

Washington DNR Timber Sales Program

Updated information is being provided for **CHARLIE CREEK** timber sale documents as follows:

Documents amended:

Brief Description	DATE	Initials
<b>To be included in the H-140 Clause: The P-1600 Road will be closed for a 5 month period between May 1 and September 30, 2025.</b>	02/26/2024	MH



**TIMBER NOTICE OF SALE**

**SALE NAME:** CHARLIE CREEK

**AGREEMENT NO:** 30-104805

**AUCTION:** February 28, 2024 starting at 10:00 a.m.,  
Olympic Region Office, Forks, WA

**COUNTY:** Clallam

**SALE LOCATION:** Sale located approximately 31 miles north of Forks, WA

**PRODUCTS SOLD  
AND SALE AREA:**

All timber, excluding downed red cedar, trees marked with a band of blue paint or bounded out by leave tree area tags; bounded by timber sale boundary tags, P-1120 and the P-1100N in Unit 1; timber sale boundary tags, timber type change and Eagle Crest Way in Unit 2; timber sale boundary tags in Units 3 & 7; timber sale boundary tags, timber type change and the P-1405 in Unit 4; timber sale boundary tags, flag line and the P-1430 in Unit 5; timber sale boundary tags and timber type change in Unit 6; timber sale boundary tags and the P-1600 in Unit 8; timber sale boundary tags, P-1620 and the P-4000E in Unit 9.

All timber bounded by right of way boundary tags.

All forest products above located on part(s) of Sections 6 all in Township 31 North, Range 12 West, Sections 1 and 2 all in Township 31 North, Range 13 West, Sections 29, 31 and 32 all in Township 32 North, Range 12 West, Sections 25, 26, 35 and 36 all in Township 32 North, Range 13 West, W.M., containing 219 acres, more or less.

**CERTIFICATION:** This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: BVC-SFIFM-018227)

**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	13.4	6	2,862						549	1,569	733	11
Douglas fir	15.7	6	1,447						500	680	234	32
Red alder	11.9		254							26	224	4
Spruce	17.7		55						26	25	4	
Redcedar	20		5							4	1	
Sale Total			4,623									

**MINIMUM BID:** \$704,000.00

**BID METHOD:** Sealed Bids

**PERFORMANCE  
SECURITY:**

\$100,000.00

**SALE TYPE:** Lump Sum

**EXPIRATION DATE:** October 31, 2026

**ALLOCATION:** Export Restricted

**BID DEPOSIT:** \$70,400.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

**HARVEST METHOD:** 85%- Ground/ 15%- Uphill Cable. Forest products sold under this contract shall be harvested and removed using cable, cable-tethered, and ground based equipment. Cable-tethered equipment is limited to sustained slopes of 75 percent and less. Ground based equipment is limited to tracked equipment on sustained slopes that are 45 percent and



## TIMBER NOTICE OF SALE

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less. Rubber tire skidders will only be allowed if skidding and rutting requirements can be met and a harvest plan is submitted and approved in writing by the Contract Administrator. 30' Equipment Limitation Zones on all typed streams. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

Trees marked with blue and orange paint are to be high stumped in Units 4 and 9.

### **ROADS:**

42.90 stations of optional construction. 3.80 stations of optional reconstruction. 783.80 stations of optional pre-haul maintenance. Road construction will not be permitted from October 15 to April 15 unless authorized in writing by the Contract Administrator on Spur Roads 7+50 and 5+50 in Unit 6.

On the P-1000 (stations 78+90-82+75, 160+40-180-65) and the P-4000E (station 29+60-36+00), timber felling, road work or operation of heavy equipment performed during the marbled murrelet nesting season (April 1st through September 23rd), is restricted to, two hours after sunrise to two hours before sunset. This does not apply to hauling timber, rock, or equipment.

### **ACREAGE DETERMINATION**

**CRUISE METHOD:** Sale acreage was 99% GPS'd, and <1% estimated. Sale units were cruised using a variable plot sample.

### **FEES:**

\$78,591.00 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 is a locked gate on the Mary Clark Pit-contact Olympic Region Dispatch Center at 360-374-2800 to obtain a AA1 key.

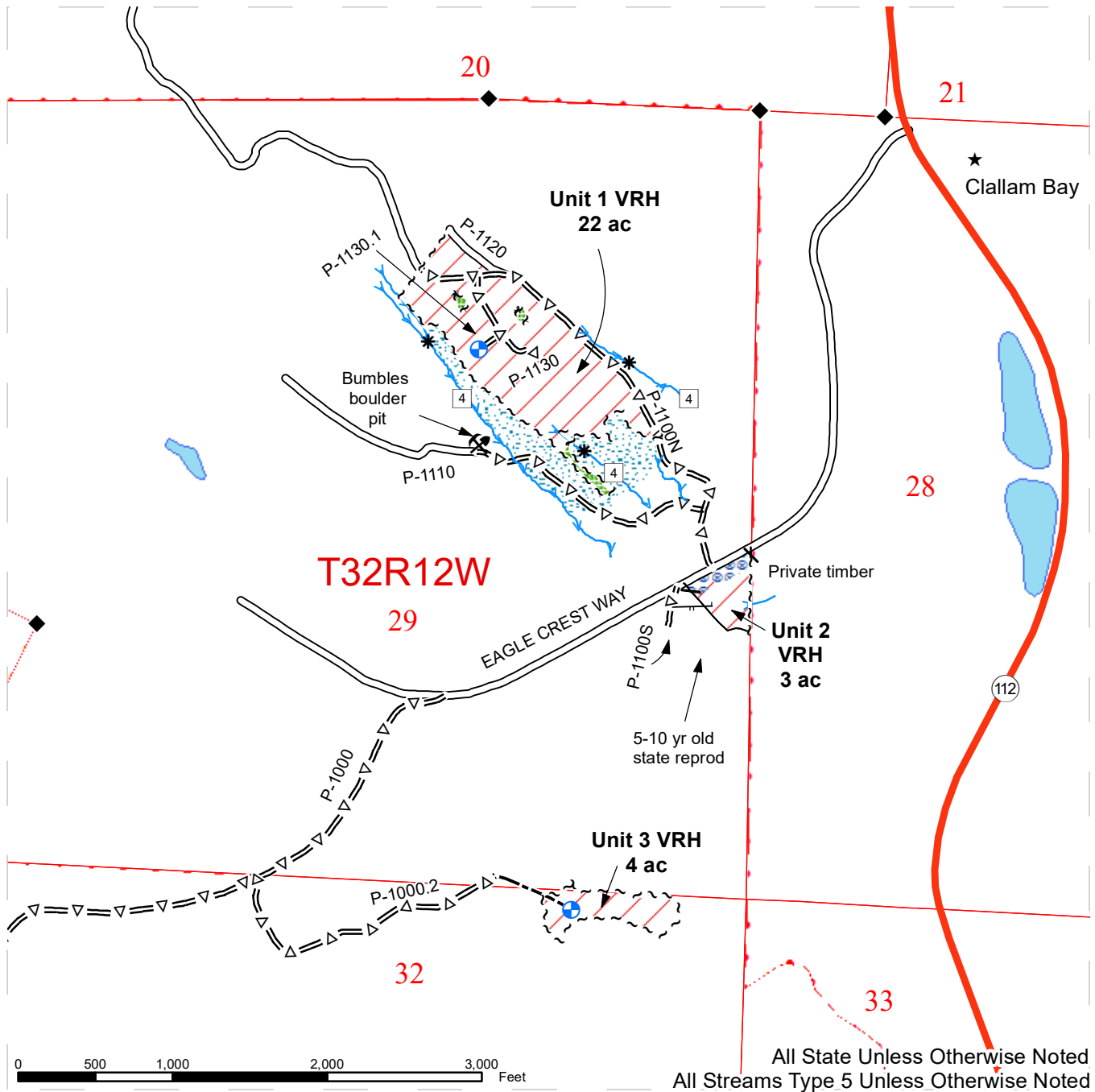
There are Extreme Hazard Abatement requirements for this sale-see contract for details.

The P-1600 Road will be closed for a 5 month period between May 1 and September 30.

# TIMBER SALE MAP

**SALE NAME:** CHARLIE CREEK  
**AGREEMENT#:** 30-104805  
**TOWNSHIP(S):** T31R12W, T31R13W, T32R12W, T32R13W  
**TRUST(S):** State Forest Transfer (01), Common School and Indemnity (03)

**REGION:** Olympic Region  
**COUNTY(S):** Clallam  
**ELEVATION RGE:** 130'-1230'



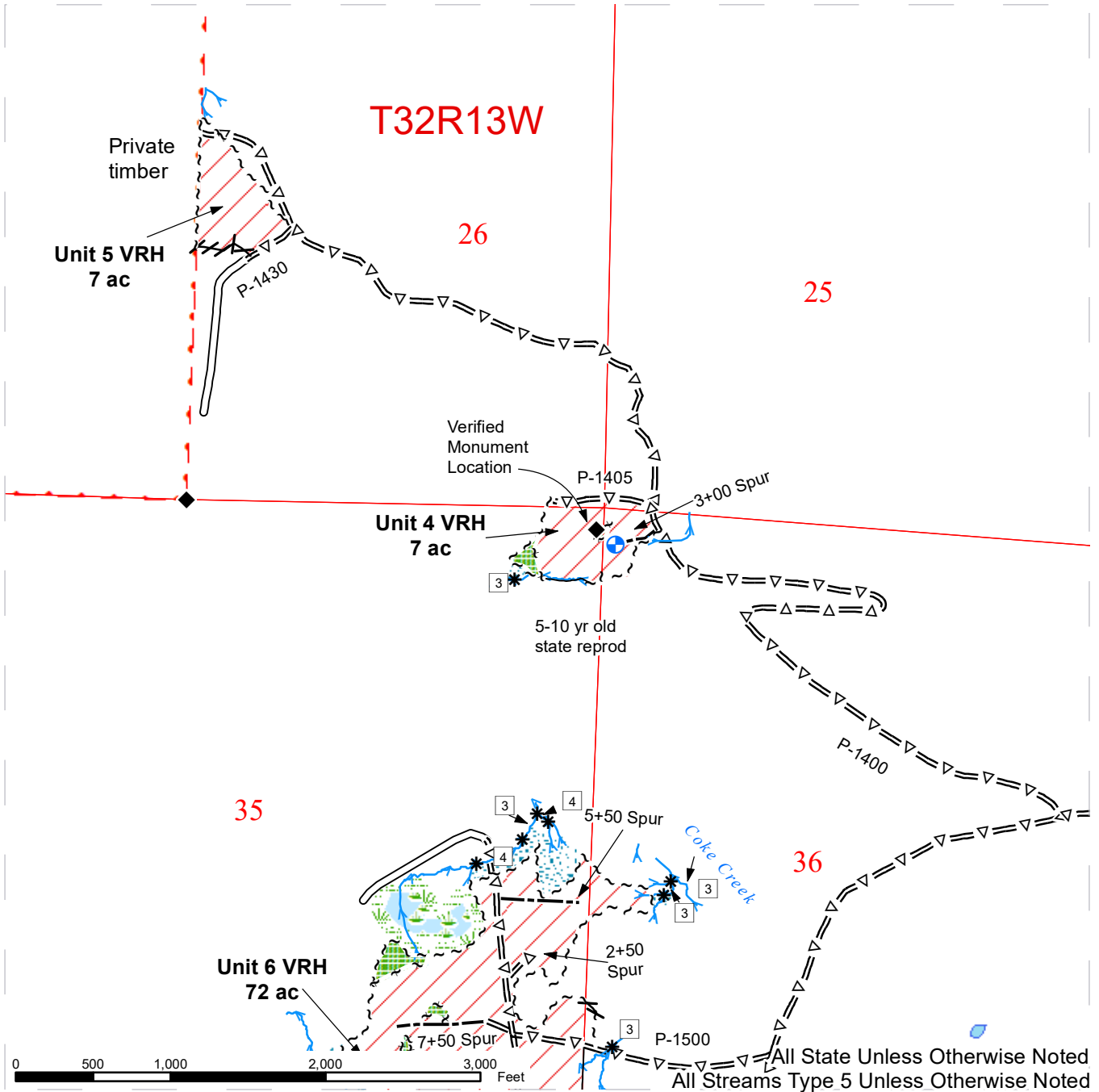
Stream Type	Leave Tree Area Tags	Leave Tree Area
Stream Type Break	Flag Line	Riparian Mgt Zone
Survey Monument	Highway	Hazard Abatement Area
Proposed Landing	Stream	Variable Retention Harvest
Rock Pit	Existing Road	Open Water
Town	Optional Pre-Haul Maintenance	Public Land Survey Sections
Sale Boundary Tags	Optional Construction	Public Land Survey Townships
Timber Type Change	Equipment Trail	DNR Managed Lands



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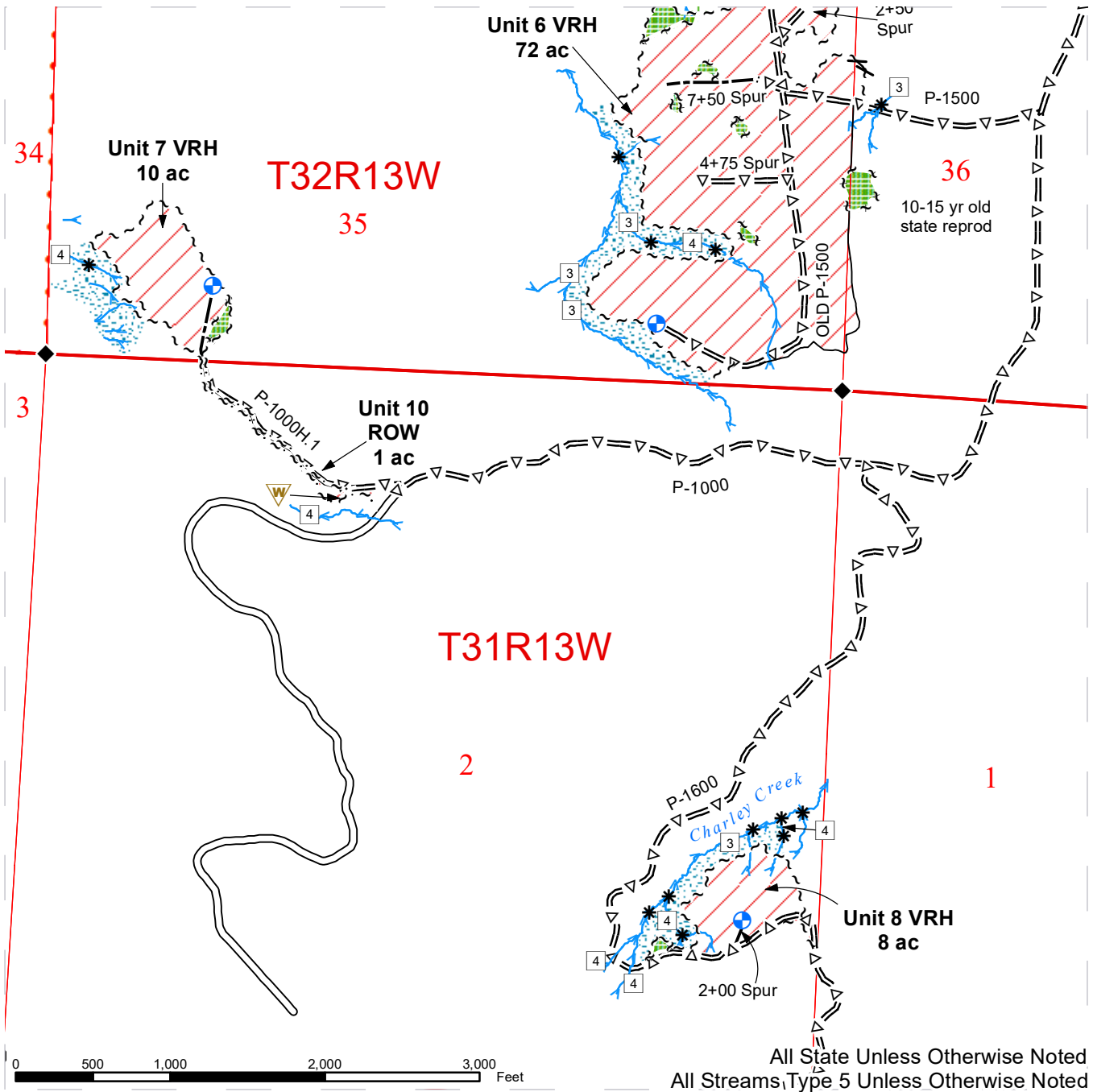


□	Stream Type	////	Flag Line	[Dotted Green]	Riparian Mgt Zone
*	Stream Type Break	→	Stream	[Dotted Blue]	Wetland Mgt Zone
◆	Survey Monument	—	Existing Road	[Red Diagonal]	Variable Retention Harvest
⊕	Proposed Landing	=Δ=	Optional Pre-Haul Maintenance	[Blue]	Open Water
~ ~ ~	Sale Boundary Tags	- - -	Optional Construction	[Red Outline]	Public Land Survey Sections
—	Timber Type Change	[Green Grid]	Non-Forested Wetland	[Red Outline]	Public Land Survey Townships
~ ~ ~	Leave Tree Area Tags	[Green Grid]	Leave Tree Area	[Red Outline]	DNR Managed Lands

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All State Unless Otherwise Noted  
 All Streams, Type 5 Unless Otherwise Noted

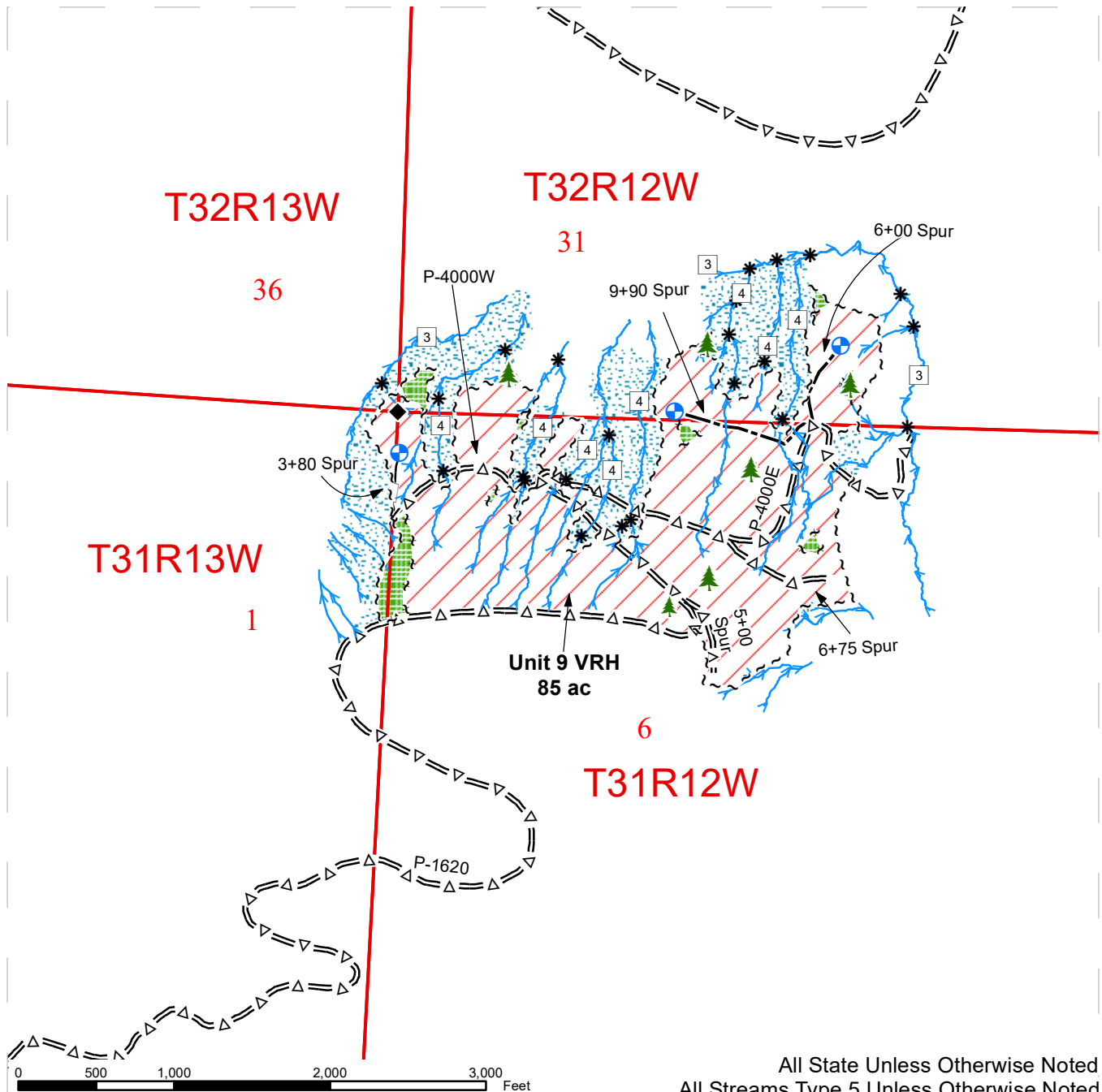
□ Stream Type	~ ~ ~ Right of Way Tags	▨ Riparian Mgt Zone
* Stream Type Break	//// Flag Line	▨ Wetland Mgt Zone
◆ Survey Monument	→ Stream	▨ Variable Retention Harvest
⊕ Proposed Landing	— Existing Road	▨ Public Land Survey Sections
~ ~ ~ Sale Boundary Tags	=Δ= Optional Pre-Haul Maintenance	▨ Public Land Survey Townships
— Timber Type Change	- - - Optional Construction	▨ DNR Managed Lands
~ ~ ~ Leave Tree Area Tags	▨ Leave Tree Area	



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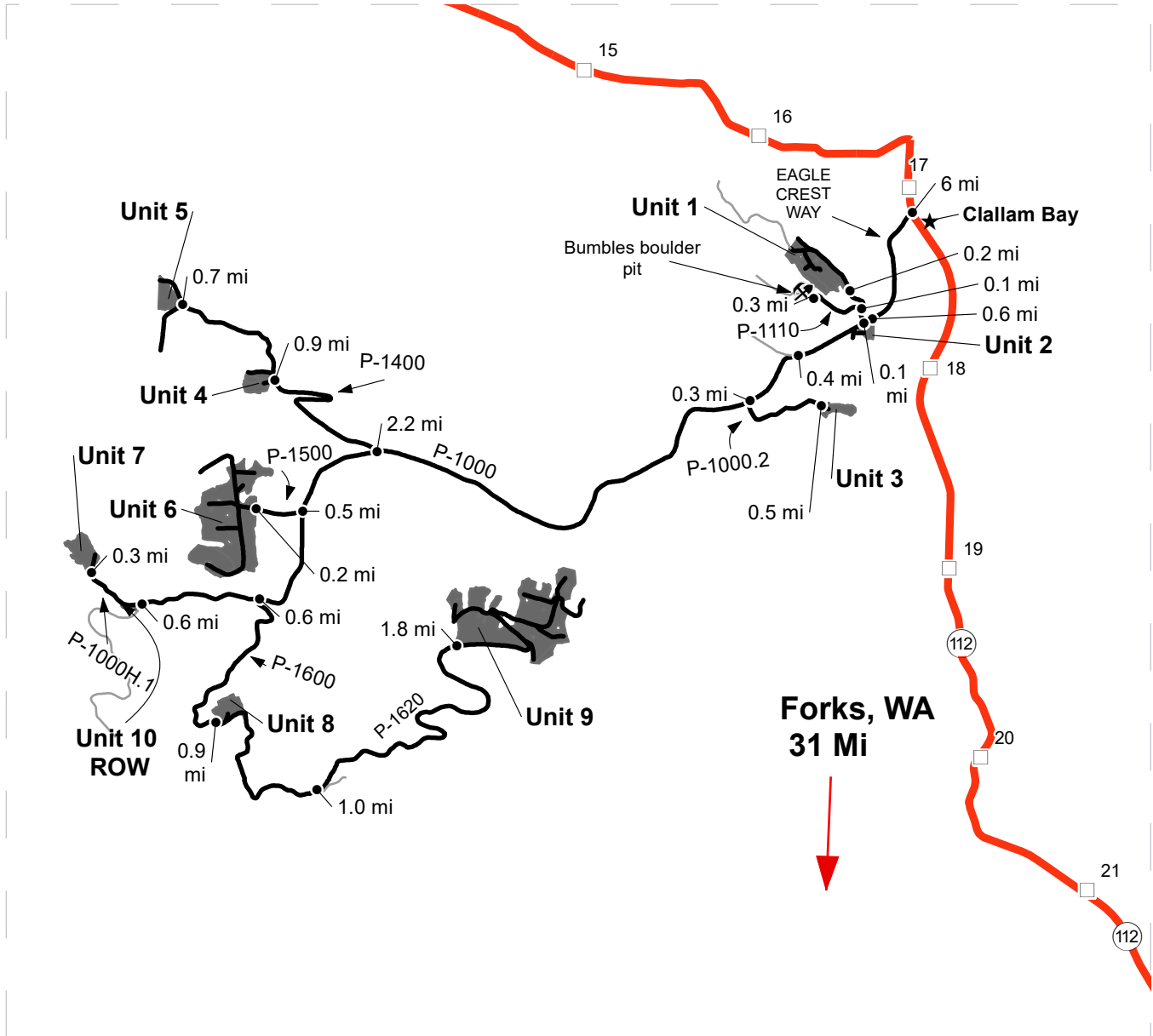
□ Stream Type	~ ~ ~ Leave Tree Area Tags	▨ Riparian Mgt Zone
* Stream Type Break	→ Stream	▨ Variable Retention Harvest
◆ Survey Monument	=Δ= Optional Pre-Haul Maintenance	▨ Public Land Survey Sections
🌲 Leave Tree Area <1/4-acre	- - - Optional Construction	▨ Public Land Survey Townships
⊕ Proposed Landing	— Optional Reconstruction	▨ DNR Managed Lands
~ ~ ~ Sale Boundary Tags	▨ Leave Tree Area	



# DRIVING MAP

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Map may not be to scale

## DRIVING DIRECTIONS:

<ul style="list-style-type: none"> <li> Rock Pit</li> <li> Town</li> <li> Distance Indicator</li> <li> Milepost Markers</li> <li> Highway</li> <li> Haul Route</li> <li> Other Road</li> <li> Timber Sale Unit</li> </ul>	<p>Mary Clark Pit: From Forks, WA. Travel north on HWY 101 for 10.5 miles. Turn right onto Mary Clark Rd and continue for 0.5 mi. Turn right onto Mary Clark Pit Rd and continue for 0.1 mi.</p> <p>Unit 2: From the HWY 101 and Mary Clark Rd junction continue on HWY 101 for 0.3 miles. Turn left onto SR 113 and continue for 9.9 mi. Merge onto SR 112 and continue for 6 mi. Turn left of Eagle Crest Way and continue for 0.6 mi.</p> <p>Unit 1: From Unit 2 continue on Eagle Crest Way for 0.1 mi. Turn right onto P-1100N and continue for 0.2 mi.</p> <p>Bumbles Boulder Pit: From Unit 1 head back onto P-1100N for 0.1 mi. Turn right onto P-1110 and continue for 0.3 mi.</p> <p>Unit 3: From the Eagle Crest Way and P-1100N junction continue on Eagle Crest Way for 0.4 miles. Stay left and merge onto the P-1000 and continue for 0.3 mi. Turn left onto P-1000.2 and continue for 0.5 mi.</p> <p>Unit 4: From the P-1000 and P-1000.2 junction continue on P-1000 for 2.2 mi. Turn right onto P-1400 and continue for 0.9 mi.</p> <p>Unit 5: From Unit 4 continue on P-1400 for 0.7 mi.</p> <p>Unit 6: From the P-1400 and P-1000 junction continue on P-1000 for 0.5 mi. Turn right onto P-1500 and continue for 0.2 mi.</p> <p>Unit 10 ROW: From the P-1500 and P-1000 junction continue on P-1000 for 1.2 mi. Turn right onto P-1000H.1.</p> <p>Unit 7: From Unit 10 Row continue on P-1000H.1 for 0.3 mi.</p> <p>Unit 8: From the P-1000H.1 and P-1000 junction head back on P-1000 for 0.6 mi. Turn Right onto P-1600 and continue for 0.9 mi.</p> <p>Unit 9: From Unit 8 continue on P-1600 for 1.0 mi. Stay left at the fork onto P-1620 and continue for 1.8 mi.</p>
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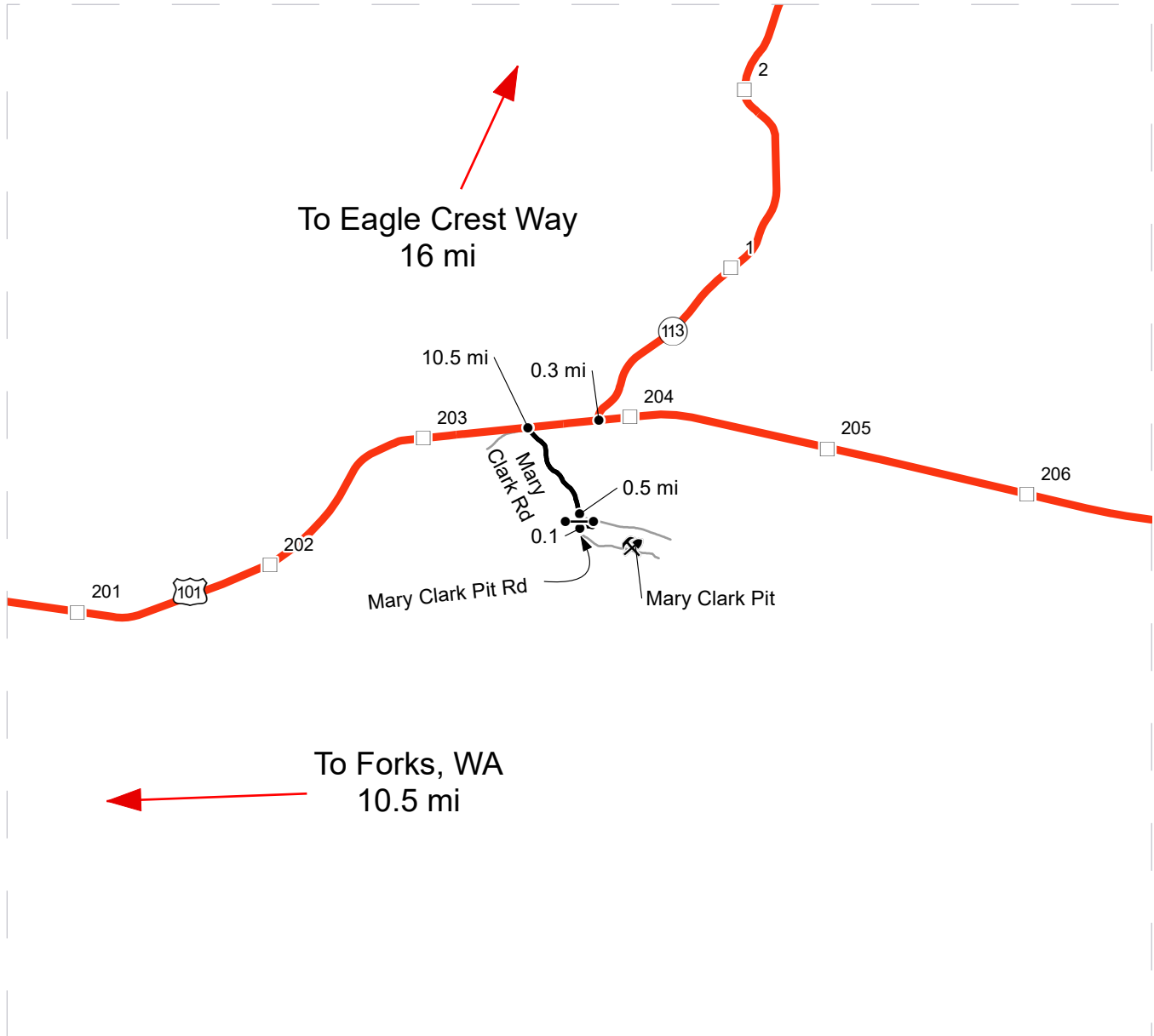




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## DRIVING DIRECTIONS:

<ul style="list-style-type: none"> <li> Rock Pit</li> <li> Gate &lt; AA-1 &gt;</li> <li> Distance Indicator</li> <li> Milepost Markers</li> <li> Highway</li> <li> Haul Route</li> <li> Other Road</li> </ul>	<p>Mary Clark Pit: From Forks, WA. Travel north on HWY 101 for 10.5 miles. Turn right onto Mary Clark Rd and continue for 0.5 mi. Turn right onto Mary Clark Pit Rd and continue for 0.1 mi.</p> <p>Unit 2: From the HWY 101 and Mary Clark Rd junction continue on HWY 101 for 0.3 miles. Turn left onto SR 113 and continue for 9.9 mi. Merge onto SR 112 and continue for 6 mi. Turn left of Eagle Crest Way and continue for 0.6 mi.</p> <p>Unit 1: From Unit 2 continue on Eagle Crest Way for 0.1 mi. Turn right onto P-1100N and continue for 0.2 mi.</p> <p>Bumbles Boulder Pit: From Unit 1 head back onto P-1100N for 0.1 mi. Turn right onto P-1110 and continue for 0.3 mi.</p> <p>Unit 3: From the Eagle Crest Way and P-1100N junction continue on Eagle Crest Way for 0.4 miles. Stay left and merge onto the P-1000 and continue for 0.3 mi. Turn left onto P-1000.2 and continue for 0.5 mi.</p> <p>Unit 4: From the P-1000 and P-1000.2 junction continue on P-1000 for 2.2 mi. Turn right onto P-1400 and continue for 0.9 mi.</p> <p>Unit 5: From Unit 4 continue on P-1400 for 0.7 mi.</p> <p>Unit 6: From the P-1400 and P-1000 junction continue on P-1000 for 0.5 mi. Turn right onto P-1500 and continue for 0.2 mi.</p> <p>Unit 10 ROW: From the P-1500 and P-1000 junction continue on P-1000 for 1.2 mi. Turn right onto P-1000H.1.</p> <p>Unit 7: From Unit 10 Row continue on P-1000H.1 for 0.3 mi.</p> <p>Unit 8: From the P-1000H.1 and P-1000 junction head back on P-1000 for 0.6 mi. Turn Right onto P-1600 and continue for 0.9 mi.</p> <p>Unit 9: From Unit 8 continue on P-1600 for 1.0 mi. Stay left at the fork onto P-1620 and continue for 1.8 mi.</p>
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**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

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

**Export Restricted Lump Sum AGREEMENT NO. 30-0104805**

**SALE NAME: CHARLIE 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 28, 2024 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, excluding downed red cedar, trees marked with a band of blue paint or bounded out by leave tree area tags; bounded by timber sale boundary tags, P-1120, and the P-1100N in Unit 1; timber sale boundary tags, timber type change and Eagle Crest Way in Unit 2; timber sale boundary tags in Units 3 & 7; timber sale boundary tags, timber type change and the P-1405 in Unit 4; timber sale boundary tags, flag line and the P-1430 in Unit 5; timber sale boundary tags and timber type change in Unit 6; timber sale boundary tags and the P-1600 in Unit 8; timber sale boundary tags, P-1620 and the P-4000E in Unit 9.

All timber bounded by right of way boundary tags.

All forest products above located on approximately 219 acres on part(s) of Section 6 in Township 31 North, Range 12 West, Sections 1, and 2 all in Township 31 North, Range 13 West, Sections 29, 31, and 32 all in Township 32 North, Range 12 West, Sections 25, 26, 35, and 36 all in Township 32 North, Range 13 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
B	GREEN TREE RETENTION PLAN

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2026.

