

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: **Connectivity**

Agreement # **30-098244**

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: **6/13/2018**

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

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

a. Auction Date: **09/26/2019**

b. Planned contract end date (but may be extended): **10/31/2021**

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:

P&E Extension 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): **Willapa River, Halfmoon Creek, Fern Creek, Falls Creek, Forks Creek and Trap Creek**
- Landscape plan:
- Watershed analysis:
- Interdisciplinary team (ID Team) report:
- Road design plan:
- Wildlife report:
- Geotechnical report:
- Other specialist report(s):
- Memorandum of understanding (sportsmen’s groups, neighborhood associations, tribes, etc.):
- Rock pit plan:
- Other: **Forest Practices Board Manual; Forest Practices Activity Maps; Policy for Sustainable Forests (PSF 2006); State Soil Survey; Habitat Conservation Plan (HCP 1997); HCP Checklist; Riparian Forest Restoration Strategy (RFRS); Land Resource Manager (LRM) Reports and associated maps; Road Maintenance and Abandonment Plan (RMAP): #2502155. 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 Lands Geologist Remote Review (SLGRR); and Statewide Landslide Inventory (LSI) screening tool. Referenced documents may be obtained at the region office responsible for this proposal.

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 # _____ 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:

Connectivity is a timber sale with seven Variable Retention Harvest (VRH) units and one Right-of-Way unit sale in the P&E Ridge Block. Rock will be obtained from P&E Extension Pit. This proposal will use both ground-based and cable harvest methods. Removing approximately 3,471 MBF of timber.

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	3.5	1	0	0.5	2	0.3	1.7
2	143	59*	0	2	82	8*	74
3	17	10*	0	0.5	6.5	3.5*	3
4	7.2	5	0	0.1	2.1	0.3	1.8
5	5.8	5	0	0.2	0.6	0.1	0.5
6	25.5	13*	0	0.2	12.3	0.8*	11.5
7	49	27*	0	2	20	3*	17
8 (ROW)	1	0	0	0	1	0	1
Totals	252	120	0	5.5	126.5	16	110.5

***Unstable Slope acres by unit:**

Unit 2 – 18.5 acres in the RMZ and 1.5 acres in LTA’s

Unit 3 – 7.2 acres in the RMZ and 2.8 acres in LTA

Unit 6 – 1 acre in the RMZ and 0.5 acres in a LTA
Unit 7 – 12.5 acres in the RMZ and 0.5 acres in LTA’s

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

Pre-harvest Stand Description:

Unit	Age	Species Composition
1	63 years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, sitka spruce, bigleaf maple. Understory: sword fern, vine maple, salmonberry, huckleberry, devil’s club, huckleberry.
2	63 years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, sitka spruce, bigleaf maple. Understory: sword fern, vine maple, salmonberry, huckleberry, devil’s club, huckleberry.
3	62 years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, sitka spruce, bigleaf maple. Understory: sword fern, vine maple, salmonberry, huckleberry, devil’s club, huckleberry.
4	58 years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, sitka spruce, bigleaf maple. Understory: sword fern, vine maple, salmonberry, huckleberry, devil’s club, huckleberry.
5	58 years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, sitka spruce, bigleaf maple. Understory: sword fern, vine maple, salmonberry, huckleberry, devil’s club, huckleberry.
6	58 years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, sitka spruce, bigleaf maple. Understory: sword fern, vine maple, salmonberry, huckleberry, devil’s club, huckleberry.
7	56-59 years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, sitka spruce, bigleaf maple. Understory: sword fern, vine maple, salmonberry, huckleberry, devil’s club, huckleberry.
8 (ROW)	36 years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, sitka spruce, bigleaf maple. Understory: sword fern, vine maple, salmonberry, huckleberry, devil’s club, huckleberry.

Type of Harvest:

The proposal is a variable retention harvest of 109.5 acres and Right-of-Way harvest of one acre.

Overall Unit Objectives:

The objective of this proposal is:

- 1) Produce revenue for the Common School Trust (03), Agricultural School Trust (04), and Scientific School (10) 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		2930	1	
Reconstruction				
Abandonment				
Bridge Install/Replace				
Culvert Install/Replace (fish)				
Culvert Install/Replace (no fish)	3			

There is 55,350 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. (See maps on DNR website: <http://www.dnr.wa.gov/state-environmental-policy-act-sepa>. Click on the appropriate region under “Current SEPA Actions – Timber Sales.”)

a. Legal description:

Units 1 is located in Section 28 of Township 13 North, Range 06 West, W.M.

