

STATE FOREST LAND
SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use “not applicable” or “does not apply” only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

Questions in italics are supplemental to Ecology’s standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at <http://www.dnr.wa.gov/sepa>. These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. BACKGROUND

1. Name of proposed project, if applicable:

Timber Sale Name: **MILL WRIGHT**

Agreement # **30-093904**

2. Name of applicant: **Washington Department of Natural Resources**

3. Address and phone number of applicant and contact person:

**Pacific Cascade Region
PO Box 280
Castle Rock, Washington 98611-0280
Phone: (360) 577-2025
Contact Person: Marcus Johns**

4. Date checklist prepared: **03/22/2016**

5. Agency requesting checklist: **Washington Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

a. Auction Date: **02/23/2017**

b. Planned contract end date (but may be extended): **10/31/2018**

c. Phasing: **None**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes.

Timber Sale:

a. Site preparation:

Site preparation, including a chemical herbicide application, may be used to ensure that planting can be achieved at acceptable stocking levels to meet or exceed Forest Practice standards following harvest. Slash piles on landings may be burned during the fall before planting.

b. Regeneration Method:

The units will be hand planted with conifer species following harvest.

c. Vegetation Management:

Possible treatments, including a chemical herbicide application, could occur following harvest. Treatments will be based on vegetative competition, and will ensure a free-to-grow status that complies with Forest Practices standards.

d. Thinning:

Pre-commercial thinning needs will be assessed at approximately 7-10 years of age. Commercial thinning potential will be assessed at approximately 25 to 35 years of age. Thinning will be done as needed to meet desired density, stocking, species diversity, and growth.

Roads:

Road maintenance assessments will be conducted and will include periodic ditch and culvert cleanout, and grading as necessary. Construction, reconstruction, pre-haul maintenance and abandonment are associated with forest management activities.

Rock Pits and/or Sale:

The R-120 pit, Sawdust pit and E-100 pit will be used as a rock source for future road and associated forest management activities.

Other:

Piled slash may be burned following harvest activities. Firewood permits for the sale area may be issued to the public after timber harvest activities are completed.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

303 (d) – listed water body in WAU: temp sediment completed TMDL (total maximum daily load): **Mill Creek, and South Fork Mill Creek. The most current information can be found on the Department of Ecology website, <http://apps.ecy.wa.gov/wqawa2008/view.htm>**

Landscape plan:

Watershed analysis:

Interdisciplinary team (ID Team) report:

Road design plan: **Available upon request at Pacific Cascade Region Office**

Wildlife report:

Geotechnical report:

Other specialist report(s):

Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):

Rock pit plan: **Available upon request at Pacific Cascade Region Office**

Other: **Forest Practices Board Manual; Forest Practices Activity Maps; Policy for Sustainable Forests (PSF 2006); State Soil Survey; State Lands Geologist Remote Review (SLGRR) tool; Habitat Conservation Plan (HCP 1997); HCP Checklist; Riparian Forest Restoration Strategy (RFRS); Planning and Tracking Reports and associated maps; Road Maintenance and Abandonment Plan (RMAP): #2900196-2. The following information is provided by DNR's GIS database: Weighted Old Growth Habitat Index (WOGHI); WAU Rain-On-Snow Layer; Marbled Murrelet Habitat Layer; Spotted Owl Habitat Layer; USGS and GLO maps; State Landslide Inventory (LSI) screening tool maintained by DNR Forest Practices Division.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

FPA# **2932522** FHPA Burning permit Shoreline permit Incidental take permit **1168 & PRT 812521** Existing HPA Other:

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

a. Complete proposal description:

Mill Wright is a variable retention timber harvest in the Department's Elochoman Block of the St. Helens District with a net harvest volume of 3,378 mbf. Mill Wright has two variable

retention units and one right of way unit. This proposal will use ground-based harvesting methods.

Unit	Proposal Acres	RMZ/WMZ Acres	Unstable Slope Acres	Existing Road Acres	Sale Acres	Leave Tree Clump Acres	Harvest Acres
	<i>gross</i>			<i>within unit</i>			<i>net</i>
1	62	15	0	0	47	2	45
2	79	4	0	1	74	5	69
3 (Right of Way)	0.5	0	0	0	0.5	0	0.5
Totals	141.5	19	0	1	121.5	7	114.5

b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

This proposal includes variable retention harvest of 114.5 net harvest acres.

Unit	Age	Species Composition
1	50 to 90-years-old	Overstory: Douglas fir, grand fir, red alder, western redcedar, bigleaf maple. Understory: sword fern, salal, vine maple, salmonberry, and nettle.
2	50 to 90-years-old	Overstory: Douglas-fir, red alder, bigleaf maple, western redcedar, bigleaf maple. Understory: sword fern, salmonberry, vine maple, Oregon grape.
3 (Right of Way)	50 to 90-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder. Understory: sword fern, salal, Oregon grape, salmonberry, vine maple, elderberry, huckleberry, devil's club.

Overall Unit Objectives:

The objective of this proposal is:

- 1) Produce revenue for the State Forest Board-Transfer (01), and Scientific School (10) Trust through the production of saw logs, poles, and pulp material.**
- 2) Provide for wildlife and riparian habitat by developing vertical stand structure and age class distribution in the future stand**

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		3,987	2	
Reconstruction				
Abandonment		1,242	1	
Bridge Install/Replace				
Culvert Install/Replace (fish)				
Culvert Install/Replace (no fish)				

***There is 18,956 feet of Pre-haul Maintenance associated with this proposal.**

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

a. *Legal description:* :

Unit 1, is located in portions of Section 4, 5, and 40 of Township 08 North, Range 04 West, W.M

Unit 2, is located in portions of Section 5, and 6 of Township 08 North, Range 04 West, W.M

Unit 3, is located in Section 4 of Township 08 North, Range 04 West, W.M.

