. The consideration is as follows: ONE THOUSAND and 00/100 Dollars ($1000.00). The consideration is not due until thirty days after the Grantee enters into a timber sale contract for the Falls Creek Timber Sale. Prior to payment, Grantee shall be limited to administrative use of the road. No commercial hauling will occur until the consideration is paid in full.

Termination. This permit shall terminate December 15, 2022, or earlier when requested by the Grantee; provided, however, that this permit may be suspended or terminated upon the breach of any of the conditions herein.

Reservations. Grantor reserves all rights incident to fee ownership of the premises and the profits thereon (including timber) and the right of use for any purpose including but not limited to the right to remove profits within the premises; the right at all times to cross and re-cross the premises at any place on grade or otherwise; and the right to use, maintain, patrol, reconstruct or repair the premises. Grantor may grant to third parties any and all rights reserved.

Compliance with Laws. For all activities conducted pursuant to this Permit, each party shall, at its own expense, comply with all applicable laws in effect now and as hereafter modified.

Permittees. The Grantee may permit its respective employees, agents, contractors, licensees, lessees, purchasers of timber or other profits and their agents, herein individually referred to as "Permittee" and collectively referred to as "Permittees", to exercise the rights granted to the Grantee herein. Acts or omissions of the Permittees operating under this Permit shall be deemed an act of the Grantee. Restrictions or requirements placed on the Grantee herein shall apply equally to the Permittees.

Maintenance. Maintenance is defined as work normally necessary to preserve and keep the roads in their present condition or as hereafter improved. At a minimum, the roads will be maintained to meet applicable forest practice standards set forth in Chapter 222-24 WAC as now written or hereafter amended.

When a road is being used solely by one party that party shall be solely responsible for maintaining that portion of the road so used to the standards existing at the time sole use is commenced. During periods when either party and/or other parties with an easement or license jointly use the road(s), or any portion thereof, the cost of maintenance and resurfacing shall be allocated among such users on the basis of their respective use including that of their Permittees.

During periods of joint maintenance, the users shall meet at times to be set by mutual agreement and establish necessary maintenance provisions. Such provisions shall include, but not be limited to the following:

The appointment of a maintainer, which may be one of the parties or any third party, to perform or contract the maintenance;
The extent of resurfacing necessary to keep the road safe and to reduce environmental impacts; and

A method of payment by which each party using the road or a portion thereof shall pay it's pro rata share of the cost of maintenance and resurfacing.

Repairs. Grantee shall repair, or cause to be repaired at its sole cost, that damage to the Road arising out of it's use which is in excess of that which it would cause through normal and prudent usage. Damage caused by an unauthorized user shall be repaired at the expense of the Grantee if the Grantee is the sole user of the road, the Grantor if the Grantor is the sole user of the road and shared jointly if there is joint use of the road.

Improvements. Unless the parties agree in writing to share the cost of improvements in advance of such improvements being made, such improvements shall be solely for the account of the improver.

Prior rights. This permit is subject to any rights and valid claims previously conveyed by Grantor, and to any rights and valid claims pending on said premises. Grantee rights herein are subject to all matters of public record and to all prior unrecorded or recorded easements, permits, leases and options affecting said lands or Grantee rights across, over or upon such lands. Grantee rights herein are also subject to the rights of the Grantor to use its own lands for any and all legal purposes including the use of the land by third parties with the permission of the Grantor.

Damage. Grantee shall take all reasonable precautions to protect Grantor-owned timber, crops and improvements. The Grantee must notify the Grantor two (2) weeks in advance of completion of said operations for the purpose of inspection for compliance with the terms hereof. Grantee shall pay Grantor for any damage to timber, crops and improvements not identified and paid for under the terms and conditions of this Permit. Grantor shall appraise the damage at market value at the time of damage and bill Grantee for said damages at said value.

Waste. Grantee shall not cause nor permit any filling activity to occur in or on the premises, except by prior written approval of the Grantor. Grantee shall not deposit refuse, garbage, or other waste matter or use, store, generate, process, transport, handle, release, or dispose of any hazardous substance, or other pollutants in or on the premises except in accordance with all applicable laws. The term hazardous substance means any substance or material as those terms are now or are hereafter defined or regulated under any federal, state, or local law including but not limited to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA 42 USC 9601 *et seq.*), or the Washington Model Toxic Control Act (MTCA RCW 70.105D.010.). Grantee shall immediately notify the Grantor if the Grantee becomes aware of any release or threatened release of hazardous substance on the premises or adjoining property. If a release of hazardous substance occurs in, on, under, or above the premises arising out of any action of the Grantee, its contractors, subcontractors, invitees, agents, employees, licensees, or permittees, the Grantee shall, at its sole expense, promptly take all actions necessary or advisable to clean up, contain, and remove the hazardous substance in accordance with applicable laws.

Survey Markers. Grantee shall not destroy any land survey monuments marking local control points, geodetic control points, and land boundary survey corners without prior written approval from the landowner, which shall not be unreasonably withheld. Land survey monuments that must necessarily be disturbed or destroyed during construction or maintenance activities must be adequately referenced and replaced, at the Grantee's expense, under the direction of a Professional Land Surveyor, licensed in the State of Washington, in accordance with all applicable laws of the State of Washington in force at the time of construction, including but not limited to RCW 58.24, and all Department of Natural Resources regulations pertaining to preservation of such monuments. As directed under Chapter 332-120 WAC, a Land Surveyor or Engineer must submit an application with the Department of Natural Resources for permission to temporarily remove or destroy a survey monument.

Fire Prevention and Control. The Grantee shall be responsible for satisfying the requirements of the laws of the State of Washington pertaining to Forest Protection and, in addition thereto, the Grantee shall during the closed season of April 15 through October 15 contact Grantor who shall determine any extra requirements pertaining to burning procedure, blasting, watchman, extra patrol, pumpers, tankers, fire hoses, fire tools, etc., which are deemed necessary for prevention and suppression of fire which may result from the Grantee's operations.