Unit 2 is located in portions of Section 27, 28, 33 and 34 of Township 13 North, Range 06 West, W.M.

Unit 3 is located in portions of Section 27 and 28 of Township 13 North, Range 06 West, W.M.

Units 4, 5, 6 and 7 are located in Section 27 of Township 13 North, Range 06 West, W.M.

Unit 8 (ROW) is located in Section 34 of Township 13 North, Range 06 West, W.M.

P&E Ridge Extension Pit is located in Section 29 of Township 13 North, Range 06 West, W.M.

July 2016

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

Units 1, 2, 3, 4, 5, 6 and 7 of this proposal are located approximately 12 miles, by road, southeast of Menlo, Washington. The route from Menlo is via State Route 6 to the HM-Mainline. Unit 1, 2, 3, 4, 5, 6, 7, and 8 are located off the HM-Mainline.

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

WAU Name	WAU / Sub-basin Acres	Proposal Acres
WILLAPA HEADWATERS	62849.60	
Sub-basin #10	1943.3	86.5
Sub-basin #8	2523.3	165.5

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/state-environmental-policy-act-sepa> for a broader landscape perspective.)

This proposal is located within the Willapa Headwaters 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 Willapa Headwaters WAU (information is based on Forest Practices applications that have been approved in the last seven years as of January 16, 2018 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. Approximately 33 percent of the land managed by the Department in the WAUs is covered with vegetation greater than 25 years old.

Willapa Headwaters WAU	WAU ACRES	ACRES OF EVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	ACRES OF SALVAGE 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 MANAGED LAND	19,942	1,940	0	881	3,528 (estimated)	0 (estimated)
OTHER STATE (NON-DNR)	208	0	0	0	0	0
PRIVATE OWNERSHIP	42,700	2,492 (estimated)	67 (estimated)	513 (estimated)	Unknown	Unknown
TOTAL	62,850	4,432	67	1,394	3,528	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 the U.S. 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 as follows:

- Retaining Riparian Management Zones (RMZ) averaging 193 feet wide in Unit 2, averaging 183 feet wide in Units 3, 4, 6 and averaging 197 feet in Unit 7 adjacent to harvest areas along Type 3 streams, and a minimum 100 feet wide adjacent to harvest areas along Type 4 streams, measured from the outer edge of 100 year floodplain. These measures are intended to protect water quality, stream bank integrity, stream temperatures, and provide down woody debris. RMZs will develop older riparian forest characteristics that, in combination with other strategies, will help support older riparian forest dependent wildlife and aquatic species.
- Evaluating the proposal for potential slope instability, and excluding harvest activities from approximately 44.5 acres that exhibited indicators of potentially unstable slopes.
- 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.
- Analyzing, designing, and constructing roads to minimize effects on the environment.

Road cut banks will be re-vegetated with native grass seed prior to the onset of wet weather to reduce the risk of potential erosion, sediment delivery and soil instability.

After harvest, tree seedlings will be planted to reforest the site and may be complemented by the natural regeneration that is expected to occur. 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 robustly re-establish within 2 to 3 years.

A regular maintenance schedule will be followed to allow for proper road surface run-off and drainage. Haul routes for this proposal have been evaluated for potential environmental impacts. To ensure sediment is minimized during hauling, cross-drains, sediment ponds, and other structures will be used to disconnect ditch water from flowing streams. Road ditch water will be routed to the forest floor for filtering to prevent it from entering live streams. 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 P&E Ridge Block was completed and approved. Road improvement projects identified in the RMAP began in 2003 and were completed in 2015.