R-120 Rock Pit is located in Section 4 Township 08 North, Range 04 West W.M

Sawdust Rock Pit is located in Section 4 Township 08 North, Range 04 West W.M

R-100 Rock Pit is located in Section 7 Township 08 North, Range 04 West W.M

b. *Distance and direction from nearest town (include road names):*

Unit 1 and 3 of this proposal are located approximately 7.5 miles by road, west of Longview, Washington. The route from Longview is via SR 4 west, to Mill Creek Road, to Robertson Road, to the R-100 and R-120 roads.

Unit 2, of this proposal are located approximately 7.5 miles by road, west of Longview, Washington. The route from Longview is via SR 4 west, to Mill Creek Road, to Spruce Creek Road, to Cathlamet Road, to E-5000, to E-5100, to E-2900, to E-2920 and E-2910 road.

- c. Identify the names of all watershed administrative units (WAU). See also landscape/WAU map on DNR website: <http://www.dnr.wa.gov/sepa> under the topic “Current SEPA Project Actions – Timber Sales” for a broader landscape perspective.

WAU Name	WAU/Sub-basin Acres	Proposal Acres
ABERNATHY	39560	141.5
Sub-basin #21	25010421	15
Sub-basin #23	25010423	47
Sub-basin #24	25010424	58

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website <http://www.dnr.wa.gov/sepa> for a broader landscape perspective.)

This proposal is located within the Abernathy Watershed Administrative Unit (WAU). Agriculture and home sites are located in the valleys near the major streams. There appears to be a trend towards increasing conversion of agriculture and forest land to home sites in the low to mid elevation ranges. The uplands are mainly managed for timber production. Ownership includes large industrial forests, small private forests, and Department of Natural Resources managed forests. Forested stands within the WAU appear to be primarily second and third growth stands. The numbers of forest practice activities shown on the WAU maps (referenced above on the Department’s website) along with observations within the WAU indicate that the WAU is intensively managed for timber production, including variable retention harvest, thinning, and partial cuts.

The following tables are an estimated summary of past and future activities on Department of Natural Resources managed land and privately managed land in the Abernathy WAU (information is based on Forest Practices applications that have been approved in the last seven years as of April 25th, 2016 compiled by the Department’s GIS database). No attempt was made to predict future timber harvest on private ownerships within the WAU. The source for this information only provided the acreage at the WAU level.

Abernathy WAU	WAU Acres	Acres of Even-Aged Harvest Within the Last Seven Years	Acres of Uneven-Aged Harvest Within the Last Seven Years	Proposed Even-Aged Harvest in the Future	Proposed Uneven-Aged Harvest in the Future
DNR Land	21,351	1,368	924	120 (estimated)	0 (estimated)
Private Ownership	18,019	0	851	Unknown	Unknown
Total	39,370	1,368	1,775	120	0

***Future is defined as occurring within the next 5-7 years (approximately).**

The Department of Natural Resources has a multi-species Habitat Conservation Plan (HCP) with US Fish and Wildlife Service and the National Marine Fisheries Service concerning threatened and endangered species and their habitats, which requires the Department to manage landscapes to provide and sustain long-term habitat in exchange for an Incidental Take Permit. This agreement substantially helps the Department to mitigate for cumulative effects related to management activities. The applicable strategies incorporated into this proposal are discussed below.

- Type 1 streams are buffered by a site class (200 foot average) Riparian Management Zone (RMZ), Type 3 streams are buffered by a site class (190 foot average) RMZ, and Type 4 streams have been buffered with a 100 foot minimum RMZ. All buffer widths are horizontal distance measurements beginning at the edge of the 100-yr floodplain.**
- Wetlands less than a ¼ acre in size are present within the proposal area and are captured within RMZ or leave tree clumps and bound out in accordance with the HCP.**
- Retaining a minimum of 8 trees per acre (greater than 10 inches Diameter at Breast Height) clumped and scattered throughout the units. This strategy will provide legacy elements for recruitment of future snags, coarse woody debris, multi-layered stands, and large diameter trees. In combination, these features will provide elements of older forest habitat characteristics within the new plantation.**
- To ensure adequate soil protection, soils exposed during road construction will be seeded with grass and/or covered with straw.**
- Analyzing, designing, and constructing roads to minimize effects on the environment.**

After harvest, tree seedlings will be planted to compliment natural regeneration that is expected to occur. Understory vegetation will be disturbed and/or reduced within proposed harvest area as a result of timber felling, bucking, yarding, and site preparation activities.

Most of the vegetation will robustly re-establish within 2-3 years. Site preparation is expected to occur onsite after harvest, decreasing unwanted vegetation growth and may affect the color of vegetation.

A regular maintenance schedule will be followed to allow for proper road surface run-off and drainage. Haul routes for this proposal have also been evaluated for potential impacts to the environment (primarily sediment delivery). To ensure sediment delivery is controlled during active haul, multiple cross drains, sediment ponds, and other structures will be used to disconnect ditch water from live streams. Ditch water will be routed to the forest floor for filtering prior to entering live watercourses. New road construction was located on stable ridge-top locations, where possible. Road system analysis and design required under the HCP and analysis required under the Forest Practices RMAP process in the Elochoman Block was completed and approved. Road improvement projects identified in the RMAP began in 2003.