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 \$839.00 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-061 Inadvertent Discovery of Cultural Resources

Purchaser acknowledges that cultural resources as defined in WAC 222-16-010 may exist within the timber sale area and that the existence and location of such resources may be unknown at the time this contract is executed. Purchaser has a duty to exercise due care in its operations and in the event any human skeletal remains are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify local law enforcement in the most expeditious manner possible then notifying the Contract Administrator. In the event cultural resources are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify the Contract Administrator. Any potential resources shall not be removed or disturbed. Purchaser shall resume operations as directed in writing by the Contract Administrator.

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. TE812521-1 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, ITP TE812521-1 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-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 2022 Forest Management Standard under certificate number: BVC-SFIFM-018227.

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 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.

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.

Road is defined as the road bed, including but not limited to its component parts, such as cut and fill slopes, 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.

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 Operations

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-1100N, P-1110, P-1120, P-1130, P-1130.1, P-1000, P-1100S, P-1000.2, P-1500, Old P-1500, 4+75 Spur, 7+50 Spur, 5+50 Spur, 2+50 Spur, P-1400, P-1405, 3+00 Spur, P-1430, P-1600, 2+00 Spur, P-1620, P-4000W, P-4000E, 3+80 Spur, 6+00 Spur, 6+75 Spur, 5+00 Spur, 9+90 Spur, P-1000H, P-1000H.1, Mary Clark Pit road and the Sappho 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, P-1600, or Eagle Crest Way, unless authority is granted in writing by the Contract Administrator.

## G-380 Road Easement and Road Use Permit Requirements

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

Easement: Dept. of Corrections 55-002316

## G-430 Open Fires

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

## Section P: Payments and Securities

## P-011 Initial Deposit

Purchaser paid DATA MISSING initial deposit, which will be maintained pursuant to RCW 79.15.100(3). If the operating authority on this contract expires without Purchaser's payment of the full amount specified in Clause P-020, the initial deposit will be immediately forfeited to the State, and will be offset against Purchaser's remaining balance due. Any excess initial deposit funds not needed to ensure full payment of the contract price, or not needed to complete any remaining obligations of the Purchaser existing after contract expiration, will be refunded to the Purchaser.

## P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$120,198.00. The total contract price consists of a \$0.00 contract bid price plus \$120,198.00 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-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 'Unauthorized Activity' clause. Purchaser is required to leave all cut or damaged reserve trees on site.

#### H-016 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

- a. A skid trail will not exceed 12 feet in width, including rub trees.
- b. Skid trails shall not cover more than 15 percent of the total acreage on one unit.
- c. Location of the skid trails must be marked by Purchaser and approved by the Contract Administrator.
- d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.
- f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- g. Purchaser will not have more than two skid trails open to active skidding at any one time. All other skid trails used for skidding timber will be closed.
- h. Once a skid trail is closed, Purchaser will not reopen a skid trail unless approved in writing by the Contract Administrator.
- i. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

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

H-017 Preventing Excessive Soil Disturbance

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

H-040 Purchaser Harvest Plan

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

H-051 Branding and Painting

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

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

H-060 Skid Trail Locations

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

H-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, cable-tethered, and ground based equipment. Cable-tethered equipment is limited to sustained slopes of 75 percent and less. Ground based equipment is limited to tracked equipment on sustained slopes that are 45 percent and less. Rubber tired skidders being allowed only if skidding and rutting requirements can be met and a harvest plan is submitted and approved by the Contract Administrator. 30' Equipment Limitations

Zones (ELZ) on all typed water. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

#### 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, one warning sign must be posted on the P-1100N, P-1400, P-1500, P-1620 and P-4000 roads and two warning signs on Eagle Crest Way, and P-1600 roads.
3. Yarding equipment shall not cross live streams without a FPHP.
4. Purchaser shall fully suspend one end of logs during logging operations.
5. 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.
6. Trees marked with blue and orange paint are to be high stumped in Units 4 and 9.
7. The P-1600 Road will be closed for a 5 month period between May 1 and September 30, 2025.

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

#### H-142 Wildlife Timing Restrictions

The following wildlife timing restrictions apply to this contract and shall be in place in the locations shown on the attached timber sale map.

Any road work, right-of-way timber falling and yarding, rock pit operation of heavy equipment on the P-1000 (stations 78+90-82+75, 160+40-180-65) and the P-4000E (station 29+60-36+00) performed during the marbled murrelet nesting season (April 1 through September 23) is restricted to two hours after sunrise to two hours before sunset. This restriction does not apply to hauling timber, rock or equipment.

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

#### H-190 Completion of Settings

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

**H-220 Protection of Residual or Adjacent Trees**

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

**H-230 Tops and Limbs Outside the Sale Boundary**

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

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

Road construction and associated work provisions of the Road Plan for this sale, dated 5/3/2023 are hereby made a part of this contract.

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

Purchaser shall perform work at their own expense on all roads listed in the Road Plan, authorized in clause G-310, and not listed in clause C-60. 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 P-1000 STA 0+00-218+00, P-1600 STA 0+00-102+50 (P-1620 Junction), Sappho LTSP Main STA 0+00-5+00), Mary Clark pit road (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-100 Stream Cleanout

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

S-120 Stream Protection

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

S-130 Hazardous Materials

- a. Hazardous Materials and Waste - Regulatory Compliance



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

Purchaser shall be responsible for restoring the site in the event of a spill or other releases of hazardous material/waste during operations conducted under this contract.

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 covered in part a., the Purchaser is responsible for immediately notifying all the following:

- Department of Emergency Management at 1-800-258-5990
- National Response Center at 1-800-424-8802
- Appropriate Department of Ecology (ECY) at 1-800-645-7911
- DNR Contract Administrator

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.

SIGNATURES

This agreement may be executed in any number of counterparts (including by electronic mail in portable document format (.pdf), or by facsimile) each of which shall be deemed an original but all of which, when taken together, shall constitute one and the same Agreement binding on all parties.

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

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

\_\_\_\_\_  
Purchaser

\_\_\_\_\_  
William Wells

\_\_\_\_\_  
Print Name

Olympic Region Manager

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Address: \_\_\_\_\_

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

STATE OF \_\_\_\_\_ )

COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally appeared \_\_\_\_\_

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

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

\_\_\_\_\_  
Notary Public in and for the State of

\_\_\_\_\_

My appointment expires \_\_\_\_\_

**Schedule A**  
**SLASH PILING SPECS**

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 trees 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**

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	54	3	122	176
2	24	0	0	24
3	32	0	0	32
4	17	1	39	56
5	56	0	0	56
6	179	5	413	592
7	26	1	54	80
8	24	1	40	64
9	165	13	515	680



## WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

### FOREST EXCISE TAX ROAD SUMMARY SHEET

**Region:**

**Timber Sale Name:**

**Application Number:**

#### EXCISE TAX APPLICABLE ACTIVITIES

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

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

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

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

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

#### EXCISE TAX EXEMPT ACTIVITIES

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

**Temporary Reconstruction:** **linear feet**  
*Roads to be reconstructed (optional and required) and then abandoned*

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.  
(Revised 9/18)

## PRE-CRUISE NARRATIVE

Sale Name: <b>Charlie Creek</b>	Region: <b>Olympic</b>
Agreement #: <b>30-104805</b>	District: <b>Ozette</b>
Contact Forester: Michael Case Phone / Location: 360-640-4343	County(s): <b>Clallam</b>
Alternate Contact: Mike Potter Phone / Location: 360-640-0722	Other information: <a href="#">Click here to enter text.</a>

Type of Sale: Lump Sum	% of sale acres
Harvest System: Ground based	84
Harvest System: Uphill Cable	16

### UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit #  Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination  (List method and error of closure if applicable)
				RMZ/WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1	S29/32/12W	01	35.5	11	1	1.5	0	22	GPS (Garmin)
2	S29/32/12W	01	3	0	0	0	0	3	GPS (Garmin)
3	S32/32/12W	01	4	0	0	0	0	4	GPS (Garmin)
4	S35/32/13W	01	8	0	0.5	0.5	0	7	GPS (Garmin)
5	S26/32/13W	01	7.5	0	0	0.5	0	7	GPS (Garmin)
6	S35/32/13W	01, 03	93	14	3	2	0	74	GPS (Garmin)
7	S35/32/13W	01	16	5	1	0	0	10	GPS (Garmin)
8	S02/31/13W	01	13	5	0	0	0	8	GPS (Garmin)
9	S06/31/12W	01	142	48	5	4	0	85	GPS (Garmin)
10 ROW	S35/32/13W	01	1	0	0	<1	0	<1	
<b>TOTAL ACRES</b>			<b>323</b>	<b>83</b>	<b>10.5</b>	<b>8.5</b>	<b>0</b>	<b>221</b>	

### HARVEST PLAN AND SPECIAL CONDITIONS:



Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	<b>Harvest Boundaries:</b> Timber sale boundary tags, pink flagging, red flashers, blue paint and roads. <b>Individual Leave Trees:</b> Blue paint.	None	<b>Individual Leave Trees: 54</b>  <b>Clumped Leave Trees: 122</b>  <b>Total Leave Trees: 176</b>
2	<b>Harvest Boundaries:</b> Timber sale boundary tags, pink flagging, red flashers, blue paint and roads. <b>Individual Leave Trees:</b> Blue paint.	None	<b>Individual Leave Trees: 24</b>  <b>Clumped Leave Trees: 0</b>  <b>Total Leave Trees: 24</b>
3	<b>Harvest Boundaries:</b> Timber sale boundary tags, pink flagging, red flashers, blue paint and roads. <b>Individual Leave Trees:</b> Blue paint.	None	<b>Individual Leave Trees: 32</b>  <b>Clumped Leave Trees: 0</b>  <b>Total Leave Trees: 32</b>
4	<b>Harvest Boundaries:</b> Timber sale boundary tags, pink flagging, red flashers, blue paint, and roads. <b>Individual Leave Trees:</b> Blue paint.	None	<b>Individual Leave Trees: 17</b>  <b>Clumped Leave Trees: 39</b>  <b>Total Leave Trees: 56</b>
5	<b>Harvest Boundaries:</b> Timber sale boundary tags, pink flagging, red flashers, blue paint, and roads. <b>Individual Leave Trees:</b> Blue paint.	None	<b>Individual Leave Trees: 56</b>  <b>Clumped Leave Trees: 0</b>  <b>Total Leave Trees: 56</b>
			<b>Individual Leave Trees: 18</b>

6	<p><b>Harvest Boundaries:</b> Timber sale boundary tags, pink flagging, red flashers, blue paint, timber type change, and roads.</p> <p><b>Individual Leave Trees:</b> Blue paint.</p>	None	<p><b>Clumped Leave Trees: 413</b></p> <p><b>Total Leave Trees: 592</b></p>
7	<p><b>Harvest Boundaries:</b> Timber sale boundary tags, pink flagging, red flashers, and blue paint.</p> <p><b>Individual Leave Trees:</b> Blue paint.</p>	None	<p><b>Individual Leave Trees: 26</b></p> <p><b>Clumped Leave Trees: 54</b></p> <p><b>Total Leave Trees: 80</b></p>
8	<p><b>Harvest Boundaries:</b> Timber sale boundary tags, pink flagging, red flashers, blue paint, and roads.</p> <p><b>Individual Leave Trees:</b> Blue paint.</p>	None	<p><b>Individual Leave Trees: 24</b></p> <p><b>Clumped Leave Trees: 40</b></p> <p><b>Total Leave Trees: 64</b></p>
9	<p><b>Harvest Boundaries:</b> Timber sale boundary tags, pink flagging, red flashers, blue paint, and roads.</p> <p><b>Individual Leave Trees:</b> Blue paint.</p>	None	<p><b>Individual Leave Trees: 145</b></p> <p><b>Clumped Leave Trees: 535</b></p> <p><b>Total Leave Trees: 680</b></p>
10 ROW	<p><b>Harvest Boundaries:</b> Right of way boundary tags, orange flagging, orange paint, red flashers.</p>	0.5 ac existing road grade	None

**OTHER PRE-CRUISE INFORMATION:**

Unit #	Primary, secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	Douglas Fir, Western Hemlock 506	-	See Cruise Maps
2	Douglas Fir, Western Hemlock 60	-	See Cruise Maps
3	Douglas Fir, Western Hemlock 80	Unit 3 access by walking in from P-1000_1777	See Cruise Maps
4	Douglas Fir, Western Hemlock 140	-	See Cruise Maps
5	Douglas Fir, Western Hemlock 140	-	See Cruise Maps
6	Douglas Fir, Western Hemlock 1,656	-	See Cruise Maps
7	Douglas Fir, Western Hemlock 200		See Cruise Maps
8	Douglas Fir, Western Hemlock 160	-	See Cruise Maps
9	Douglas Fir, Western Hemlock 2,047	P-4000 blocked.	See Cruise Maps
10 ROW	Western Hemlock, Red Alder 20		See Cruise Maps
TOTAL MBF	5,009		

**REMARKS:**

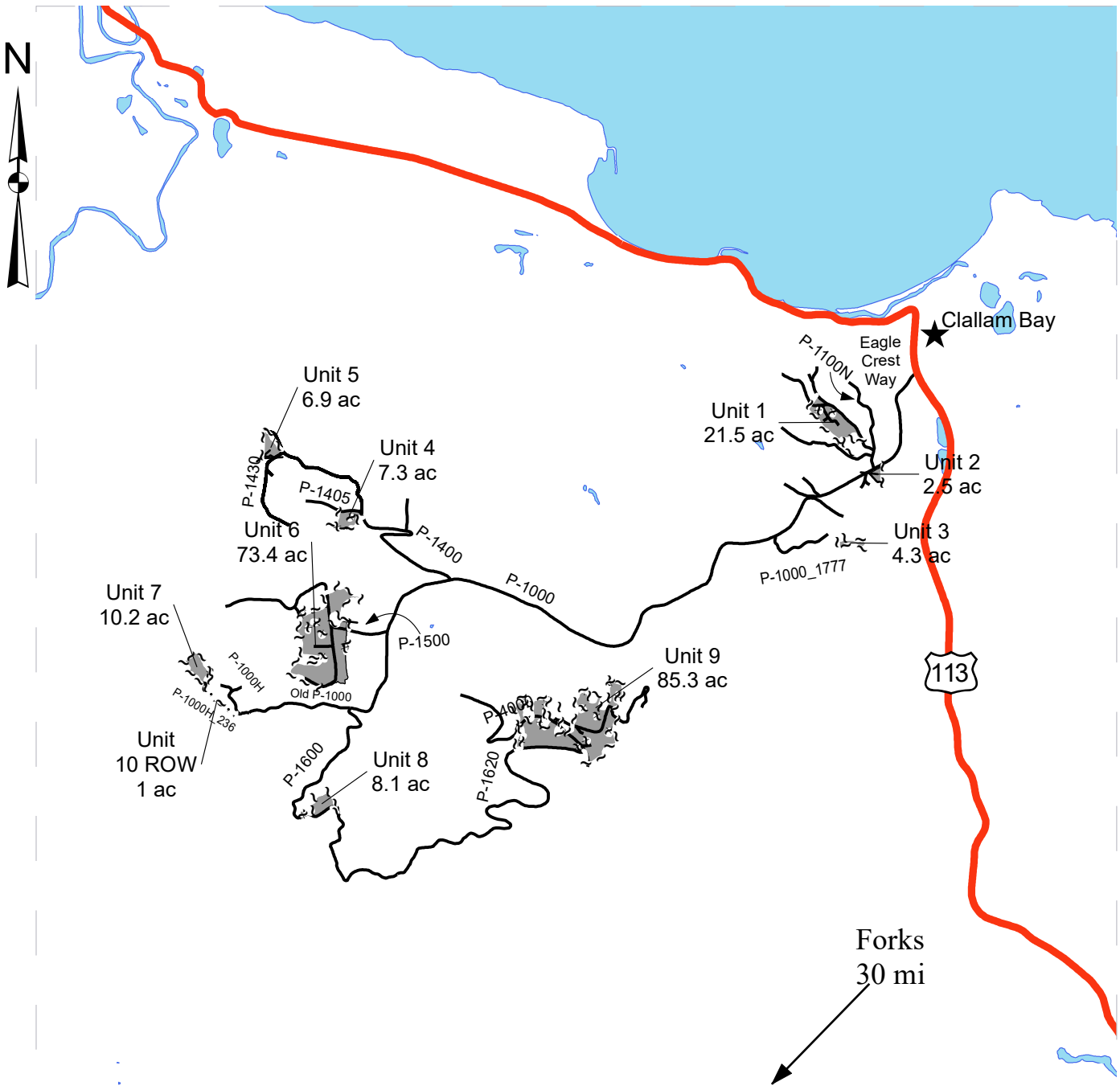
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<b>Prepared By:</b> M.Case	<b>Title:</b> Forester	<b>CC:</b>
<b>Date:</b> 3/6/2023		

# PRE- CRUISE DRIVING MAP






**SALE NAME:** CHARLIE CREEK  
**AGREEMENT#:** 30-104805  
**TOWNSHIP(S):** T31R12W, T31R13W, T32R12W, T32R13W  
**TRUST(S):** State Forest Transfer (1), Common School and Indemnity (3)

**REGION:** Olympic Region  
**COUNTY(S):** Clallam  
**ELEVATION RGE:** 130'-1230'



Map may not be to scale

All state unless otherwise noted

	Highway
	Existing Roads
	Sale Area
	Open Water
	County Boundaries

From Forks, WA drive North on US 101 for 16 miles. Turn left onto HWY 112 for 6 miles. HWY 112 turn into HWY 113 and continue for 6 miles. Turn left onto Eagle Crest Way.

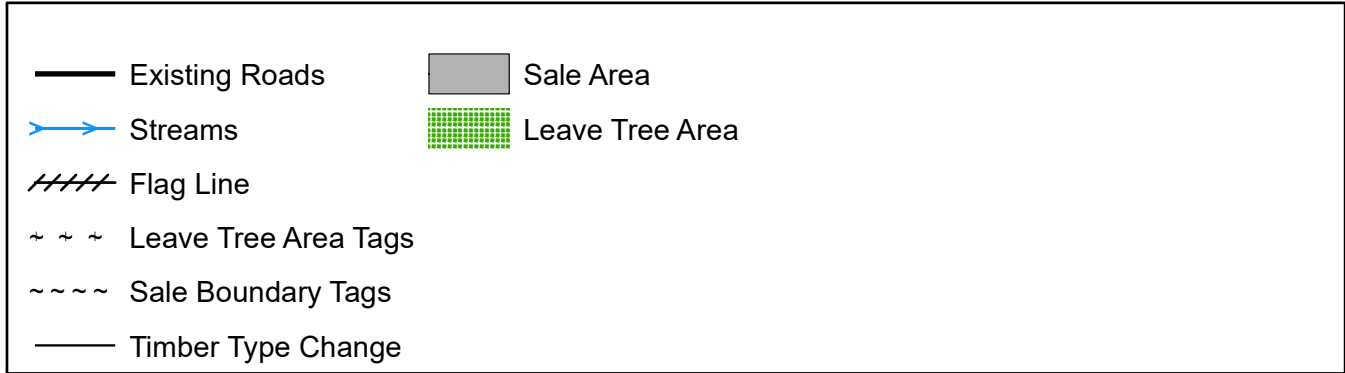
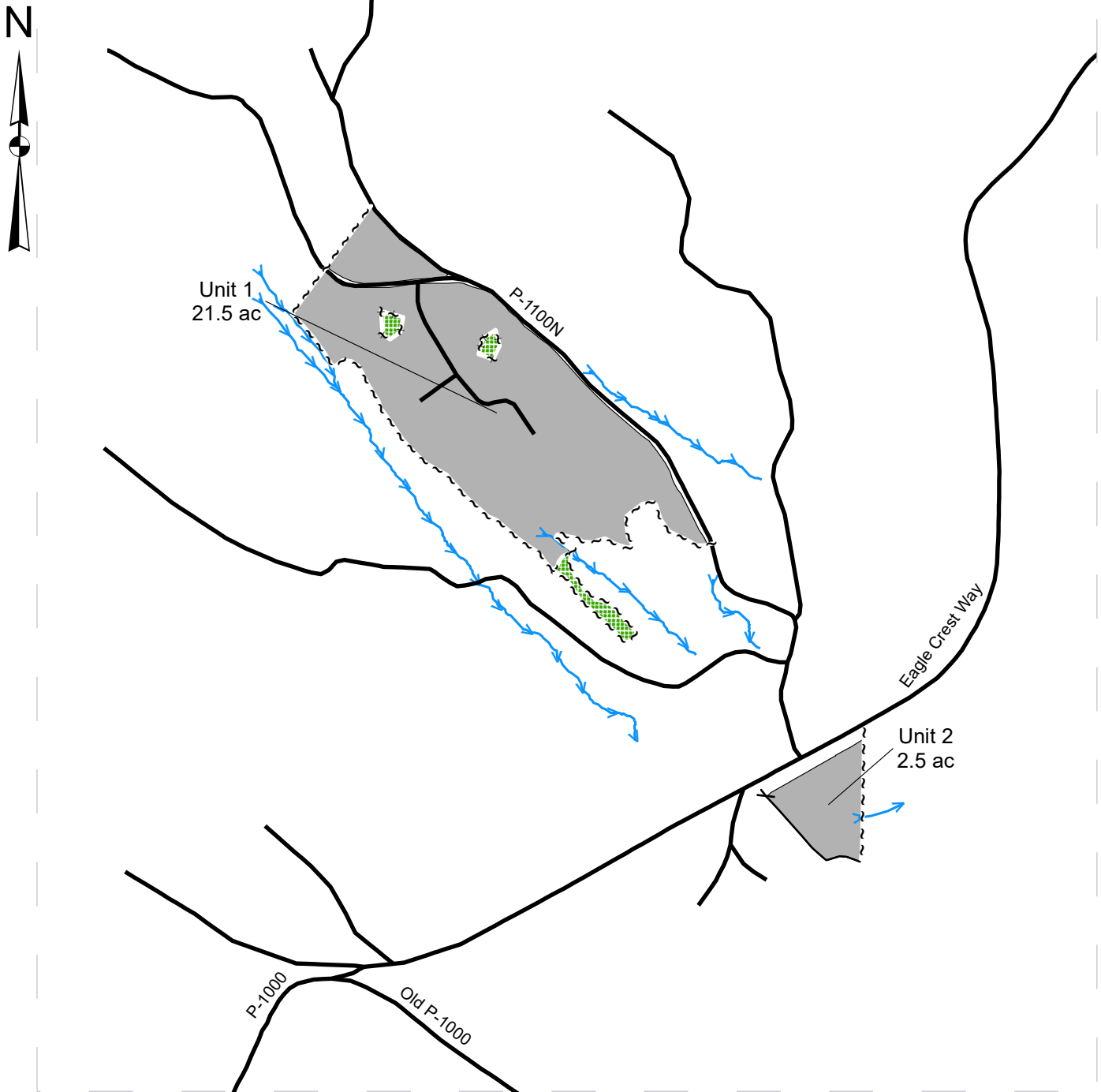
Unit 3 access by walking in from P-1000\_1777  
 Unit 7 access by walking in from P-1000H\_1071

P-1430 between Unit 5-6 and P-4000 (Unit 9) blocked.

# PRE-CRUISE UNIT MAP

**SALE NAME:** CHARLIE CREEK  
**AGREEMENT#:** 30-104805  
**TOWNSHIP(S):** T31R12W, T31R13W, T32R12W, T32R13W  
**TRUST(S):** State Forest Transfer (1), Common School and Indemnity (3)

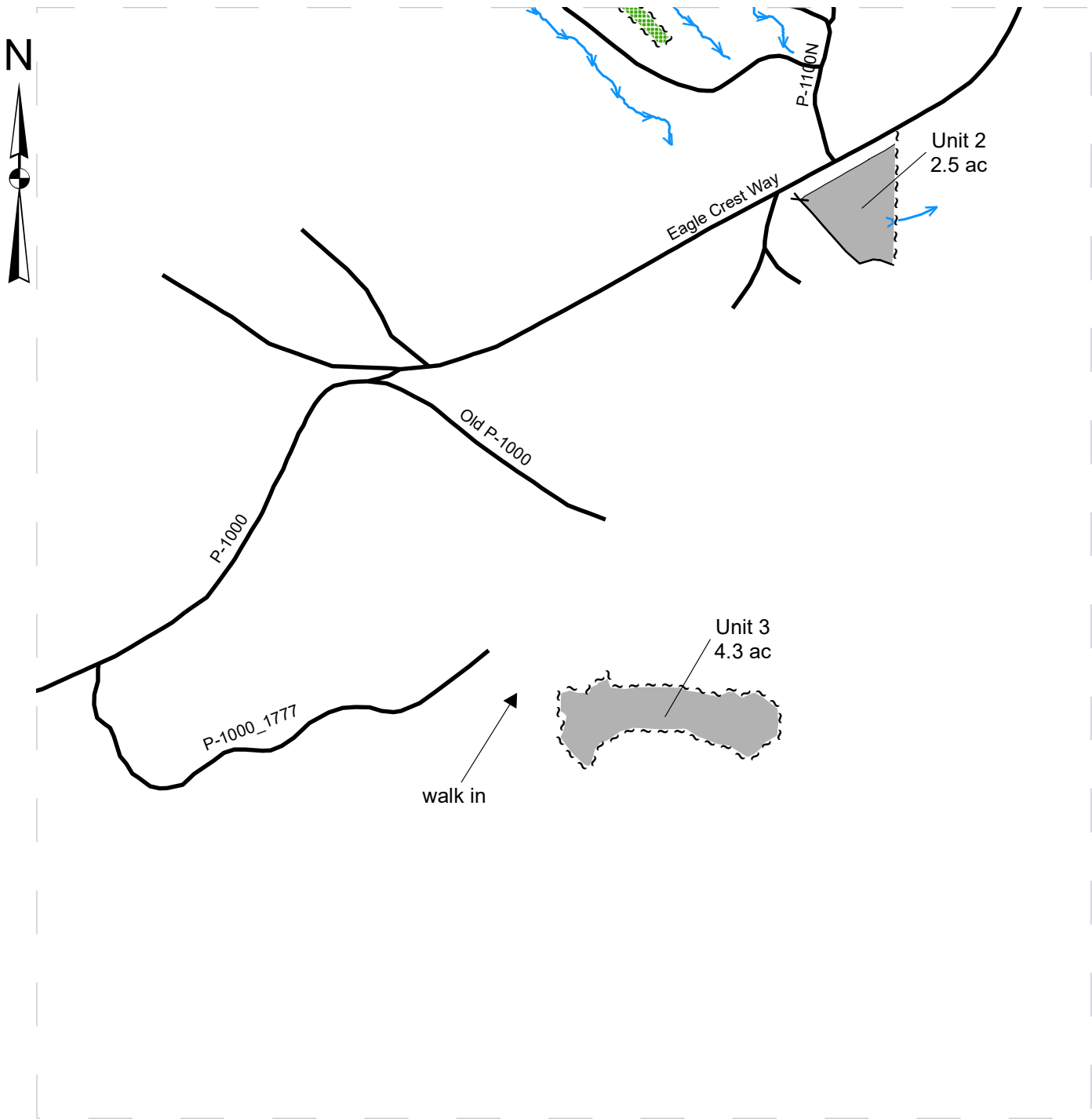
**REGION:** Olympic Region  
**COUNTY(S):** Clallam  
**ELEVATION RGE:** 130'-1230'










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**TOWNSHIP(S):** T31R12W, T31R13W, T32R12W, T32R13W  
**TRUST(S):** State Forest Transfer (1), Common School and Indemnity (3)

**REGION:** Olympic Region  
**COUNTY(S):** Clallam  
**ELEVATION RGE:** 130'-1230'

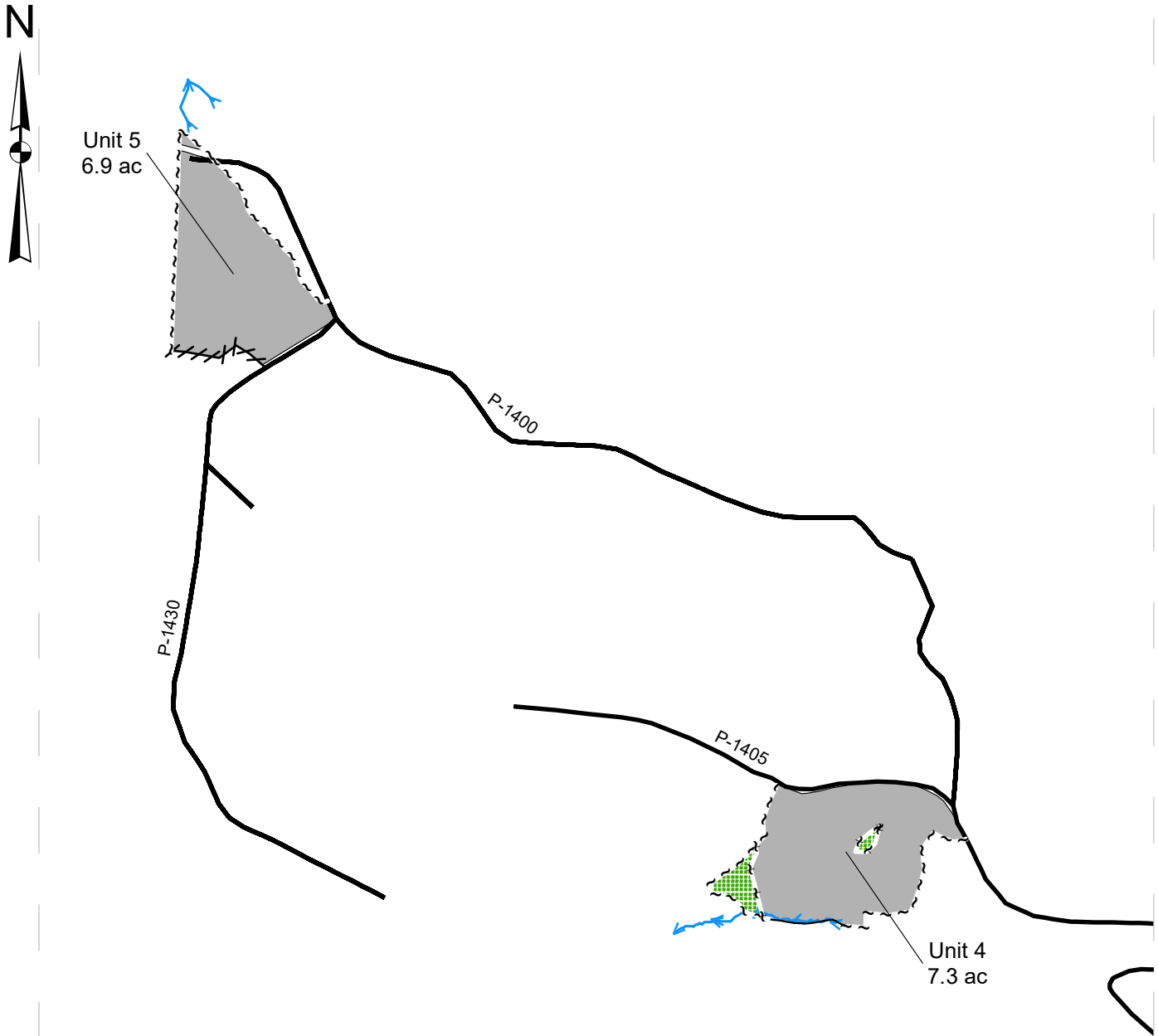


 Existing Roads	 Leave Tree Area
 Streams	
 Flag Line	
 Sale Boundary Tags	
 Timber Type Change	
 Sale Area	

# PRE-CRUISE UNIT MAP

**SALE NAME:** CHARLIE CREEK  
**AGREEMENT#:** 30-104805  
**TOWNSHIP(S):** T31R12W, T31R13W, T32R12W, T32R13W  
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**REGION:** Olympic Region  
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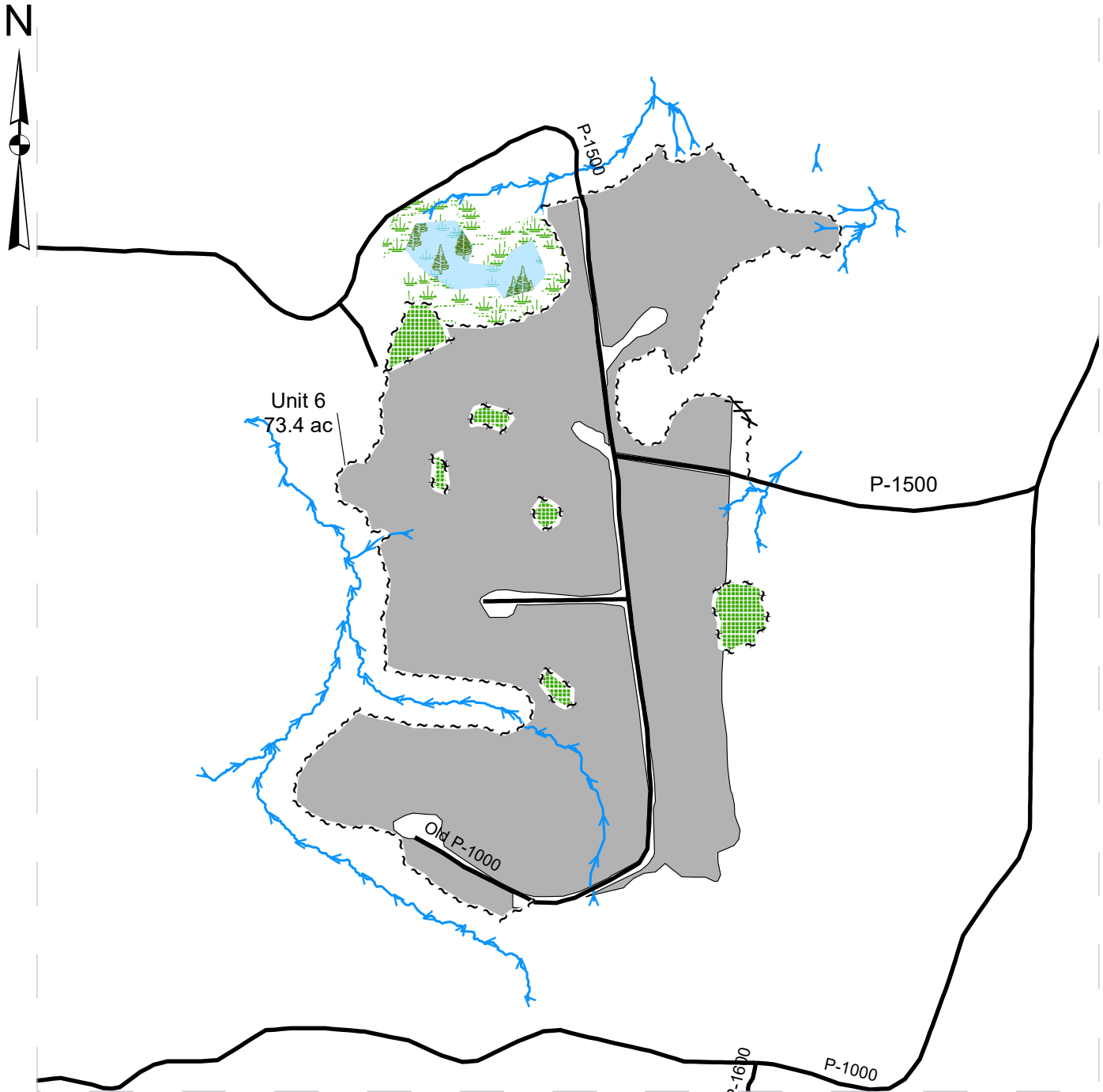