The 303 (d) streams that are in the Willapa Headwaters WAU are listed as a Completed TMDL and Temperature water; however, due to the distance from the proposal area (approximately 1.2 miles downstream) and mitigation measures in this proposal, there should be no impact to listed waters, Willapa River and Halfmoon 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).*

Willapa Headwaters WAU contains steep slopes, rolling hills, and wide valley bottoms. The WAU averages 82 inches of precipitation per year. Minimum elevation is 64 feet and rises to a maximum of 2,814 feet. Rain-on-snow zones are as follows: “Lowland Zone” 26,680 acres (43%); “Rain Dominated Zone” 28,562 acres (45%); “Peak Rain-on-snow Zone” 7,607 acres (12%). The Forest Vegetation Zone is western hemlock with the major timber type being Douglas-fir with western hemlock and western redcedar in the upland soils. Red alder and bigleaf maple are scattered with the majority found in wetter soils and draws.

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

The proposal is in the Rain Dominated Zone and the Rain on Snow Zone and is very similar to the above description.

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

80% in the harvest unit and up to 90% within no-harvest RMZs.

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 or Soil Complex Name
7620	COBBLY SILT LOAM
1934	SILT LOAM
1936	SILT LOAM
1937	SILT LOAM
9803	SILT LOAM
9804	SILT LOAM
9805	SILT LOAM
0904	SILT LOAM
4242	SILT LOAM

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

Yes.

1) Surface indications:

A DNR State Lands geologist remotely reviewed all units of the sale utilizing the review of the historic aerial photographs, Forest Practices Statewide Landslide Inventory data, and Landslide Remote Identification Model (LRIM) tool. LRIM is a screening tool which identifies areas of potentially unstable landforms and is derived Light Detection and Ranging (LiDar) elevation data. The results of the geologist review, available in the State Lands Geologist Remote Review (SLGRR), were discussed by the geologist with the forester who completed the field reconnaissance. There was a field review completed by a DNR state lands geologist in Unit 3. The field forester that prepared this proposal is trained in unstable slope identification. Potentially unstable slopes were identified in Units 2, 3, 4, 5, 6 and 7

and excluded from sale area using “Timber Sale Boundary” tags and/or “Leave Tree Area” tags. The excluded area totaled approximately 44.5 acres.

Unit 2 has three Landslide Inventory (LSI) polygons located within the proposal area. LSI polygon #9653, #9656, and 9661 are inner gorges. These inner gorges are bounded out of the harvest area by boundary tags and leave tree tags. Unit 7 has three Landslide Inventory (LSI) polygons located within the proposal area. LSI polygon #9940 is an inner gorge that is bound out of the harvest area by boundary tags. LSI polygon #9613 is an ancient deep seated landslide. The vegetation and topography do not suggest recent movement from the feature. The portion of the feature in the proposal area does not meet the Forest Practices rule identified landforms. The toe of this feature is less than 65% slope. LSI polygon #18759 is a deep seated landslide that encompasses LSI #9613. The portion in the proposal area is not classified as a rule identified landform.

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, typically occur within the RMZs, lower slopes of the main draws, and on headwalls at the top of steep draws. There is also evidence of deep seated landslides; these typically occur on moderate to steep slopes and toe into stream valleys.

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:*

The proposal contains Forest Practices rule identified unstable landforms.

Past harvest activities (pre Forest Practices Rules) operated on areas now recognized as potentially unstable. This proposal avoids all Forest Practices rule

identified landforms by removing all potentially unstable landforms from harvest operations.

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

- **Rule identified landforms in Units 2, 3, 4, 5, 6 and 7 were excluded from the sale area with “Timber Sale Boundary” tags or with “Leave Tree Area” tags. The total acreage excluded from the harvest area was 44.5 acres.**
- **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.**
- **Lead end suspension will be required on all cable settings.**

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: 1 acre Approx. acreage new landings: 1.7 acres Fill Source: Native material. Purpose of fill: Road Construction. Approximate cubic yards of fill: 3000

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):*

2% (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 will function to protect streams from sediment delivery.**
- **Leave tree clumps were left around the headwalls of some Type 5 streams.**
- **Harvested areas will be replanted with conifer tree species to reestablish root bound soils.**
- **Roads will be constructed during dry weather conditions.**
- **The proposal will be harvested utilizing lead-end suspension to minimize soil disturbance.**
- **Roads were located on ridge-tops where possible.**
- **Areas of soil exposed through road construction will be grass seeded.**

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:*

Halfmoon Creek, Fern Creek and Willapa 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)
Fern Creek	3	1	197
Unnamed stream	3	2	197

Unnamed stream	3	3	193
Unnamed stream	3	1	183
Unnamed stream	4	37	100
Unnamed stream	5	35	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 some Type 5 streams. RMZs are no harvest buffers. No wind buffers were applied with this proposal. There is a low potential for blowdown due to the topography, as evidenced by an absence of any significant riparian blowdown resulting from several major windstorms in recent years.