There are two 303 (d) streams listed in this proposal, Mill Creek and South Fork Mill Creek. This listing is for sensitivity to the temperature of the water. Due to mitigation measures in this proposal, there should be no impact to listed waters, Mill Creek and South Fork Mill Creek.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

Flat, Rolling, Hilly, Steep Slopes, Mountainous, Other:

1) *General description of the WAU or sub-basin(s)(landforms, climate, elevations, and forest vegetation zone).*

The Abernathy WAU contains a variety of landforms ranging from the Columbia River bottom lands at sea level to ridge tops reaching approximately 2,600 feet in elevation. Abernathy Creek is the main drainage in this WAU and is located approximately 40 miles inland from the ocean. Slopes range from 0% to 90% with the flatter slopes generally being in the bottoms, somewhat moderate slopes in the middle elevations of the drainage, and turning to very steep slopes in the upper reaches of the drainage. Rainfall averages 70 to 90 inches per year. Major timber types include Douglas-fir, western hemlock and red alder, all of various age classes, although the majority of stands are less than 80-years-old.

2) *Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).*

The proposal area conforms to the general descriptions for WAU at lower to mid-elevation. Elevation range within the proposal is 200 to 700 feet, with slopes exhibiting mostly gentle slopes less than 45% (some steeper slopes up to 70% are present within the proposal area). The primary species found on site is Douglas-fir,

western hemlock, western redcedar, grand fir, red alder and bigleaf maple.

b. What is the steepest slope on the site (approximate percent slope)?

70%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

State Soil Survey #	Soil Texture
6635	COBBLY SILT LOAM
5688	SILT LOAM
5687	SILT LOAM
6638	SILT LOAM
6636	COBBLY SILT LOAM

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No.

1) *Surface indications:*

None.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*

No Yes, *type of failures (shallow vs. deep-seated) and failure site characteristics:*

There is evidence of small, shallow slope failures within the sub-basins. These are generally associated with slopes greater than 70% within convergent landforms such as bedrock hollows and inner gorges. These landforms, per local knowledge,

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typically occur within the RMZs, lower slopes of the main draws, and on headwalls at the top of steep draws.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?

No Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:
Associated management activity:

Indicators of small shallow slope failures are evident in harvested areas within the sub-basins, and failures of sidecast material along inactive grades built prior to the Forest Practices rules (1974).

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?

No Yes, describe similarities between the conditions and activities on these sites:

There were no shallow slope failures found in the proposal area. However, the proposal has planar slopes up to 70%, which is similar topography to other areas within the sub-basins that experienced shallow rapid slope failures adjacent to streams during the storms of 1996, 2007, and 2009 when southwest Washington experienced high amounts of precipitation.

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.

- **Areas identified as having a moderate potential for movement and/or delivery to streams were located within the riparian management zones.**
- **Construction on side slopes over 45% will require full bench excavation with end haul.**
- **Cross-drains and ditchouts will be utilized to minimize the potential for mass wasting and slope failures associated with poor drainage.**
- **Some steeper Type 5 headwalls have leave tree clumps protecting them.**

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Approx. acreage new roads: 2 Approx. acreage new landings: 1

*Purpose: **Fill excavation and placement to facilitate new road construction.***

*Fill source: **Native material** Approx. cubic yards of fill **200cy***

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes. Some erosion could occur as a result of building new roads, installing culverts, and hauling timber.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

3% (This includes running surface of roads as well as proposed landings).

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: *(Include protection measures for minimizing compaction or rutting.)*

- **The no harvest RMZs and WMZs will function to protect streams and wetlands from sediment delivery.**
- **Leave tree clumps were left around the headwalls of most Type 5 streams.**
- **Harvested areas will be replanted with conifer to reestablish root bound soils.**
- **Roads will be constructed during dry weather conditions.**
- **Roads were located on ridge-tops where possible.**
- **Areas of soil exposed through road construction will be grass seeded.**
- **Skid trails may be water barred post-harvest, if necessary.**

2. Air

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Minor amounts of engine exhaust from logging and road construction equipment and dust from vehicle traffic on roads will be emitted. If landing debris is burned after harvest is completed, smoke will be generated. There will be no emissions once the proposal is complete.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

If landing debris is burned, it will be in accordance with Washington State's Smoke Management Plan. A burn permit will be obtained before burning occurs.

3. Water

a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. (see timber sale map available at DNR region office, or forest practice application base maps.)

Yes.

a. *Downstream water bodies:*

South Fork Mill Creek, Mill Creek, and Columbia River

b. *Complete the following riparian & wetland management zone table:*

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in feet (per side for streams)
Forested Wetland	>1ac	1	190
Mill Creek	1	1	200
Unnamed Stream	3	4	190
Unnamed Stream	4	3	100
Unnamed Stream	5	15	None

c. *List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.*

Leave trees were placed along portions of all Type 5 streams. RMZs, and WMZs are no harvest buffers. Wind buffers were deemed unnecessary on Type 3 streams given aspect, topography, and local knowledge.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)

Description (include culverts):

Trees will be felled away from all streams. Trees may be cut in RMZs for safety or operational needs, but will be left in place to provide large woody debris functions in the riparian area.

Timber harvest may occur as close as 150 feet to Mill Creek (Type 1 stream), the overall average buffer width is 200 feet (required average RMZ width). Timber harvest may occur as close as 190 feet (required average RMZ, and WMZ width) to the Type 3 streams and Forested Wetland >1ac . Timber harvest may occur as close as 100 feet (required minimum RMZ width) to the Type 4 streams in the proposal area.

Type 5 streams will have a 30-foot Equipment Limitation Zone to maintain stream function, stream bank integrity and minimize possible sediment delivery.

Timber harvest will occur within a 100 foot Type 4 RMZ to facilitate the building of the R-121 ext.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. (*Include diversions for fish-passage culvert installation*).

No Yes, description:

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No Yes, describe location:

Portions of Unit 3 (R/W) lie within the 100-year floodplain of a Type 4 stream.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No Yes, type and volume:

- 7) *Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?*

Yes. Within the sub-basin, soils and terrain susceptible to surface erosion and/or mass wasting are generally located on slopes steeper than 70%. The potential for eroded material to enter surface water is minimized due to the erosion control measures and operational procedures outlined in B.1.d.5. and B.1.h.