	Existing Roads		Sale Area
	Streams		Leave Tree Area
	Flag Line		
	Leave Tree Area Tags		
	Sale Boundary Tags		
	Timber Type Change		

# PRE-CRUISE UNIT MAP

**SALE NAME:** CHARLIE CREEK  
**AGREEMENT#:** 30-104805  
**TOWNSHIP(S):** T31R12W, T31R13W, T32R12W, T32R13W  
**TRUST(S):** State Forest Transfer (1), Common School and Indemnity (3)

**REGION:** Olympic Region  
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**ELEVATION RGE:** 130'-1230'



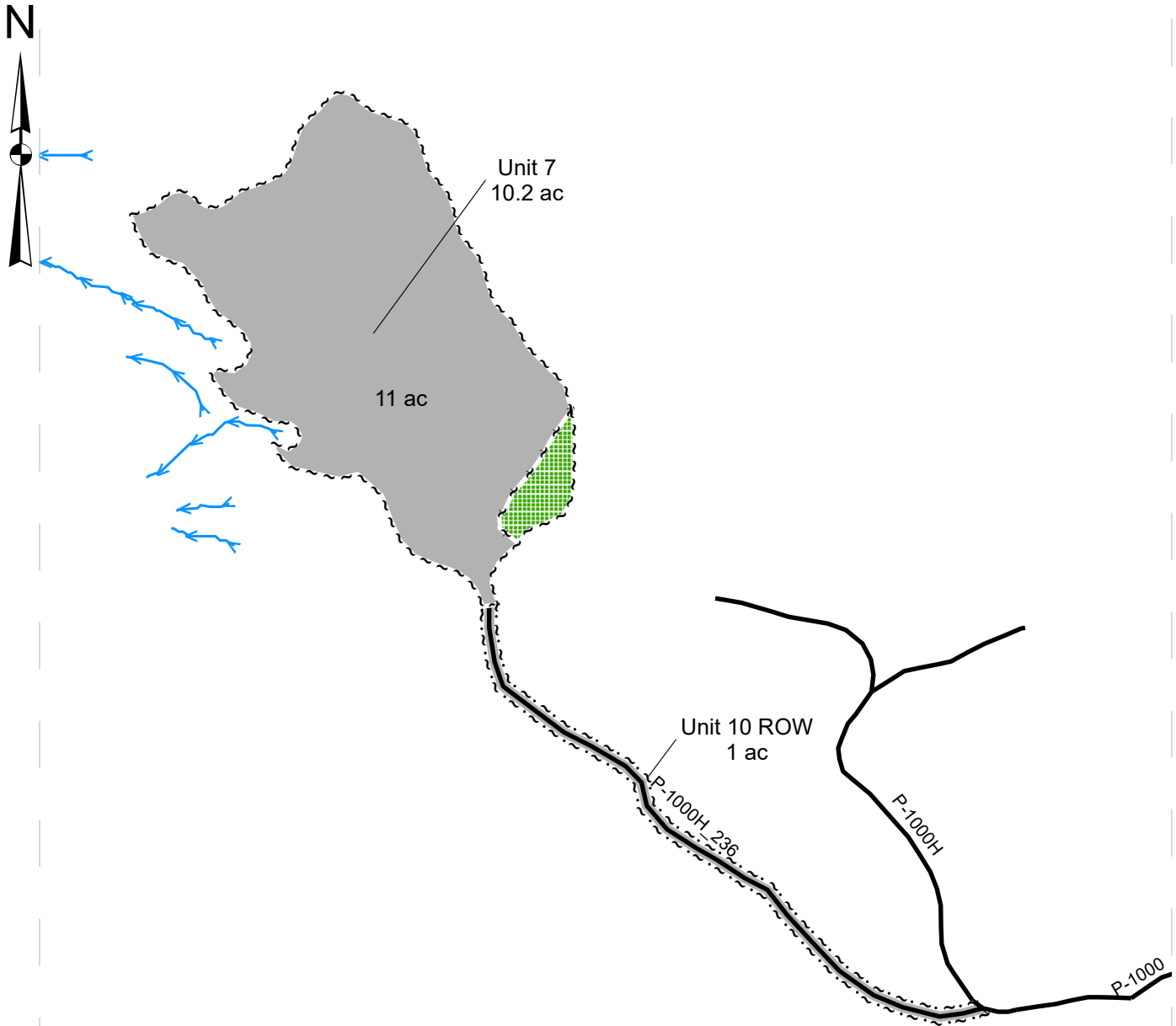
	Existing Roads		Leave Tree Area
	Streams		Forested Wetland
	Flag Line		Wetland Mgt Zone
	Leave Tree Area Tags		
	Sale Boundary Tags		
	Sale Area		



# PRE-CRUISE UNIT MAP

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**TOWNSHIP(S):** T31R12W, T31R13W, T32R12W, T32R13W  
**TRUST(S):** State Forest Transfer (1), Common School and Indemnity (3)

**REGION:** Olympic Region  
**COUNTY(S):** Clallam  
**ELEVATION RGE:** 130'-1230'

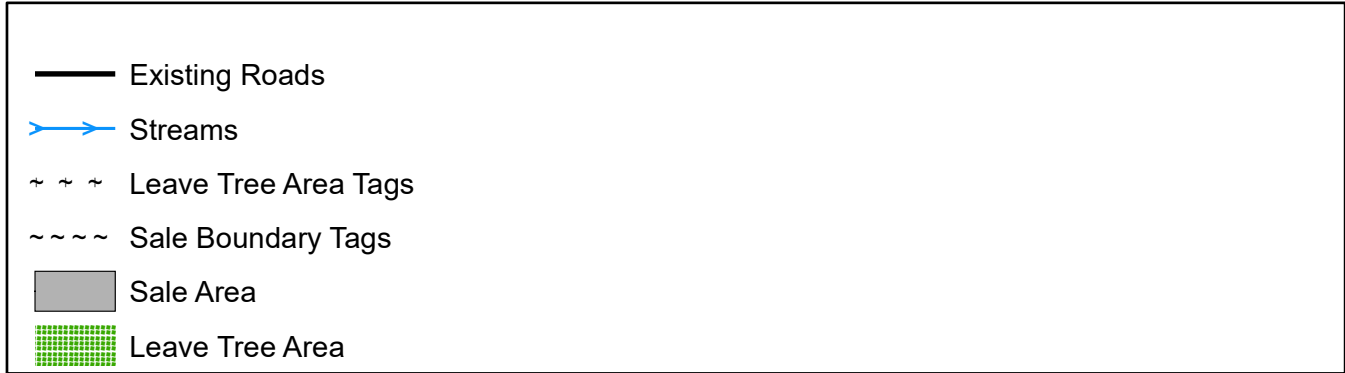
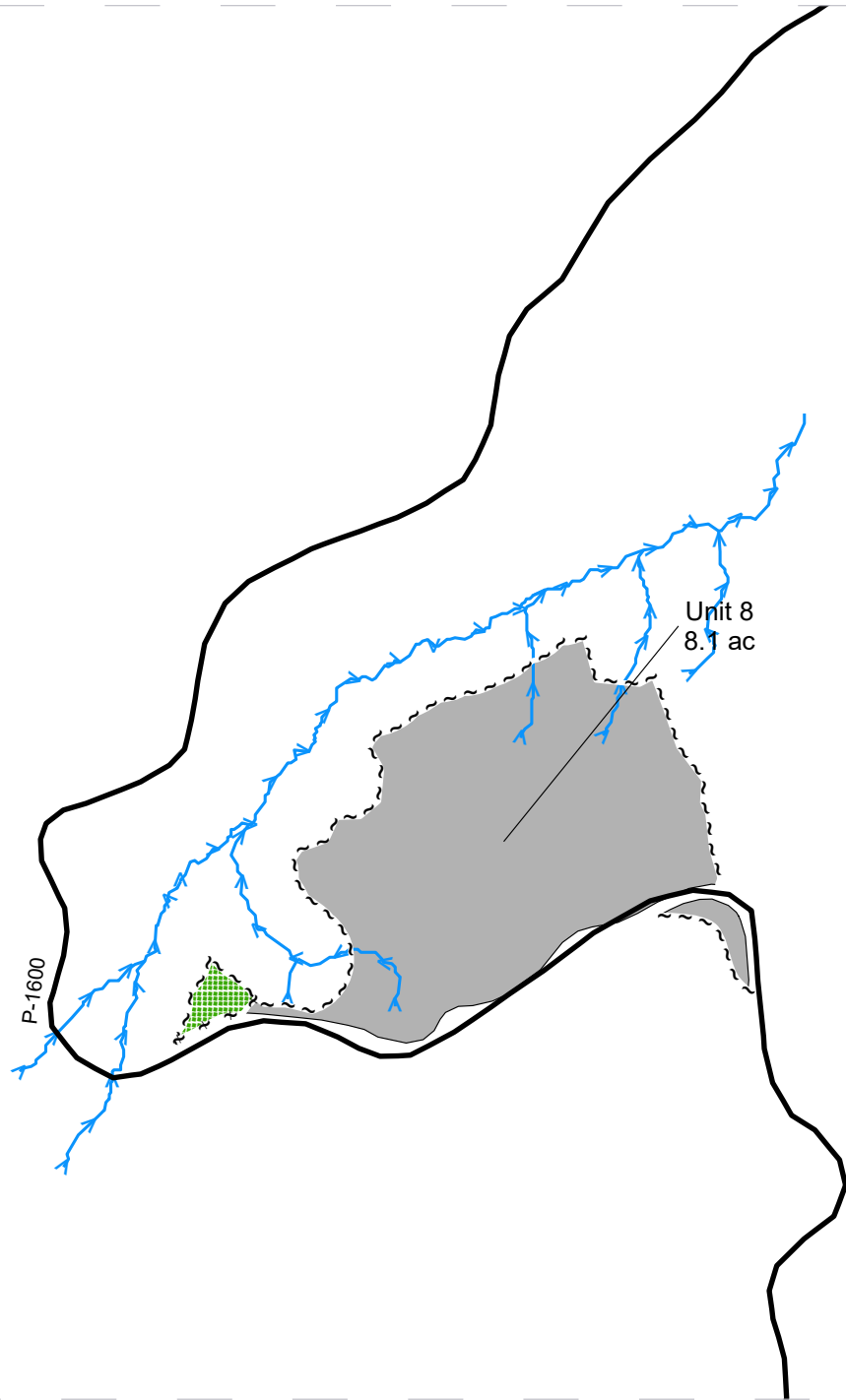


	Existing Roads		Leave Tree Area
	Streams		
	Leave Tree Area Tags		
	Right of Way Tags		
	Sale Boundary Tags		
	Sale Area		

# PRE-CRUISE UNIT MAP

**SALE NAME:** CHARLIE CREEK  
**AGREEMENT#:** 30-104805  
**TOWNSHIP(S):** T31R12W, T31R13W, T32R12W, T32R13W  
**TRUST(S):** State Forest Transfer (1), Common School and Indemnity (3)

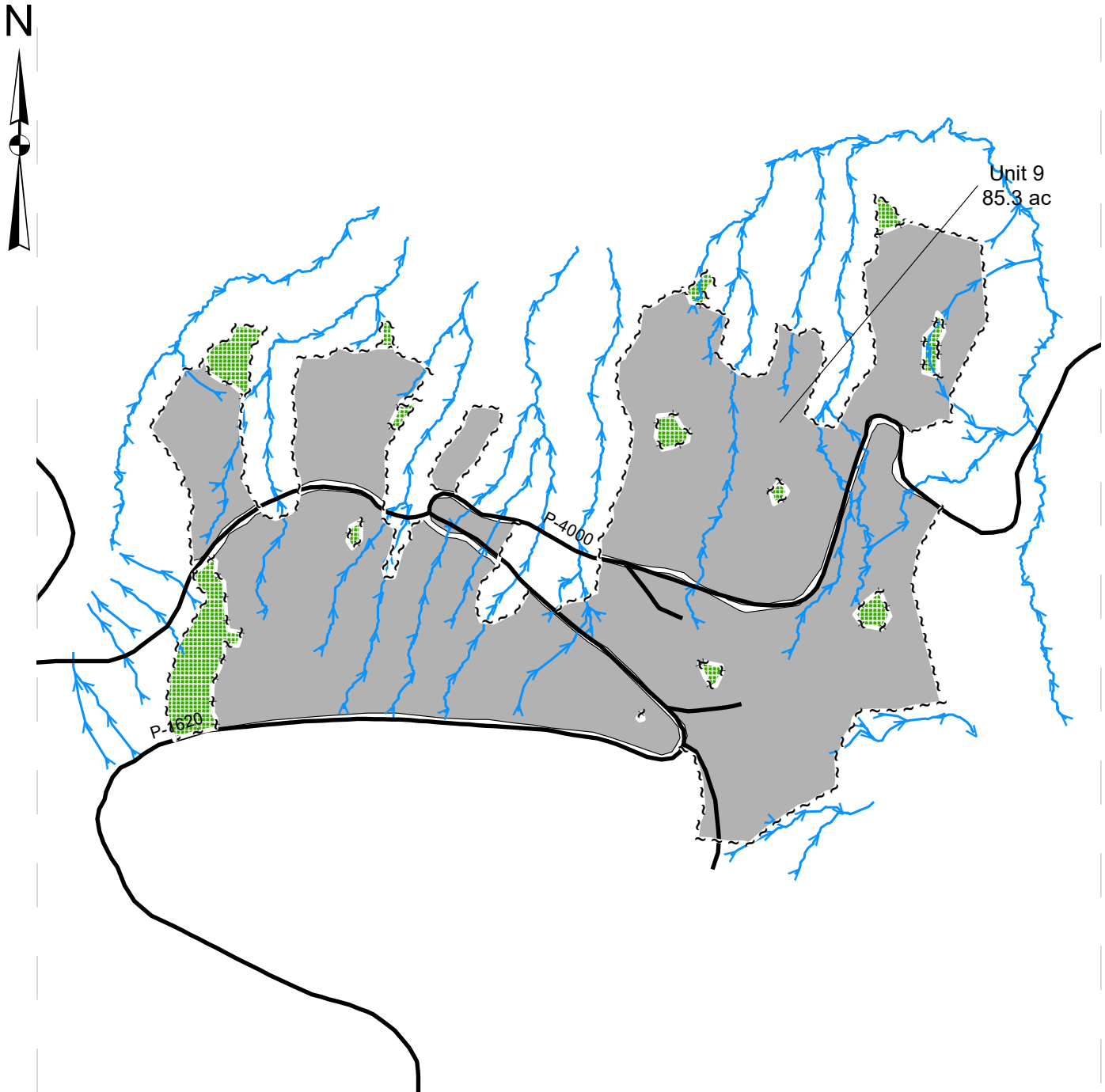
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**COUNTY(S):** Clallam  
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# PRE-CRUISE UNIT MAP

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**REGION:** Olympic Region  
**COUNTY(S):** Clallam  
**ELEVATION RGE:** 130'-1230'



## Timber Sale Cruise Report Charlie Creek

**Sale Name:** CHARLIE CREEK

**Sale Type:** LUMP SUM

**Region:** OLYMPIC

**District:** OZETTE

**Lead Cruiser:** Kevin Peterson

**Other Cruisers:**

**Cruise Narrative:**

**Location:**

This sale is located in Clallam Bay off the P-1000 road system. All units have pretty good access.

**Cruise Design:**

Please refer to cruise design page of cruise for BAF information since a few different combinations were used.

Merch height was determined at 40% of the diameter at 16'. All logs were cruised in 40' lengths.

**Timber Quality:**

This sale is a mixture of WH and DF with a bit of scattered RA and SS. Most of the WH is 40-50 years old and has minimal defect. The DF in this sale is older than the WH and is mostly in unit 6.

**Logging and Stand Conditions:**

This sale is 85% ground based harvest and 15% uphill cable harvest. Most units are pretty easy to move through except unit 6, it is pretty brushy.

### Timber Sale Notice Volume (MBF)

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	13.4	5.8		2,862	549	1,569	733	11
DF	15.7	6.0		1,447	500	680	234	32
RA	11.9			254		26	224	4
SS	17.7			55	26	25	4	
RC	20.0			5		4	1	
ALL	13.8	6.0		4,623	1,076	2,305	1,196	47

### Timber Sale Notice Weight (tons)

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
WH	30,416	5,587	17,301	7,340	189
DF	13,994	4,784	6,751	2,110	349
RA	2,742		269	2,435	38
SS	545	244	257	44	

Tons by Grade					
Sp	All	2 Saw	3 Saw	4 Saw	Utility
RC	50		40	10	
ALL	47,747	10,614	24,617	11,940	576

### Timber Sale Overall Cruise Statistics

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
217.6	3.2	96.6	1.7	20,916	3.6

### Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
CHARLIE CREEK U1	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	22.0	23.6	11	6	0
CHARLIE CREEK U2	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	3.0	2.5	2	2	0
CHARLIE CREEK U3	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	4.0	4.3	3	3	0
CHARLIE CREEK U4	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	7.0	8.5	4	4	0
CHARLIE CREEK U5	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	7.0	7.1	4	4	0
CHARLIE CREEK U6	B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	74.0	79.2	37	13	3
CHARLIE CREEK U7	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	10.0	10.6	5	5	0
CHARLIE CREEK U8	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	8.0	8.6	4	4	0
CHARLIE CREEK U9	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	85.0	93.5	43	21	0
CHARLIE CREEK U10 ROW	B1: VR, 1 BAF (40) Measure All, Sighting Ht = 4.5 ft	1.0	1.6	1	1	0
All		221.0	239.5	114	63	3

**Timber Sale Log Grade x Sort Summary**

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.4	40	2,477	2,263	8.6	4,783.6	500.1
DF	LIVE	3 SAW	Domestic	8.1	39	3,212	3,078	4.2	6,750.4	680.2
DF	LIVE	4 SAW	Domestic	5.2	25	1,067	1,059	0.8	2,110.3	234.0
DF	LIVE	UTILITY	Pulp	6.6	33	147	147	0.0	349.4	32.4
RA	LIVE	3 SAW	Domestic	10.9	40	130	116	10.2	269.1	25.7
RA	LIVE	4 SAW	Domestic	5.7	36	1,046	1,015	3.0	2,435.2	224.3
RA	LIVE	UTILITY	Pulp	5.9	18	16	16	0.0	37.7	3.5
RC	LIVE	3 SAW	Domestic	12.0	36	22	20	10.8	40.1	4.3
RC	LIVE	4 SAW	Domestic	5.8	32	4	4	11.8	10.3	0.8
SS	LIVE	2 SAW	Domestic	12.5	40	133	119	10.2	243.8	26.3
SS	LIVE	3 SAW	Domestic	8.5	37	125	114	8.8	257.2	25.1
SS	LIVE	4 SAW	Domestic	6.0	28	18	16	9.7	44.2	3.6
WH	LIVE	2 SAW	Domestic	14.3	40	2,687	2,486	7.5	5,587.0	549.3
WH	LIVE	3 SAW	Domestic	8.4	39	7,298	7,102	2.7	17,300.5	1,569.5
WH	LIVE	4 SAW	Domestic	5.2	29	3,343	3,315	0.9	7,339.7	732.6
WH	LIVE	UTILITY	Pulp	6.6	40	48	48	0.0	188.5	10.6

**Timber Sale Log Sort x Diameter Bin Summary**

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	6.0	31	2,704	2.4	5,894.8	597.5
DF	5 - 8	LIVE	Pulp	6.6	33	147	0.0	349.4	32.4
DF	9 - 11	LIVE	Domestic	10.1	40	1,433	5.0	2,965.9	316.7
DF	12 - 14	LIVE	Domestic	13.3	40	2,167	8.6	4,598.6	478.9
DF	15 - 19	LIVE	Domestic	15.5	40	96	9.9	184.9	21.2
RA	5 - 8	LIVE	Domestic	5.7	37	1,015	3.0	2,435.2	224.3
RA	5 - 8	LIVE	Pulp	5.9	18	16	0.0	37.7	3.5
RA	9 - 11	LIVE	Domestic	10.9	40	116	10.2	269.1	25.7
RC	5 - 8	LIVE	Domestic	5.8	32	4	11.8	10.3	0.8
RC	12 - 14	LIVE	Domestic	12.0	36	20	10.8	40.1	4.3
SS	5 - 8	LIVE	Domestic	7.0	34	85	8.4	215.9	18.9
SS	9 - 11	LIVE	Domestic	11.3	40	45	10.0	85.5	9.9
SS	12 - 14	LIVE	Domestic	13.2	40	119	10.2	243.8	26.3
WH	5 - 8	LIVE	Domestic	5.9	31	6,758	1.2	16,038.3	1,493.5
WH	5 - 8	LIVE	Pulp	6.6	40	48	0.0	188.5	10.6
WH	9 - 11	LIVE	Domestic	10.1	40	3,658	3.7	8,601.9	808.5
WH	12 - 14	LIVE	Domestic	13.2	40	1,557	5.9	3,696.6	344.2

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	15 - 19	LIVE	Domestic	15.6	40	928	10.0	1,890.4	205.1

## Cruise Unit Report CHARLIE CREEK U1

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U1

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	12.5	5.0		452	18	299	135
DF	22.6	7.0		56	46	7	3
SS	17.1			16	9	7	1
RA	12.2			10			10
ALL	13.1	6.0		534	73	312	149

### Unit Cruise Design: CHARLIE CREEK U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	22.0	23.6	11	6	0

### Unit Cruise Summary: CHARLIE CREEK U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	25	45	4.1	1
DF	3	5	0.5	1
SS	2	2	0.2	0
RA	2	2	0.2	0
ALL	32	54	4.9	2

### Unit Cruise Statistics: CHARLIE CREEK U1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	222.7	31.8	9.6	92.2	16.4	3.3	20,534	35.7	10.1
DF	24.7	151.3	45.6	102.0	14.6	8.4	2,524	152.0	46.4
SS	9.9	222.5	67.1	75.4	27.4	19.4	747	224.2	69.8
RA	7.3	331.7	100.0	62.2	3.2	2.3	453	331.7	100.0
ALL	264.6	17.3	5.2	91.7	18.4	3.3	24,257	25.3	6.1



**Unit Summary: CHARLIE CREEK U1**

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	3	ALL	22.6	73	92	2,655	2,524	4.9	8.9	24.7	5.2	55.5
RA	LIVE	CUT	2	ALL	12.2	49	60	476	453	5.0	9.0	7.3	2.1	10.0
SS	LIVE	CUT	2	ALL	17.1	57	71	834	747	10.5	6.2	9.9	2.4	16.4
WH	LIVE	CUT	25	ALL	12.5	54	66	20,814	20,534	1.3	261.3	222.7	63.0	451.7
ALL	LIVE	CUT	32	ALL	13.0	55	67	24,780	24,257	2.1	285.4	264.6	72.7	533.6
ALL	ALL	ALL	32	ALL	13.0	55	67	24,780	24,257	2.1	285.4	264.6	72.7	533.6

## Cruise Unit Report CHARLIE CREEK U2

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U2

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	15.9			27	7	16	4
DF	15.8			26		21	5
RC	20.0			5		4	1
ALL	16.2			58	7	42	9

### Unit Cruise Design: CHARLIE CREEK U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	3.0	2.5	2	2	0

### Unit Cruise Summary: CHARLIE CREEK U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	3	3	1.5	0
DF	3	3	1.5	0
RC	1	1	0.5	0
ALL	7	7	3.5	0

### Unit Cruise Statistics: CHARLIE CREEK U2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	81.7	47.1	33.3	110.9	8.2	4.7	9,055	47.9	33.7
DF	81.7	47.1	33.3	106.4	11.6	6.7	8,687	48.5	34.0
RC	20.0	141.4	100.0	85.7	0.0	0.0	1,715	141.4	100.0
ALL	183.3	57.4	40.6	106.1	11.9	4.5	19,457	58.6	40.9

### Unit Summary: CHARLIE CREEK U2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	3	ALL	15.8	70	87	9,273	8,687	6.3	60.0	81.7	20.5	26.1
RC	LIVE	CUT	1	ALL	20.0	70	88	1,926	1,715	11.0	9.2	20.0	4.5	5.1
WH	LIVE	CUT	3	ALL	15.9	71	87	9,406	9,055	3.7	59.2	81.7	20.5	27.2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	CUT	7	ALL	16.2	70	87	20,604	19,457	5.6	128.4	183.3	45.5	58.4
ALL	ALL	ALL	7	ALL	16.2	70	87	20,604	19,457	5.6	128.4	183.3	45.5	58.4

## Cruise Unit Report CHARLIE CREEK U3

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U3

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	14.2			91	7	73	11
DF	12.2			12		6	6
ALL	13.9			103	7	79	17

### Unit Cruise Design: CHARLIE CREEK U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	4.0	4.3	3	3	0

### Unit Cruise Summary: CHARLIE CREEK U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	13	13	4.3	0
DF	2	2	0.7	0
ALL	15	15	5.0	0

### Unit Cruise Statistics: CHARLIE CREEK U3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	235.9	13.3	7.7	96.0	7.7	2.1	22,646	15.4	8.0
DF	36.3	86.6	50.0	83.1	30.5	21.6	3,016	91.8	54.5
ALL	272.2	0.0	0.0	94.3	11.3	2.9	25,662	11.3	2.9

### Unit Summary: CHARLIE CREEK U3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	12.2	59	72	3,016	3,016	0.0	44.7	36.3	10.4	12.1
WH	LIVE	CUT	13	ALL	14.2	61	76	23,052	22,646	1.8	214.5	235.9	62.6	90.6
ALL	LIVE	CUT	15	ALL	13.9	61	75	26,067	25,662	1.6	259.2	272.2	73.0	102.6
ALL	ALL	ALL	15	ALL	13.9	61	75	26,067	25,662	1.6	259.2	272.2	73.0	102.6

## Cruise Unit Report CHARLIE CREEK U4

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U4

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	13.8			109	24	59	27
DF	11.1			31		22	10
RA	10.9			11			11
ALL	12.6			152	24	81	48

### Unit Cruise Design: CHARLIE CREEK U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	7.0	8.5	4	4	0

### Unit Cruise Summary: CHARLIE CREEK U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	12	12	3.0	0
DF	4	4	1.0	0
RA	3	3	0.8	0
ALL	19	19	4.8	0

### Unit Cruise Statistics: CHARLIE CREEK U4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	156.1	36.4	18.2	100.0	17.0	4.9	15,606	40.2	18.9
DF	50.8	14.2	7.1	88.3	20.8	10.4	4,488	25.2	12.6
RA	30.0	127.7	63.8	54.4	18.0	10.4	1,633	128.9	64.7
ALL	236.9	14.2	7.1	91.7	25.1	5.8	21,727	28.9	9.2

### Unit Summary: CHARLIE CREEK U4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	4	ALL	11.1	48	59	4,602	4,488	2.5	75.6	50.8	15.3	31.4
RA	LIVE	CUT	3	ALL	10.9	43	51	1,798	1,633	9.2	46.3	30.0	9.1	11.4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	12	ALL	13.8	61	75	16,502	15,606	5.4	150.3	156.1	42.0	109.2
ALL	LIVE	CUT	19	ALL	12.6	55	67	22,901	21,727	5.1	272.2	236.9	66.4	152.1
ALL	ALL	ALL	19	ALL	12.6	55	67	22,901	21,727	5.1	272.2	236.9	66.4	152.1

## Cruise Unit Report CHARLIE CREEK U5

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U5

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	12.9			148	9	103	36
SS	17.1			14	8	6	1
RA	12.2			9			9
ALL	13.1			171	16	109	46

### Unit Cruise Design: CHARLIE CREEK U5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	7.0	7.1	4	4	0

### Unit Cruise Summary: CHARLIE CREEK U5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	17	17	4.3	0
SS	2	2	0.5	0
RA	2	2	0.5	0
ALL	21	21	5.3	0

### Unit Cruise Statistics: CHARLIE CREEK U5

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	231.4	35.3	17.6	91.6	13.9	3.4	21,186	37.9	18.0
SS	27.2	115.5	57.7	75.4	27.4	19.4	2,054	118.7	60.9
RA	20.0	200.0	100.0	62.2	3.2	2.3	1,244	200.0	100.0
ALL	278.6	12.5	6.2	87.9	17.8	3.9	24,484	21.7	7.4

### Unit Summary: CHARLIE CREEK U5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RA	LIVE	CUT	2	ALL	12.2	49	60	1,310	1,244	5.0	24.6	20.0	5.7	8.7
SS	LIVE	CUT	2	ALL	17.1	57	71	2,294	2,054	10.5	17.1	27.2	6.6	14.4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	17	ALL	12.9	57	69	21,490	21,186	1.4	254.9	231.4	64.4	148.3
ALL	LIVE	CUT	21	ALL	13.1	56	69	25,095	24,484	2.4	296.6	278.6	76.7	171.4
ALL	ALL	ALL	21	ALL	13.1	56	69	25,095	24,484	2.4	296.6	278.6	76.7	171.4



## Cruise Unit Report CHARLIE CREEK U6

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U6

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	12.9	6.0		669	195	285	189
DF	15.4	6.0		371	162	135	73
RA	10.2			50			50
ALL	13.1	6.0		1,089	357	421	312

### Unit Cruise Design: CHARLIE CREEK U6

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	74.0	79.2	37	13	3

### Unit Cruise Summary: CHARLIE CREEK U6

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	26	81	2.2	1
DF	16	47	1.3	1
RA	6	10	0.3	0
ALL	48	138	3.7	2

### Unit Cruise Statistics: CHARLIE CREEK U6

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	87.6	121.3	19.9	103.2	27.5	5.4	9,035	124.3	20.7
DF	50.8	94.0	15.4	98.5	30.1	7.5	5,007	98.7	17.2
RA	10.8	270.9	44.5	62.6	7.0	2.9	677	271.0	44.6
ALL	149.2	60.5	9.9	98.7	30.1	4.3	14,719	67.6	10.9

### Unit Summary: CHARLIE CREEK U6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	16	ALL	15.4	61	76	5,217	5,007	4.0	39.3	50.8	12.9	370.5
RA	LIVE	CUT	6	ALL	10.2	42	50	677	677	0.0	19.1	10.8	3.4	50.1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	26	ALL	12.9	54	67	9,361	9,035	3.5	96.5	87.6	24.4	668.6
ALL	LIVE	CUT	48	ALL	13.3	55	67	15,255	14,719	3.5	154.9	149.2	40.7	1,089.2
ALL	ALL	ALL	48	ALL	13.3	55	67	15,255	14,719	3.5	154.9	149.2	40.7	1,089.2

## Cruise Unit Report CHARLIE CREEK U7

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U7

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	13.5			264	37	149	78
DF	11.0			7			7
ALL	13.3			271	37	149	85

### Unit Cruise Design: CHARLIE CREEK U7

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	10.0	10.6	5	5	0

### Unit Cruise Summary: CHARLIE CREEK U7

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	25	25	5.0	0
DF	1	1	0.2	0
ALL	26	26	5.2	0

### Unit Cruise Statistics: CHARLIE CREEK U7

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	272.2	20.0	8.9	97.0	16.5	3.3	26,408	25.9	9.5
DF	10.9	223.6	100.0	65.2	0.0	0.0	709	223.6	100.0
ALL	283.1	16.1	7.2	95.8	17.6	3.5	27,117	23.9	8.0

### Unit Summary: CHARLIE CREEK U7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	1	ALL	11.0	55	68	709	709	0.0	16.5	10.9	3.3	7.1
WH	LIVE	CUT	25	ALL	13.5	57	69	27,265	26,408	3.1	273.8	272.2	74.1	264.1
ALL	LIVE	CUT	26	ALL	13.4	57	69	27,975	27,117	3.1	290.3	283.1	77.4	271.2
ALL	ALL	ALL	26	ALL	13.4	57	69	27,975	27,117	3.1	290.3	283.1	77.4	271.2

## Cruise Unit Report CHARLIE CREEK U8

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U8

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	12.3			177	125	51
ALL	12.3			177	125	51

### Unit Cruise Design: CHARLIE CREEK U8

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	8.0	8.6	4	4	0

### Unit Cruise Summary: CHARLIE CREEK U8

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	20	20	5.0	0
ALL	20	20	5.0	0

### Unit Cruise Statistics: CHARLIE CREEK U8

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	272.2	16.3	8.2	81.1	15.4	3.4	22,068	22.4	8.9
ALL	272.2	16.3	8.2	81.1	15.4	3.4	22,068	22.4	8.9

### Unit Summary: CHARLIE CREEK U8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	20	ALL	12.3	53	65	22,516	22,068	2.0	329.9	272.2	77.6	176.5
ALL	LIVE	CUT	20	ALL	12.3	53	65	22,516	22,068	2.0	329.9	272.2	77.6	176.5
ALL	ALL	ALL	20	ALL	12.3	53	65	22,516	22,068	2.0	329.9	272.2	77.6	176.5

## Cruise Unit Report CHARLIE CREEK U9

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U9

Sp	DBH	Rings/In	Age	MBF Volume by Grade				Utility
				All	2 Saw	3 Saw	4 Saw	
DF	15.7	6.0		937	291	484	130	32
WH	14.3	6.0		923	254	460	199	11
RA	12.5			168		26	138	4
SS	18.5			24	10	13	2	
ALL	14.7	6.0		2,052	555	982	469	47

### Unit Cruise Design: CHARLIE CREEK U9

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	85.0	93.5	43	21	0

### Unit Cruise Summary: CHARLIE CREEK U9

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	41	86	2.0	2
WH	38	83	1.9	2
RA	14	30	0.7	0
SS	2	2	0.0	0
ALL	95	201	4.7	4

### Unit Cruise Statistics: CHARLIE CREEK U9

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	108.9	91.9	14.0	101.3	12.6	2.0	11,027	92.8	14.2
WH	105.1	109.3	16.7	103.3	19.8	3.2	10,860	111.0	17.0
RA	27.9	208.7	31.8	70.6	20.8	5.6	1,971	209.8	32.3
SS	2.5	655.7	100.0	112.8	3.8	2.7	286	655.8	100.0
ALL	244.4	29.9	4.6	98.8	20.2	2.1	24,143	36.1	5.0

**Unit Summary: CHARLIE CREEK U9**

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	41	ALL	15.7	67	84	11,701	11,027	5.8	81.0	108.9	27.5	937.3
RA	LIVE	CUT	14	ALL	12.5	51	62	2,059	1,971	4.3	32.7	27.9	7.9	167.5
SS	LIVE	CUT	2	ALL	18.5	73	93	311	286	8.3	1.4	2.5	0.6	24.3
WH	LIVE	CUT	38	ALL	14.3	63	78	11,339	10,860	4.2	94.2	105.1	27.8	923.1
ALL	LIVE	CUT	95	ALL	14.6	63	78	25,410	24,143	5.0	209.3	244.4	63.7	2,052.2
ALL	ALL	ALL	95	ALL	14.6	63	78	25,410	24,143	5.0	209.3	244.4	63.7	2,052.2

## Cruise Unit Report CHARLIE CREEK U10 ROW

### Unit Sale Notice Volume (MBF): CHARLIE CREEK U10 ROW

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	14.9			7	6	1
RA	11.2			6		6
WH	11.0			3		3
ALL	12.3			15	6	10

### Unit Cruise Design: CHARLIE CREEK U10 ROW

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (40) Measure All, Sighting Ht = 4.5 ft	1.0	1.6	1	1	0

### Unit Cruise Summary: CHARLIE CREEK U10 ROW

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	2	2	2.0	0
RA	2	2	2.0	0
WH	1	1	1.0	0
ALL	5	5	5.0	0

### Unit Cruise Statistics: CHARLIE CREEK U10 ROW

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	80.0	0.0	0.0	85.3	3.4	2.4	6,826	3.4	2.4
RA	80.0	0.0	0.0	72.8	4.5	3.2	5,828	4.5	3.2
WH	40.0	0.0	0.0	65.2	0.0	0.0	2,606	0.0	0.0
ALL	200.0	0.0	0.0	76.3	11.9	5.3	15,260	11.9	5.3

### Unit Summary: CHARLIE CREEK U10 ROW

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	14.9	62	77	7,227	6,826	5.6	66.1	80.0	20.7	6.8
RA	LIVE	CUT	2	ALL	11.2	51	61	6,132	5,828	5.0	116.9	80.0	23.9	5.8
WH	LIVE	CUT	1	ALL	11.0	55	67	2,606	2,606	0.0	60.6	40.0	12.1	2.6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	CUT	5	ALL	12.3	55	67	15,965	15,260	4.4	243.6	200.0	56.7	15.3
ALL	ALL	ALL	5	ALL	12.3	55	67	15,965	15,260	4.4	243.6	200.0	56.7	15.3





# Forest Practices Application/Notification Notice of Decision

FPA/N No: 2618152

Effective Date: 11/17/2023

Expiration Date: 11/17/2026

Shut Down Zone: 650

EARR Tax Credit:  Eligible  Non-eligible

Reference: WA Dept. of Natural Resources  
Charlie Creek

### Decision

- Notification Accepted** Operations shall not begin before the effective date.
- Approved** This Forest Practices Application is subject to the conditions listed below.
- Disapproved** This Forest Practices Application is disapproved for the reasons listed below.
- Withdrawn** Applicant has withdrawn the Forest Practices Application/Notification (FPA/N).
- Closed** All forest practices obligations are met.