Indemnity by Grantee. Grantee shall defend, indemnify and hold harmless the Grantor from all claims that arise out of the negligence of the State or its Permittees in their use of the permit. A "claim" as used in this section means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable to bodily injury, sickness, disease or death, or injury to or destruction of tangible property including the resulting loss of use. Notwithstanding the foregoing, State's obligation to defend, indemnify, and hold harmless the Grantor from any judgment, decree or arbitration award shall extend only to the percentage of negligence of State and its Permittee in contribution to such claim. State waives its immunity under Title 51 RCW only to the extent it is required to indemnify, defend and hold harmless Grantor. This indemnification shall survive the expiration or termination of the permit.

Notice. Unless otherwise specified herein, any notices required or permitted under this Permit may be delivered personally, sent by facsimile machine or mailed certified, return receipt requested, to the following addresses or to such other place as the parties hereafter direct. Notice will be deemed given upon delivery or upon confirmation of facsimile, whichever is applicable.

To State:
DEPARTMENT OF NATURAL RESOURCES
Olympic Region
411 Tillicum Lane
Forks, WA. 98331

To Grantor:
RONALD KONOPASKI
P.O. Box 23
Sekiu, WA. 98381

Integrated Agreement; Modification. This Permit constitutes the entire agreement and understanding of the parties with respect to the subject matter of the Permit and supersedes all prior negotiations and representations. This Permit may not be modified except in writing signed by the parties. The parties agree to execute any additional documents reasonably necessary to effectuate the provisions and purposes of this Permit.

Severability. If any provision of this Permit is held to be invalid or unenforceable, this provision shall not affect or invalidate the remainder of this Permit, and to this end the provisions of this Permit are declared to be severable. If any such invalidity becomes known or apparent to the parties, the parties agree to negotiate promptly in good faith in an attempt to amend such provision as nearly as possible to be consistent with the intent of this Permit.

Waiver. Failure of either party to insist upon the strict performance of any of the terms and conditions of this Permit, or failure to exercise any rights or remedies provided in this Permit or by law, or to notify the other party in the event of breach, shall not release the other party of any of its obligations under this Permit, nor shall any purported oral modification or rescission of this Permit by either party operate as a waiver of any of the terms hereof. No waiver by either party of any breach, default, or violation of any term, warranty, representation, agreement, covenant, right, condition, or provision of this Permit shall constitute waiver of any subsequent breach, default, or violation of the same or other term, warranty, representation, agreement, covenant, right, condition, or provision.

Assignment. This Permit, and any of the rights granted herein, shall not be assigned without prior written consent of Grantor, except that said rights granted herein may be used by any Permittee, while engaged in the Grantee's operations.

Construction. The terms of this Permit shall be given their ordinary meaning unless defined herein and shall not be presumptively construed against either party.

Exhibits. All exhibits referred to in this Permit are deemed to be incorporated in this Permit in their entirety.

Headings. The headings in this Permit are for convenience only and are not intended to, and shall not be construed to, limit, enlarge, or affect the scope or intent of this Permit nor the meaning of any of its provisions.

Counterparts. This Permit may be executed in one or more counterparts, each of which shall be deemed an original, and all of which counterparts together shall constitute the same instrument which may be sufficiently evidenced by one counterpart. Execution of this Permit at different times and places by the parties shall not affect its validity so long as all the parties execute a counterpart of this Permit.

IN WITNESS WHEREOF, the parties hereto have caused this Permit to be executed as below subscribed.

RONALD KONOPASKI

Dated: May 22, 2019

Ronald Konopaski
P.O. Box 23
Sekiu, WA. 98381
360.460.9194

STATE OF WASHINGTON

Dated: May 23, 2019.

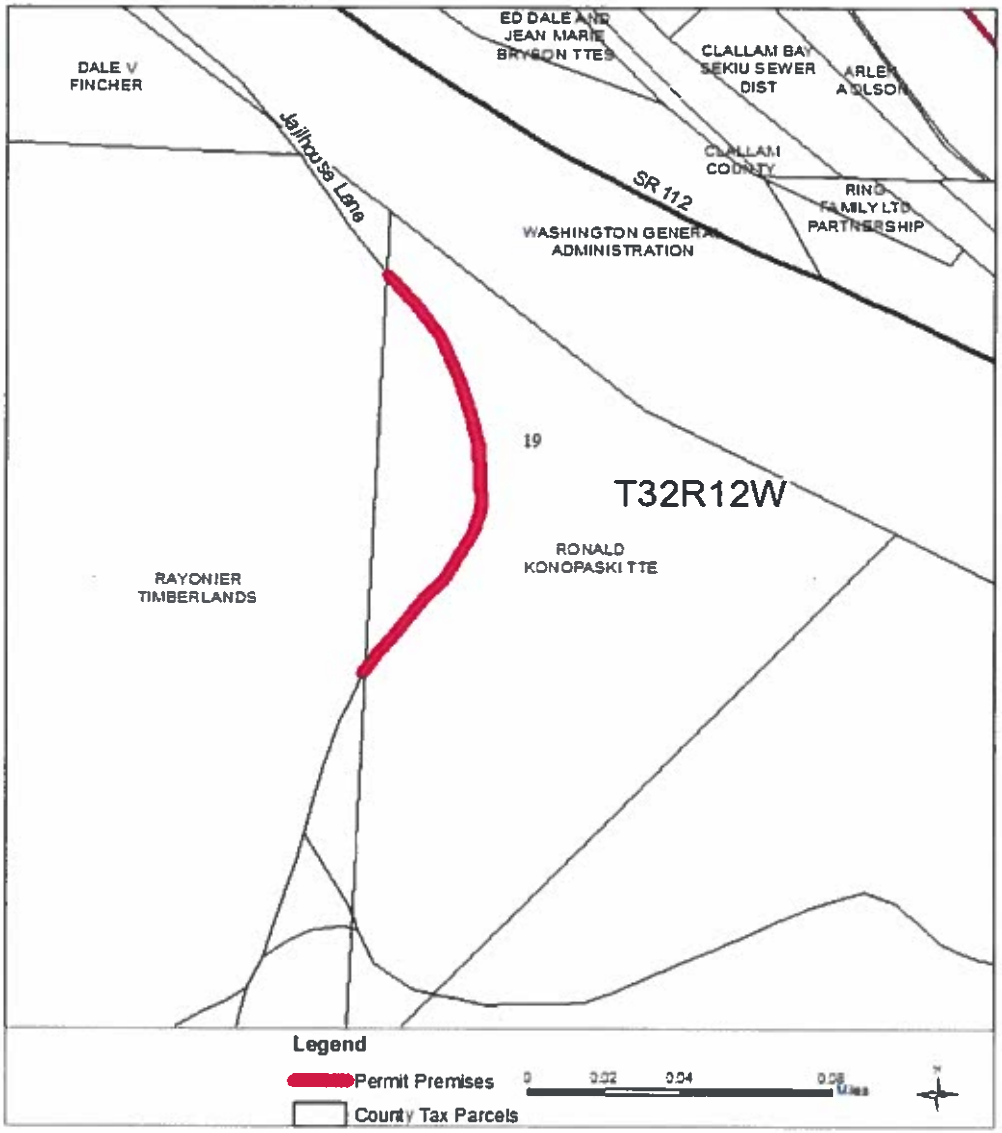
acting for

Mona Griswold
Olympic Region Manager
411 Tillicum Lane
Forks, WA. 98331
360.374.2800