- 8) *Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?*
 No Yes, describe changes and possible causes:

During the winters of 1996, 2007, and 2009, (suspected) 100-year return interval precipitation events occurred. The storms set rainfall and flood level records in Southwest Washington and Northwest Oregon. The events caused many shallow mass-wasting events, which caused stream channels to change location and/or dimension. The full extent and long-term impacts across the WAU from these storms is not known due to varying ownerships.

- 9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*
 No Yes, explain:

This proposal could introduce small amounts of sediment into the streams associated with this proposal during wet weather within or adjacent to the proposal area as a result of road building and harvest activities. The erosion control measures and operation procedures outlined in B.1.d.5. and B.1.h. are anticipated to minimize sediment delivery.

- 10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)? Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?*
 No Yes, describe:

The Abernathy WAU averages 5.8 miles per square mile. The road mileages for the sub-basins are similar to the WAU. High number of road miles per square mile may be due to the large network of forest roads and long history of logging in the WAU.

- 11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not, **STOP HERE** and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*

No Yes, approximate percent of sub-basin(s) in significant ROS zone:

Or, approximate percent of WAU:

- 12) *If the proposal is within the significant ROS zone, what is the approximate percentage of*

the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

13) *Is there evidence of changes to channels associated with peak flows in the WAU and sub-basin(s)?*

No Yes, describe observations in the WAU and in the sub-basin(s):

Normally, there are few significant changes associated with peak flows in the WAU or sub-basins. During the winters of 1996, 2007, and 2009, suspected 100-year return interval precipitation events occurred. Some channels in the WAU and sub-basins were altered during these events due to high stream flows.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

The current proposal may slightly change the timing, duration, and/or magnitude of peak flows due to decreased evapotranspiration, but measurable impacts are not anticipated.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*

No Yes, possible impacts:

There are six private surface water intakes present within the proposal area. All private water intakes within the proposal, are protected by no harvest RMZs or tagged leave tree clumps. Based on the protection measures outlined in B.1.d.5, B.1.h, and B.3.a.16., no measurable impacts are anticipated.

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

Type 1, Type 3, and Type 4 streams have no-harvest RMZs to protect streams from erosion.

The proposal includes harvest units that are less than 100 net harvest acres in size (Unit 1: 45 acres, Unit 2: 69 acres and Unit 3 (ROW): 0.5 acres).

Leave trees were placed around the headwalls of all Type 5 streams that extend out of the no-harvest RMZs.

Allowing green-up (regenerated stands that are either 4 ½ feet tall or 5 years of age) of adjacent stands to minimize impacts to watershed hydrology.

See B.1.d.5. and B.1.h for further protection measures.

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Minor amounts of oil, fuel, and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site. All spills are required to be contained and cleaned-up. This proposal is expected to have no impact on ground water.

- 3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*

No

Yes, describe:

There is a private well adjacent to the proposal area. The private well adjacent to the proposal area is protected by tagged out leave tree clump. Due to the protection measures put in place, ground water amounts, timing, and movements are not expected to be changed by this proposal. Based on the protection measures outlined in B.1.d.5, and B.1.h, impacts to this area are not anticipated.

a. Note protection measures, if any.

No additional protection measures were identified as necessary to protect these resources beyond those described in B.1.d.5. and B.1.h.

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water runoff from road surfaces and intercepted subsurface flow will be collected by roadside ditches and diverted onto the forest floor via ditch-outs and cross drain culverts.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

No Yes, describe:

Waste materials, such as sediment or slash, may enter surface water.

- a. Note protection measures, if any.

Slash which enters any typed stream and is identified by the Contract Administrator will be removed post-harvest. No additional protection measures will be necessary to protect these resources beyond those described in B.1.d.5., B.1.h., B.3.a.2., and B.3.a.16.

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Surface and subsurface flow may be intercepted by roads and associated cut banks and ditches. Any intercepted water will be diverted to the forest floor via ditch-outs and cross drain culverts. No significant changes to drainage patterns are expected.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

No specific measures to reduce or control impacts beyond measures outlined above. (See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.).

4. Plants

a. Check the types of vegetation found on the site:

deciduous tree:

alder, maple, aspen, cottonwood, western larch, birch,
other: **bitter cherry, Oregon white ash**

evergreen tree:

Douglas fir, grand fir, Pacific silver fir, ponderosa pine, lodgepole pine, western hemlock, mountain hemlock, Englemann spruce, Sitka spruce, red cedar, yellow cedar, other:

shrubs:

huckleberry, salmonberry, salal, other: **Oregon grape, vine maple, black berry**

grass

pasture

crop or grain

wet soil plants:

cattail, buttercup, bullrush, skunk cabbage, devil's club,
other:

water plants:

water lily, eelgrass, milfoil, other:

other types of vegetation: **sword fern, lady fern,**

plant communities of concern:

b. What kind and amount of vegetation will be removed or altered? (See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)

All conifer and hardwood trees will be removed as part of this harvest proposal, except the wildlife leave trees, green recruitment trees and the vegetation within the RMZs. Understory vegetation will be disturbed and/or reduced within the proposed harvest area as a result of timber felling, bucking, yarding and site preparation activities. Most of the vegetation will re-establish within 2 – 3 years after forestry activities are complete

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See color landscape/WAU and adjacency maps on the DNR website:

<http://www.dnr.wa.gov/sepa>

(Click on the DNR region under the Topic "Current SEPA Project Actions - Timber Sales.")