### FPA/N Classification

- Class II
- 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: Levi Puksta

Region: Olympic

Title: Forest Practices District Manager

Date: 11/17/2023

Copies to:  Landowner, Timber Owner and Operator

Issued in person:  LO  TO  OP By: Kt. Pagel

Date: 11/17/2023



STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES  
CHARLIE CREEK TIMBER SALE ROAD PLAN  
CLALLAM COUNTY  
COAST DISTRICT

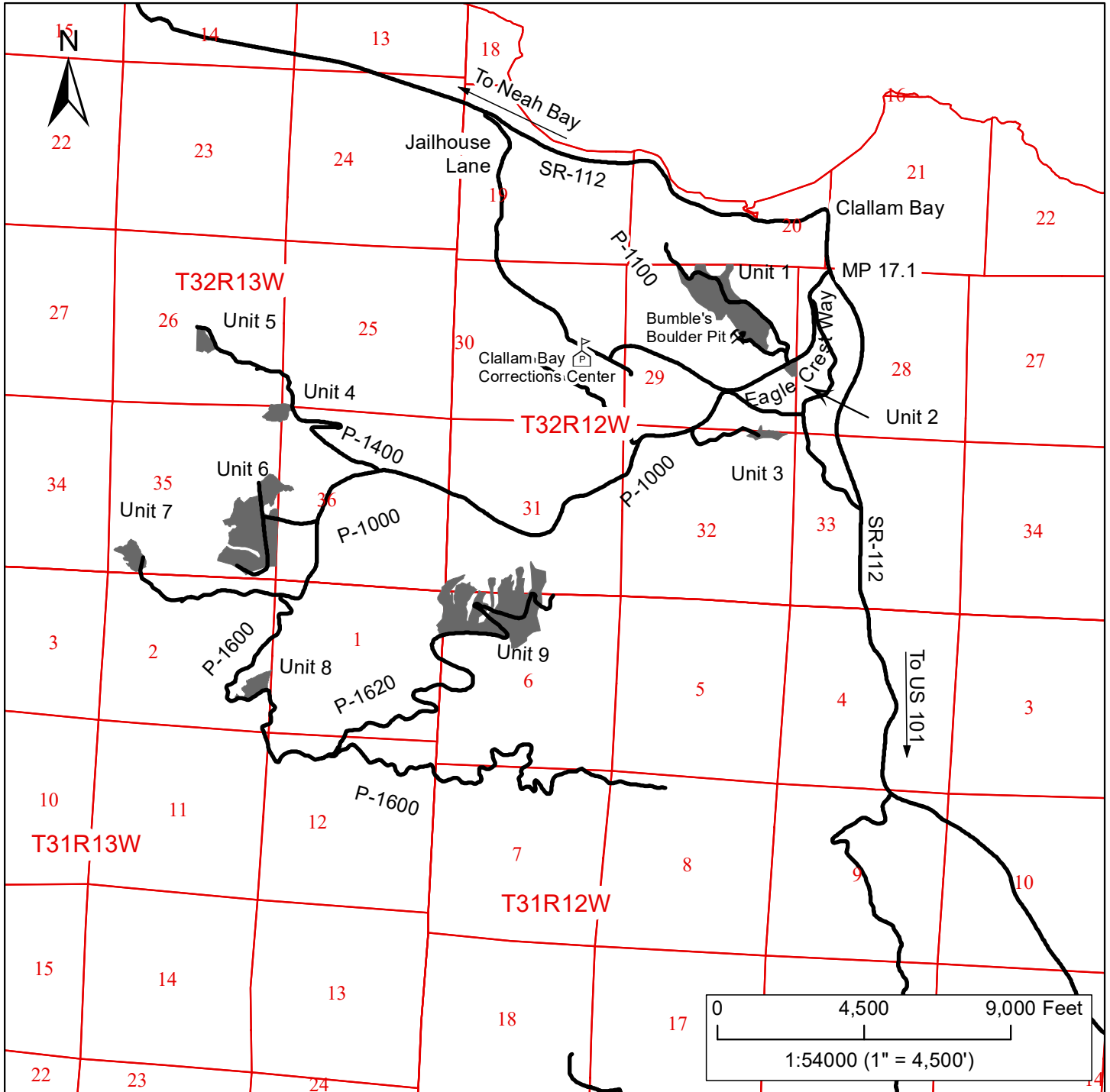
AGREEMENT NO.: 30-104805

DISTRICT ENGINEER: BILL MEHL

DATE: 03 May 2023

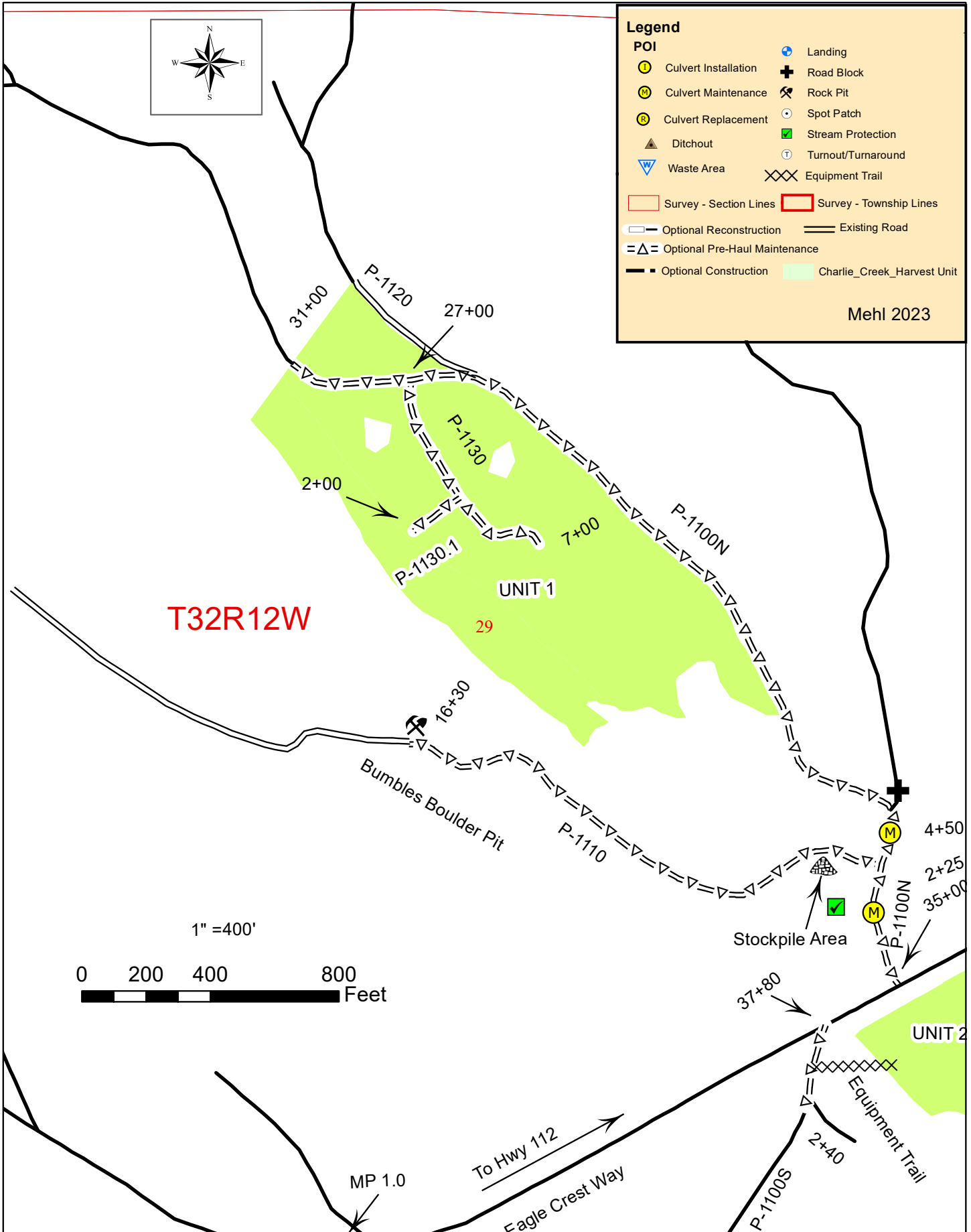
DRAWN AND COMPILED BY: BILL MEHL

### Project Map



# CHARLIE CREEK TIMBER SALE

## UNITS 1 & 2

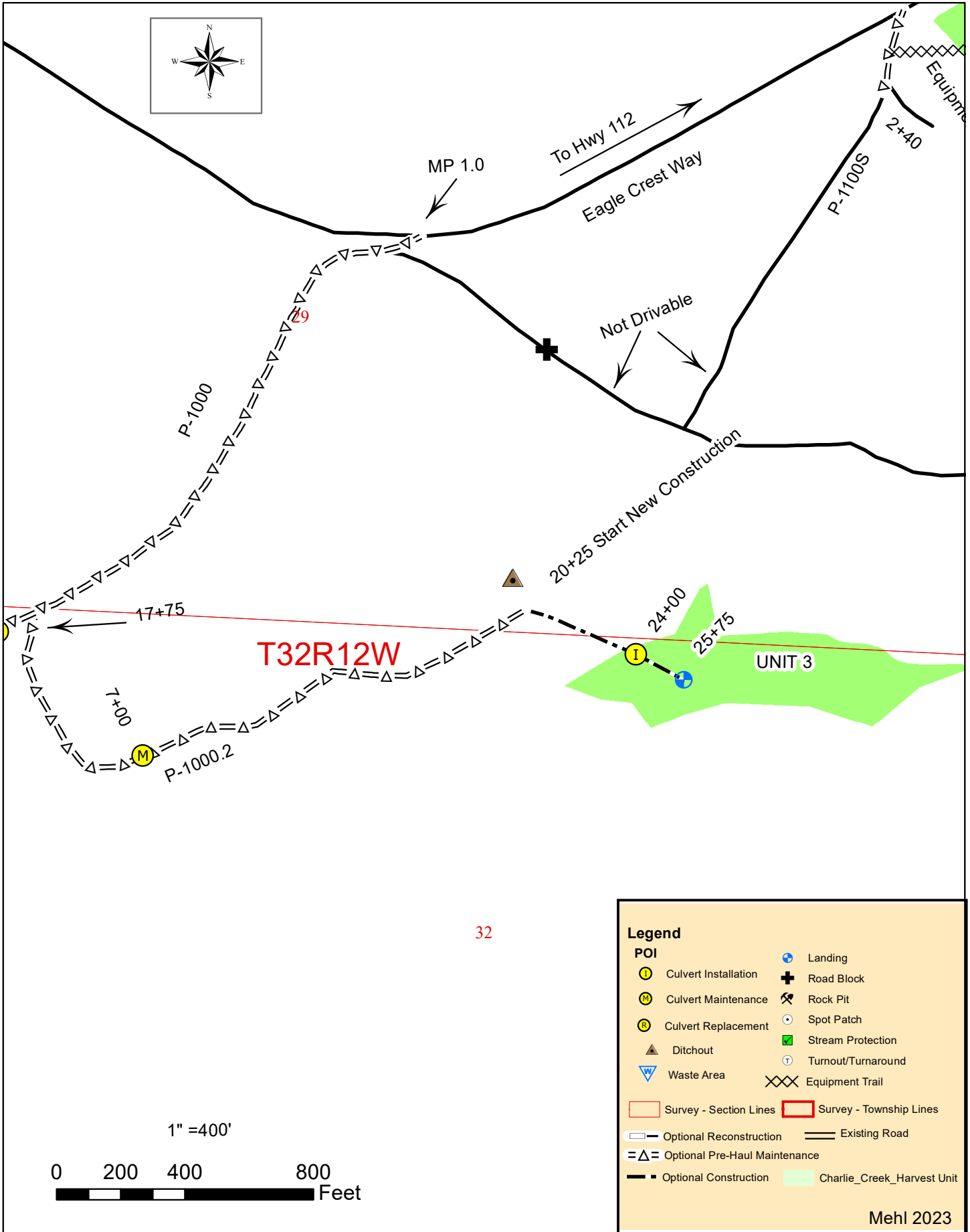


T32R12W

1" = 400'

0 200 400 800 Feet

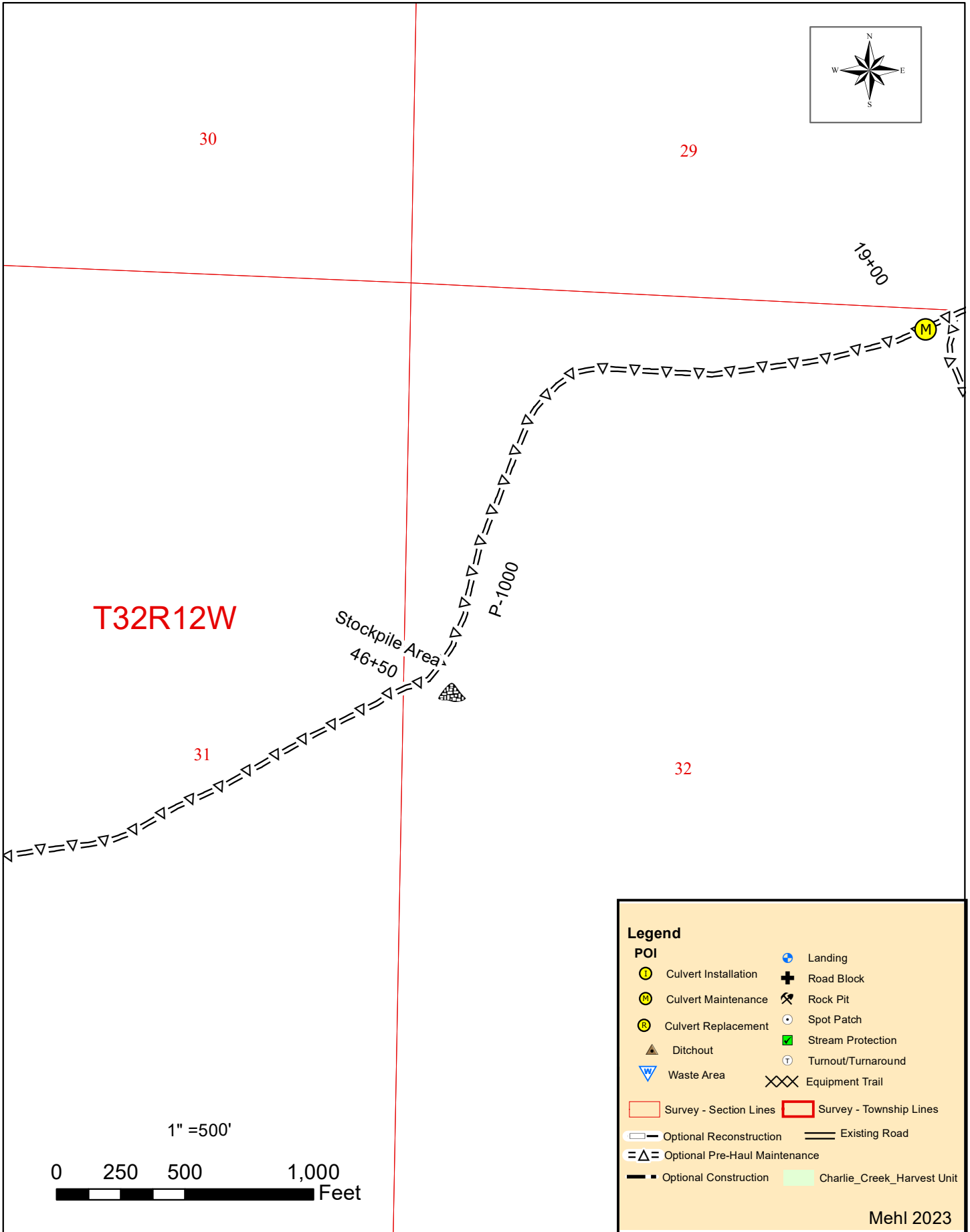
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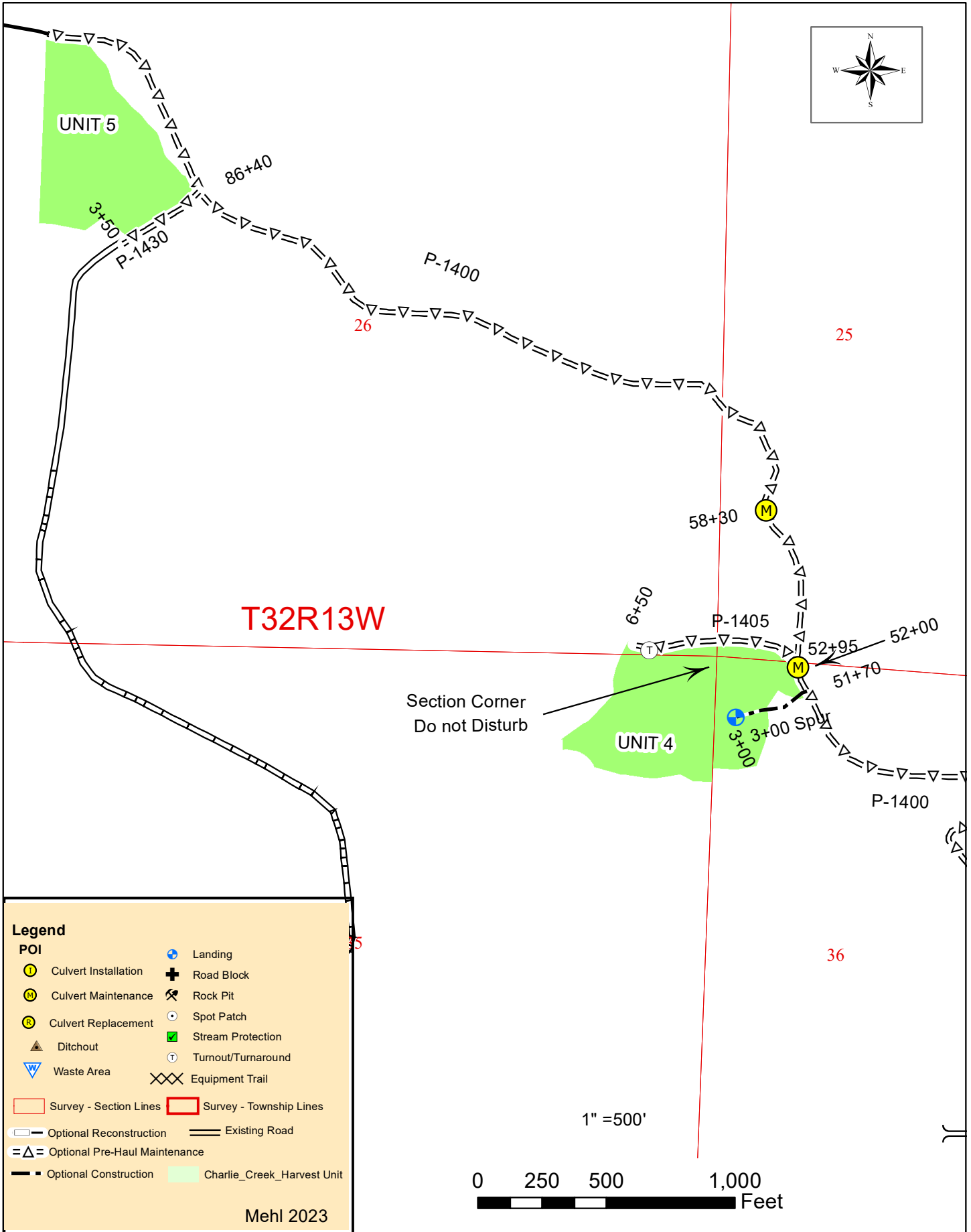
32

# CHARLIE CREEK TIMBER SALE

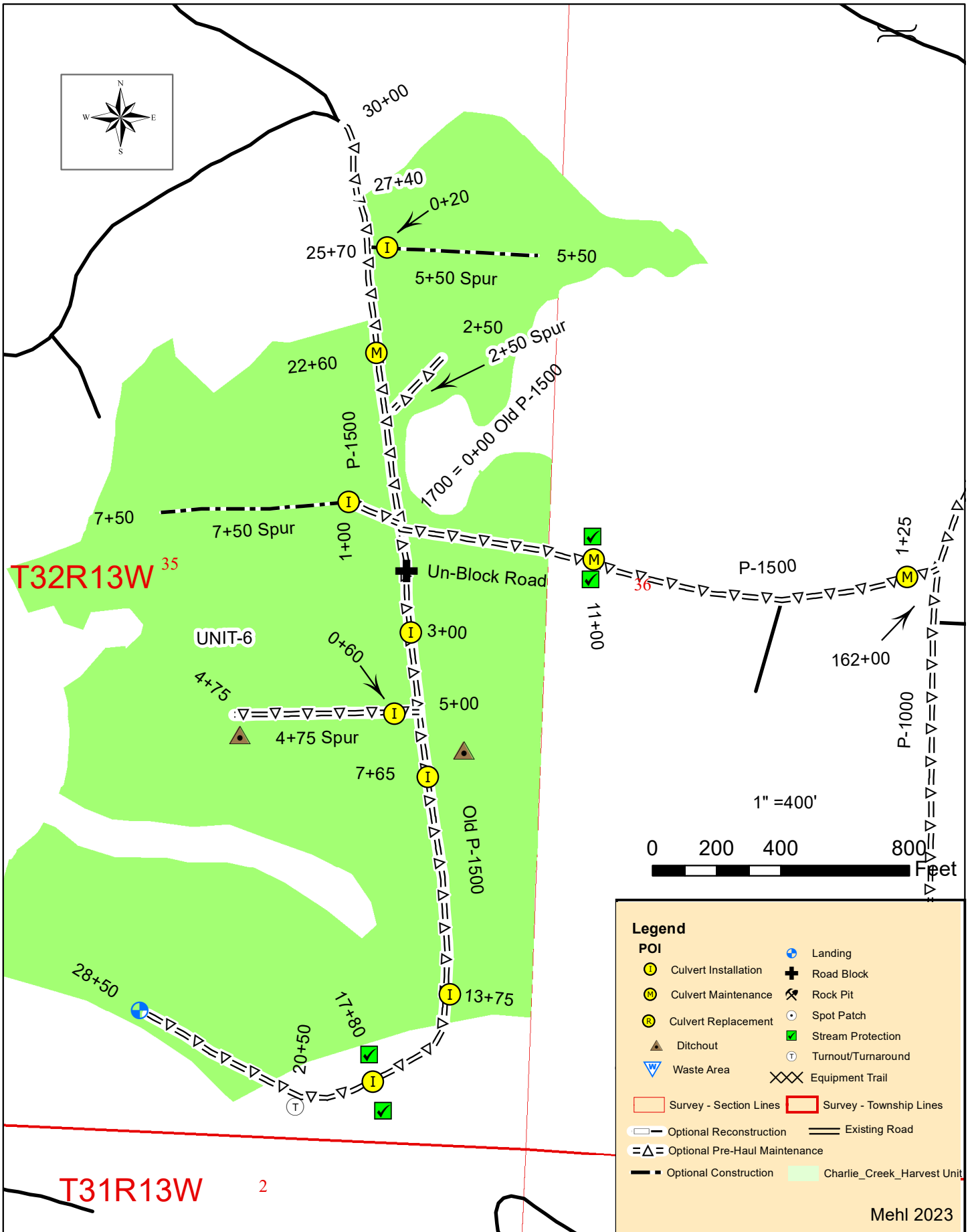
## P-1000 PRE-HAUL



# CHARLIE CREEK TIMBER SALE UNITS 4 & 5



# CHARLIE CREEK TIMBER SALE UNIT 6



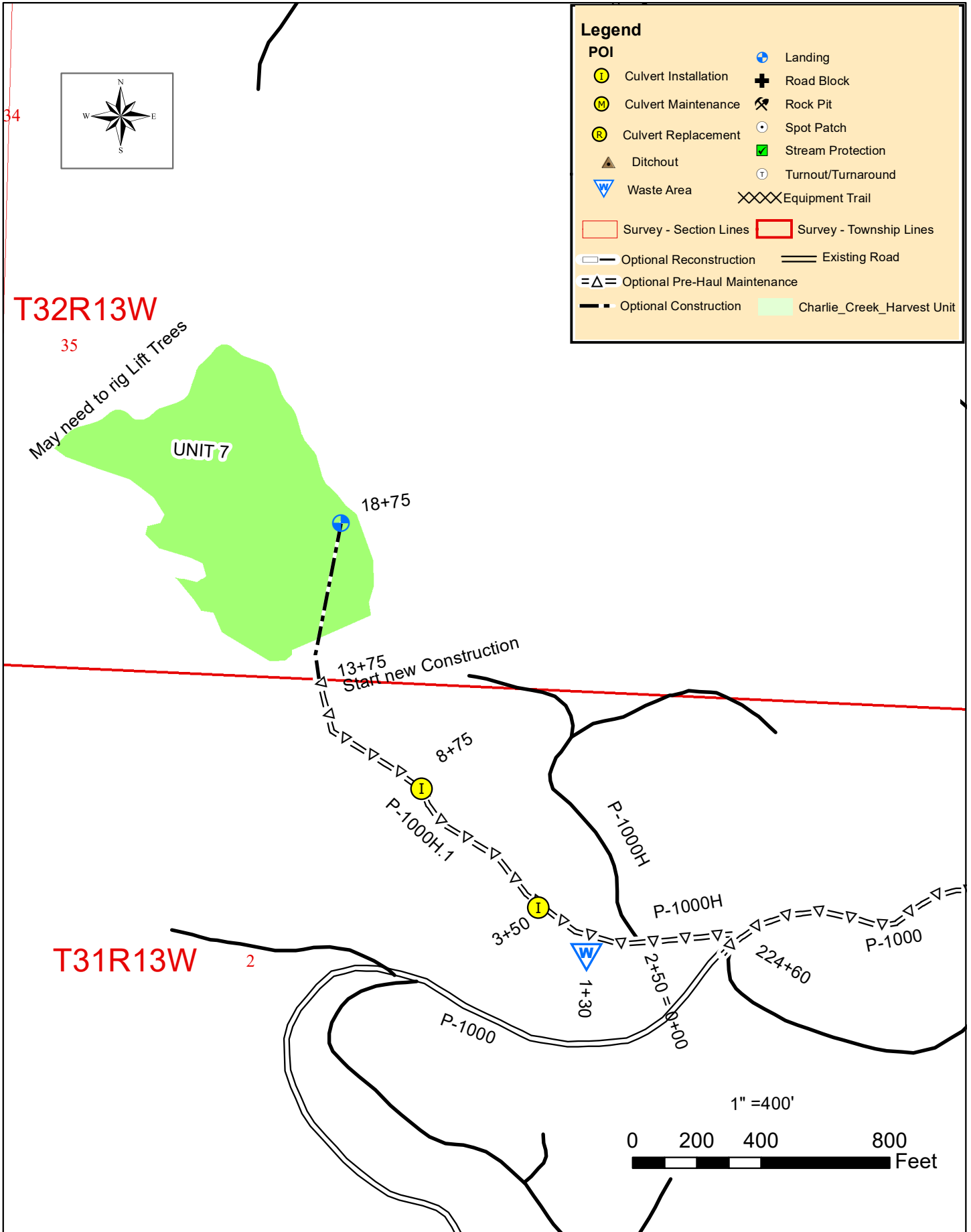
**Legend**

<b>POI</b>	Culvert Installation	Landing
Culvert Maintenance	Road Block	Rock Pit
Culvert Replacement	Spot Patch	Stream Protection
Ditchout	Turnout/Turnaround	Equipment Trail
Waste Area	Survey - Section Lines	Survey - Township Lines
Optional Reconstruction	Existing Road	
Optional Pre-Haul Maintenance	Optional Construction	Charlie_Creek_Harvest Unit