Approved as to Form this
11th day of June, 2004.
By: James Schwartz
Assistant Attorney General
State of Washington

Revised as to Form this
11th day of March, 2008
Roger Braden, Assistant Attorney General

Exhibit A
Permit Premises
Section 19, Township 32, Range 12 West, W.M.



DEPARTMENT OF
NATURAL RESOURCES

OLYMPIC REGION
411 TILLICUM LANE
FORKS WA 98331

360.374.2800
OLYMPIC.REGION@DNR.WA.GOV
WWW.DNR.WA.GOV

May 14, 2019

TO: Josh Wilund, Department Supervisor

FROM: Mona Griswold, Olympic Region Manager

SUBJECT: Delegation of Authority

During my absence from my duties as Olympic Region Manager May 16-27, 2019, I hereby delegate the authority to act on behalf of the Department of Natural Resources as Olympic Region Manager as set forth in the Delegation Order dated February 5, 2019, as follows:

May 16-22, 2019 to Glenda Aldana, Assistant Region Manager – Business and Operations
May 23-27, 2019 to Drew Rosanbalm, Assistant Region Manager – State Lands

This delegation excludes appointment, discipline, or termination decisions which are to be referred to you during this period.

cc: Top Management
Olympic Region

RAYONIER OPERATING COMPANY LLC
ROAD USE PERMIT
ANE# 2019ANE00348

Permit No. DNR Permit # 55-098398

THIS PERMIT, made and entered into this 15th day of December, 2019, by and between Rayonier Operating Company LLC, herein called the "Grantor," and the State of Washington, acting by and through the Department of Natural Resources, herein called the "Grantee."

Conveyance. Grantor, for and in consideration of the terms and conditions specified herein, hereby grants and conveys to the Grantee, for the purpose of hauling approximately 1,000 mbf of timber and 2,800 cubic yards of rock a nonexclusive permit to use a road over and across a strip of land, hereinafter defined as the "premises," in the county of Clallam, Sections 19, Township 32 North, Range 12 West, W.M., State of Washington. The location of said premises located approximately as shown on Exhibit A, attached hereto. Said premises shall be confined to such widths as indicated on Exhibit A. The word premises when used herein means a strip of land whether or not there is an existing road located thereon. The word "road" shall mean roads now existing or hereafter constructed on the premises, or any segment of such road.

This Permit is subject to the terms and conditions hereinafter set out.

Consideration. The consideration paid by the Grantee to Grantor is as follows: $2,823.00.

Termination. This Permit shall terminate June 30, 2021, or earlier when requested by the Grantee; provided, however, that this Permit may be suspended or terminated upon the breach of any of the conditions herein.

Reservations. Grantor reserves all rights incident to fee ownership of the premises and the profits thereon (including timber) and the right of use for any purpose including but not limited to the right to remove profits within the premises; the right at all times to cross and re-cross the premises at any place on grade or otherwise; and the right to use, maintain, patrol, reconstruct or repair the premises. Grantor may grant to third parties any and all rights reserved.

Compliance with Laws. For all activities conducted pursuant to this Permit, each party shall, at its own expense, comply with all applicable laws in effect now and as hereafter modified.

Permittees. The Grantee may permit its respective employees; tree planting, vegetation

management and slash reduction contractors; purchasers of timber or other profits and their agents, herein individually referred to as "Permittee" and collectively referred to as "Permittees", to exercise the rights granted to the Grantee herein. Acts or omissions of the Permittees operating under this Permit shall be deemed an act of the Grantee. Restrictions or requirements placed on the Grantee herein shall apply equally to the Permittees. However, in the event that Grantor has to make a claim against a Permittee directly, such claim shall not be limited to the standard of negligence applicable to Grantee herein, but shall include all acts or omissions of such Permittee, regardless of negligence.

Maintenance. Maintenance is defined as work normally necessary to preserve and keep the roads in their present condition or as hereafter improved. At a minimum, the roads will be maintained to meet applicable forest practice standards set forth in Chapter 222-24 WAC as now written or hereafter amended.

When a road is being used solely by one party, that party shall be solely responsible for maintaining that portion of the road so used to the standards existing at the time sole use is commenced. During periods when either party and/or other parties with an easement or license jointly use the road(s), or any portion thereof, the cost of maintenance and resurfacing shall be allocated among such users on the basis of their respective use including that of their Permittees.

During periods of joint maintenance, the users shall meet at times to be set by mutual agreement and establish necessary maintenance provisions. Such provisions shall include, but not be limited to the following:

(1) The appointment of a maintainer, which may be one of the parties or any third party, to perform or contract the maintenance;

(2) The extent of resurfacing necessary to keep the road safe and to reduce environmental impacts; and

(3) A method of payment by which each party using the road or a portion thereof shall pay its pro rata share of the cost of maintenance and resurfacing.

Repairs. Grantee shall repair, or cause to be repaired at its sole cost, that damage to the road arising out of its use which is in excess of that which it would cause through normal and prudent usage. Damage caused by an unauthorized user shall be repaired at the expense of the Grantee if the Grantee is the sole user of the road, the Grantor if the Grantor is the sole user of the road and shared jointly if there is joint use of the road.

Improvements. Unless the parties agree in writing to share the cost of improvements in advance of such improvements being made, such improvements shall be solely for the account of the improver.