Unit 1: To the north is an 80 year-old mixed conifer and hardwood RMZ. To the east is a 15-year-old mixed conifer plantation. To the south are small residential properties. To the west are multiple small forest landowners with multiple mixed conifer plantations, 5 to 30 years-old.

Unit 2: To the north is a private 30 year-old mixed conifer stand. To the east is an 80-100 year-old mixed conifer stand. To the south is a private 10 year-old mixed conifer stand, and an 80-100 year-old mixed conifer RMZ. To the west is an 8 year-old mixed conifer plantation.

Unit 3: To the north is a 50-90 year-old mixed conifer RMZ. To the east is a 50-90 year-old mixed conifer RMZ. To the south is a 50-90 year-old mixed conifer RMZ. To the west is a 15 year-old mixed conifer plantation.

2) *Retention tree plan:*

A combination of Douglas-fir, western hemlock, western red cedar, red alder, bigleaf maple, and grand fir were left for green tree retention and snag recruitment. Reserve tree numbers were based on leaving a minimum of 8 trees per acre. Trees were left individually and in clumps. This type of leave tree pattern is conducive for protection of sensitive features, such as Type 5 streams and their associated headwalls and seeps. While providing added protection to sensitive features, the leave tree design also creates a safe harvest operation. When selecting reserve trees preference was given to trees having form defects that may be desirable for birds, the largest trees and the most wind firm species. This proposal includes a leave tree design that has been reviewed and agreed upon by the region biologists and the region silviculturist.

- c. List threatened and endangered *plant* species known to be on or near the site.

None found in database search or observed onsite.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Retention tree clumps are identified across the harvest area. Some clumps were selected for their species diversity of native flora. These clumps will provide a local seed source for native overstory and understory species. Some natural regeneration of native species will occur on site after harvest. Wildlife trees were left in areas to protect snags, large down logs, advanced regeneration, seeps, and Type 5 streams. Trees with defects such as split or broken tops, dominant crowns, large diameters and large limbs were favored as leave trees to enhance wildlife potential.

- e. List all noxious weeds and invasive species known to be on or near the site.

Scotch broom has been observed on the site.

5. Animals

- a. List any birds and other animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site. Examples include:

birds: hawk, heron, eagle, songbirds, pigeon, other:

mammals: deer, bear, elk, beaver, other: **Coyote, Cougar, Bobcat**
 fish: bass, salmon, trout, herring, shellfish, other:
unique habitats: talus slopes, caves, cliffs, oak woodlands, balds,
mineral springs

- b. List any threatened and endangered species known to be on or near the site *include federal- and state-listed species*).

Lower Columbia River salmonid species (Chinook, coho, chum, and steelhead) are located downstream within Mill Creek, South Fork Mill Creek, and the Columbia River.

- c. Is the site part of a migration route? If so, explain.

Pacific flyway Other migration route: *Explain if any boxes checked:*

This proposal is located in the Columbia River Flyway, which is part of the Pacific Flyway. Migratory waterfowl use the Columbia River Flyway; however, the area in which this proposal is contained is not generally the type of area used for resting or feeding by migratory waterfowl. While migrating through Pacific Northwest Forests, many Neotropical migratory birds are closely associated with riparian areas, cliffs, snags, and structurally unique trees. Riparian areas and special habitats are protected through implementation of the Department’s Habitat Conservation Plan.

- d. Proposed measures to preserve or enhance wildlife, if any:

This sale has been designed to comply with the Department’s HCP and provides for the protection of wildlife and their habitats. Scattered and clumped leave trees provide nesting, roosting and foraging areas for avian species. Well engineered and constructed roads reduce potential water quality impacts for downstream fish populations. Grass seeding exposed soil aids water quality and provides forage for ungulates. Large diameter leave trees, and leave trees with unique structure, will remain post-harvest to enhance the wildlife habitat value of the future stand. The regenerated stand will be composed of mixed conifer species.

1) *Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.*

- o **Riparian Habitat**

- **No-harvest RMZs on Type 1, Type 3 and Type 4 streams**
- **No-harvest WMZs on wetland >.25 Acres**

- o **Upland Habitat**

- **A minimum of 8 trees per acre were left clumped and scattered**
- **Snags will be left where operationally feasible**

• **Older large down woody debris will be left on site**

- e. List any invasive animal species known to be on or near the site.

Invasive species have not been observed on or near the site.

6. Energy and natural resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Petroleum fuel (diesel or gasoline) will be used for heavy equipment during active road building and timber harvest operations.

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal hazards incidental to operation of heavy machinery such as the risk of fire or small amounts of oil and other lubricants may be accidentally discharged as a result of heavy equipment use.

- 1) Describe any known or possible contamination at the site from present or past uses.

None known.

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None known.

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Petroleum fuel and oil will be used during active road building and timber harvesting. Typically these substances are stored in small transfer tanks located in passenger vehicles. No toxic or hazardous chemicals will be stored on site following active operations.

- 4) Describe special emergency services that might be required.

There are no special emergency services required at this time. In the event of a lubricant spill the Purchaser will contact the Department of Natural Resources and the Department of Ecology.

- 5) Proposed measures to reduce or control environmental health hazards, if any:

The cessation of operations may occur during periods of time when the risk of fire is increased. Fire tools and equipment, including pump trucks and/or pump trailers, will be required on site during fire season. Quick response spill kits are required to be on site in case of smaller spills, as are larger spill kits if hazardous materials are going to be stored on site during operations. No oil or lubricants will be allowed to be disposed of on site.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Log trucks will use forest roads, county roads, and State Route 504. This is normal activity for this area and is consistent with existing traffic. Noise will be increased during daylight hours generated from the operation of machinery and power tools.

- 3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and shoreline use

- a. What is the current use of the site and adjacent properties?

The state land surrounding the units is managed for timber production by the DNR. The private property south and west of Unit 1 is residential home sites and small private tree farms. The private property adjacent to Unit 2 is managed for commercial timber production.

Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. (*Site includes the complete proposal, e.g. rock pits and access roads.*)

No.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

This proposal site has been used as working forest lands. This proposal will retain the site in working forest lands.

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

This proposal is consistent with current and standard forestland harvest activities; there are no anticipated effects on this or adjacent lands that would affect normal forest land business operations. Equipment access, application of pesticides and timber harvesting are normal activities that would be expected on forest lands.

- c. Describe any structures on the site.

There are no structures associated with this proposal.

- d. Will any structures be demolished? If so, what?

No.

- e. What is the current zoning classification of the site?

Exempt.

- f. What is the current comprehensive plan designation of the site?

None.

- g. If applicable, what is the current shoreline master program designation of the site?

There are no shorelines associated with this proposal.

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

No.

- i. Approximately how many people would reside or work in the completed project?

None.

- j. Approximately how many people would the completed project displace?

None.

- k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal is consistent with the Department's Habitat Conservation Plan and Policy for Sustainable Forests, as well as the county's comprehensive plan designation and zoning classification.

- m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

This proposal is consistent with the Department's Habitat Conservation Plan and Washington Forest Practices Rules.

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

- c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

There are no structures associated with this proposal.

- b. What views in the immediate vicinity would be altered or obstructed?

Views in the background will be temporarily altered by the removal of trees.

- 1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*

No Yes, viewing location:

Unit 1 of the proposal is visible from Robertson Road, Mill Creek Road and associated scattered houses. Unit 2 of the proposal is visible from Robertson Road, Mill Creek Road, Spruce Creek Road, Cathlamet Road and associated scattered houses.

- 2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*

No Yes, scenic corridor name:

- 3) *How will this proposal affect any views described in 1) or 2) above?*

This proposal will resemble previous timber harvests in the area and views will change from a stand of mature timber to a view of a recent harvest with mature trees remaining around forested wetlands, Type 1, 3 and 4 streams, and some Type 5 streams. There will also be clumps and individual trees scattered throughout. This view will change to one of a young plantation after seedlings are planted and the new trees continue to grow.

- c. Proposed measures to reduce or control aesthetic impacts, if any:

None.

11. Light and glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

- c. What existing off-site sources of light or glare may affect your proposal?

None.

- d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?

There is no designated recreation within the proposal area. However, hunting, hiking, horseback riding, mountain biking, mushroom and berry picking, and other informal outdoor recreation activities may occur within the proposal area.

- b. Would the proposed project displace any existing recreational uses? If so, describe.

Some types of informal recreation may be displaced during periods of active logging.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None at this time.

13. Historic and cultural preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

No.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

No.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The site was remotely assessed by a DNR Cultural Resource Technician, reviewing GLO and Historic maps, and existing recorded historical sites that have been recorded by DAHP.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

In the event that archaeological resources are encountered, ground disturbing activities would be halted and a Department of Natural Resources Archaeologist will be contacted to survey the site and update the Site Protection Plan. The Department's Inadvertent Discovery Plan is available at the Region office.

14. Transportation

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

Unit 1 and 3, are accessed by SR 4 to Mill Creek Road, and Robertson Road, which provide access to the forest roads which access the harvest unit.

Unit 2, is accessed by SR 4 to Mill Creek Road, to Spruce Creek Road, to Cathlamet Road and Beaver Creek Road, provide access to the forest roads which access the harvest units.

- 1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?*

No.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

No. The nearest transit stop is in Longview, WA which is approximately 13 miles southeast from this proposal.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

None.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

Yes, see A.11.c above.

- 1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*

This proposal expands the network of Department of Natural Resources' forest roads in the area.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Loaded and empty log trucks with 10 to 20 trips daily during harvesting activities with periodic trips post-harvest to conduct monitoring and timber stand improvements. Vehicular trips were estimated based on the volume of timber to be removed and the amount of road to be constructed. Vehicular trips will be primarily log and dump trucks. Peak hours of operation are just prior to sunrise to sunset.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No.

- h. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

No.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

- a. Check utilities currently available at the site:

electricity natural gas water refuse service telephone sanitary sewer
septic system other:

None.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: *Amanda Taylor*
For

Name of signee Tom Chandler
Product Sales Forester 2

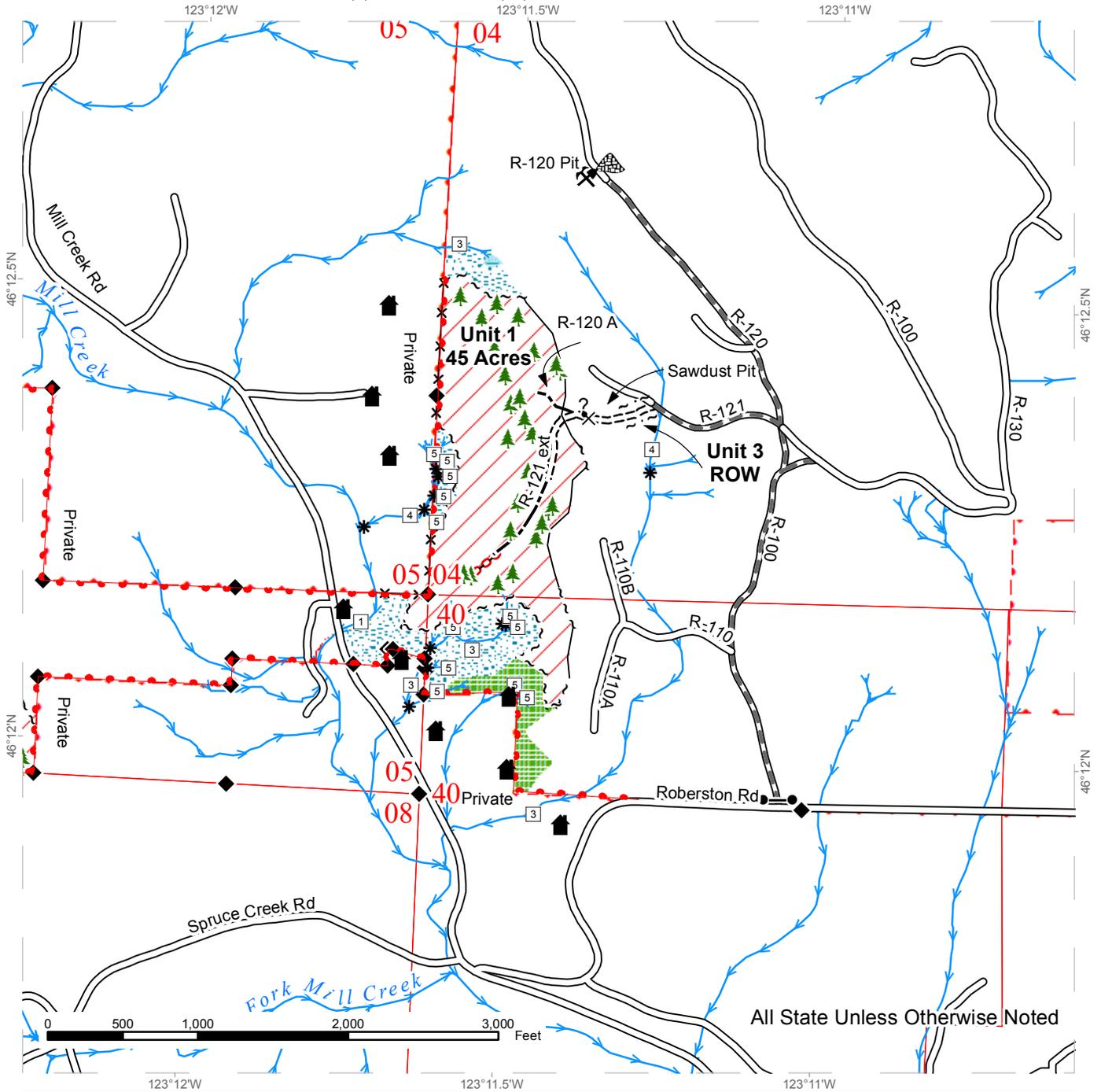
Position and Agency/Organization NRS1 Stella Unit/ Washington State DNR

Date Submitted: 03/23/2016

TIMBER SALE MAP

SALE NAME: MILL WRIGHT
AGREEMENT #: 30-093904
TOWNSHIP(S): T08R04W
TRUST(S): State Forest Transfer(1), Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 232-688



All State Unless Otherwise Noted

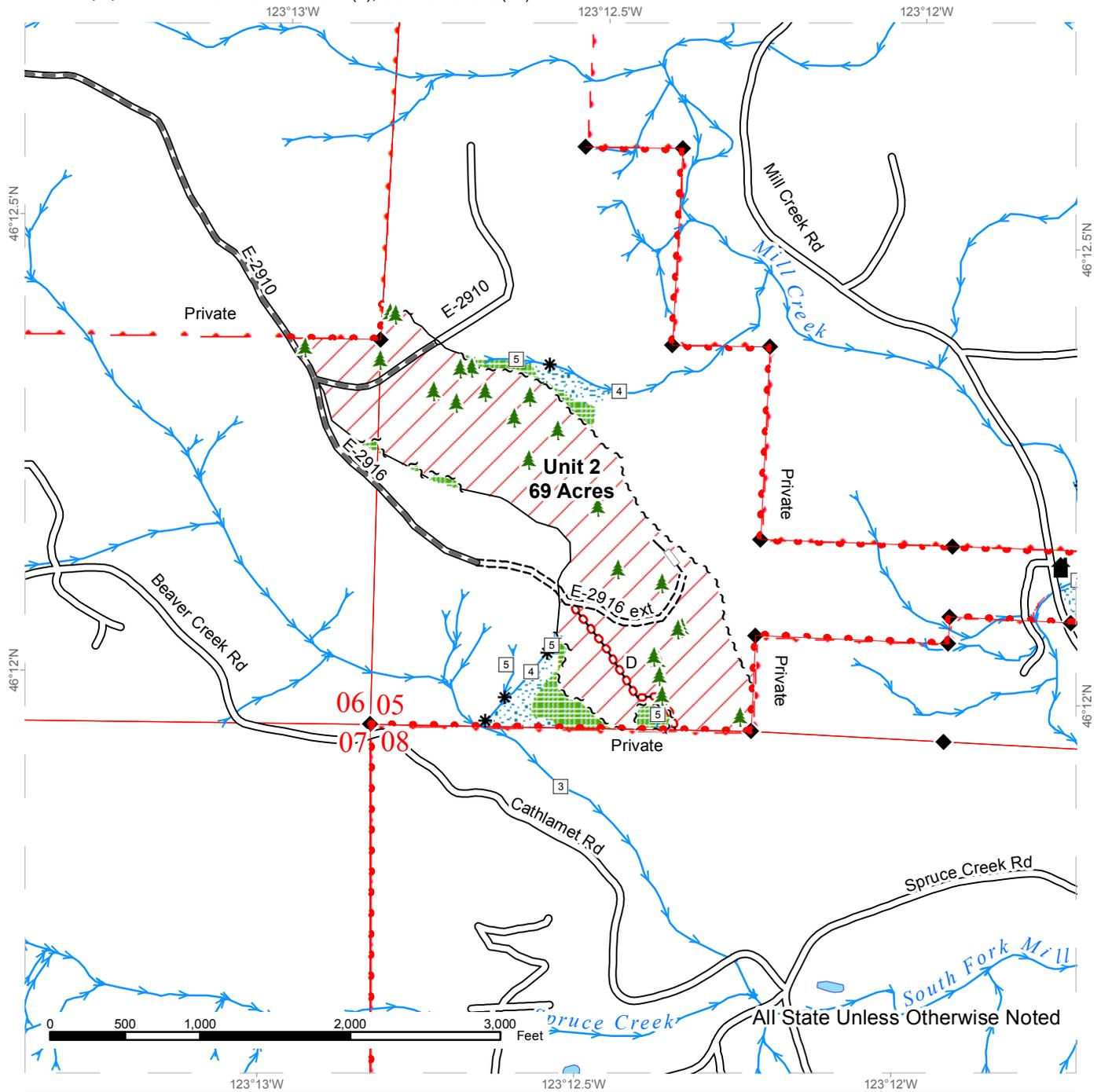
Sale Area	Existing Roads	Streams	Leave Trees
Leave Tree Area	Required Pre-Haul Maintenance	Stream Type	Structure
Riparian Mgt Zone	Required Construction	Stream Type Break	Gate (PCP-1)
Forested Wetland	Optional Construction	Monumented Corners	Existing Rock Pit
Sale Boundary Tags	Required Abandonment		Potential Rock Source
Leave Tree Tags			Stockpile
Reprod			
Property Line			
Fence			