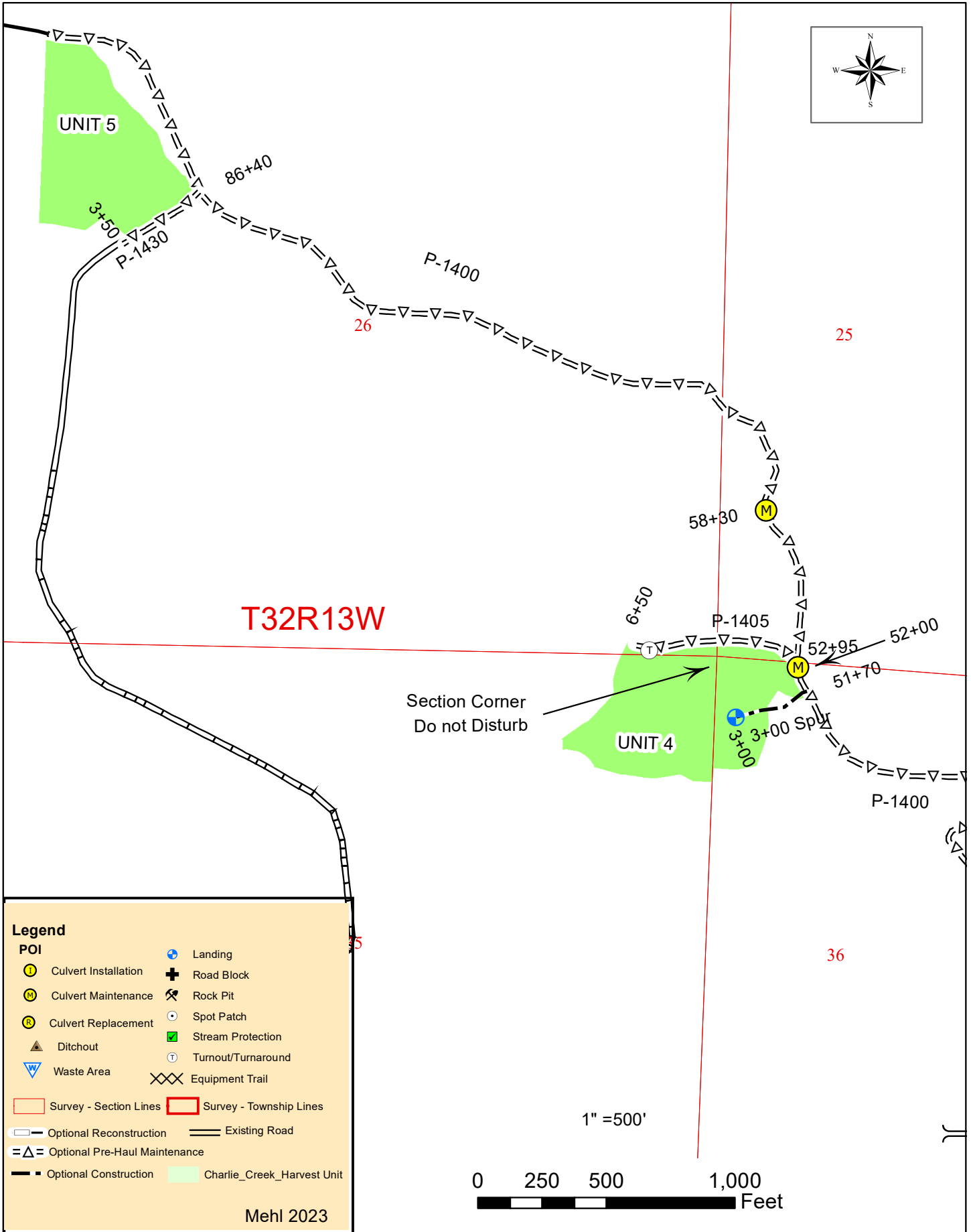
Mehl 2023



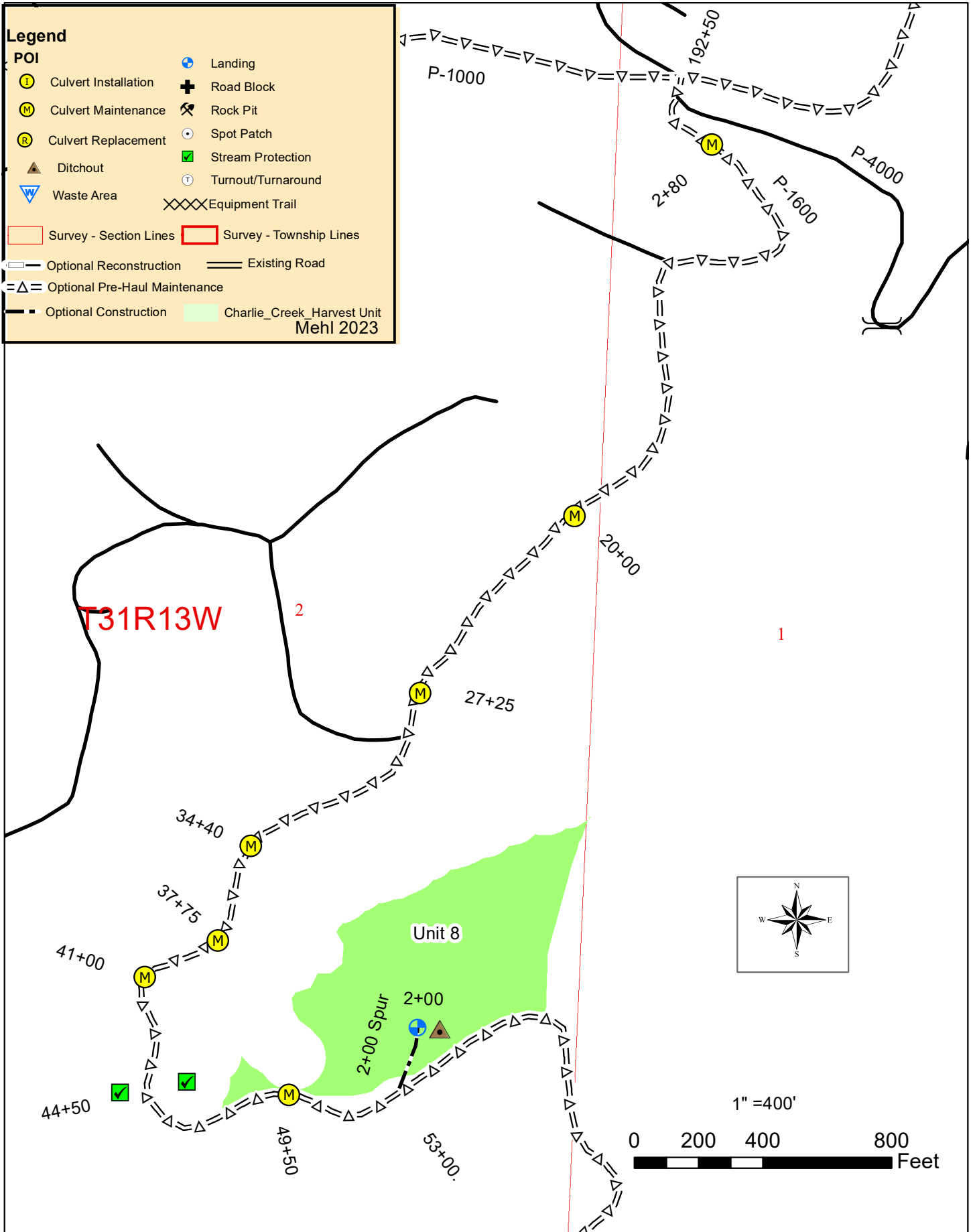
# CHARLIE CREEK TIMBER SALE UNIT 7



# CHARLIE CREEK TIMBER SALE UNITS 4 & 5

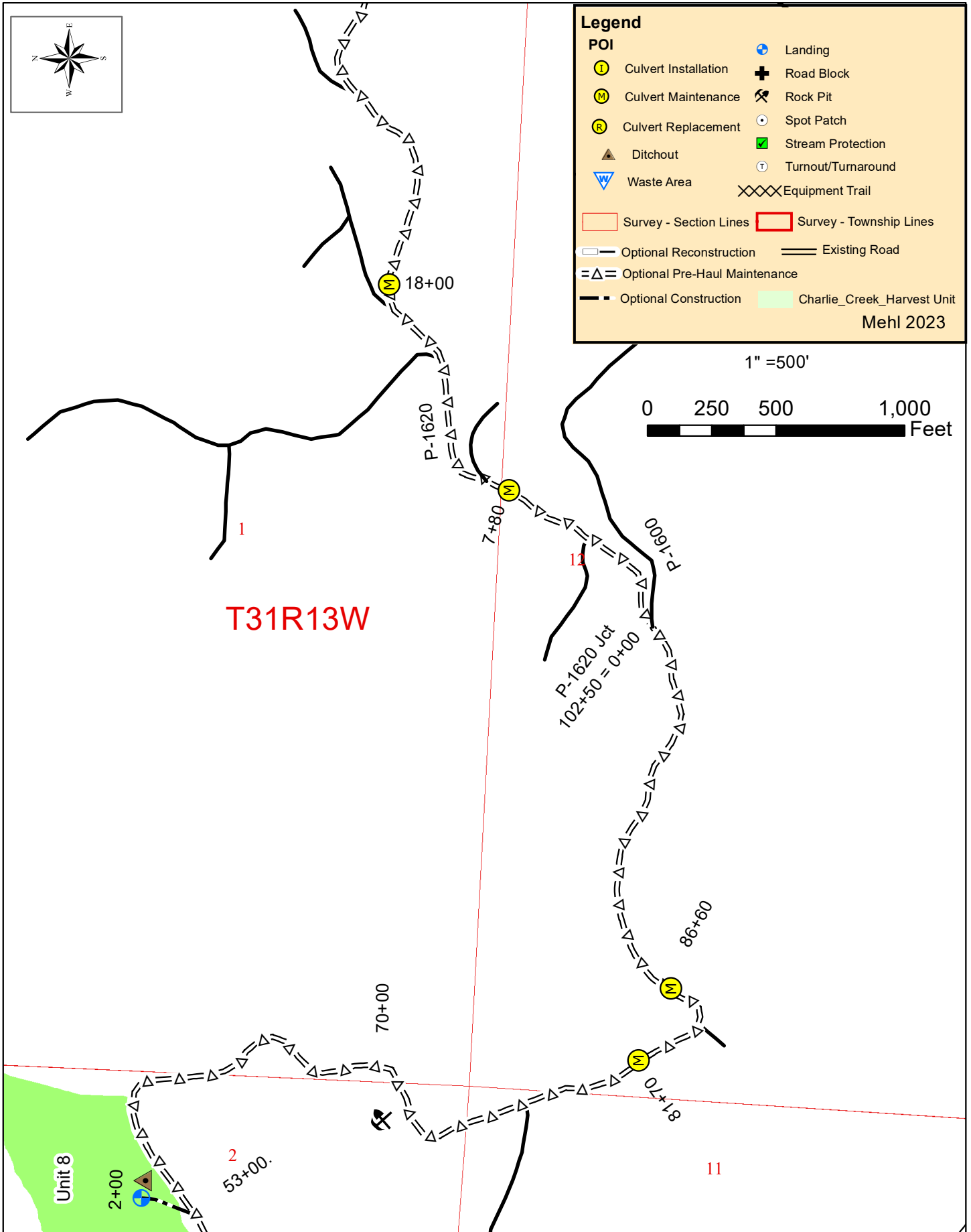


# CHARLIE CREEK TIMBER SALE UNIT 8



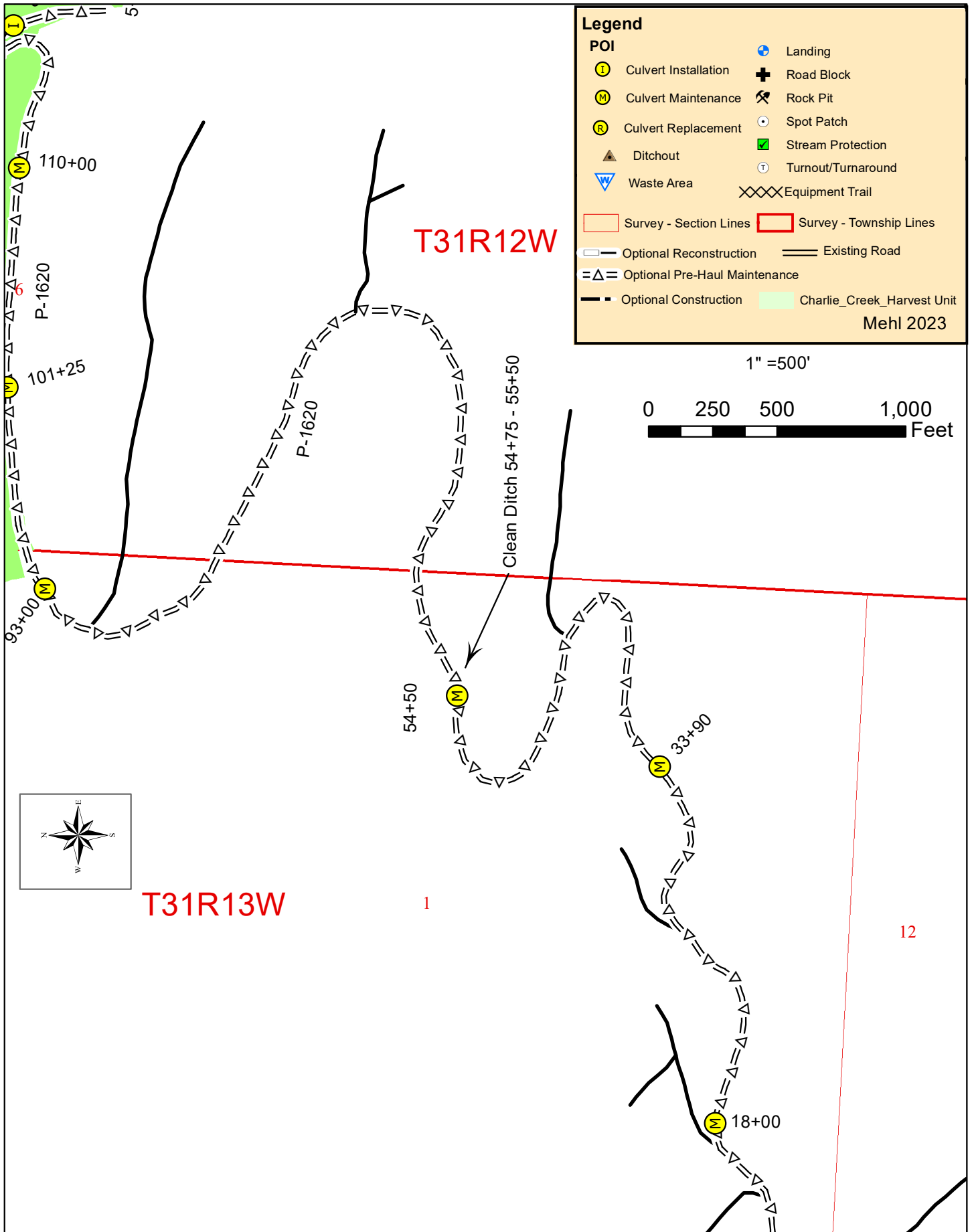
# CHARLIE CREEK TIMBER SALE

## P-1600 PreHaul

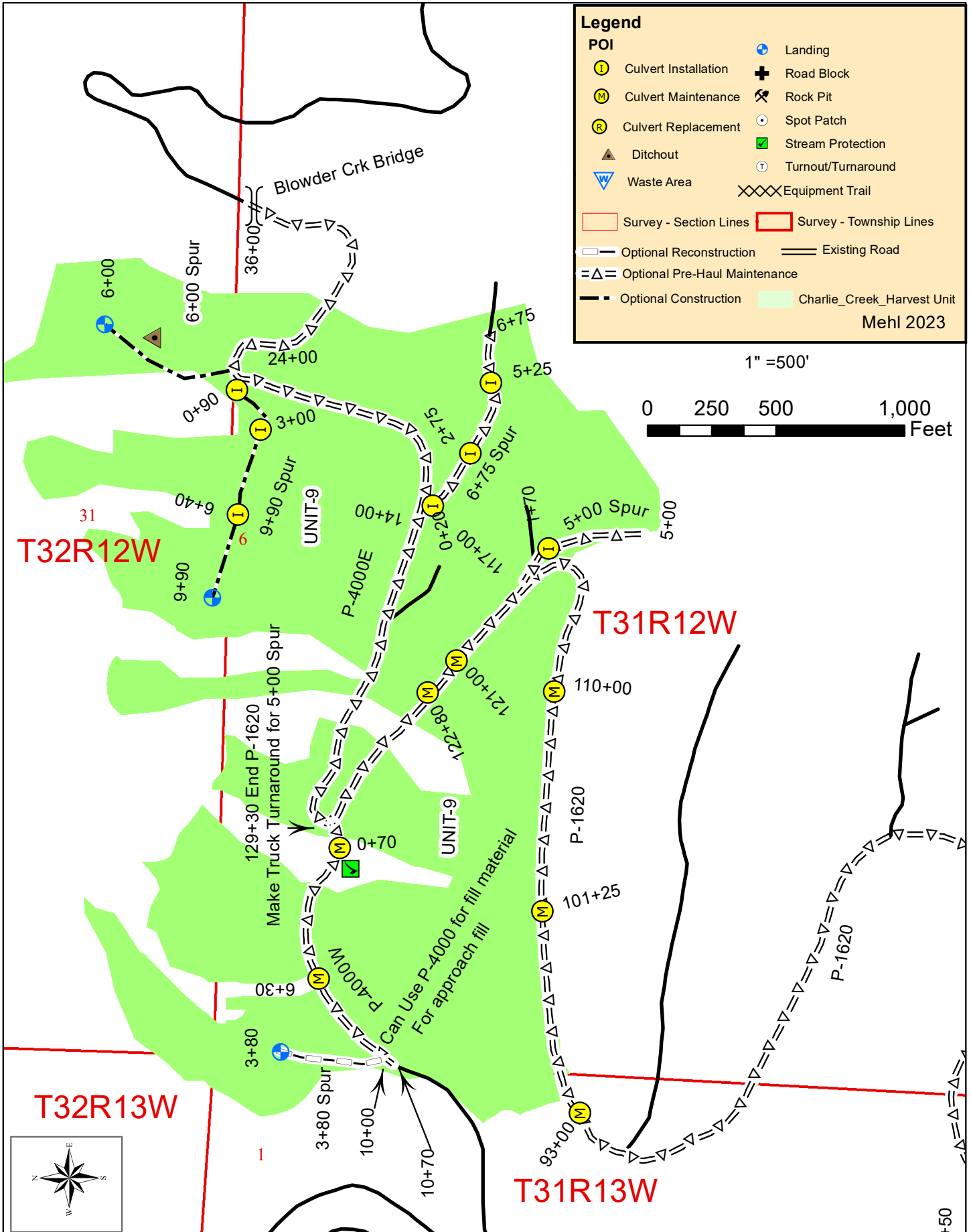


# CHARLIE CREEK TIMBER SALE

## P-1620 PreHaul



# CHARLIE CREEK TIMBER SALE UNIT-9



## SECTION 0 – SCOPE OF PROJECT

### 0-1 ROAD PLAN SCOPE

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

### 0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
P-1100N	31.00	Pre-Haul Maintenance
P-1110	16.30	Pre-Haul Maintenance
P-1120	4.00	Post Haul Maintenance Only
P-1130	7.00	Pre-Haul Maintenance
P-1130.1	2.00	Pre-Haul Maintenance
P-1000	224.60	Pre-Haul Maintenance
P-1100S	2.40	Pre-Haul Maintenance
P-1000.2	20.25	Pre-Haul Maintenance
P-1000.2	5.50	Construction
P-1500	30.00	Pre-Haul Maintenance
Old P-1500	28.50	Pre-Haul Maintenance
4+75 Spur	4.75	Pre-Haul Maintenance
7+50 Spur	1.50	Pre-Haul Maintenance
7+50 Spur	6.00	Construction
5+50 Spur	5.50	Construction
2+50 Spur	2.50	Pre-Haul Maintenance
P-1400	96.50	Pre-Haul Maintenance
P-1405	6.50	Pre-Haul Maintenance
3+00 Spur	3.00	Construction
P-1430	3.50	Pre-Haul Maintenance
P-1600	102.50	Pre-Haul Maintenance
2+00 Spur	2.00	Construction
P-1620	129.30	Pre-Haul Maintenance
P-4000W	10.70	Pre-Haul Maintenance
P-4000E	36.00	Pre-Haul Maintenance
3+80 Spur	3.80	Reconstruction
6+00 Spur	6.00	Construction
6+75 Spur	6.75	Pre-Haul Maintenance
5+00 Spur	5.00	Pre-Haul Maintenance
9+90 Spur	9.90	Construction
P-1000H	2.50	Pre-Haul Maintenance
P-1000H.1	13.75	Pre-Haul Maintenance
P-1000H.1	5.00	Construction

### 0-4 CONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
P-1000.2	20+25 – 25+75	See Below
3+00 Spur	0+00 – 3+00	See Below
7+50 Spur	1+50 – 7+50	See Below
5+50 Spur	0+00 – 5+50	See Below
P-1000H.1	13+75 – 18+75	See Below
2+00 Spur	0+00 – 2+00	See Below
9+90 Spur	0+00 – 9+90	See Below
6+00 Spur	0+00 – 6+00	See Below
Total:	42.90	

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:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
3+80 Spur	0+00 – 3+80	See Below
Total:	3.80	

Reconstruction includes, but is not limited to:

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

#### 0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
P-1000	0+00 – 224+60	Grade and shape road in accordance with Clause 2-5. Clean culverts in accordance with Clause 2-6 and Culvert List. Maintain erosion control structures in accordance with Clause 2-8, 8-1 and as directed by Contract Administrator. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1100N	0+00 – 31+00	Grade and shape road in accordance with Clause 2-5. Clean culverts in accordance with Clause 2-6 and Culvert List. Install sediment control structures in accordance



		with 2-7 and 8-1. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1110	0+00 – 16+30	Grade and shape road in accordance with Clause 2-5.
P-1130	0+00 – 7+00	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1130.1	0+00 – 2+00	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1100S	0+00 – 2+40	Remove garbage as directed by C/A
P-1000.2	0+00 – 20+25	Grade and shape road in accordance with Clause 2-5. Clean culverts in accordance with Clause 2-6 and Culvert List. Brush road in accordance with Clause 3-1 and Brushing Detail. Construct ditch out in accordance with Clause 4-29 and 4-38.
P-1400	0+00 – 96+50	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean culverts in accordance with Clause 2-6 and Culvert List. Maintain erosion control structures in accordance with Clause 2-8. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1405	0+00 – 6+50	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail.
P-1430	0+00 – 3+50	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1500	0+00 – 30+00	Grade and shape road in accordance with Clause 2-5. Clean culverts in accordance with Clause 2-6 and Culvert List. Maintain erosion control structures in accordance with Clause 2-8. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
Old P-1500	0+00 – 28+50	Unblock road at sta. 1+00, Brush road in accordance with Clause 3-1 and Brushing Detail. Install/replace/maintain culverts in

		accordance with Culvert List. Grade and shape road in accordance with Clause 2-5. Construct ditch outs in accordance with Clause 4-29 and 4-38. Install road shoulder berms in accordance with Clause 8-1. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
4+75 Spur	0+00 – 4+75	Brush road in accordance with Clause 3-1 and Brushing Detail. 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 ditch out in accordance with Clause 4-29 and 4-38. Install/replace/maintain culverts in accordance with Culvert List. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
7+50 Spur	0+00 – 1+50	Brush road in accordance with Clause 3-1 and Brushing Detail. Install/replace/maintain culverts in accordance with Culvert List. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
2+50 Spur	0+00 – 2+50	Brush road in accordance with Clause 3-1 and Brushing Detail. 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 and/or clean ditches in accordance with Clause 2-7, 4-36, and 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1000H	0+00 – 2+50	Grade and shape road in accordance with Clause 2-5. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1000H.1	0+00 – 13+75	Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Install culverts in accordance with Culvert List. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1600	0+00 – 102+50	Grade and shape road in accordance with Clause 2-5. Clean culverts in accordance with Clause 2-6 and Culvert List. Maintain erosion control structures in accordance with Clause 2-8. Install sediment control structures in accordance with 8-1.

		Install/replace/maintain culverts in accordance with Culvert List. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-1620	0+00 – 129+30	Grade and shape road in accordance with Clause 2-5. Install/replace/maintain culverts in accordance with Culvert List and Clause 2-6. Construct and/or clean ditches in accordance with Clause 2-7, 4-36, and 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-4000W	0+00 – 10+70	Grade and shape road in accordance with Clause 2-5. Install/replace/maintain culverts in accordance with Culvert List and Clause 2-6. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
P-4000E	0+00 – 36+00	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
6+75 Spur	0+00 – 6+75	Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Install/replace/maintain culverts in accordance with Culvert List. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
5+00 Spur	0+00 – 5+00	Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Install/replace/maintain culverts in accordance with Culvert List. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
Total:	783.80 Sta	

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.

**0-12 DEVELOP ROCK SOURCE**

The Purchaser shall develop the rock source called Bumbles Boulder Pit. Development will involve breaking down boulders to fit in Jaw Crusher and crushing 4,000 CY of 4" minus jaw run. 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 latest edition (M41-10).

**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.

**1-18 REFERENCE POINT DAMAGE**

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

SUBSECTION TIMING

**1-20 COMPLETE BY DATE**

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

**1-21 HAUL APPROVAL**

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

**1-22 WORK NOTIFICATIONS**

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

**1-23 ROAD WORK PHASE APPROVAL**

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

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

**SUBSECTION RESTRICTIONS**

**1-25 ACTIVITY TIMING RESTRICTION**

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

<u>Road</u>	<u>Stations</u>	<u>Activity</u>	<u>Closure Period</u>
7+50 Spur	1+50 -7+50	Construction	October 15 <sup>th</sup> – April 15 <sup>th</sup>
5+50 Spur	0+00 – 5+50	Construction	October 15 <sup>th</sup> – April 15 <sup>th</sup>

**1-26 OPERATING DURING CLOSURE PERIOD**

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

**1-27 LIMITED OPERATING PERIOD FOR MARBLED MURRELET**

On the following road(s), any road work, right-of-way timber falling and yarding, rock pit operations, or operation of heavy equipment must be performed during the limited operating period if implemented during the nesting season. The limited operating period runs from two hours after sunrise to two hours before sunset between April 1 through September 23. This restriction does not apply to the hauling of timber, rock, or equipment.

<u>Road</u>	<u>Stations</u>
P-1000	78+90 – 82+75, 160+40 – 180+65
P-4000E	29+60 – 36+00

**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 Contract 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

**1-41 REQUIREMENTS FOR PAVED ROAD APPROACHES**

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

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**

<u>Road</u>	<u>Stations</u>
P-1000	0+00 – 218+00
P-1600	0+00 – 102+50
Sappho LTSP Main	0+00 – 5+00
Mary Clark Pit Road	All

**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.

<u>Road</u>	<u>Stations</u>
P-1000	0+00 – 224+60

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

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
P-1000	0+00 - 224+60	Grade and shape and compact existing road surface.
P-1100N	0+00 – 31+00	Grade and shape and compact existing road surface.
P-1110	0+00 – 16+30	Grade and shape and compact existing road surface.
P-1130	0+00 – 7+00	Grade and shape and compact existing road surface.
P-1130.1	0+00 – 2+00	Grade and shape and compact existing road surface.
P-1000.2	0+00 – 20+25	Grade and shape and compact existing road surface.
P-1400	0+00 – 96+50	Grade and shape and compact existing road surface.
P-1405	0+00 – 6+50	Grade and shape and compact existing road surface.
P-1430	0+00 – 3+50	Grade and shape and compact existing road surface.
P-1500	0+00 – 30+00	Grade and shape and compact existing road surface.
Old P-1500	0+00 – 28+50	Grade and shape and compact existing road surface.
4+75 Spur	0+00 – 4+75	Grade and shape and compact existing road surface.
P-1000H	0+00 – 2+50	Grade and shape and compact existing road surface.
P-1600	0+00 – 102+50	Grade and shape and compact existing road surface
P-1620	0+00 – 129+30	Grade and shape and compact existing road surface
P-4000W	0+00 – 10+70	Grade and shape and compact existing road surface
P-4000E	0+00 – 24+00	Grade and shape and compact existing road surface
2+50 Spur	0+00 – 2+50	Grade and shape and compact existing road surface
4+75 Spur	0+00 – 4+75	Grade and shape and compact existing road surface
7+50 Spur	0+00 – 7+50	Grade and shape and compact existing road surface

**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.

<u>Road</u>	<u>Stations</u>
P-1000	19+00, any others as directed by C/A



P-1100N	2+25
P-1000.2	7+00
P-1400	52+00, 58+30
P-1500	1+25, 22+60
P-1600	2+80, 20+00, 27+25, 34+40, 37+75, 41+00, 49+50, 81+70, 86+60
P-1620	7+80, 18+00, 33+90, 54+50, 93+00, 101+25, 110+00, 121+00, 122+80
P-4000W	0+70, 6+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.

<u>Road</u>	<u>Stations</u>	<u>Left or Right</u>	<u>Comments</u>
P-1620	54+75 – 55+50	R	Clean Ditch
P-4000W	1+00	L	Add Catch Basins
P-1100N	2+50	L	Add Catch Basins and silt fence.
4+75 Spur	2+50 - 4+75	L	Clean Ditch
2+50 Spur	0+00 – 2+50	R	Clean Ditch

## 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.

<u>Road</u>	<u>Stations</u>	<u>Work Needed</u>
P-1000	0+00 – 224+60	As directed by C/A
P-1400	0+00 - -96+50	As directed by C/A
P-1500	10+50 – 11+50	Fix/Add Silt fence
P-1600	44+00 – 45+00	Fix/Add Silt fence L & R

## 2-9 REMOVING VEGETATIVE MATERIAL

On the following road(s), Purchaser shall remove all vegetative material, dirt, mud, and other debris on the existing road surface with a minimum loss of rock. Material removed shall be disposed of in accordance with Clause 3-21 through Clause 3-25 and Clause 4-36 through Clause 4-38. Roads to be shaped in accordance with Typical Sheet specifications.

<u>Road</u>	<u>Stations</u>
P-1000H.1	0+00 – 13+75
6+75 Spur	0+00 – 6+75
4+75 Spur	0+00 – 4+75

2+50 Spur	0+00 – 2+50
5+00 Spur	0+00 – 5+00

## 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-1100N	0+00 – 31+00 L&R
P-1130	0+00 – 7+00 L&R
P-1130.1	0+00 – 2+00 L&R
P-1000.2	0+00 – 20+25 L&R
P-1400	58+30 – 96+50 L&R
P-1405	0+00 – 6+50 L&R
P-1430	0+00 – 3+50 L&R
P-1500	0+00 – 30+00 L&R
Old P-1500	0+00 – 25+50 L&R
P-4000E	0+00 – 36+00 L&R

#### 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.

#### 3-7 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.

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

In the following waste area(s), the removal of stumps is not required within waste areas if they are cut flush with the ground.

<u>Road</u>	<u>Waste Area</u>	<u>Stations</u>
P-1000H.1	1	1+30

**SUBSECTION ORGANIC DEBRIS**

**3-20 ORGANIC DEBRIS DEFINITION**

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

**3-21 DISPOSAL COMPLETION**

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

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

Waste areas for organic debris at the following locations shall be located as listed below.

<u>Road</u>	<u>Stations</u>	<u>Waste Area Location</u>
P-1000H.1	13+75 – 18+75	WA 1 (P-1000H.1 Sta 1+30)

**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 in areas specified in Clause 3-22 Designated Waste Area For Organic Debris. Piles shall be free of rock and soil.

**3-32 END HAULING ORGANIC DEBRIS**

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

<u>Road</u>	<u>Stations</u>
P-1000H.1	13+75 – 18+75

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:

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

**4-6 EMBANKMENT SLOPE RATIO**

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

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

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

Excavation and embankment slopes shall be constructed to a uniform line and left rough for easier revegetation.

**4-8 CURVE WIDENING**

The minimum widening placed on the inside of curves is:

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

**4-9 EMBANKMENT WIDENING**

The minimum embankment widening is:

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

**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 haul waste material to the location specified in Clause 4-37 WASTE AREA LOCATION.

<u>Road</u>	<u>Full Bench Location</u>	<u>Comments</u>
P-1000H.1	13+75 – 18+75	4000 CY +/- Waste

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.

<u>Road</u>	<u>Stations</u>
P-1000.2	20+25 L
Old P-1500	7+65 L
4+75 Spur	4+75 L
2+00 Spur	2+00 R
6+00 Spur	3+00 R

## SUBSECTION WASTE MATERIAL (DIRT)

### 4-35 WASTE MATERIAL DEFINITION

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

### 4-36 DISPOSAL OF WASTE MATERIAL

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.

<u>Waste Area Location</u>	<u>Waste Generated From Road</u>	<u>Estimated Volume</u>	<u>Waste Area Permitted Vol.</u>
WA #1	P-1000H.1	4,000 CY	6,000

### 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.

SUBSECTION SUBGRADE REINFORCEMENT

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.

<u>Road</u>	<u>Stations</u>
7+50 Spur	1+50 – 7+50
5+50 Spur	0+50 – 5+50

**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 10-24.

**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. Unused pipes will be located at Bumbles Boulder Pit or as directed by C/A prior to contract expiration.

<u>Road</u>	<u>Size</u>
As Directed	(2) 18" x 30'
By C/A	

### 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.

**5-22 ABOVE GROUND CULVERT ENERGY DISSIPATORS**

At the end of the culvert, approximately 1 yd<sup>3</sup> of oversize material shall be placed. The extents of placement shall be in accordance with 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.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Bumbles Boulder Pit	T.32 R.12W Sec 29	4" Jaw Run
Mary Clark Pit	Sec. 32, T30N, R12W	Pitrun, 1½" Minus 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 880 cubic yards of 1 ½" minus crushed rock, unless authorized by the Contract Administrator.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>	<u>Quantity (yd<sup>3</sup>)</u>
Mary Clark Pit	Sec. 32, T30N, R12W	1½" Minus Crushed	880 yd <sup>3</sup>

**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.

### 6-15 REQUIRED ROCK SOURCE WORK

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

<u>Site</u>	<u>Requirements</u>
Bumbles Boulder Pit	Reduce boulders and make 4,000 CY of 4" Jaw run

## SUBSECTION ROCK MANUFACTURE

### 6-23 ROCK CRUSHING OPERATIONS

Rock crushing operations shall conform to the following specifications:

- Operations and placement of oversize material shall be conducted in or near the rock source site, as approved in writing by the Contract Administrator.

## SUBSECTION ROCK GRADATIONS

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.

### 6-29 1 ½-INCH MINUS CRUSHED ROCK

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

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

### 6-39 4-INCH JAW RUN ROCK

% Passing 4" in one dimension	100%
-------------------------------	------

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

### 6-50 LIGHT LOOSE RIP RAP

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

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

### 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 as listed below, and as directed by the Contract Administrator.

<u>Rock Source</u>	<u>Rock Size</u>	<u>Quantity (c.y.)</u>	<u>Stockpile Location</u>
Mary Clark	Any	As needed	P-1000 Sta 46+50
Bumbles Boulder	Jaw Run	4,000 CY	P-1110 Sta 2+00

#### 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 1/2" minus crushed rock in accordance with the quantities shown on the Rock List.

<u>Road</u>	<u>Stations</u>	<u>Amount</u>
P-1000, P-1600	As directed by C/A	400 yd <sup>3</sup>

**6-73 ROCK FOR WIDENED PORTIONS**

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

**6-78 ROCK FOR SPOT PATCHING**

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

**SECTION 7 – STRUCTURES**

**SUBSECTION STREAM CROSSING STRUCTURES GENERAL**

**7-5 STRUCTURE DEBRIS**

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

**7-6 STREAM CROSSING INSTALLATION**

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

**7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES**

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

**SECTION 8 – EROSION CONTROL**

**8-1 SEDIMENT CONTROL STRUCTURES**

On the following road(s), Purchaser shall install sediment control structures as listed below.

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
P-1000	0+00 – 224+60	As Required by C/A
P-1600	44+00 – 45+00	Silt Fence L&R
Old P-1500	17+40 – 17+90	Berms L&R

P-4000W	0+90	Settling Ponds
P-1100N	2+25	Silt fence in ditch

**8-2 PROTECTION FOR EXPOSED SOIL**

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

**8-7 ROAD SHOULDER BERM INSTALLATION**

On the following road(s), the Purchaser shall construct berms on the road shoulders as listed below.

<u>Road</u>	<u>Stations</u>	<u>Remarks</u>
Old P-1500	17+40 – 17+90	L & R sides

SUBSECTION SLOPE STABILIZATION

SUBSECTION REVEGETATION

**8-15 REVEGETATION**

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

**8-16 REVEGETATION SUPPLY**

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

**8-17 REVEGETATION TIMING**

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

**8-18 PROTECTION FOR SEED**

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

**8-19 ASSURANCE FOR SEEDED AREA**

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

SUBSECTION SEED, FERTILIZER, AND MULCH

**8-25 GRASS SEED**



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

<u>Seed Species</u>	<u>% by Weight</u>
• 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 POST-HAUL MAINTENANCE

#### 9-5 POST-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Additional Requirements</u>
All	All	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator
P-1000	All	Apply post haul rock as per Clause 6-72.
P-1600	All	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.