Prior rights. This Permit is subject to any rights and valid claims previously conveyed by Grantor, and to any rights and valid claims pending on said premises. Grantee's rights herein are subject to all matters of public record and to all prior unrecorded or recorded easements, permits, leases, options and permits affecting said lands or Grantee's rights across, over or upon such lands. Grantee's rights herein are also subject to the rights of the Grantor to use its own lands for any and all legal purposes including the use of the land by third parties with the permission of the Grantor.

Operational Restrictions. Site-specific operational requirements are listed in Exhibit B. Non-compliance with these requirements shall constitute a breach of contract and may result in the Grantor suspending operations until the breach is remedied.

Plan of Operation. In the event that Grantee intends to construct or reconstruct roads within the premises, Grantee shall obtain Grantor's written approval of the road construction plans prior to commencing construction work.

Damage. Grantee shall take all reasonable precautions to protect Grantor-owned timber, crops and improvements. The Grantee must notify the Grantor two (2) weeks in advance of completion of operations for the purpose of inspection for compliance with the terms hereof. Grantee shall pay Grantor for any damage to timber, crops and improvements not identified and paid for under the terms and conditions of this Permit. Grantor shall appraise the damage at market value at the time of damage and bill Grantee for said damages at said value.

Waste. Grantee shall not cause nor permit any filling activity to occur in or on the premises, except by prior written approval of the Grantor. Grantee shall not deposit refuse, garbage, or other waste matter or use, store, generate, process, transport, handle, release, or dispose of any hazardous substance, or other pollutants in or on the premises except in accordance with all applicable laws. The term hazardous substance means any substance or material as those terms are now or are hereafter defined or regulated under any federal, state, or local law including but not limited to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA 42 USC 9601 *et seq.*), or the Washington Model Toxic Control Act (MTCA RCW 70.105D.010.). Grantee shall immediately notify the Grantor if the Grantee becomes aware of any release or threatened release of hazardous substance on the premises or adjoining property. If a release of hazardous substance occurs in, on, under, or above the premises arising out of any action of the Grantee or its Permittees, the Grantee shall, at its sole expense, promptly take all actions necessary or advisable to clean up, contain, and remove the hazardous substance in accordance with applicable laws.

Survey Markers. Grantee shall not destroy any land survey monuments marking local control points, geodetic control points, and land boundary survey corners without prior written approval from the landowner, which shall not be unreasonably withheld. Land survey monuments that must necessarily be disturbed or destroyed during construction or maintenance activities must be

adequately referenced and replaced, at the Grantee's expense, under the direction of a Professional Land Surveyor, licensed in the State of Washington, in accordance with all applicable laws of the State of Washington in force at the time of construction, including but not limited to RCW 58.24, and all Department of Natural Resources regulations pertaining to preservation of such monuments. As directed under Chapter 332-120 WAC, a Land Surveyor or Engineer must submit an application with the Department of Natural Resources for permission to temporarily remove or destroy a survey monument.

Fire Prevention and Control. The Grantee shall be responsible for satisfying the requirements of the laws of the State of Washington pertaining to Forest Protection and, in addition thereto, the Grantee shall during the closed season of April 15 through October 15 contact Grantor who shall determine any extra requirements pertaining to burning procedure, blasting, watchman, extra patrol, pumpers, tankers, fire hoses, fire tools, etc., which are deemed necessary for prevention and suppression of fire which may result from the Grantee's operations.

Insurance. Grantee, the State of Washington, including all its agencies and departments, is self insured for all exposures to tort liability, general liability, property damage liability and vehicle liability, as provided in statute, but only as respects the negligence of the State.

Grantee shall require its Permittees to obtain and keep in force while operating on the premises, the following insurance.

The limits of insurance shall not be less than:

(a) Commercial General Liability (CGL) insurance, including logger's broad form, with a limit of not less than $1,000,000 per each occurrence or Personal Liability insurance, as applicable, under a personal liability policy, commercial liability insurance policy, or package property and liability insurance policy. If such CGL insurance contains aggregate limits, the general aggregate limits shall be at least twice the "each occurrence" limit, and the products-completed operations aggregate limit shall be at least twice the "each occurrence" limit.

(b) Employer's liability ("Stop Gap") insurance, and if necessary, commercial umbrella liability insurance with limits not less than $1,000,000 each accident for bodily injury by accident or $1,000,000 each employee for bodily injury by disease.

(c) Business Auto Policy (BAP) insurance, and if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 per accident, with such insurance covering liability arising out of "Any Auto".

(d) All Permittees of Grantee must comply with all State of Washington workers' compensation statutes and regulations.

All insurance should be purchased on an occurrence basis and should be issued by companies admitted to do business within the State of Washington and have a rating of A- or better in the most recently published edition of Best's Reports. Any exception to these requirements shall be reviewed and approved by the Grantor. 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.

Permittees of Grantee must comply with all insurance requirements stated herein. Failure of Permittees to comply with Grantor's insurance requirements does not limit State's liability or responsibility.

Grantee have in its possession the required certificates of insurance and endorsements and shall furnish to Grantor upon request certificates of insurance and endorsements for any or all Permittees.

Indemnity by Grantee. Grantee shall defend, indemnify and hold harmless the Grantor, and all companies owned or controlled by Grantor, from all claims that arise out of the negligence of Grantee or its Permittees in their use of this Permit. A "claim" as used in this section means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable to bodily injury, sickness, disease or death, or injury to or destruction of tangible property including the resulting loss of use. Notwithstanding the foregoing, Grantee's obligation to defend, indemnify, and hold harmless the Grantor from any judgment, decree or arbitration award shall extend only to the percentage of negligence of Grantee and its Permittee in contribution to such claim; provided, however, direct responsibility to Grantor from a Permittee shall not be limited to the standard of negligence. Grantee waives its immunity under Title 51 RCW only to the extent it is required to indemnify, defend and hold harmless Grantor and all companies owned or controlled by Grantor. This indemnification shall survive the expiration or termination of the permit.

Notice. Unless otherwise specified herein, any notices required or permitted under this Permit may be delivered personally, sent by facsimile machine or mailed certified, return receipt requested, to the following addresses or to such other place as the parties hereafter direct. Notice will be deemed given upon delivery or upon confirmation of facsimile, whichever is applicable.