- 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. All RMZs are no harvest buffers.

Tailhold cables may be strung through the Type 3 and Type 4 RMZs, however, no timber will be yarded through them. Timber harvest may occur within approximately 183 feet in Units 3, 4, and 6, 193 feet in Unit 2 and 197 feet (required average RMZ width) to the Type 3 streams adjacent in Unit 7. Timber harvest may occur as close as 100 feet (required minimum RMZ width) to all Type 4 streams in the proposal area.

Type 5 streams may have tailhold cable strung over them and/or timber yarded across them.

- 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:

- 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 Willapa Headwaters WAU averages 6.0 miles per square mile. Road mileages in the subbasin are similar to WAU mileages. The higher than average road miles per square mile with in the WAU are due to the amount of forest roads necessary to provide access across topography for safe logging operations.

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 WAUs and sub-basins.

During the winters of 1996, 2007, and 2009, (suspected) 100-year precipitation events occurred. Many channels in the WAUs were altered during these events due to high stream flows. In some cases the channels have been scoured down to bedrock, in others the increase in sediment loads and large woody debris delivery has changed channel locations and increased pool/riffle ratios.

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*

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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 a few private surface water intakes downstream (approximately 1 mile) from the proposal. 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 3 and 4 no-harvest RMZs to protect stream banks from erosion.**
- **The proposal's harvest units are each less than 100 acres to minimize impacts to watershed hydrology. (Unit 1 = 1.7 acres; Unit 2 = 74 acres; Unit 3 = 3 acres, Unit 4 = 1.8 acre; Unit 5 = 0.5 acres; Unit 6 = 11.5 acres; Unit 7 = 17 acres and Unit 8 [ROW] = 1 acre).**
- **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.

None.

- 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:*

- a. *Note protection measures, if any.*

There are a few private wells downstream (approximately 1 mile) from the proposal. Also, there are a few areas of instability downslope of the proposal. Due to the distance from the proposal area, 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.

- 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:*

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 or surface waters.

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.

4. Plants

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

deciduous tree:

alder, maple, aspen, cottonwood, western larch, birch,
other:

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: **vine maple, elderberry**

grass

pasture

crop or grain

wet soil plants:

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

water plants:

water lily, eelgrass, milfoil, other:

other types of vegetation: **sword 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 and east is a Douglas-fir plantation with an origin of 1960. To the south is a Type 4 stream buffer with an origin of 1957. To the west is a conifer plantation with an origin year of 2013.

Unit 2: To the north is a mixed conifer stand with an origin of 1960. To the east is Douglas-fir plantation with an origin of 1985 and a Type 3 RMZ with an origin of 1961. To the south is a Douglas-fir plantation with an origin of 1985. To the west is a Type 3 RMZ with an origin of 1959.

Unit 3: To the west is Douglas-fir plantation with an origin of 1984. To the east is a Type 3 RMZ with an origin of 1957. To the south is a Type 3 RMZ with an origin of 1957. To the north is a Douglas-fir plantation with an origin of 1984.

Unit 4: To the north is a conifer plantation with an origin of 2013. To the east, south, and west is a Type 4 RMZ with an origin of 1961.

Unit 5: To the east is a Douglas-fir plantation with an origin of 1961. To the east, south, and west is a Type 4 RMZ with an origin of 1961.

Unit 6: To the north is a Type 4 RMZ with an origin of 1961. To the west is a Type 3 RMZ with an origin of 1961. To the east is a mixed conifer stand with an origin of 1964. To the south is a Douglas-fir plantation with an origin year of 1983.

Unit 7: To the north and east is a conifer plantation with an origin of 2013. To the south is a mixed conifer stand with an origin of 1963. To the west is a Type 3 RMZ with an origin of 1960.