## SECTION 10 MATERIALS

### SUBSECTION GEOTEXTILES

#### 10-6 GEOTEXTILE FOR TEMPORARY SILT FENCE

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

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Unsupported between posts
Apparent opening size	D 4751	No. 30 max., No. 100 min.
Water permittivity	D 4491	0.02 sec <sup>-1</sup>
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 DOWNPOUT

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

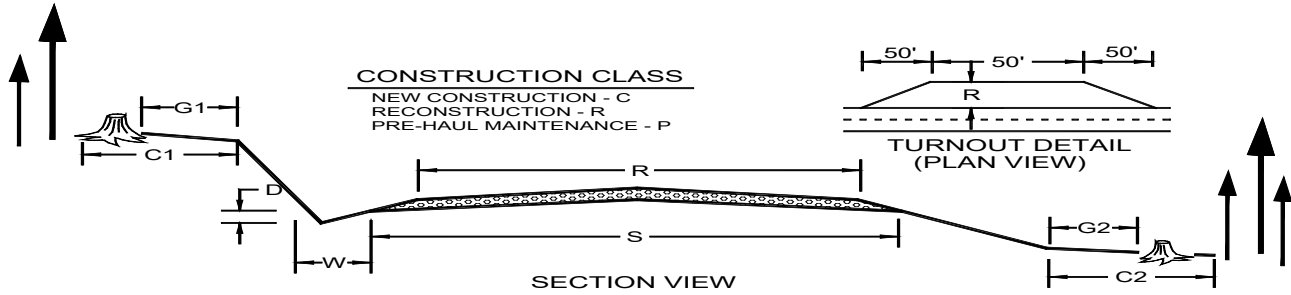
Plastic coupling and end bands shall meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer shall be used. Couplings shall be split coupling band. Split coupling bands shall have a minimum of four corrugations, two on each side of the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

**10-24 GAGE AND CORRUGATION**

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

<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>
18"	16 (0.064")	2 <sup>2</sup> / <sub>3</sub> " X 1/2"
24" to 42"	14 (0.079")	2 <sup>2</sup> / <sub>3</sub> " X 1/2"
48" to 54"	12	3" X 1"
60" +	10	5" X 1"

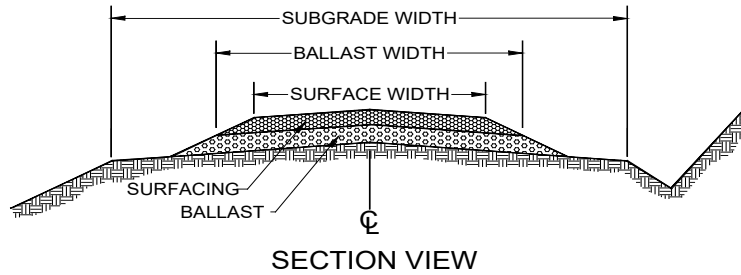
## TYPICAL SECTION SHEET



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	224+60	P		16'	3"	2'	1'				
P-1100N	0+00	31+000	P		14'	3"	2'	1'				
P-1110	0+00	16+30	P		14'	3"	2'	1'				
P-1130	0+00	7+00	P		14'	3"	2'	1'				
P-1130.1	0+00	2+00	P		14'	3"	2'	1'				
P-1100S	0+00	2+00	P		14'	3"	2'	1'				
P-1000.2	0+00	20+25	P		14'	3"	2'	1'				
P-1000.2	20+25	25+75	C	17'	14'	3"	2'	1'	5'	5'	10'	5'
P-1500	0+00	30+00	P		14'	3"	2'	1'				
Old P-1500	0+00	28+50	P		14'	3"	2'	1'				
4+75 Spur	0+00	4+75	P		14'	3"	2'	1'				
7+50 Spur	0+00	1+50	P		14'	3"	2'	1'				
7+50 Spur	1+50	7+60	C	17'	14'	3"	2'	1'	5'	5'	10'	5'
2+50 Spur	0+00	2+50	P		14'	3"	2'	1'				
5+50 Spur	0+00	5+50	C	17'	14'	3"	2'	1'	5'	5'	10'	5'
P-1400	0+00	96+50	P		14'	3"	2'	1'				
P-1405	0+00	6+50	P		14'	3"	2'	1'				
3+00 Spur	0+00	3+00	C	17'	14'	3"	2'	1'	5'	5'	10'	5'
P-1430	0+00	3+50	P		14'	3"	2'	1'				
P-1600	0+00	102+50	P		14'	3"	2'	1'				
2+00 Spur	0+00	2+00	C	17'	14'	3"	2'	1'	5'	5'	10'	5'
P-1620	0+00	129+30	P		14'	3"	2'	1'				
P-4000W	0+00	10+70	P		14'	3"	2'	1'				



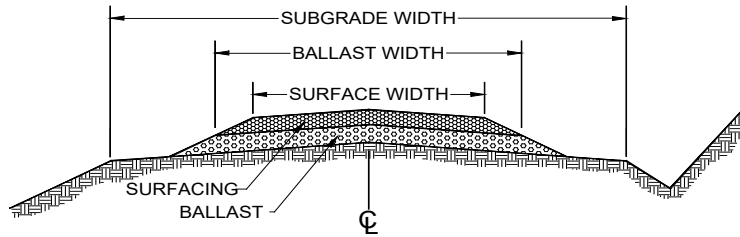
# ROCK LIST SHEET



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

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd <sup>3</sup> /sta)	Pitrun SUBTOTAL(yd <sup>3</sup> )	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd <sup>3</sup> /sta)	Crushed Subtotal(yd <sup>3</sup> )	Oversize/ Rip rap	Oversize/Rip Rap Quantity(yd <sup>3</sup> )
<b>P-1000</b>															
Misc.	0+00	224+60							2				100		
Post Haul	0+00	224+60							2				200		
<b>P-1100N</b>															
Misc.	0+00	31+00							2				100		
<b>P-1130</b>															
Lift	0+00	7+00	17						1	14	8	45	320		
<b>P-1130.1</b>															
Lift	0+00	2+00							1	14	12	70	140		
<b>P-1000.2</b>															
Misc.	0+00	20+25							1				20		
Lift	20+25	25+75	17						1	14	18	110	610		
Culvert	24+00								1				20		
<b>P-1500</b>															
Misc.	0+00	30+00							2				50		
<b>Old P-1500</b>															
Lift	0+00	28+50							1	14	12	70	2000		
Culvert	3+00								1				20		
Culvert	7+65								1				20		
Culvert	13+75								1				20		
Culvert	17+80								1				20		
<b>Totals:</b>													3640		

## ROCK LIST SHEET CONTINUED

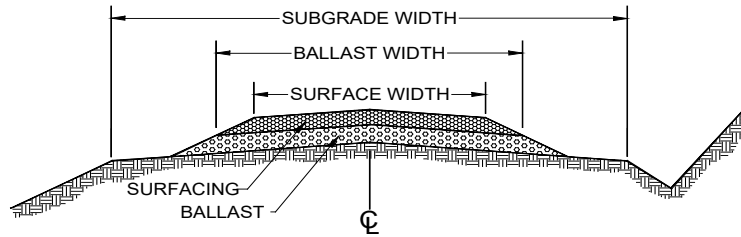


SECTION VIEW

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6. Rock sources= 1: Bumbles Pit Jaw Run, 2: Mary Clark1-1/2" minus, 3: Mary Clark Pit Run

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd <sup>3</sup> /sta)	Pitrun SUBTOTAL(yd <sup>3</sup> )	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd <sup>3</sup> /sta)	Crushed Subtotal(yd <sup>3</sup> )	Oversize/ Rip rap	Oversize/Rip Rap Quantity(yd <sup>3</sup> )
<b>4+75 Spur</b>															
Lift	0+00	4+75		3	14	12	70	330							
Culvert	0+60			3				20							
<b>7+50 Spur</b>															
Lift	0+00	1+50							1	14	6	35	50		
Culvert	1+50			3				20							
Lift	1+50	7+50	17	3	14	18	110	660							
<b>2+50 Spur</b>															
Lift	0+00	2+50							1	14	6	35	90		
<b>5+50 Spur</b>															
Lift	0+00	5+50	17	3	14	15	90	500							
Culvert	0+15							20							
<b>P-1400</b>															
Misc.	0+00	96+50							2				200		
<b>P-1405</b>															
Misc.									2				10		
<b>3+00 Spur</b>															
Lift	0+00	3+00	17	3	14	18	110	330							
<b>P-1430</b>															
Misc.	0+00	3+50							2				20		
<b>P-1600</b>															
Totals:								1880					370		

## ROCK LIST SHEET CONTINUED



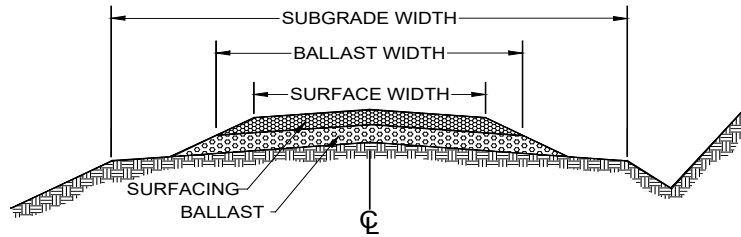
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5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼" minus to 4" minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1: Bumbles Pit Jaw Run, 2: Mary Clark1-1/2" minus, 3: Mary Clark Pit Run, 4: Native Ballast

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd <sup>3</sup> /sta)	Pitrun SUBTOTAL(yd <sup>3</sup> )	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd <sup>3</sup> /sta)	Crushed Subtotal(yd <sup>3</sup> )	Oversize/ Rip Rap Source	Oversize/Rip Rap Quantity(yd <sup>3</sup> )
Misc.	0+00	102+50							2				100		
Post Haul									2				200		
<b>2+00 Spur</b>															
Lift	0+00	2+00		3	12	18	110	220							
Landing		2+00		3				50							
<b>P-1620</b>															
Misc.	0+00	129+30							2				100		
<b>P-4000W</b>															
Misc.	0+00	10+70							2				100		
<b>P-4000E</b>															
Misc.	0+00	36+00							2				100		
<b>3+80 Spur</b>															
Junction Fill	0+00	0+30		4				120							
Lift	0+00	3+80		3	12	12	70	270							
Landing		3+80		3				50							
<b>5+00 Spur</b>															
Lift	0+00	5+00		3	12	12	70	350							
Culvert	1+70			3				20							
<b>6+00 Spur</b>															
Lift	0+00	6+00	17	3	12	18	110	660							
Landing		6		3				50	1						
Totals:								1790					600		



## ROCK LIST SHEET CONTINUED



SECTION VIEW

1. Rock quantities, subtotals and totals are “truck measure” estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼” minus to 4” minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1: Bumbles Pit Jaw Run, 2: Mary Clark1-1/2” minus, 3: Mary Clark Pit Run

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd <sup>3</sup> /sta)	Pitrun SUBTOTAL(yd <sup>3</sup> )	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity (yd <sup>3</sup> /sta)	Crushed Subtotal(yd <sup>3</sup> )	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd <sup>3</sup> )
<b>6+75 Spur</b>															
Lift	0+00	6+75		3	12	12	70	470							
Culvert	0+20			3				40							
Culvert	2+75			3				20							
Culvert	5+25			3				20							
<b>9+90 Spur</b>															
Lift	0+00	9+90	17	3	12	18	110	1090							
Culvert	1+00			3				20							
Culvert	3+00			3				20							
Culvert	6+40			3				40							
Landing	9+90			3				50							
<b>P-1000H</b>															
Lift	0+00	2+00							1	12	6	35	70		
<b>P-1000H.1</b>															
Lift	0+00	13+75	17	3	12	12	70	960							
Culvert	3+50							20							
Culvert	8+75							20							
Lift	13+75	18+75	17	3	12	18	110	550							
Landing		18+75		3				50							
<b>Totals:</b>								3370				70			

## ROCK LIST SHEET GRAND TOTAL

Source	Quantity (yd <sup>3</sup> )
1: Bumbles Pit Jaw Run	3,400
2: Mary Clark 1-1/2" minus	1280
3: Mary Clark Pit Run	6,920
4: Native Ballast	120

## 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-1100N	2+25	18							Culvert Maint. Clean inlet, add silt fence and settling ponds.
P-1100N	4+50	18							Culvert Maint. Clean inlet
P-1000.2	7+00	18							Culvert Maint. Clean inlet
P-1000.2	24+00	18	26				2	PR	New Culvert Installation
P-1000	19+00	24							Clean inlet, maintain berms
P-1400	52+00	18							Culvert Maint. Clean inlet
P-1400	58+30	18							Culvert Maint. Clean inlet
P-1500	1+25	24							Culvert Maint. Clean inlet
P-1500	11+00	24							Culvert Maint. Clean inlet, add/repair silt fence.
P-1500	22+60	18							Culvert Maint. Clean inlet
5+50 Spur	0+15	18	40					PR	New Junction pipe
7+50 Spur	1+50	18	30					PR	New Cross Drain Culvert
4+75 Spur	0+60	18	30					PR	New Cross Drain Culvert
Old P-1500	3+00	18	30					PR	New Cross Drain Culvert
Old P-1500	7+65	18	30					PR	New Cross Drain Culvert
Old P-1500	13+75	18	30					PR	New Cross Drain Culvert
Old P-1500*	17+80	24	40					PR	New Ns pipe installation
P-1600	2+80	18							Culvert Maint. Clean inlet
P-1600	20+00	18							Culvert Maint. Clean inlet
P-1600	27+25	18							Culvert Maint. Clean inlet
P-1600	34+40	18							Culvert Maint. Clean inlet
P-1600	37+75	18							Culvert Maint. Clean inlet
P-1600	41+00	18							Culvert Maint. Clean inlet
P-1600	49+50	18							Culvert Maint. Clean inlet
P-1600	81+70	18							Culvert Maint. Clean inlet
P-1600	86+60	18							Culvert Maint. Clean inlet
P-1620	7+80	18							Culvert Maint. Clean inlet
P-1620	18+00	18							Culvert Maint. Clean inlet
P-1620	33+90	18							Culvert Maint. Clean inlet
P-1620	54+50	18							Culvert Maint. Clean inlet

### CULVERT LIST Continued

ROAD NAME	STATION	CULVERT DIAMETER (in)	CULVERT LENGTH (ft)	FLUME LENGTH (ft)	RIP RAP - INLET (cy)	RIP RAP - OUTLET (cy)	BACKFILL MATERIAL	NOTES
P-1620	93+00	18						Culvert Maint. Clean inlet
P-1620	101+25	18						Culvert Maint. Clean inlet
P-1620	110+00	18						Culvert Maint. Clean inlet
P-1620	121+00	18						Culvert Maint. Clean inlet
P-1620	122+80	18						Culvert Maint. Clean inlet
P-4000W*	0+70	24						Culvert Maint. Clean inlet, add Settling ponds.
P-4000W	6+30	18						Culvert Maint. Clean inlet
6+75 Spur	0+20	18	50				PR	New Junction pipe
6+75 Spur	2+75	18	40				PR	New Cross Drain Culvert
6+75 Spur	5+25	18	30				PR	New Cross Drain Culvert
9+90 Spur	0+90	18	30				PR	New Cross Drain Culvert
9+90 Spur	3+00	18	26				PR	New Cross Drain Culvert
9+90 Spur*	6+40	24	30				PR	New Ns pipe installation
P-1000H.1	3+50	18	30				PR	New Cross Drain Culvert
P-1000H.1	8+75	18	26				PR	New Cross Drain Culvert
5+00 Spur	1+70	18	30				PR	New Cross Drain Culvert
Contingency	xxx	18	30					As needed or directed
Contingency	xxx	18	30					As needed or directed

**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 = pit run. \* = Typed Water.**

## COMPACTION LIST

Road	Stations	Type	Max Depth per Lift (In)	Equipment Type	Weight (lbs)	Number of Passes	Minimum Operating Speed (mph)
Construction	All	Culvert Backfills	6	Jumping Jack	N/A	3	N/A
Construction	All	Subgrade, Embankment	6	Vibratory Smooth Drum Roller	6,000	3	3
Construction	All	Rock Placement	6				
Pre-haul Maintenance	All	Preparing Pre-haul Surface	6				
Pre-haul Maintenance, Post-haul Maintenance	All	Rock Lifts	6				
Pre-haul Maintenance	All	Culvert Backfills	6	Jumping Jack	N/A	3	N/A
Waste Areas	See Clause 4-37	Waste Material	24	Excavation Equipment	See Clause 4-39		

SUMMARY - Road Development Costs															
SALE NAME:	Charlie Creek	CONTRACT#:	30-104804	REGION:	Olympe	DISTRICT:	Coast							TOTAL	
LEGAL DESCRIPTION:	T32R12W Sec 29													SHEET #2-4	
ROAD NAME:	P-1000.2	3+00 Spur	7+50 Spur	5+50 Spur	P-1000H.1	2+00 Spur	9+90 Spur	6+00 Spur	3+80 Spur	P-1000	P-1100N	TOTAL:	\$5,249		
ROAD TYPE:	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Recon.	Prehaul	Prehaul	\$558	\$3,267		
NUMBER OF STATIONS:	6	3	6	5	5	2	10	6	4	225	31	301.80	1,161.80		
SIDE SLOPE:	10%	0%	5%	5%	50%	20%	5%	10%	20%	0%	0%	13%	0%		
CLEARING AND GRUBBING:	\$392	\$171	\$599	\$570	\$949	\$253	\$1,253	\$684	\$379	\$0	\$0	\$5,249	\$0		
ROAD BRUSHING:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$558	\$558	\$3,267		
EXCAVATION AND FILL:	\$932	\$339	\$848	\$706	\$75,814	\$452	\$1,398	\$1,017	\$859	\$0	\$0	\$82,365	\$1,900		
ROAD GRADING:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,460	\$202	\$1,661	\$7,520		
DITCH CLEANING CONSTRUCTION:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$283		
ROCK TOTALS (Cu. Yds.)/ROCK COSTS:															
Ballast:	10320	630	330	680	520	600	270	1220	710	320	0	0	\$280	11958	CY
Surface:	1280	0	0	0	0	0	0	0	0	0	100	100	\$70,121	\$174,187	CY
Over-size:	120	0	0	0	0	0	0	0	0	120	0	0	\$1,773	\$27,688	CY
CULVERTS AND FILLERS:	\$801	\$0	\$0	\$0	\$0	\$0	\$0	\$2,817	\$0	\$1,044	\$0	\$0	\$1,044	\$0	
STRUCTURES:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
MISC. EXPENSES:	\$32	\$18	\$35	\$29	\$0	\$12	\$58	\$55	\$370	\$1,839	\$281	\$2,729	\$6,512		
OVERHEAD:	\$602	\$300	\$658	\$620	\$6,721	\$352	\$2,089	\$1,099	\$962	\$336	\$153	\$13,890	\$18,964		
TOTAL COSTS:	\$8,127	\$4,052	\$8,877	\$8,368	\$90,738	\$4,746	\$28,196	\$14,833	\$9,703	\$4,539	\$2,063	\$184,241	\$252,742		
COST PER STATION:	\$1,478	\$1,351	\$1,480	\$1,674	\$18,148	\$2,373	\$2,848	\$2,472	\$2,553	\$20	\$67	\$610	\$218		
MOBILIZATION:			\$15,500												
ROAD DEACTIVATION AND ABANDONMENT COSTS:			\$0												
Pk Work			\$50,000												
NOTE: This appraisal has no allowance for profit and risk															
Sheet 1 of 3															
Plans to be furnished by:															
* Costs per station do not reflect the stockpiling cost.															

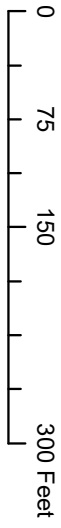
SALE NAME:		CONTRACT#:		SUMMARY - Road Development Costs										DISTRICT:			
Charlie Creek		30-104804		REGION: Olympic										Coast			
LEGAL DESCRIPTION:		T32R12W Sec 29															
ROAD NAME:	P-1110	P-1130	P-1130.1	P-11005	P-10002	P-1400	P-1405	P-1430	P-1500	Old P-1504+75	Spu 7+50	Spur 2+50	Spur	P-1000H	P-1000H.1	P-1600	P-1620
ROAD TYPE:	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul
NUMBER OF STATIONS:	16	7	2	2	20	97	7	4	30	29	5	2	3	3	14	103	129
SIDE SLOPE:	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CLEARING AND GRUBBING:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ROAD BRUSHING:	\$0	\$126	\$36	\$0	\$365	\$684	\$117	\$63	\$540	\$513	\$86	\$0	\$45	\$0	\$0	\$0	\$0
EXCAVATION AND FILL:	\$0	\$0	\$0	\$200	\$0	\$0	\$0	\$0	\$300	\$100	\$0	\$0	\$0	\$0	\$1,000	\$300	\$0
ROAD GRADING:	\$106	\$46	\$13	\$0	\$132	\$627	\$42	\$23	\$195	\$185	\$31	\$10	\$0	\$16	\$89	\$666	\$840
DITCH CLEANING/CONSTRUCTION:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$185	\$0	\$98	\$0	\$0	\$0	\$0
ROCK TOTALS (Cu. Yds.) / ROCK COSTS:																	
Ballast:	0	320	140	0	20	0	0	0	0	2,080	350	50	90	70	1,000	0	0
	\$0	\$2,973	\$1,320	\$0	\$170	\$0	\$0	\$0	\$0	\$17,701	\$3,810	\$592	\$1,120	\$959	\$12,084	\$0	\$0
Surface:	0	0	0	0	0	200	10	20	50	0	0	0	0	0	0	100	100
	\$0	\$0	\$0	\$0	\$0	\$1,942	\$96	\$210	\$463	\$0	\$0	\$0	\$0	\$0	\$0	\$1,100	\$1,506
Over-size:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CULVERTS AND FLUMES:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,228	\$924	\$924	\$0	\$0	\$1,725	\$0	\$0
STRUCTURES:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
MISC. EXPENSES:	\$95	\$41	\$12	\$0	\$143	\$615	\$38	\$20	\$226	\$633	\$48	\$9	\$20	\$15	\$1,338	\$1,100	\$600
OVERHEAD:	\$16	\$255	\$110	\$16	\$65	\$309	\$23	\$25	\$138	\$1,869	\$407	\$123	\$103	\$83	\$1,299	\$253	\$256
TOTAL COSTS:	\$217	\$3,440	\$1,491	\$216	\$875	\$4,177	\$317	\$342	\$1,861	\$25,229	\$5,490	\$1,657	\$1,385	\$1,118	\$17,535	\$3,419	\$3,182
COST PER STATION:	\$13	\$491	\$746	\$90	\$43	\$43	\$49	\$98	\$62	\$885	\$1,156	\$1,105	\$554	\$447	\$1,275	\$33	\$25
						Total											
						Costs \$71,951											
						Stations 469.75											
						Cost/station \$153.17											









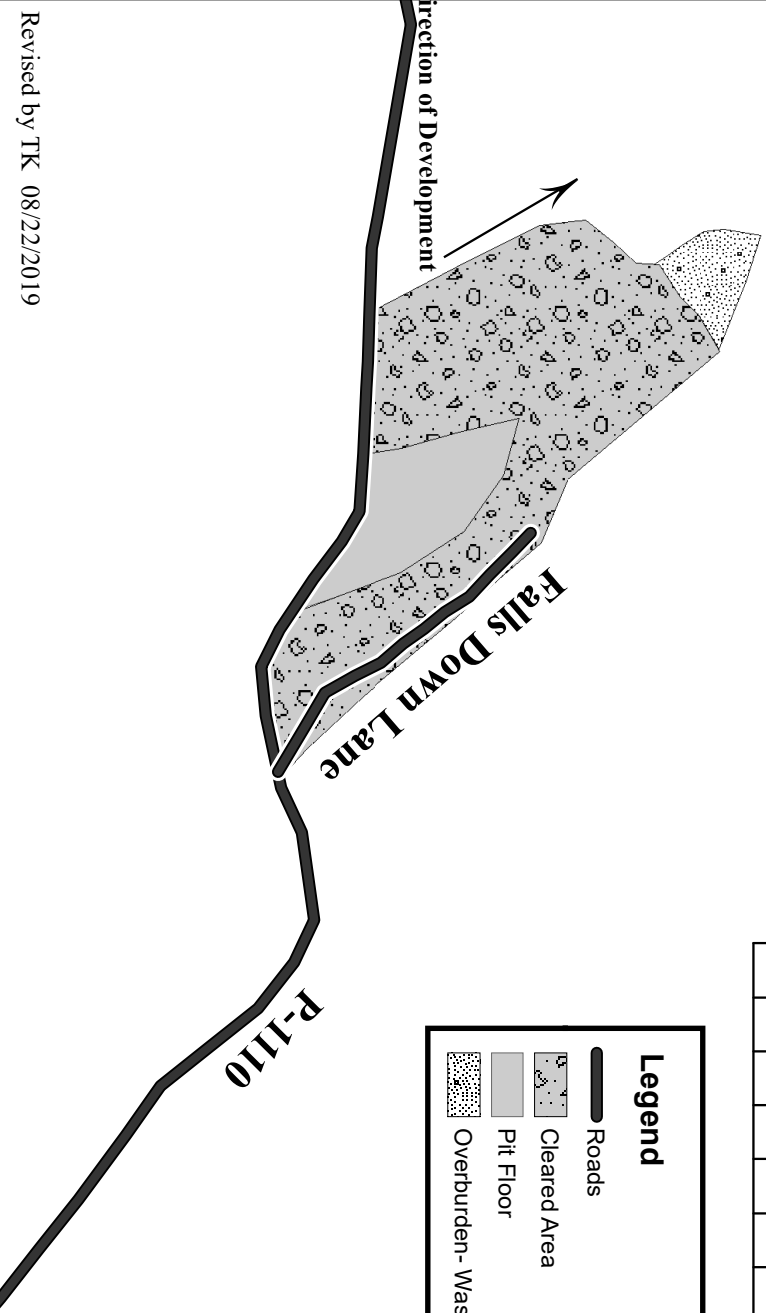
**BUMBLE'S BOULDER PIT PLAN**  
**SW 1/4 NE 1/4 Sec. 29, T32NR12W**

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.
6. BMP's shall be used for preventing sediment delivery to live water.



**Legend**

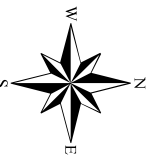
-  Roads
-  Cleared Area
-  Pit Floor
-  Overburden- Waste Area



# Mary Clark Pit Plan

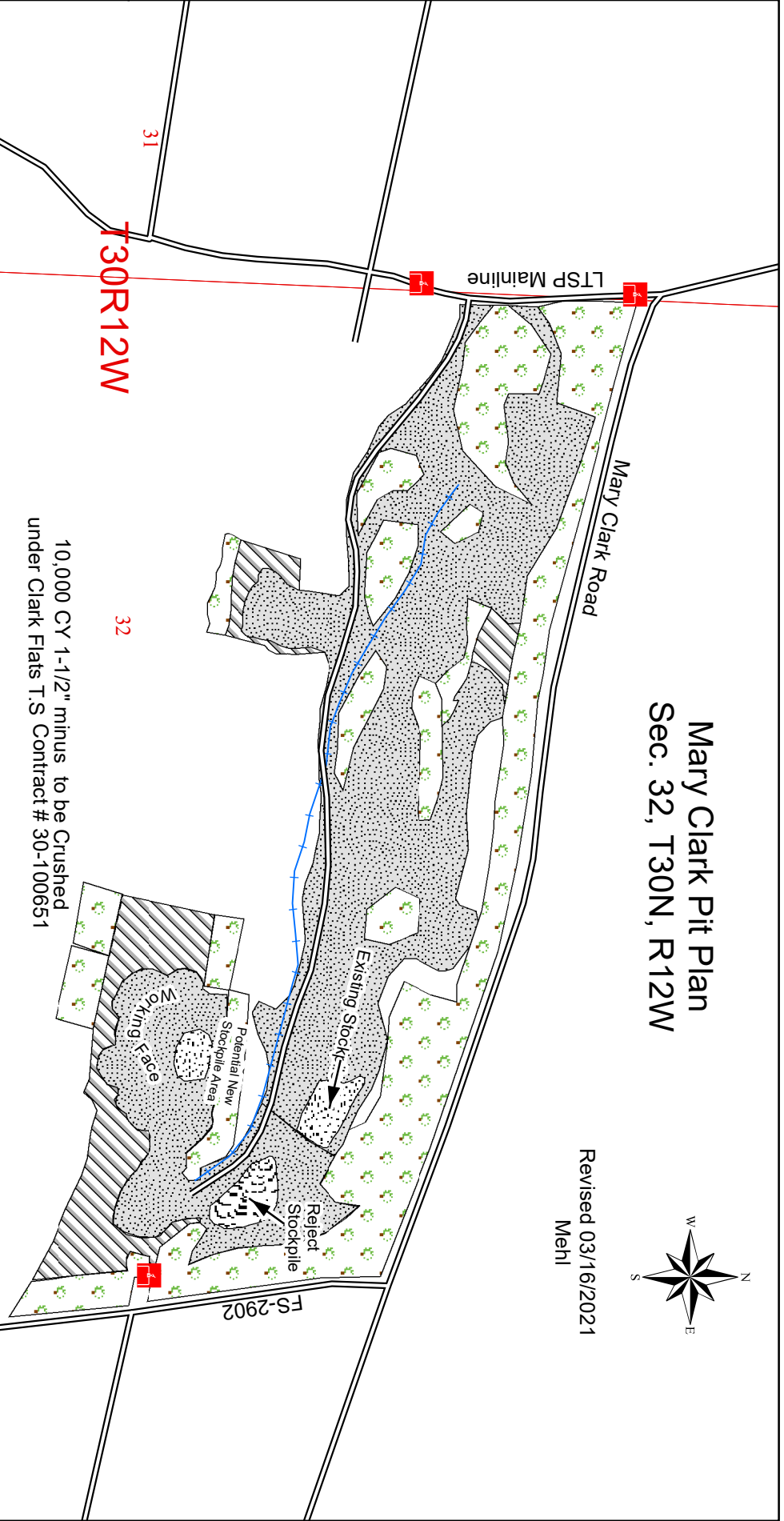
## Sec. 32, T30N, R12W

Revised 03/16/2021  
Mehl



**Legend**

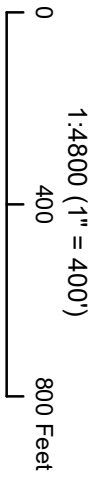
- Existing Roads
- Gate
- Drainage Ditch
- Pit Floor
- Existing Overburden-Waste
- 1 1/4" Minus Stockpiles
- Existing Stripped Area



10,000 CY 1-1/2" minus to be Crushed  
under Clark Flats T.S Contract # 30-100651

**Pit Development Plan:**

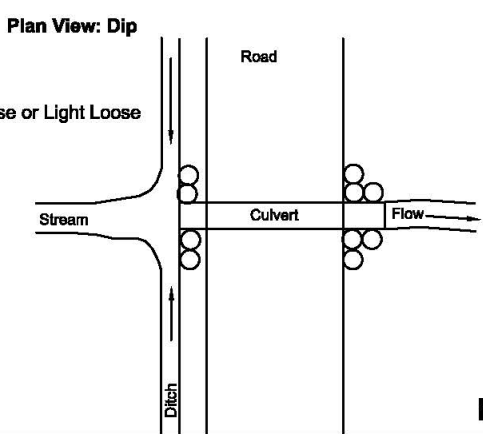
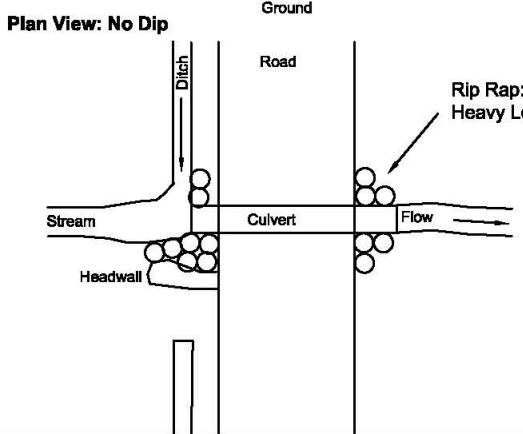
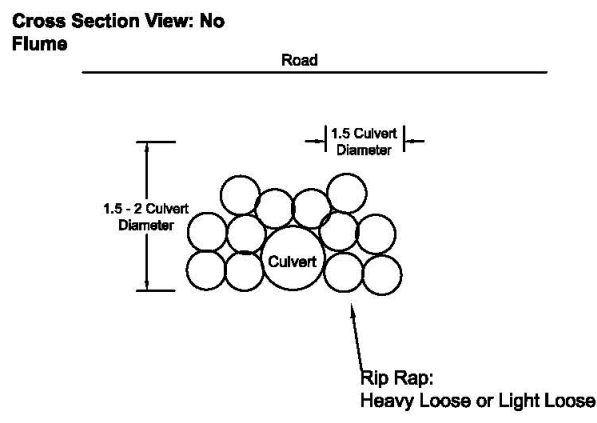
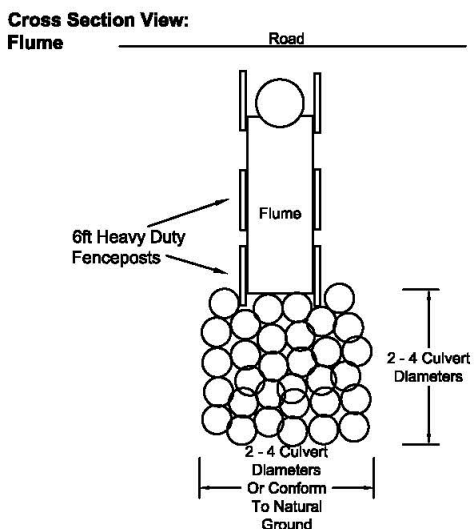
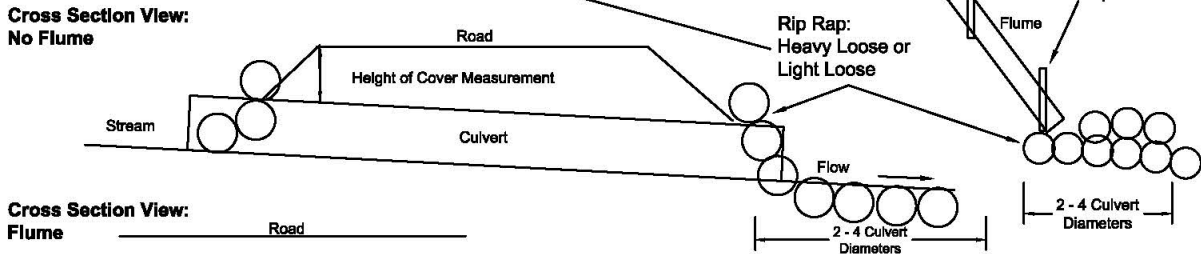
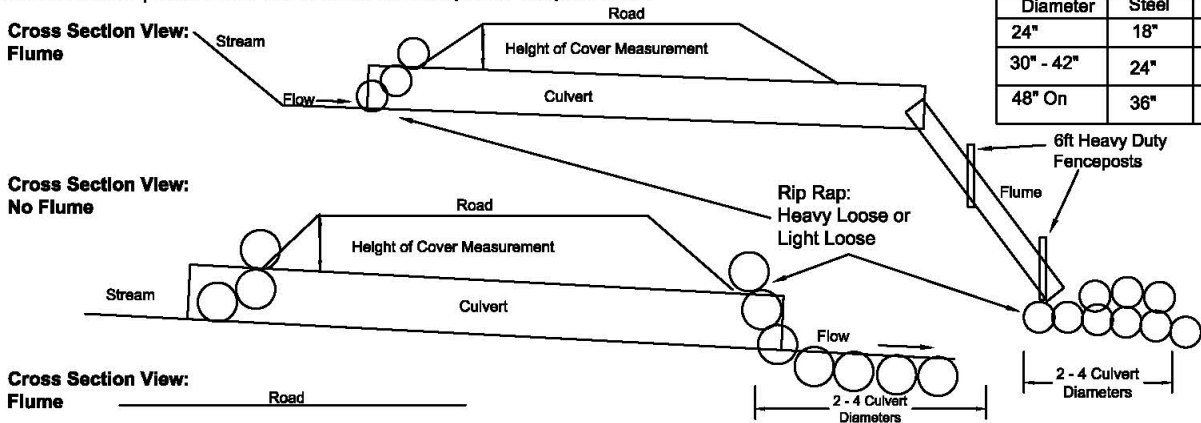
1. Areas to be developed as directed by the Contract Administrator.
2. Working face height shall not exceed 15 feet.
3. Suitable drainage shall be maintained at all times.
4. New stockpile shall be located as directed by C/A or District Engineer.
5. Reject material to be added to existing reject pile.



## Typical Type Ns, Np Culvert Installation Detail Sheet.

- Water shall be diverted away from the work site before any "in stream" work begins, and shall continue until culvert installation is complete.
- Culvert lay shall match stream gradient up to 5%.
- Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.
- Rip rap shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.
- Rip rap shall be placed at headwalls, along the fill at the inlet, and at the end off flumes in accordance with this Detail. On culverts with no flume rip rap shall be placed along the fill at the outlet, unless there is stream drop or it is called for in the Road Plan, at which point it will be installed as an energy dissipater at the end of the culvert as specified in this Detail. All rip rap distance to be determined by the Contract Administrator or the District Engineer.
- Backfill compaction shall be achieved using a jumping jack, walk behind vibratory roller, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus 3 times the width of the compactor footprint used.