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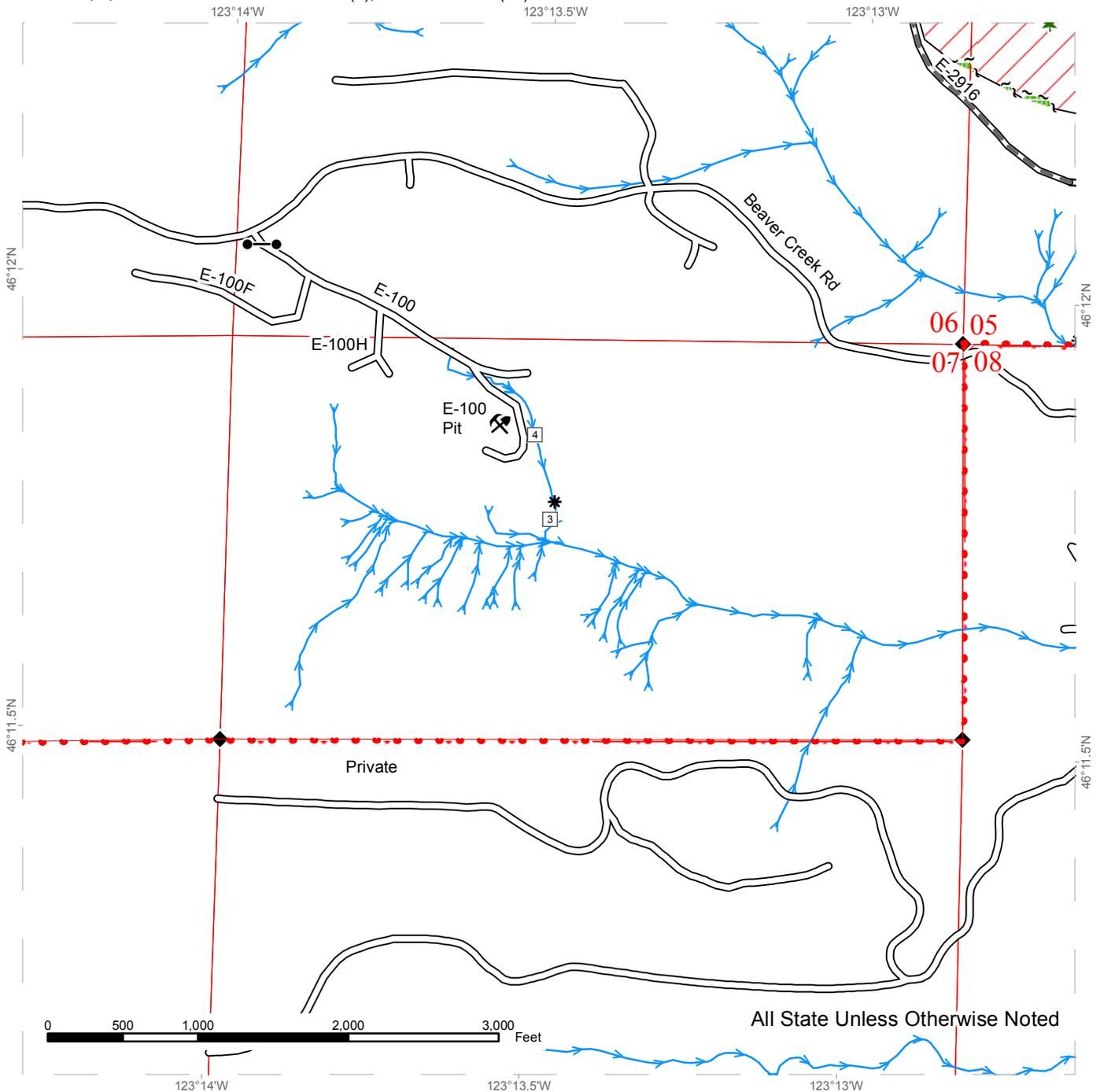


Sale Area	Existing Roads	Streams	Leave Trees
Leave Tree Area	Required Pre-Haul Maintenance	Stream Type	Structure
Riparian Mgt Zone	Required Construction	Stream Type Break	
Sale Boundary Tags	Optional Reconstruction	Monumented Corners	
Leave Tree Tags	Required Abandonment		
Reprod			
Property Line			
Fence			

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