To Grantee:	To Grantor:
DEPARTMENT OF NATURAL RESOURCES	RAYONIER OPERATING COMPANY LLC
411 Tillicum Lane	3033 Ingram Street
Forks, WA 98331	Hoquiam, WA 98550-4410

Integrated Agreement; Modification. This Permit constitutes the entire agreement and understanding of the parties with respect to the subject matter of the Permit and supersedes all prior negotiations and representations. This Permit may not be modified except in writing signed by the parties. The parties agree to execute any additional documents reasonably necessary to effectuate the provisions and purposes of this Permit.

Severability. If any provision of this Permit is held to be invalid or unenforceable, this provision shall not affect or invalidate the remainder of this Permit, and to this end the provisions of this Permit are declared to be severable. If any such invalidity becomes known or apparent to the parties, the parties agree to negotiate promptly in good faith in an attempt to amend such provision as nearly as possible to be consistent with the intent of this Permit.

Waiver. Failure of either party to insist upon the strict performance of any of the terms and conditions of this Permit, or failure to exercise any rights or remedies provided in this Permit or by law, or to notify the other party in the event of breach, shall not release the other party of any of its obligations under this Permit, nor shall any purported oral modification or rescission of this Permit by either party operate as a waiver of any of the terms hereof. No waiver by either party of any breach, default, or violation of any term, warranty, representation, agreement, covenant, right, condition, or provision of this Permit shall constitute waiver of any subsequent breach, default, or violation of the same or other term, warranty, representation, agreement, covenant, right, condition, or provision.

Assignment. This Permit, and any of the rights granted herein, shall not be assigned without prior written consent of Grantor, except that said rights granted herein may be used by any Permittee, while engaged in the Grantee's operations.

Construction. The terms of this Permit shall be given their ordinary meaning unless defined herein and shall not be presumptively construed against either party.

Exhibits. All exhibits referred to in this Permit are deemed to be incorporated in this Permit in their entirety.

Headings. The headings in this Permit are for convenience only and are not intended to, and shall not be construed to, limit, enlarge, or affect the scope or intent of this Permit nor the meaning of any of its provisions.

Counterparts. This Permit may be executed in one or more counterparts, each of which shall be deemed an original, and all of which counterparts together shall constitute the same instrument which may be sufficiently evidenced by one counterpart. Execution of this Permit at different times and places by the parties shall not affect its validity so long as all the parties execute a counterpart of this Permit.

IN WITNESS WHEREOF, the parties hereto have caused this Permit to be executed as below subscribed.

RAYONIER OPERATING COMPANY
GRANTOR

By: Paula Lorenz
Paula Lorenz
Land Use Specialist

Address: 3033 Ingram Street
Hoquiam, WA 98550-4410

Phone No. 360.538.4569
Date: 5/28/2019

DEPARTMENT OF NATURAL RESOURCES
GRANTEE

By: D.R.
Acting Region Manager

Address: 411 Tillicum Lane
Forks, WA 98331

Phone No. 360-374-2800
Date: May 23, 2019

Exhibit A
Permit Premises
Section 19, Township 32, Range 12 West, W.M.

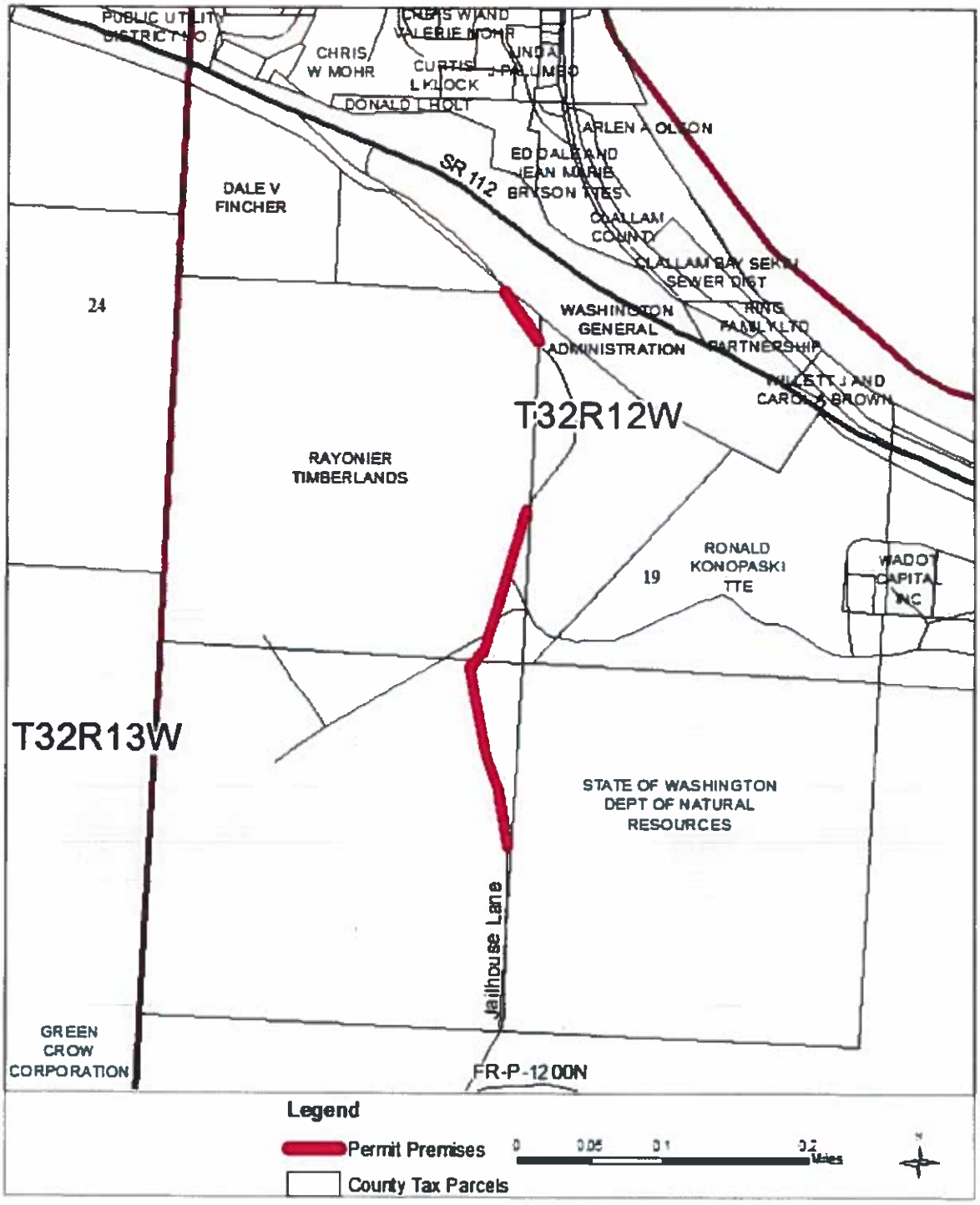


Exhibit B
Operational Requirements

Examples :

- Roads may not be used when continued use will result in excessive damage due to weather or other conditions.
- No snow removal without permission from the landowner.
- Gates must be kept closed at all times.