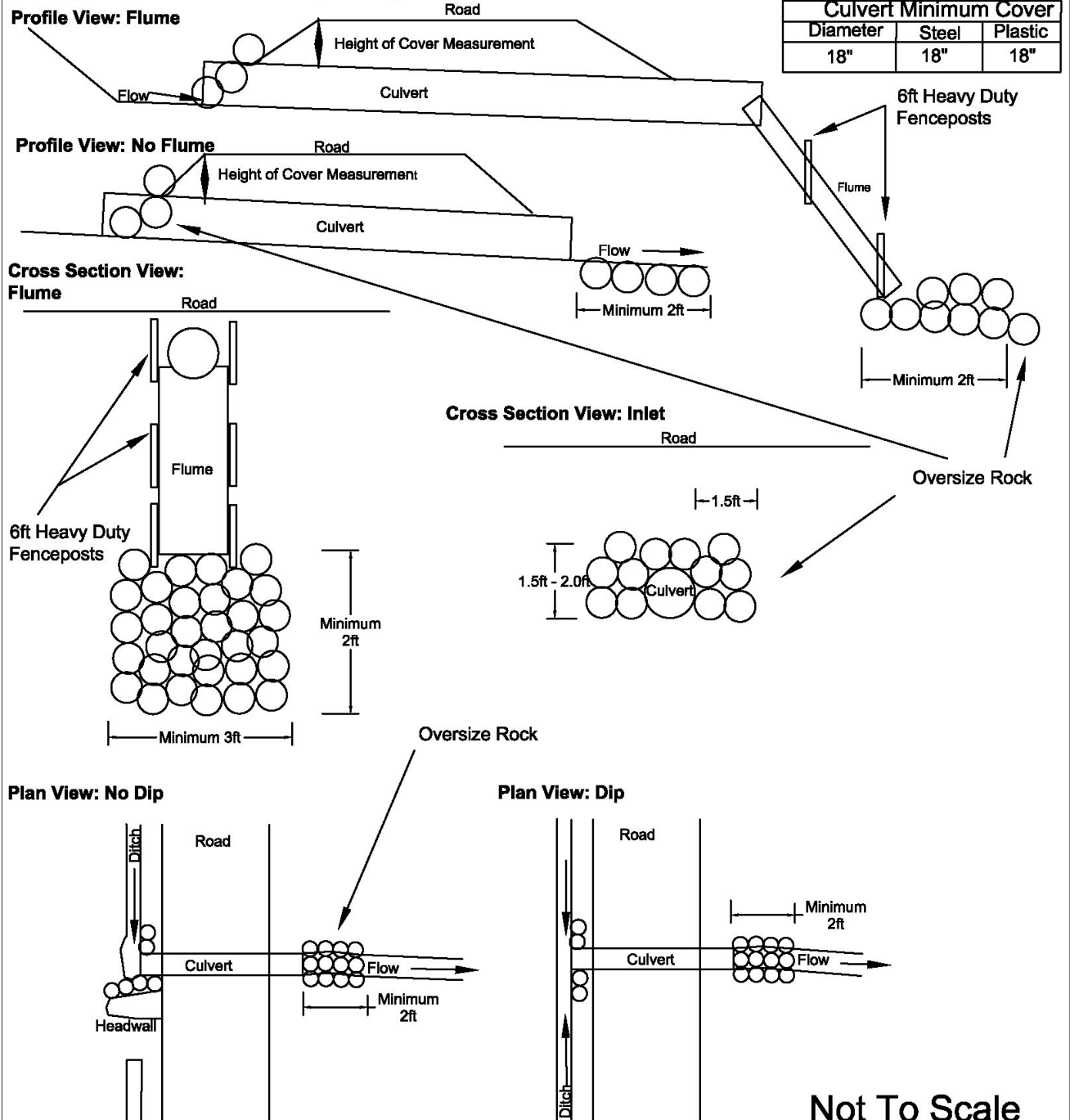
Culvert Minimum Cover		
Diameter	Steel	Plastic
24"	18"	24"
30" - 42"	24"	24"
48" On	36"	36"



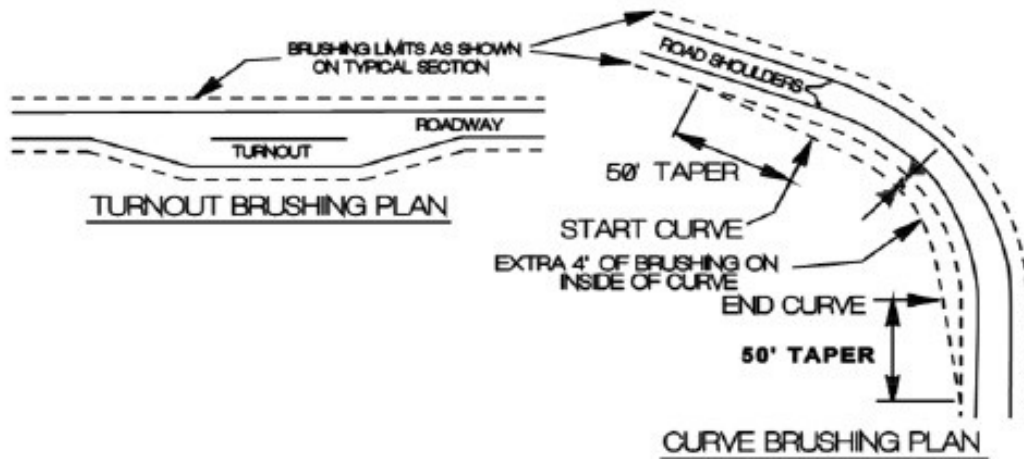
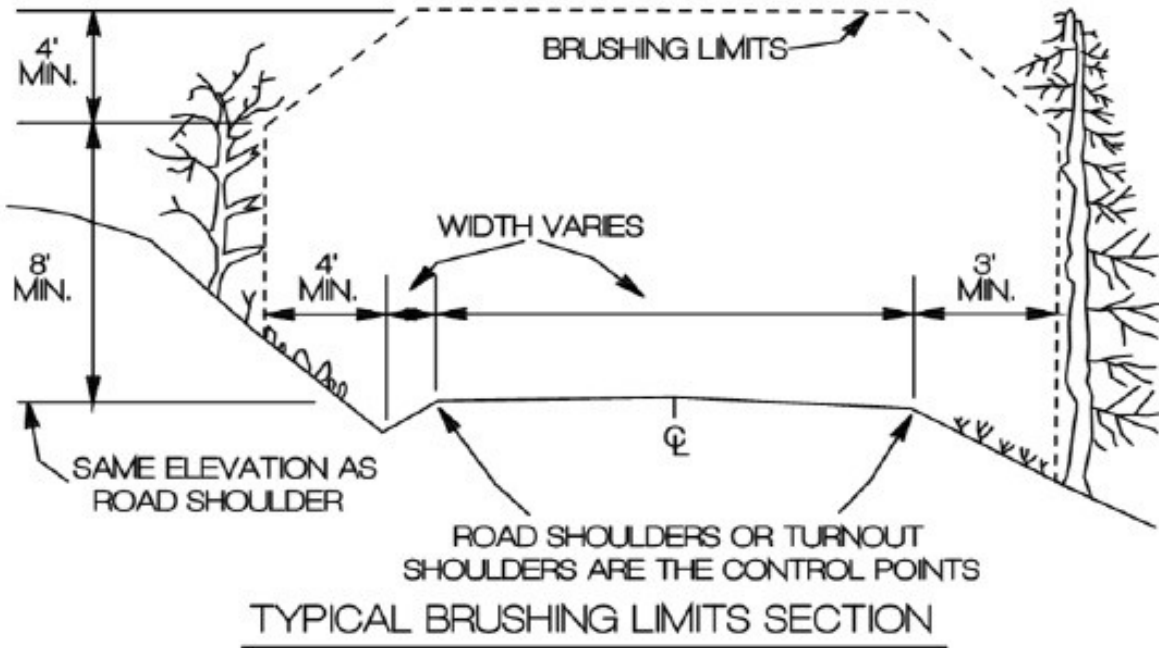
**Not To Scale**

# Typical Cross Drain Culvert Installation Detail Sheet

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

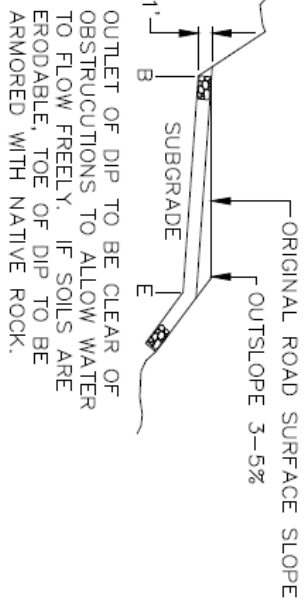
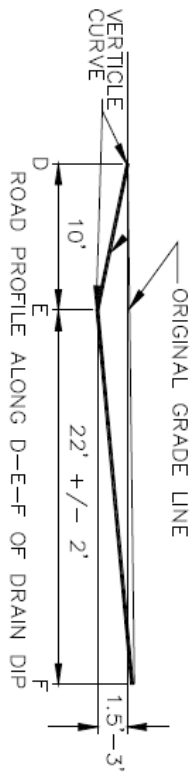
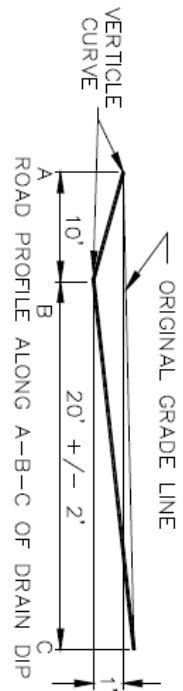


# BRUSHING DETAIL

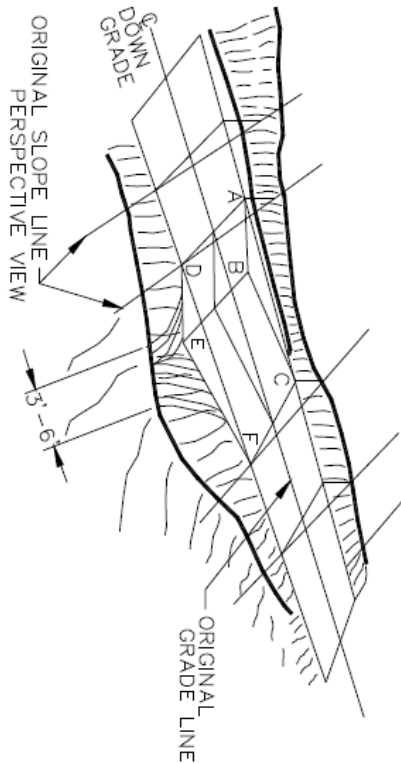


- 1) ALL VEGETATION WITHIN THE BRUSHING LIMITS SHALL BE CUT TO WITHIN 8' OF THE GROUND, UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR.
- 2) ALL BRUSH, TREES, LIMBS, ETC. SHALL BE REMOVED FROM THE ROAD SURFACE.
- 3) ALL BRUSH, TREES, LIMBS, ETC. THAT MAY RESTRICT THE FLOW OF WATER SHALL BE REMOVED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

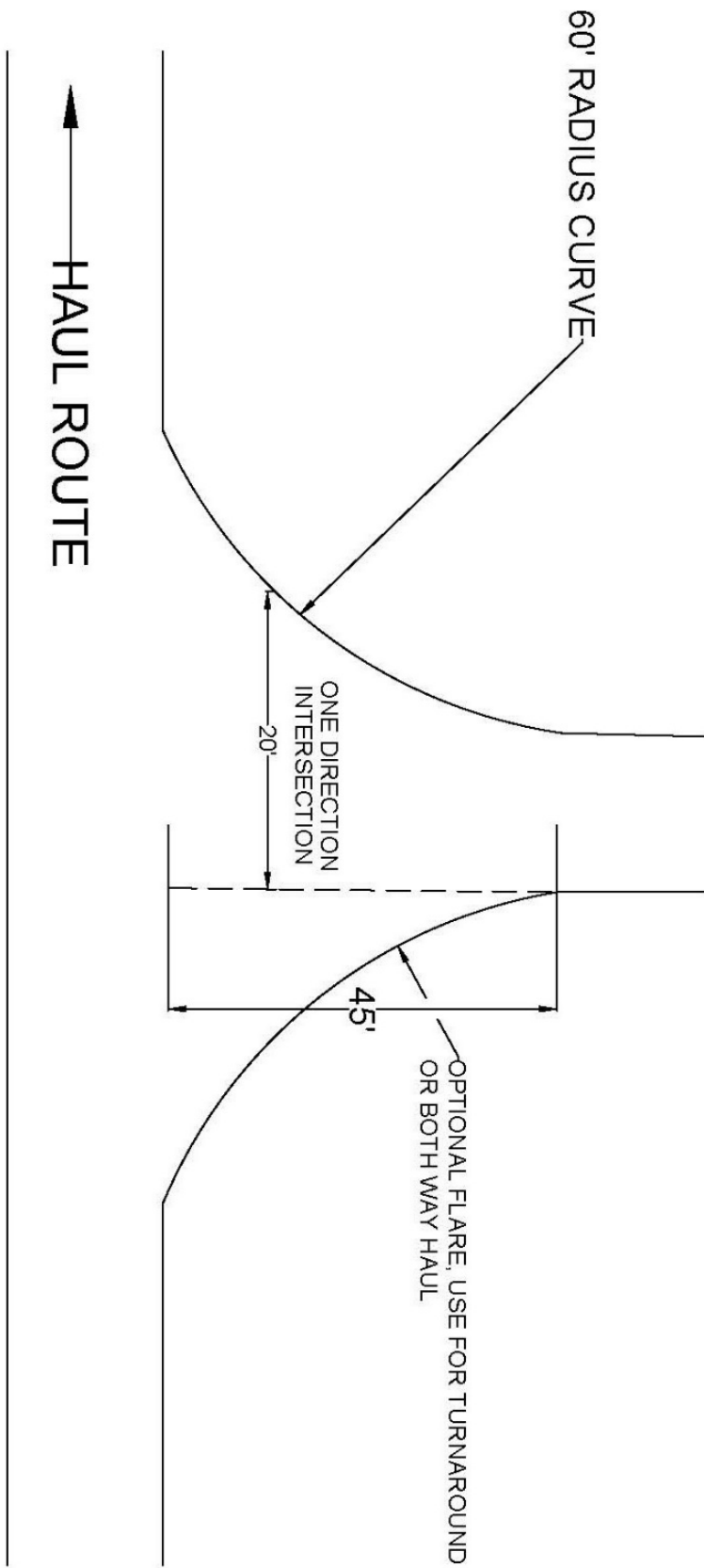
# ROLLING DIP DETAIL



NOTE: PLAN OF DIP SHOWN IS FOR OUTSLOPED ROLLING DIP. DIPS MAY BE EITHER INSLOPED OR OUTSLOPED. WHEN INSLOPED, DIPS SHALL DRAIN FREELY INTO DITCHES OR CULVERT INLETS. WHEN OUTSLOPED, THEY SHALL DRAIN FREELY ONTO NATURAL GROUND. WHERE SOILS ARE ERODABLE, OUTLET SHALL BE ARMORED WITH NATIVE ROCK. THE MINIMUM CROSS GRADE FROM "B" TO "E" IS 4% GREATER THAN THE ROAD SURFACE SLOPE. SKEW LINE B-E TO FIT LOW POINT IN DRAW, IF LOCATED IN NATURAL DRAIN.

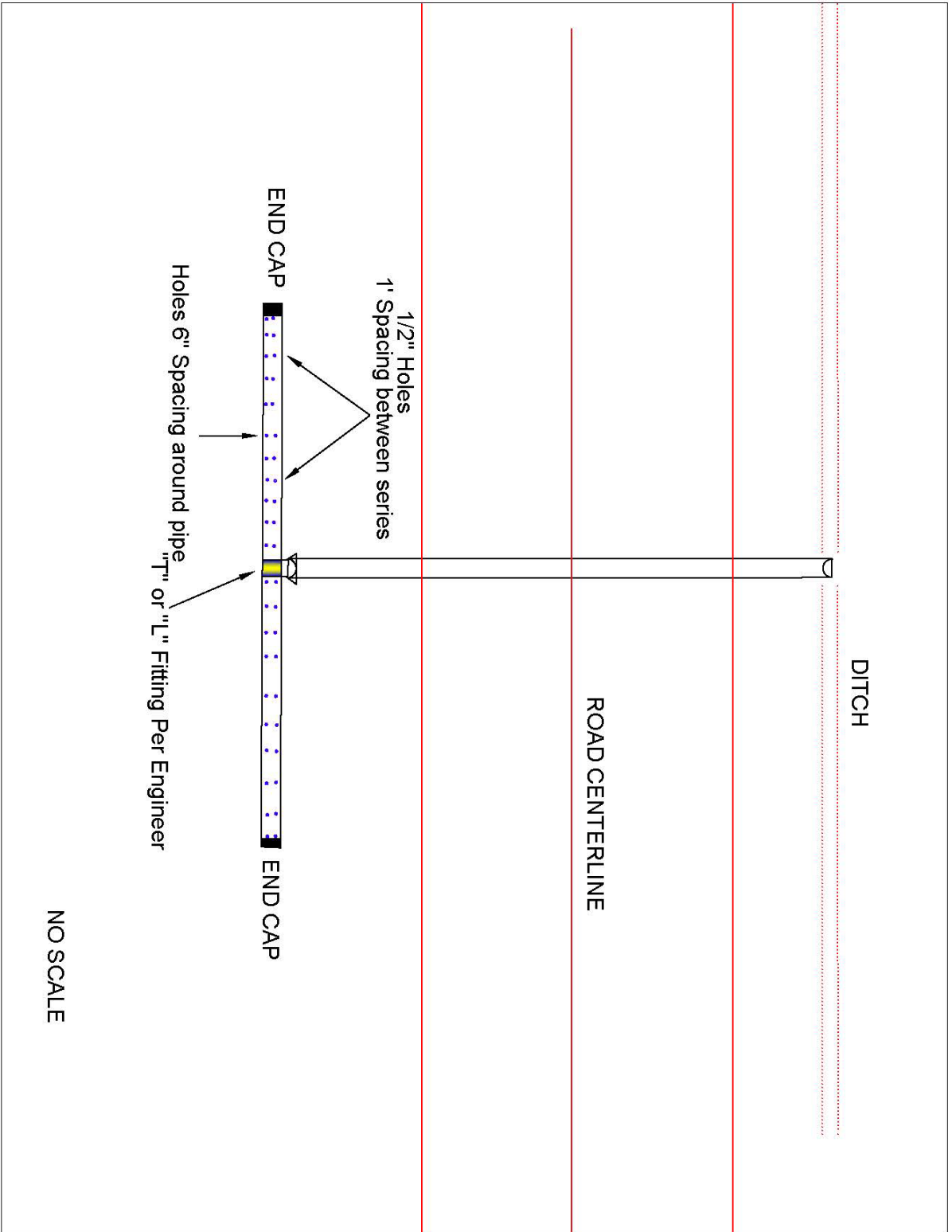


# TYPICAL INTERSECTION



NOT TO SCALE

# TYPICAL PERFORATED PIPE INSTALLATION





## 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

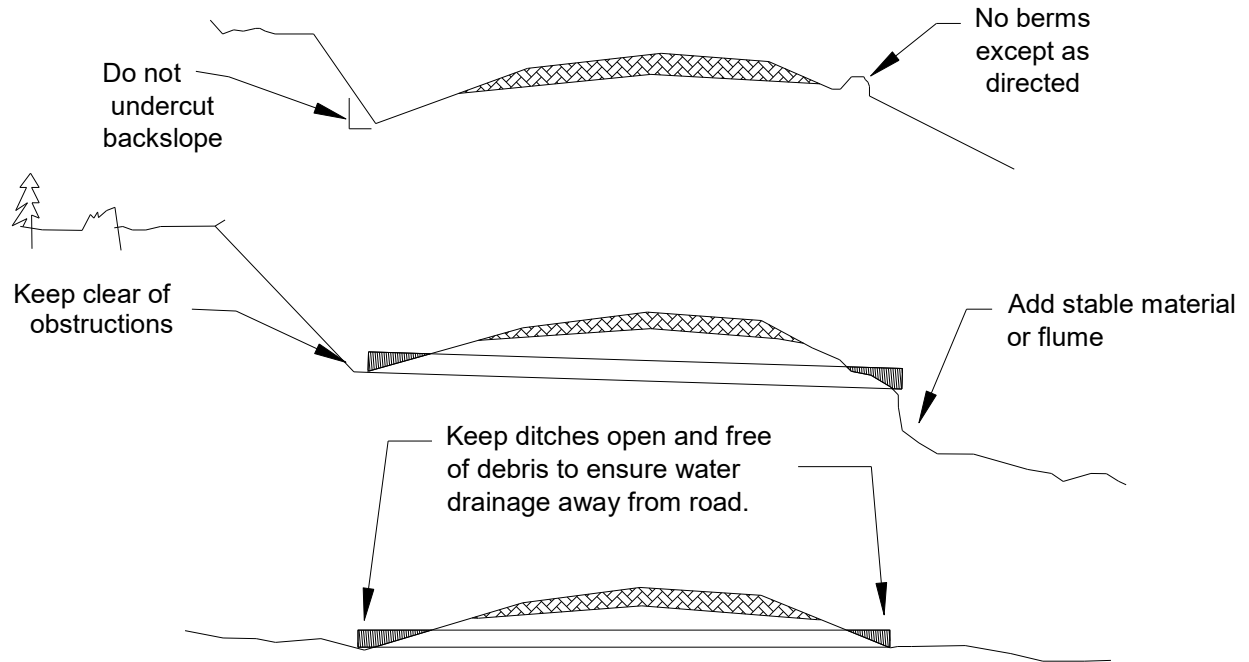
Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

### Termination of Use or End of Season

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

## Debris

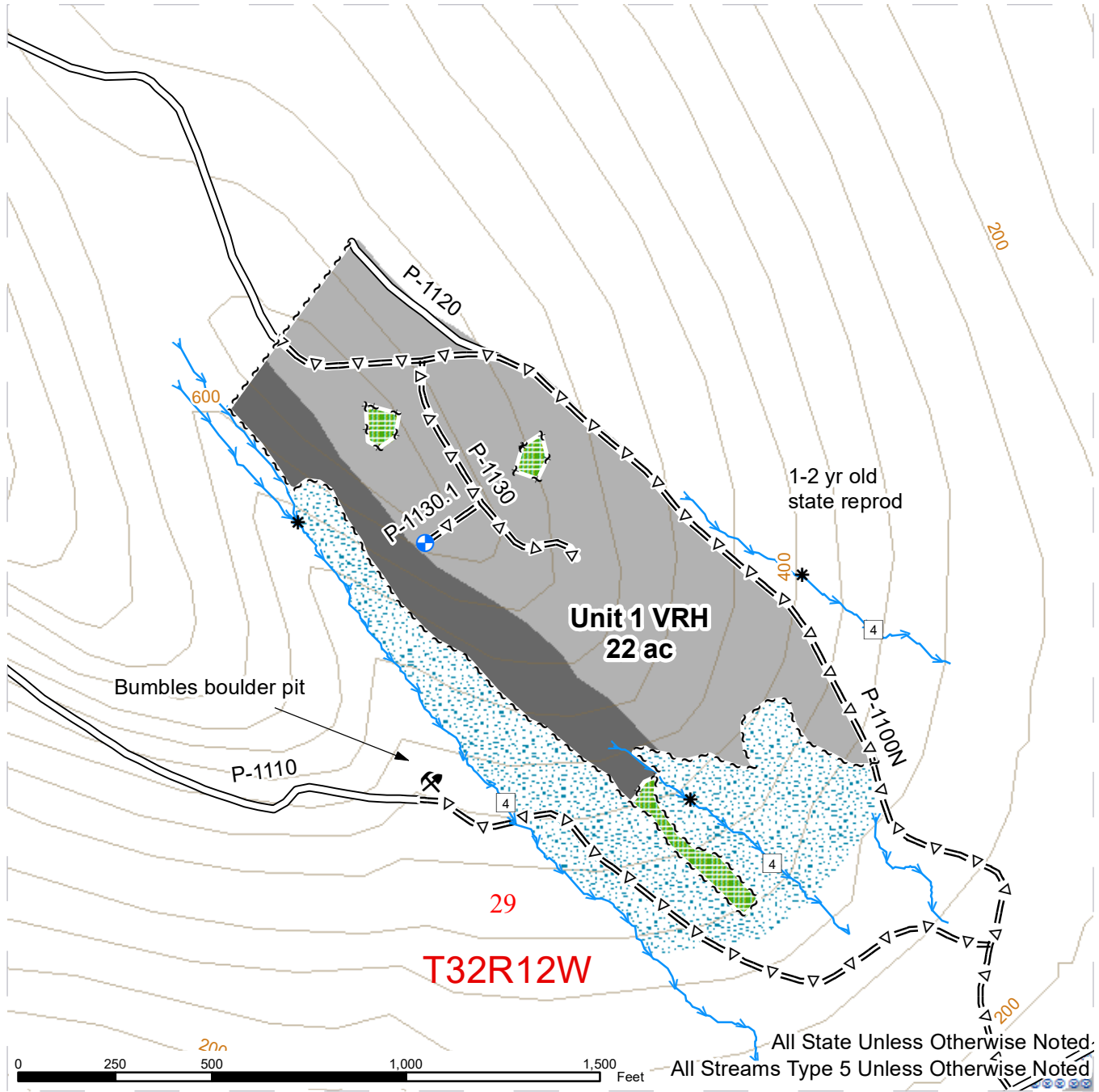
Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



# LOGGING PLAN MAP

**SALE NAME:** CHARLIE CREEK  
**AGREEMENT#:** 30-104805  
**TOWNSHIP(S):** T31R12W, T31R13W, T32R12W, T32R13W  
**TRUST(S):** State Forest Transfer (01), Common School and Indemnity (03)

**REGION:** Olympic Region  
**COUNTY(S):** Clallam  
**ELEVATION RGE:** 130'-1230'



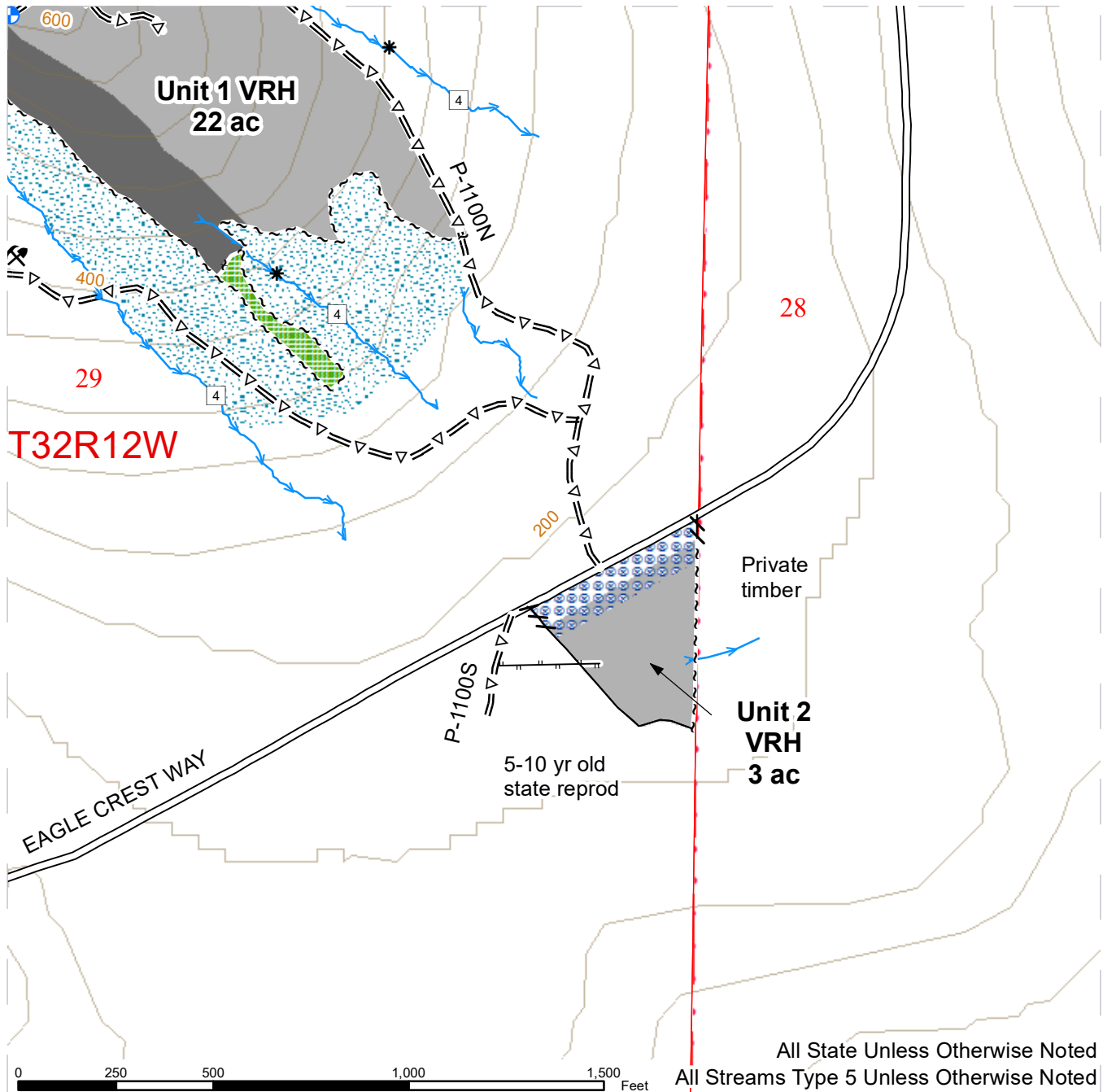
□	Stream Type	→	Stream	⊗	Hazard Abatement Area
*	Stream Type Break	—	Contours 40-foot	■	Ground
⊕	Proposed Landing	—	Existing Road	■	Cable
⚡	Rock Pit	≡Δ≡	Optional Pre-Haul Maintenance	□	Public Land Survey Sections
~ ~ ~	Sale Boundary Tags	▨	Leave Tree Area	□	Public Land Survey Townships
~ ~ ~	Leave Tree Area Tags	⊗	Riparian Mgt Zone	□	DNR Managed Lands



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**REGION:** Olympic Region  
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**ELEVATION RGE:** 130'-1230'



All State Unless Otherwise Noted  
 All Streams Type 5 Unless Otherwise Noted

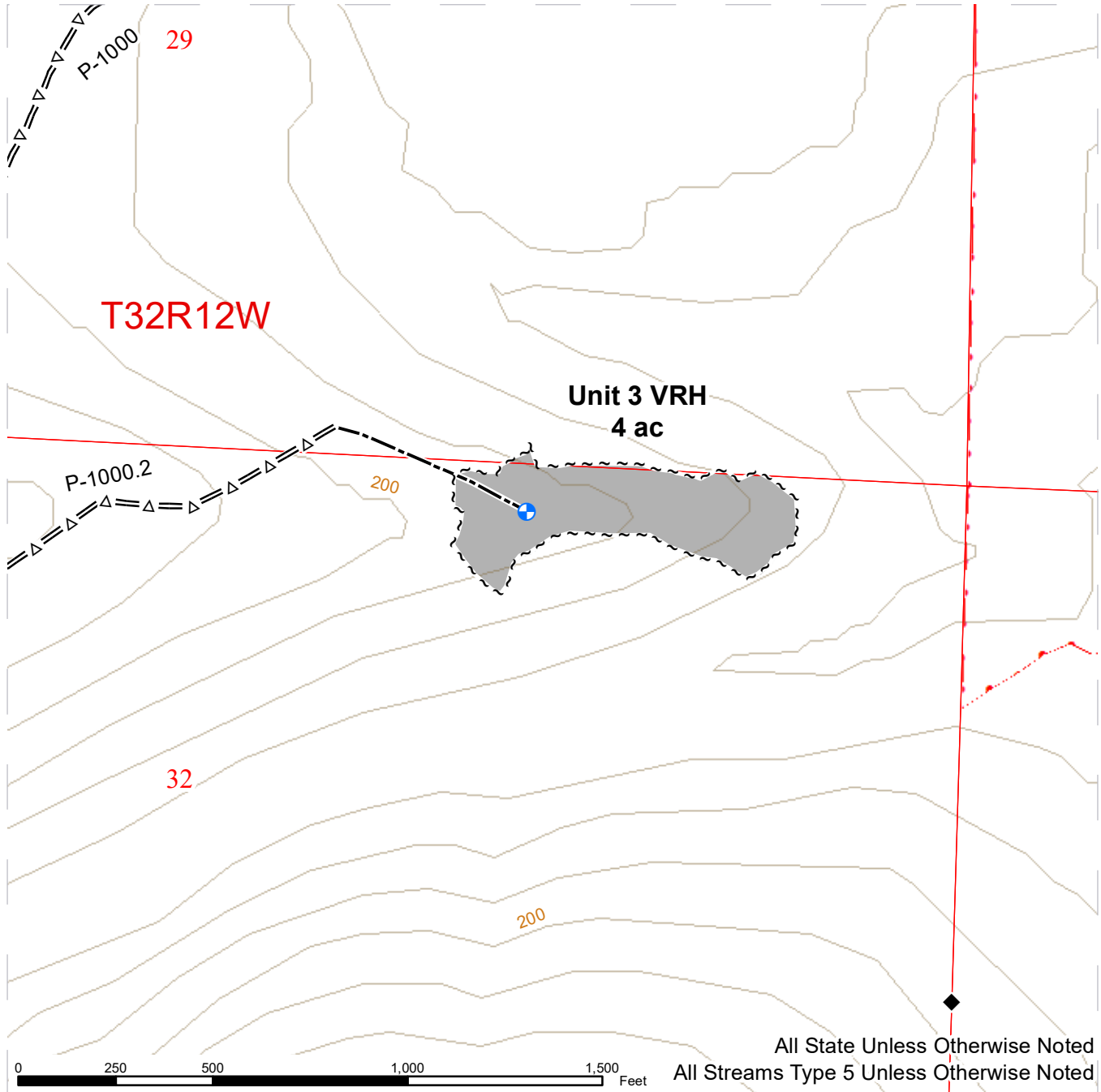
□	Stream Type	////	Flag Line	▤	Riparian Mgt Zone
*	Stream Type Break	→	Stream	⊗	Hazard Abatement Area
⊕	Proposed Landing	—	Contours 40-foot	■	Ground
⚡	Rock Pit	==	Existing Road	■	Cable
~ ~ ~	Sale Boundary Tags	=Δ=	Optional Pre-Haul Maintenance	□	Public Land Survey Sections
—	Timber Type Change	—	Equipment Trail	□	Public Land Survey Townships
~ ~ ~	Leave Tree Area Tags	▤	Leave Tree Area	□	DNR Managed Lands



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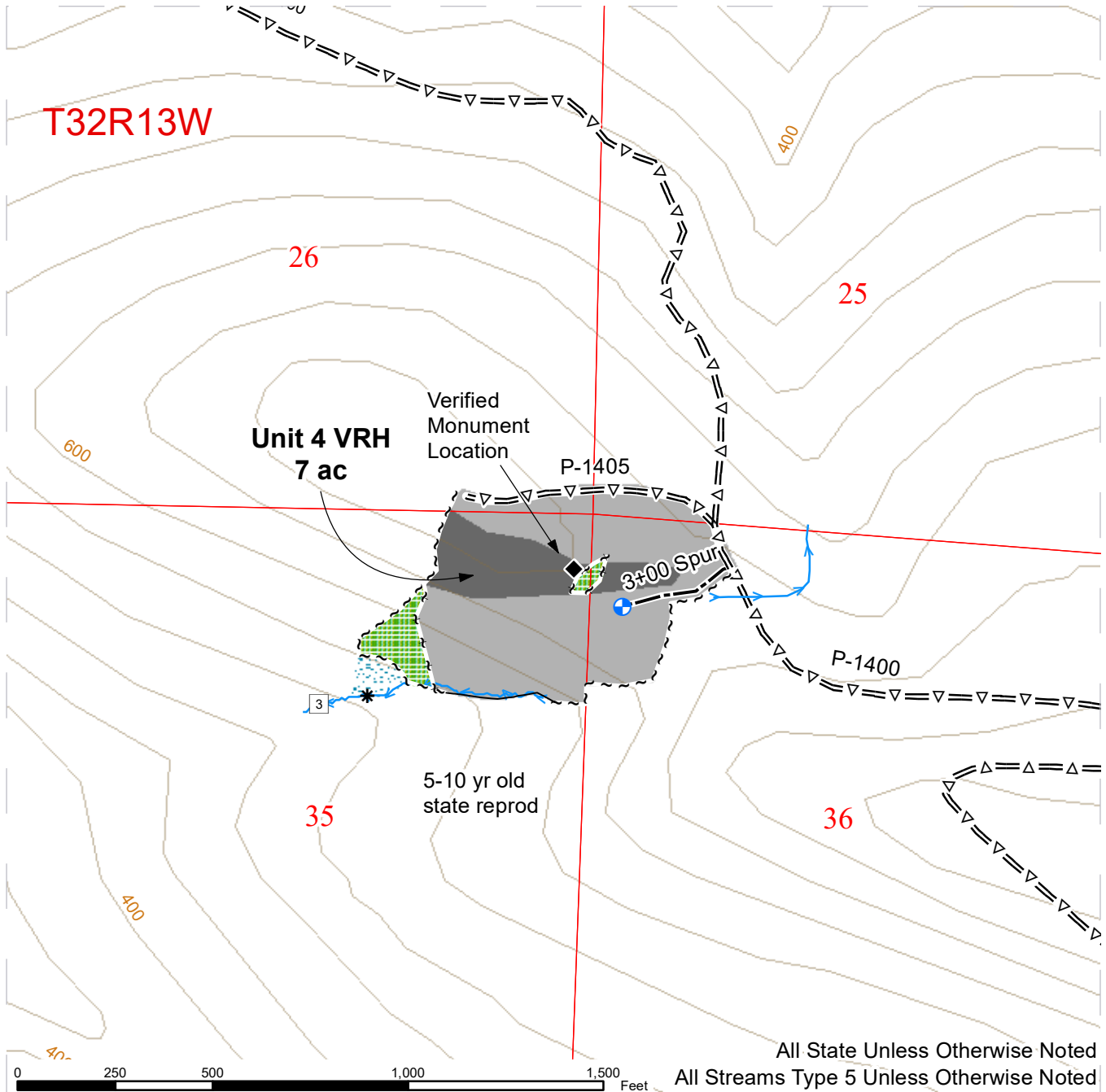
	Stream Type		Optional Construction
	Stream Type Break		Ground
	Survey Monument		Public Land Survey Sections
	Proposed Landing		Public Land Survey Townships
	Sale Boundary Tags		DNR Managed Lands
	Contours 40-foot		
	Optional Pre-Haul Maintenance		