Unit 8 (ROW): To the north is Unit 6. To the west is a Type 3 RMZ with an origin of 1957. To the east is a mixed conifer stand with an origin of 1964. To the south is a Douglas-fir plantation with an origin year of 1983.

The older stands (56 to 63 years old) and the mature RMZ stands adjacent to the units have multi-layered canopies with scattered small to large snags and a moderate component of large down woody debris. The adjacent plantations (1 to 9 years old) have few snags and most of the down woody debris is scattered logs and slash from the previous harvest. Within the larger leave tree clumps, there are some components of older large down woody debris within the undisturbed vegetation.

2) *Retention tree plan:*

A combination of Douglas-fir, western redcedar, western hemlock, Sitka spruce, bigleaf maple, and red alder were left for green tree retention and snag recruitment. Reserve tree numbers were based on leaving eight trees per acre. Trees were left individually and in clumps. This type of leave tree pattern is conducive to a safe harvest operation and allows the distribution of wildlife trees throughout the proposal. When selecting wildlife trees, the highest preference was given to trees having form defects that may be desirable for birds, the largest trees, and the most windfirm species.

- 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, Type 5 streams, and potentially unstable slopes. 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.

Noxious weeds and invasive species have not been observed on or near 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: **Spotted owl, Marbled murrelet, Eastern wild turkey**

mammals: deer, bear, elk, beaver, other: **Coyote, cougar, bobcat**
 fish: bass, salmon, trout, herring, shellfish, other:
amphibians: Dunn’s salamander, western redback salamander
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*).

Two marbled murrelet “presence” detections were recorded in 2001, approximately 1 mile north of the proposal, in section 21 of Township 13N Range 06W. This area is not designated as marbled murrelet habitat and is not included in any of the long term conservation strategy options.

This proposal is located within Status 1 Spotted Owl Circle Site 877, but is entirely in an area designated as “non-habitat” as per the 2006 Settlement Agreement. The Federal Listing Status on these sites is Threatened, and the State Listing Status is Endangered. This proposal is not within owl habitat, the best 70 site center, or Nesting, Roosting, Foraging (NRF) and Dispersal habitat thus our HCP northern spotted owl conservation strategy does not identify this area within its recovery strategy and does not apply to this activity.

- 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.

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

Riparian habitat

- **No harvest RMZs on Type 3 and 4 streams**

- o **Upland habitat**

- **A minimum of 8 leave trees per acre were left clumped and scattered**

- 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 6. 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 and the rock pit is managed for timber production by the DNR.

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?

All units are zoned as Commercial Forest.

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

The comprehensive plan designation is resource lands, forest of long term significance.

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:

- 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 not affect the views described above.

- 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?

None.

- 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.

Yes, A site near the proposal is listed on the National Register of Historic Places or State Heritage Register. This site is entirely outside the proposal area and will not be affected by the activities in this proposal.

- 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.

Yes, A site near the proposal is listed on the National Register of Historic Places or State Heritage Register. This site is entirely outside the proposal area and will not be affected by the activities in this proposal.

- 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 assessed by a DNR Cultural Resource Technician. The Cultural Resource Technician also remotely reviewed GLO and Historic maps, and recorded cultural resources.

- 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 a previously unknown cultural resource is discovered during project operations, DNR will comply with the March 2010 Cultural Resources Inadvertent Discovery Guidance.

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.

State Route 6 to HM-Mainline 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 Raymond, WA which is approximately 18 miles northwest of 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?

5-20 trips per day during harvesting activities with periodic trips post-harvest to conduct monitoring and timber stand improvements. Vehicle trips were estimated based on the proposed volume removal and amount of road construction. Vehicles are primarily dump trucks and logging trucks. Peak hours of operation are 2am to 2pm.