DEPARTMENT OF
NATURAL RESOURCES

OLYMPIC REGION
411 TILLICUM LANE
FORKS WA 98331

360.374.2800
OLYMPIC.REGION@DNR.WA.GOV
WWW.DNR.WA.GOV

May 14, 2019

TO: Josh Wilund, Department Supervisor

FROM: Mona Griswold, Olympic Region Manager

SUBJECT: Delegation of Authority

During my absence from my duties as Olympic Region Manager May 16-27, 2019, I hereby delegate the authority to act on behalf of the Department of Natural Resources as Olympic Region Manager as set forth in the Delegation Order dated February 5, 2019, as follows:

May 16-22, 2019 to Glenda Aldana, Assistant Region Manager – Business and Operations
May 23-27, 2019 to Drew Rosanbalm, Assistant Region Manager – State Lands

This delegation excludes appointment, discipline, or termination decisions which are to be referred to you during this period.

cc: Top Management
Olympic Region

Rayonier Operating Company, LLC
3033 Ingram St.
Hoquiam, WA 98550
(360) 533-7000

May 20, 2019

Due Date: December 15, 2019
Invoice Number: TM-19-019

Bill To:
State of Washington, Dept. of Natural Resources
Albert Huggins
411 Tillimook Lane
Forks, WA 98331

DESCRIPTION	AMOUNT	
Road Use Permit 2019ANE00348 Fee / Falls Creek Timber Sale 55-098398	$	2,823.00
Hauling 1,000 MBF and 2,800 cyds of rock on the 9090.01 road		
Total	**$**	**2,823.00**

Rayonier office processing information only:	AMOUNT	
GL Code - For Internal Use only		
5110-1210-852-047-0003	$	2,823.00
Total	$	2,823.00

Remit payment to:
Rayonier Operating Company
Attn: Land Use Specialist
3033 Ingram Street
Hoquiam, WA 98550

Invoice questions: Paula Lorenz (360) 538-4569

Thank you for your business!

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
HILARY S. FRANZ, Commissioner of Public Lands

ROAD USE PERMIT

Permit No. 55-098399

THIS PERMIT, made and entered into this 22nd day of May, 2019, by and between Dale V. Fincher, herein called the "Grantor," and the State of Washington, acting by and through the Department of Natural Resources, herein called the "Grantee."

Conveyance. Grantor, for and in consideration of the terms and conditions specified herein, hereby grants and conveys to the Grantee, for the purpose of hauling approximately 1,000 MBF of timber and approximately 2,800 cubic yards of rock over an existing road on the Grantor's property, a nonexclusive permit to use a road over and across a strip of land, hereinafter defined as the "premises," in a portion of Section 19, Township 32 North, Range 12 West, W.M., in Clallam County, State of Washington. The location of said premises is located approximately as shown on Exhibit A, attached hereto. Said premises shall be confined to such 20 foot widths as indicated on Exhibit A. The word premises, when used herein, means a strip of land whether or not there is an existing road located thereon. The word "road" shall mean roads now existing or hereafter constructed on the premises, or any segment of such road.

The permit is subject to the terms and conditions hereinafter set out.

Consideration. The consideration is as follows: Five Hundred and 00/100 Dollars ($500.00). The consideration is not due until thirty days after the Grantee enters into a timber sale contract for the Falls Creek Timber Sale. Prior to payment, Grantee shall be limited to administrative use of the road. No commercial hauling will occur until the consideration is paid in full.

Termination. This permit shall terminate December 15, 2022, or earlier when requested by the Grantee; provided, however, that this permit may be suspended or terminated upon the breach of any of the conditions herein.

Reservations. Grantor reserves all rights incident to fee ownership of the premises and the profits thereon (including timber) and the right of use for any purpose including but not limited to the right to remove profits within the premises; the right at all times to cross and re-cross the premises at any place on grade or otherwise; and the right to use, maintain, patrol, reconstruct or repair the premises. Grantor may grant to third parties any and all rights reserved.

Compliance with Laws. For all activities conducted pursuant to this Permit, each party shall, at its own expense, comply with all applicable laws in effect now and as hereafter modified.

Permittees. The Grantee may permit its respective employees, agents, contractors, licensees, lessees, purchasers of timber or other profits and their agents, herein individually referred to as "Permittee" and collectively referred to as "Permittees", to exercise the rights granted to the Grantee herein. Acts or omissions of the Permittees operating under this Permit shall be deemed an act of the Grantee. Restrictions or requirements placed on the Grantee herein shall apply equally to the Permittees.

Maintenance. Maintenance is defined as work normally necessary to preserve and keep the roads in their present condition or as hereafter improved. At a minimum, the roads will be maintained to meet applicable forest practice standards set forth in Chapter 222-24 WAC as now written or hereafter amended.

When a road is being used solely by one party, that party shall be solely responsible for maintaining that portion of the road so used to the standards existing at the time sole use is commenced. During periods when either party and/or other parties with an easement or license jointly use the road(s), or any portion thereof, the cost of maintenance and resurfacing shall be allocated among such users on the basis of their respective use including that of their Permittees.

During periods of joint maintenance, the users shall meet at times to be set by mutual agreement and establish necessary maintenance provisions. Such provisions shall include, but not be limited to the following:

The appointment of a maintainer, which may be one of the parties or any third party, to perform or contract the maintenance;
The extent of resurfacing necessary to keep the road safe and to reduce environmental impacts; and

A method of payment by which each party using the road or a portion thereof shall pay it's pro rata share of the cost of maintenance and resurfacing.