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All State Unless Otherwise Noted  
 All Streams Type 5 Unless Otherwise Noted

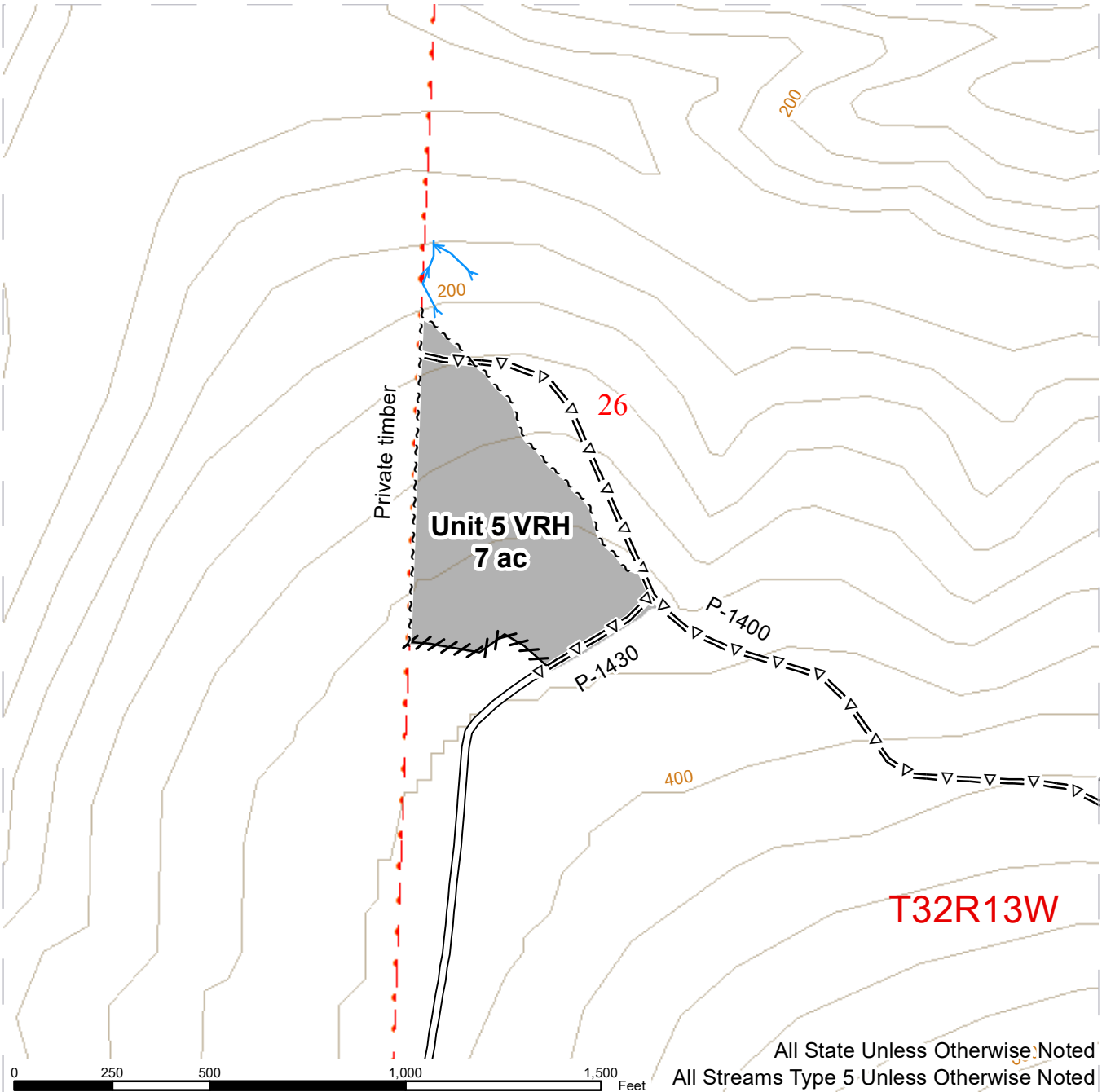
□ Stream Type	~ ~ ~ Leave Tree Area Tags	▨ Riparian Mgt Zone
* Stream Type Break	→ Stream	■ Ground
◆ Survey Monument	— Contours 40-foot	■ Cable
⊕ Proposed Landing	=Δ= Optional Pre-Haul Maintenance	□ Public Land Survey Sections
~ ~ ~ Sale Boundary Tags	- - - Optional Construction	□ Public Land Survey Townships
— Timber Type Change	▨ Leave Tree Area	□ DNR Managed Lands



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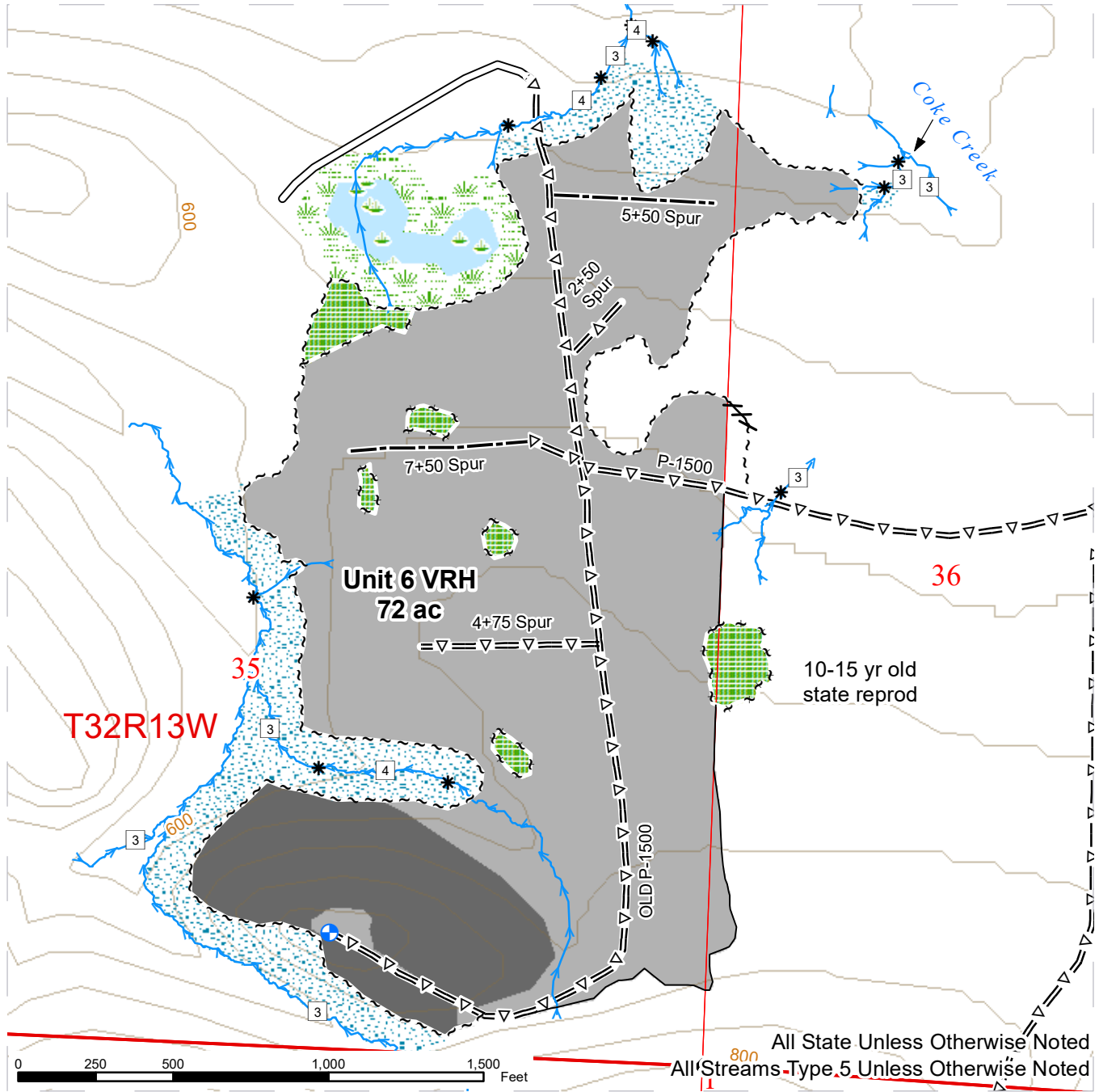
Stream Type	Optional Pre-Haul Maintenance
Stream Type Break	Ground
Sale Boundary Tags	Public Land Survey Sections
Flag Line	Public Land Survey Townships
Stream	DNR Managed Lands
Contours 40-foot	
Existing Road	



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**TRUST(S):** State Forest Transfer (01), Common School and Indemnity (03)

**REGION:** Olympic Region  
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**ELEVATION RGE:** 130'-1230'



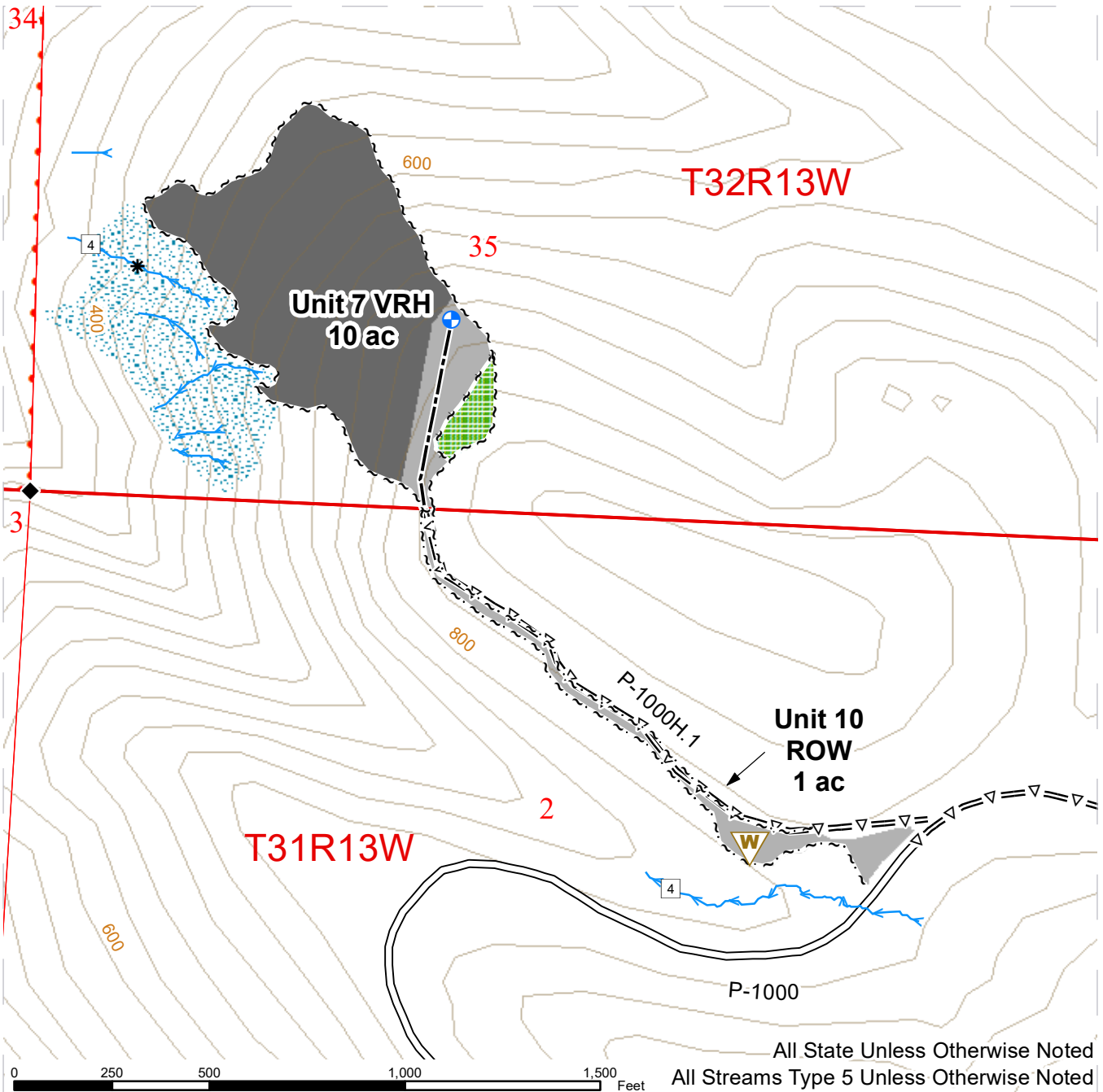
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* Stream Type Break	— Contours 40-foot	■ Ground
◆ Survey Monument	— Existing Road	■ Cable
⊕ Proposed Landing	≡Δ≡ Optional Pre-Haul Maintenance	□ Public Land Survey Sections
~ ~ ~ Sale Boundary Tags	— Optional Construction	□ Public Land Survey Townships
— Timber Type Change	Non-Forested Wetland	□ DNR Managed Lands
~ ~ ~ Leave Tree Area Tags	Leave Tree Area	
/// Flag Line	Riparian Mgt Zone	



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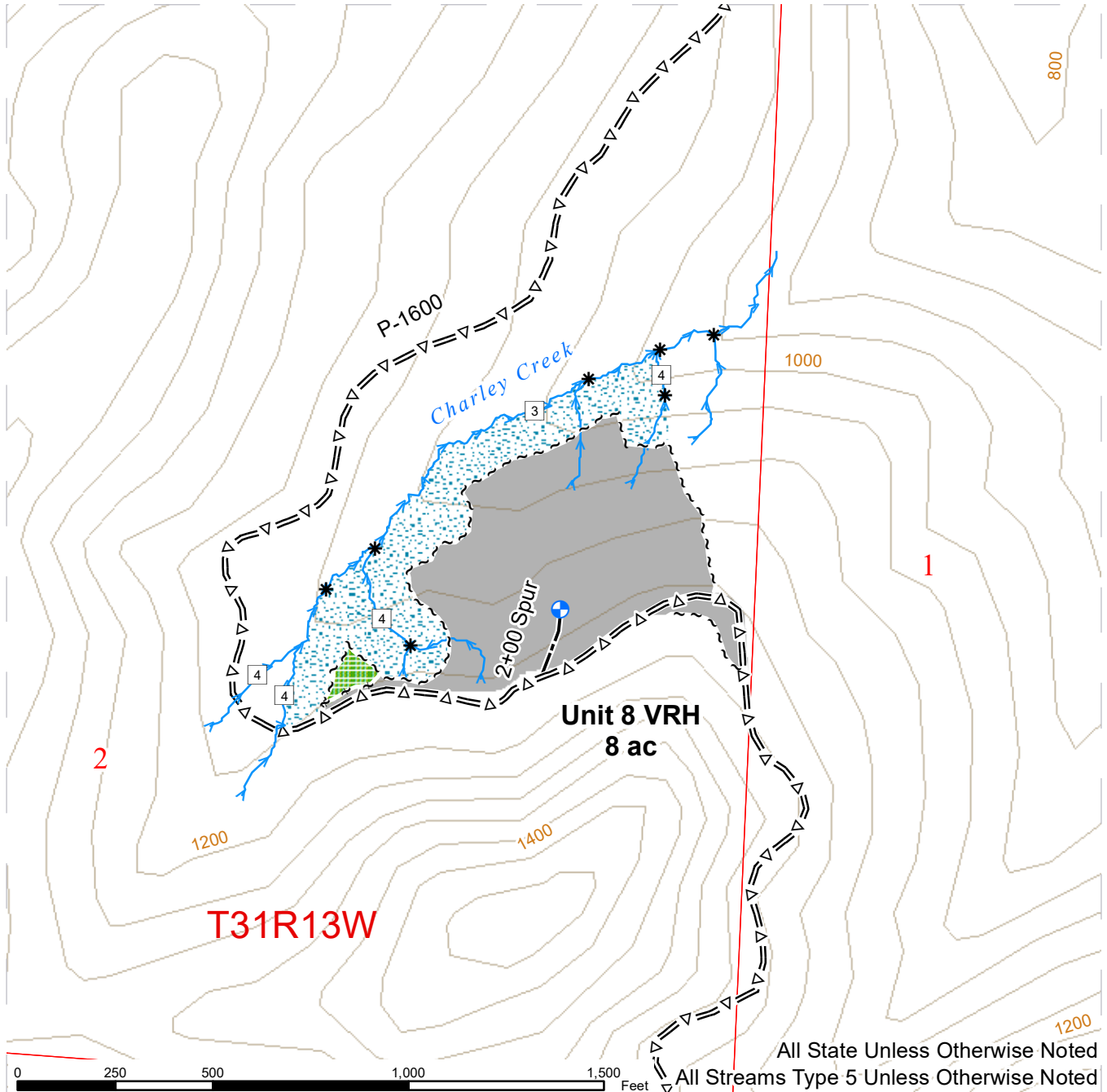
All State Unless Otherwise Noted  
 All Streams Type 5 Unless Otherwise Noted

Stream Type	Right of Way Tags	Riparian Mgt Zone
Stream Type Break	Stream	Ground
Survey Monument	Contours 40-foot	Cable
Proposed Landing	Existing Road	Public Land Survey Sections
Waste Area	Optional Pre-Haul Maintenance	Public Land Survey Townships
Sale Boundary Tags	Optional Construction	DNR Managed Lands
Leave Tree Area Tags	Leave Tree Area	

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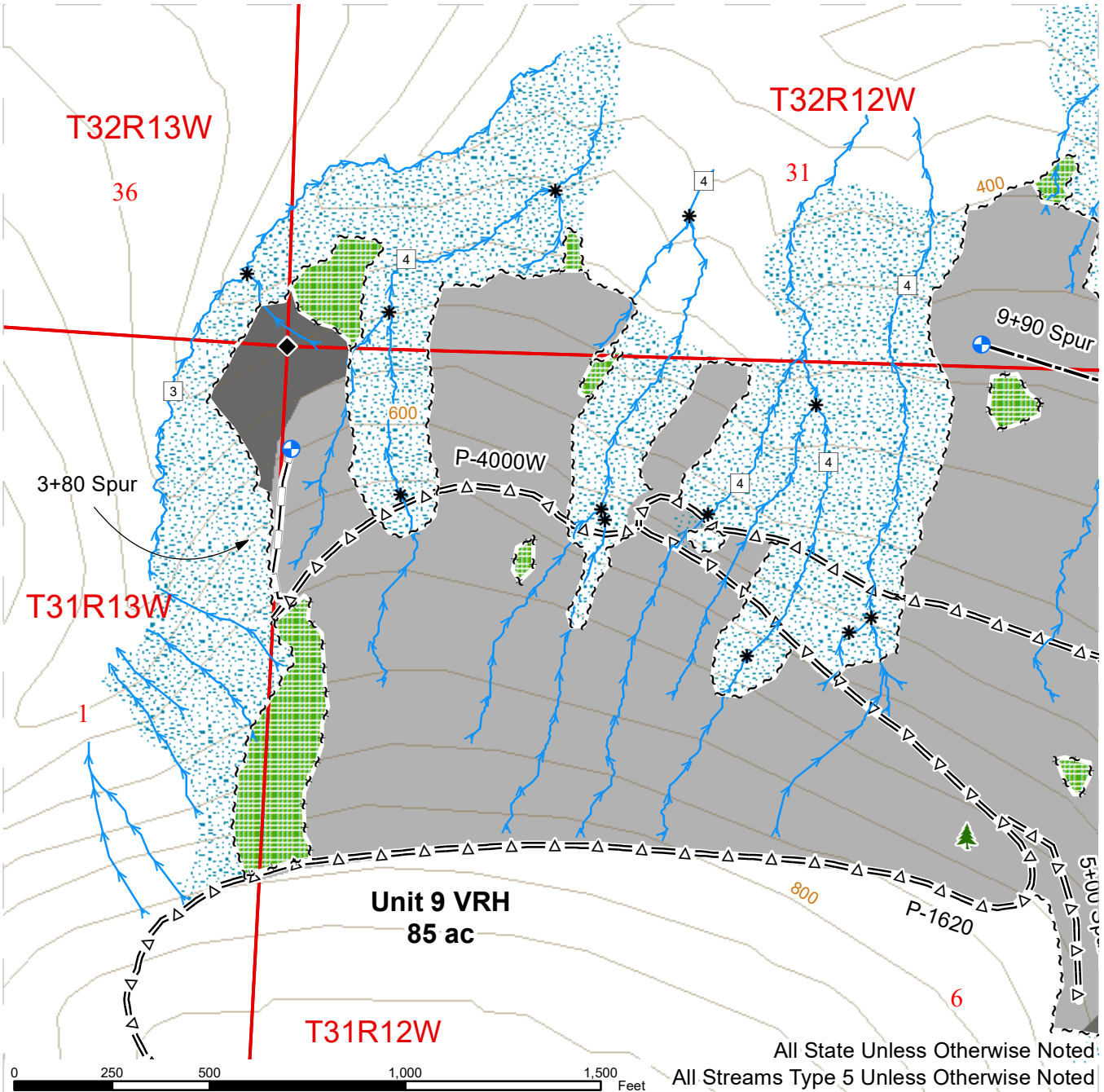
Stream Type	Optional Pre-Haul Maintenance	DNR Managed Lands
Stream Type Break	Optional Construction	
Proposed Landing	Leave Tree Area	
Sale Boundary Tags	Riparian Mgt Zone	
Leave Tree Area Tags	Ground	
Stream	Public Land Survey Sections	
Contours 40-foot	Public Land Survey Townships	



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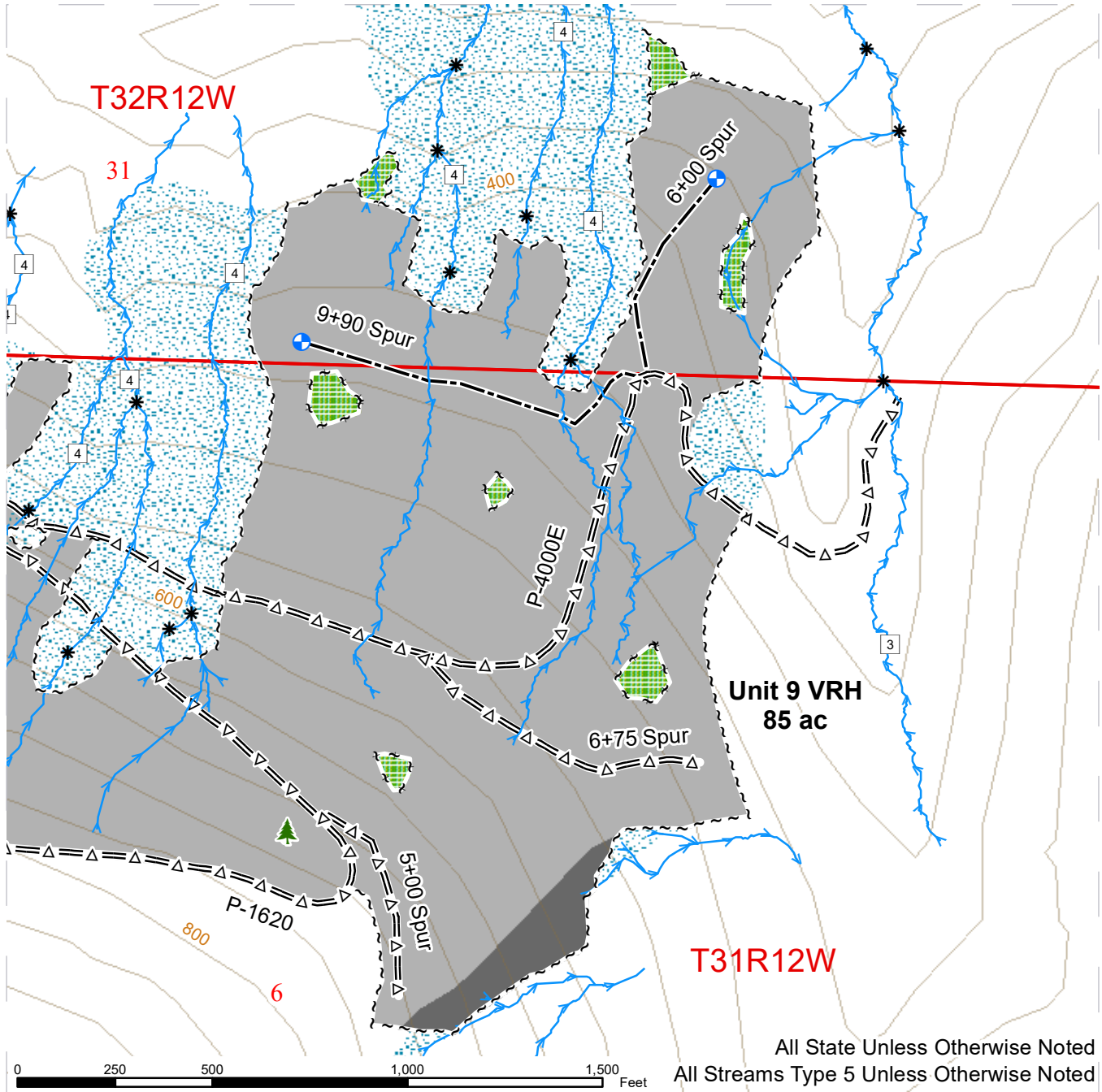
□ Stream Type	→ Stream	■ Ground
* Stream Type Break	— Contours 40-foot	■ Cable
◆ Survey Monument	=Δ= Optional Pre-Haul Maintenance	□ Public Land Survey Sections
🌲 Leave Tree Area <1/5-acre	— Optional Construction	□ Public Land Survey Townships
⊕ Proposed Landing	— Optional Reconstruction	□ DNR Managed Lands
~ ~ ~ Sale Boundary Tags	🌲 Leave Tree Area	
~ ~ ~ Leave Tree Area Tags	🌊 Riparian Mgt Zone	



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□ Stream Type	→ Stream	■ Ground
* Stream Type Break	— Contours 40-foot	■ Cable
🌲 Leave Tree Area <1/5-acre	=Δ= Optional Pre-Haul Maintenance	□ Public Land Survey Sections
⊕ Proposed Landing	--- Optional Construction	□ Public Land Survey Townships
~ ~ ~ Sale Boundary Tags	🌲 Leave Tree Area	□ DNR Managed Lands
~ ~ ~ Leave Tree Area Tags	🌊 Riparian Mgt Zone	



632125

NO. CDMB2195

RECEIVED  
MAR 21 1990

PERMIT

LANDS & MINERALS

The State of Washington, Department of Corrections, herein called "the Grantor", and the State of Washington, acting by and through the Department of Natural Resources, herein called "the Grantee", WITNESSETH:

I

The Grantor, for an in consideration of ONE HUNDRED DOLLARS and NO/100 (\$100.00), hereby grants and conveys to the State, its successors and assigns, a road use permit over and across W $\frac{1}{2}$ , Section 28, Township 32 North, Range 12 West, W.M., in Clallam County Washington, located approximately as shown by the darkened area on the attached Exhibit "A".

Subject as to said lands to all matters of public record.

II

The parties hereto hereby agree that the rights hereinabove granted shall be subject to the following terms and conditions:

- A. The permit is conveyed for the purpose of use and maintenance of a road for the purpose of providing access to and from lands presently owned or hereafter acquired by the Grantee, or controlled by the Grantee, for land management and administration activities, including but not limited to valuable material removal operations.
- B. The Grantor reserves to itself, its successors and assigns, the right to use the roadway in any manner which does not unreasonably interfere with the use of said road by the Grantee, its assigns, successors, agents, contractors, employees, lessees, or licensees, collectively herein referred to as Permittees.

The cost of road maintenance and resurfacing shall be allocated on the basis of respective uses of said roads. When any party uses a road, that party shall perform or cause to be performed, or contribute or cause to be contributed, that share of maintenance and resurfacing occasioned by such use as hereinafter provided. During periods when a road is being used solely by one party, such party shall maintain that portion of said road so used to the standards existing at the time use is commenced. During periods when more than one party is using the same road, or any portion thereof, the parties hereto shall meet and establish necessary maintenance provisions. Such provisions shall include, but shall not be limited to:

- (1) The appointment of a maintainer, which may be one of the parties hereto or any third party, who will perform or cause to be performed at a reasonable and agreed upon rate the maintenance and resurfacing of the road or the portion thereof being used; and
- (2) A method of payment by which each party using said road or a portion thereof, shall pay its pro rata share of the cost incurred by said maintainer in maintaining or resurfacing said road or portion thereof.

For purposes of this Agreement, maintenance is defined as the work normally necessary to preserve and keep the roadway, road structure and road facilities as nearly as possible in their present condition or as hereafter improved.

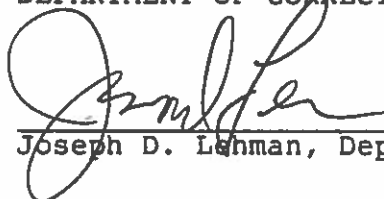
- C. The Grantor may grant to third parties, upon such terms as it choose, any or all of the rights reserved by it herein; provided, that use by such party shall be subject to the terms and conditions of this Agreement and shall not unreasonably interfere with the rights granted to the Grantee herein.
- D. The Grantee shall require each of its Permittees, before using any of said roads for commercial purposes, to:
  1. Obtain and during the term of such use, maintain a policy of liability insurance in a form generally acceptable in the trade and customary in the area of said rights of way, insuring said Permittee against liability arising out of its operations, including the use of vehicles.
    - a. For log haulers, and other miscellaneous users operating heavy trucks (over one [1] ton), Two Hundred Fifty Thousand Dollars (\$250,000.00) for injury to one person, Five Hundred Thousand Dollars (\$500,000.00) for any one occurrence, and Two Hundred Fifty Thousand Dollars (\$250,000.00) property damage for any one occurrence;
    - b. For fern cutters, bough cutters, shake cutters, or other miscellaneous users operating pickup trucks, light trucks (under one [1] ton) or passenger cars for the purpose of transporting miscellaneous forest products, One Hundred Thousand Dollars (\$100,000.00) for injury to one person, Three Hundred Thousand Dollars (\$300,000.00) for any one occurrence, and One Hundred Thousand Dollars (\$100,000.00) property damage for any one occurrence; or



- c. Such other limits as the parties hereto may agree upon in writing from time to time.
2. Deliver to the Grantor a certificate from the insurer of said Permittee certifying that coverage, not less than the above-named amounts, is in force and that, in the event of cancellation or modification of such coverage, the insurer will give the Grantor ten (10) days' written notice prior to any cancellation or modification.
- E. Each party using any portion of a road shall repair, or cause to be repaired, at its sole cost and expense, that damage to said road occasioned by it which is in excess of that which it would cause through normal and prudent usage of said road. Should inordinate damage to the road occur which is not caused by an authorized user of said road, the parties hereto shall meet to agree upon the costs of replacement, the party to undertake the replacement, and the shares of replacement cost to be borne by each user of said road.
- F. This permit shall be for an indefinite period, provided, that the permit may be terminated or suspended upon breach of any of the conditions herein.

IN WITNESS WHEREOF, the Grantor has hereunto set its hand and seal this 16<sup>th</sup> day of MARCH, 1990.

STATE OF WASHINGTON  
DEPARTMENT OF CORRECTIONS

  
Joseph D. Lehman, Deputy Secretary 3-16-90

Easement No. 55-002316

TRO 4/4/2014

632125

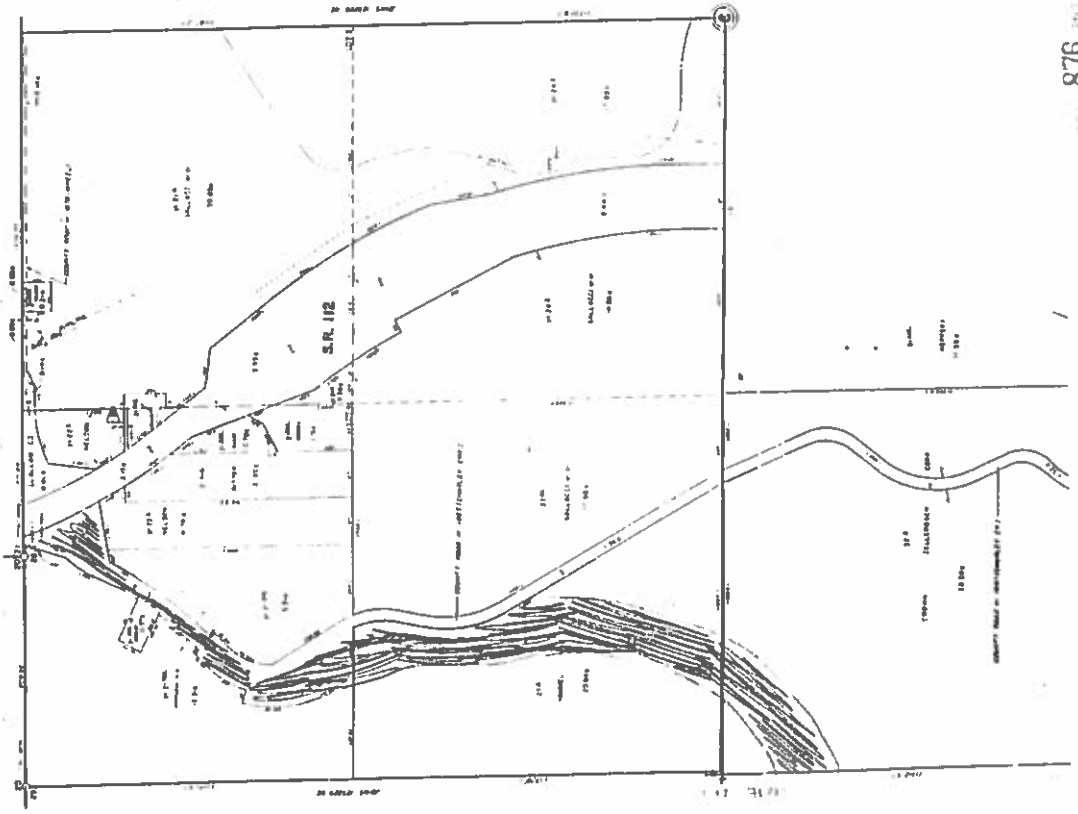
Dept. Natural Resources

90 APR 20 PM 1:26

876 PAGE 44  
MARY HODDYK, AUDITOR  
CLALLAM COUNTY, WASH.  
BY *[Signature]*

EXHIBIT H

Section --- 28  
Township --- 32N  
Range --- 12W



876 47