- 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.**

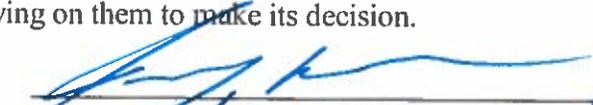
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. SIGNATURE

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:



Name of signee Tyler Kaech

Jeremy Homer
NRS2

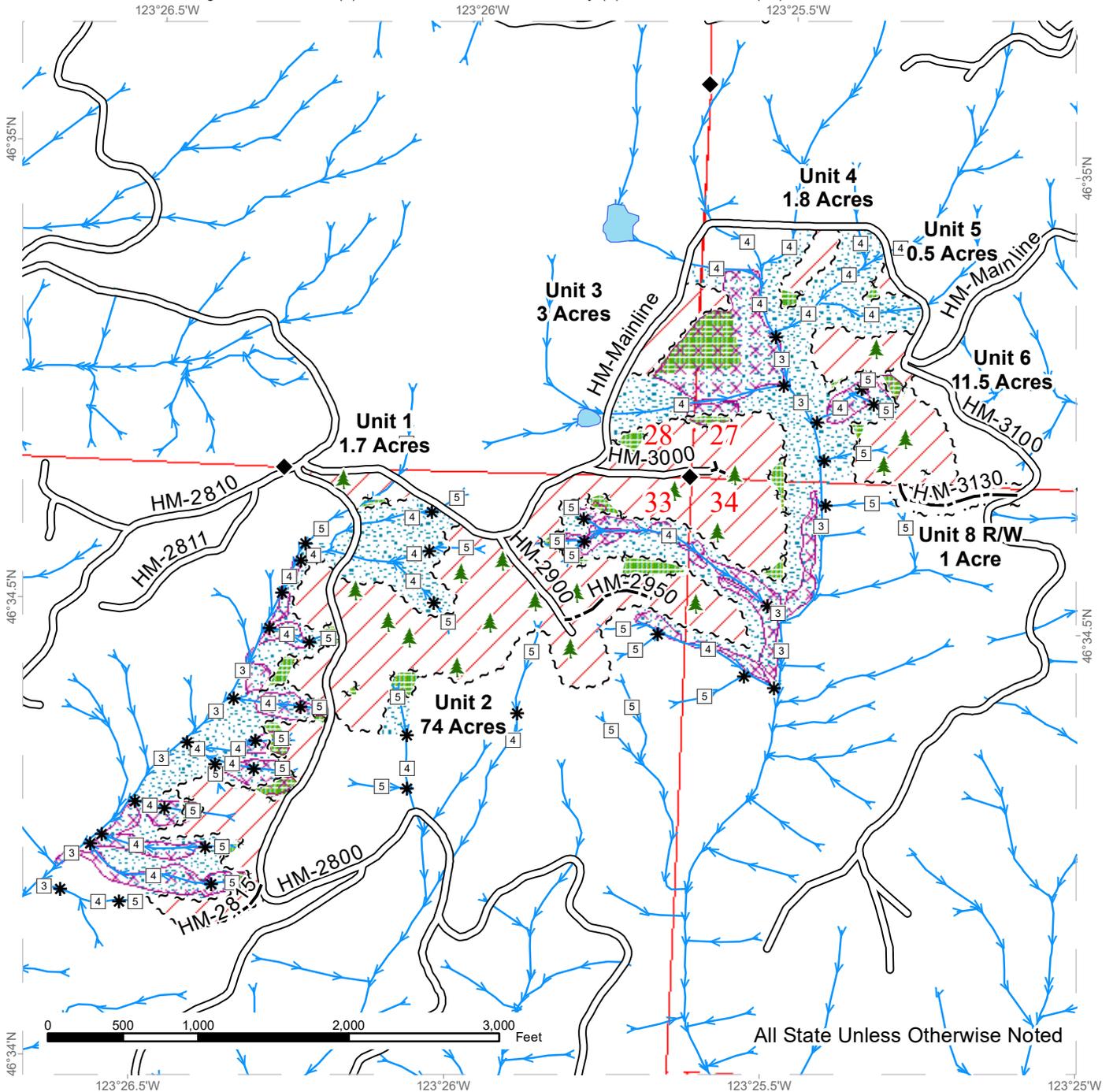
Position and Agency/Organization Forester/Washington Department of Natural Resources

Date Submitted: 3/4/2019

TIMBER SALE MAP

SALE NAME: CANNECTIVITY
AGREEMENT #: 30-098244
TOWNSHIP(S): T13R6W
TRUST(S): Agricultural School (4), Common School and Indemnity (3), Scientific School (10)