Repairs. Grantee shall repair, or cause to be repaired at its sole cost, that damage to the Road arising out of it's use which is in excess of that which it would cause through normal and prudent usage. Damage caused by an unauthorized user shall be repaired at the expense of the Grantee if the Grantee is the sole user of the road, the Grantor if the Grantor is the sole user of the road and shared jointly if there is joint use of the road.

Improvements. Unless the parties agree in writing to share the cost of improvements in advance of such improvements being made, such improvements shall be solely for the account of the improver.

Prior rights. This permit is subject to any rights and valid claims previously conveyed by Grantor, and to any rights and valid claims pending on said premises. Grantee rights herein are subject to all matters of public record and to all prior unrecorded or recorded easements, permits, leases and options affecting said lands or Grantee rights across, over or upon such lands. Grantee rights herein are also subject to the rights of the Grantor to use its own lands for any and all legal purposes including the use of the land by third parties with the permission of the Grantor.

Operational Restrictions. Site-specific operational requirements are listed in Exhibit B. Non-compliance with these requirements shall constitute a breach of contract and may result in the Grantor suspending operations until the breach is remedied.

Damage. Grantee shall take all reasonable precautions to protect Grantor-owned timber, crops and improvements. The Grantee must notify the Grantor two (2) weeks in advance of completion of said operations for the purpose of inspection for compliance with the terms hereof. Grantee shall pay Grantor for any damage to timber, crops and improvements not identified and paid for under the terms and conditions of this Permit. Grantor shall appraise the damage at market value at the time of damage and bill Grantee for said damages at said value.

Waste. Grantee shall not cause nor permit any filling activity to occur in or on the premises, except by prior written approval of the Grantor. Grantee shall not deposit refuse, garbage, or other waste matter or use, store, generate, process, transport, handle, release, or dispose of any hazardous substance, or other pollutants in or on the premises except in accordance with all applicable laws. The term hazardous substance means any substance or material as those terms are now or are hereafter defined or regulated under any federal, state, or local law including but not limited to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA 42 USC 9601 *et seq.*), or the Washington Model Toxic Control Act (MTCA RCW 70.105D.010.). Grantee shall immediately notify the Grantor if the Grantee becomes aware of any release or threatened release of hazardous substance on the premises or adjoining property. If a release of hazardous substance occurs in, on, under, or above the premises arising out of any action of the Grantee, its contractors, subcontractors, invitees, agents, employees, licensees, or permittees, the Grantee shall, at its sole expense, promptly take all actions necessary or advisable to clean up, contain, and remove the hazardous substance in accordance with applicable laws.

Survey Markers. Grantee shall not destroy any land survey monuments marking local control points, geodetic control points, and land boundary survey corners without prior written approval from the landowner, which shall not be unreasonably withheld. Land survey monuments that must necessarily be disturbed or destroyed during construction or maintenance activities must be adequately referenced and replaced, at the Grantee's expense, under the direction of a Professional Land Surveyor, licensed in the State of Washington, in accordance with all applicable laws of the State of Washington in force at the time of construction, including but not limited to RCW 58.24, and all Department of Natural Resources regulations pertaining to preservation of such monuments. As directed under Chapter 332-120 WAC, a Land Surveyor or

Engineer must submit an application with the Department of Natural Resources for permission to temporarily remove or destroy a survey monument.

Fire Prevention and Control. The Grantee shall be responsible for satisfying the requirements of the laws of the State of Washington pertaining to Forest Protection and, in addition thereto, the Grantee shall during the closed season of April 15 through October 15 contact Grantor who shall determine any extra requirements pertaining to burning procedure, blasting, watchman, extra patrol, pumpers, tankers, fire hoses, fire tools, etc., which are deemed necessary for prevention and suppression of fire which may result from the Grantee's operations.

Indemnity by Grantee. Grantee shall defend, indemnify and hold harmless the Grantor from all claims that arise out of the negligence of the State or its Permittees in their use of the permit. A "claim" as used in this section means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable to bodily injury, sickness, disease or death, or injury to or destruction of tangible property including the resulting loss of use. Notwithstanding the foregoing, State's obligation to defend, indemnify, and hold harmless the Grantor from any judgment, decree or arbitration award shall extend only to the percentage of negligence of State and its Permittee in contribution to such claim. State waives its immunity under Title 51 RCW only to the extent it is required to indemnify, defend and hold harmless Grantor. This indemnification shall survive the expiration or termination of the permit.

Notice. Unless otherwise specified herein, any notices required or permitted under this Permit may be delivered personally, sent by facsimile machine or mailed certified, return receipt requested, to the following addresses or to such other place as the parties hereafter direct. Notice will be deemed given upon delivery or upon confirmation of facsimile, whichever is applicable.

To State:
DEPARTMENT OF NATURAL RESOURCES
Olympic Region
411 Tillicum Lane
Forks, WA. 98331

To Grantor:
DALE V. FINCHER
P.O. Box 375
Clallam Bay, WA. 98326

Integrated Agreement; Modification. This Permit constitutes the entire agreement and understanding of the parties with respect to the subject matter of the Permit and supersedes all prior negotiations and representations. This Permit may not be modified except in writing signed by the parties. The parties agree to execute any additional documents reasonably necessary to effectuate the provisions and purposes of this Permit.

Severability. If any provision of this Permit is held to be invalid or unenforceable, this provision shall not affect or invalidate the remainder of this Permit, and to this end the provisions of this Permit are declared to be severable. If any such invalidity becomes known or apparent to the

parties, the parties agree to negotiate promptly in good faith in an attempt to amend such provision as nearly as possible to be consistent with the intent of this Permit.

Waiver. Failure of either party to insist upon the strict performance of any of the terms and conditions of this Permit, or failure to exercise any rights or remedies provided in this Permit or by law, or to notify the other party in the event of breach, shall not release the other party of any of its obligations under this Permit, nor shall any purported oral modification or rescission of this Permit by either party operate as a waiver of any of the terms hereof. No waiver by either party of any breach, default, or violation of any term, warranty, representation, agreement, covenant, right, condition, or provision of this Permit shall constitute waiver of any subsequent breach, default, or violation of the same or other term, warranty, representation, agreement, covenant, right, condition, or provision.

Assignment. This Permit, and any of the rights granted herein, shall not be assigned without prior written consent of Grantor, except that said rights granted herein may be used by any Permittee, while engaged in the Grantee's operations.

Construction. The terms of this Permit shall be given their ordinary meaning unless defined herein and shall not be presumptively construed against either party.

Exhibits. All exhibits referred to in this Permit are deemed to be incorporated in this Permit in their entirety.

Headings. The headings in this Permit are for convenience only and are not intended to, and shall not be construed to, limit, enlarge, or affect the scope or intent of this Permit nor the meaning of any of its provisions.

Counterparts. This Permit may be executed in one or more counterparts, each of which shall be deemed an original, and all of which counterparts together shall constitute the same instrument which may be sufficiently evidenced by one counterpart. Execution of this Permit at different times and places by the parties shall not affect its validity so long as all the parties execute a counterpart of this Permit.

IN WITNESS WHEREOF, the parties hereto have caused this Permit to be executed as below subscribed.

DALE V. FINCHER

Dated: 5/20/19, 2019.

Dale V. Fincher

Dale V. Fincher
P.O. Box 375
Clallam Bay, WA. 98326
425.238.2080

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

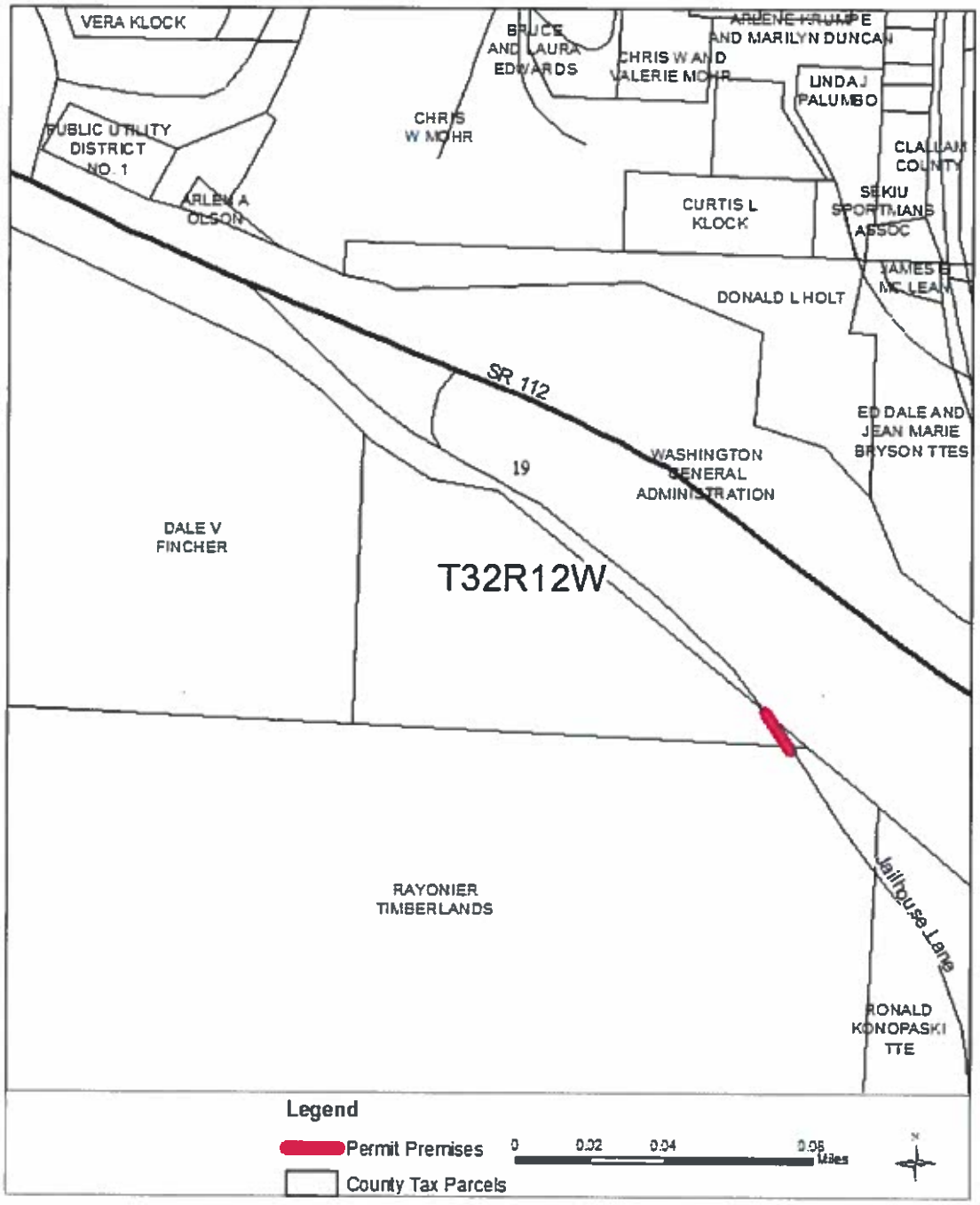
Dated: 5/22/19, 2019.

Mona Griswold
Olympic Region Manager
411 Tillicum Lane
Forks, WA. 98331
360.374.2800

Approved as to Form this
11th day of June, 2004.
By: James Schwartz
Assistant Attorney General
State of Washington

Revised as to Form this
11th day of March, 2008
Roger Braden, Assistant Attorney General

Exhibit A
Permit Premises
Section 19, Township 32, Range 12 West, W.M.



DEPARTMENT OF
NATURAL RESOURCES

OLYMPIC REGION
411 TILLICUM LANE
FORKS WA 98331

360.374.2800
OLYMPIC.REGION@DNR.WA.GOV
WWW.DNR.WA.GOV

May 14, 2019

TO: Josh Wilund, Department Supervisor

FROM: Mona Griswold, Olympic Region Manager

SUBJECT: Delegation of Authority

During my absence from my duties as Olympic Region Manager May 16-27, 2019, I hereby delegate the authority to act on behalf of the Department of Natural Resources as Olympic Region Manager as set forth in the Delegation Order dated February 5, 2019, as follows:

May 16-22, 2019 to Glenda Aldana, Assistant Region Manager – Business and Operations
May 23-27, 2019 to Drew Rosanbalm, Assistant Region Manager – State Lands

This delegation excludes appointment, discipline, or termination decisions which are to be referred to you during this period.

cc: Top Management
Olympic Region