REGION: Pacific Cascade Region
COUNTY(S): Pacific
ELEVATION RGE: 1040-1480



All State Unless Otherwise Noted

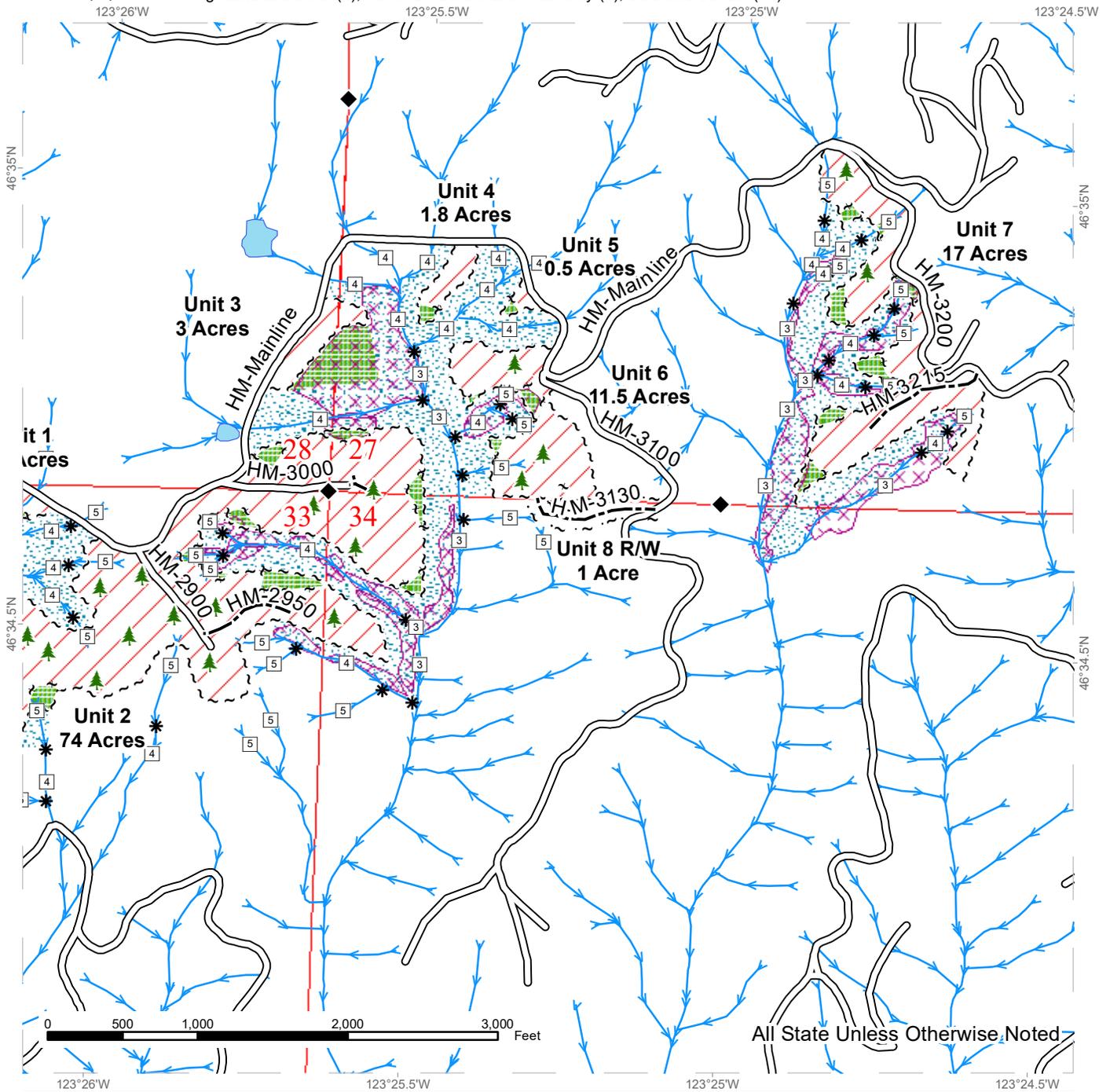
Variable Retention Harvest	Existing Roads	Streams
Leave Tree Area	Optional Construction	Stream Type
Riparian Mgt Zone	Stream Type Break	Survey Monument
Potentially Unstable Slopes	Leave Tree	
Sale Boundary Tags		
Leave Tree Tags		



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All State Unless Otherwise Noted

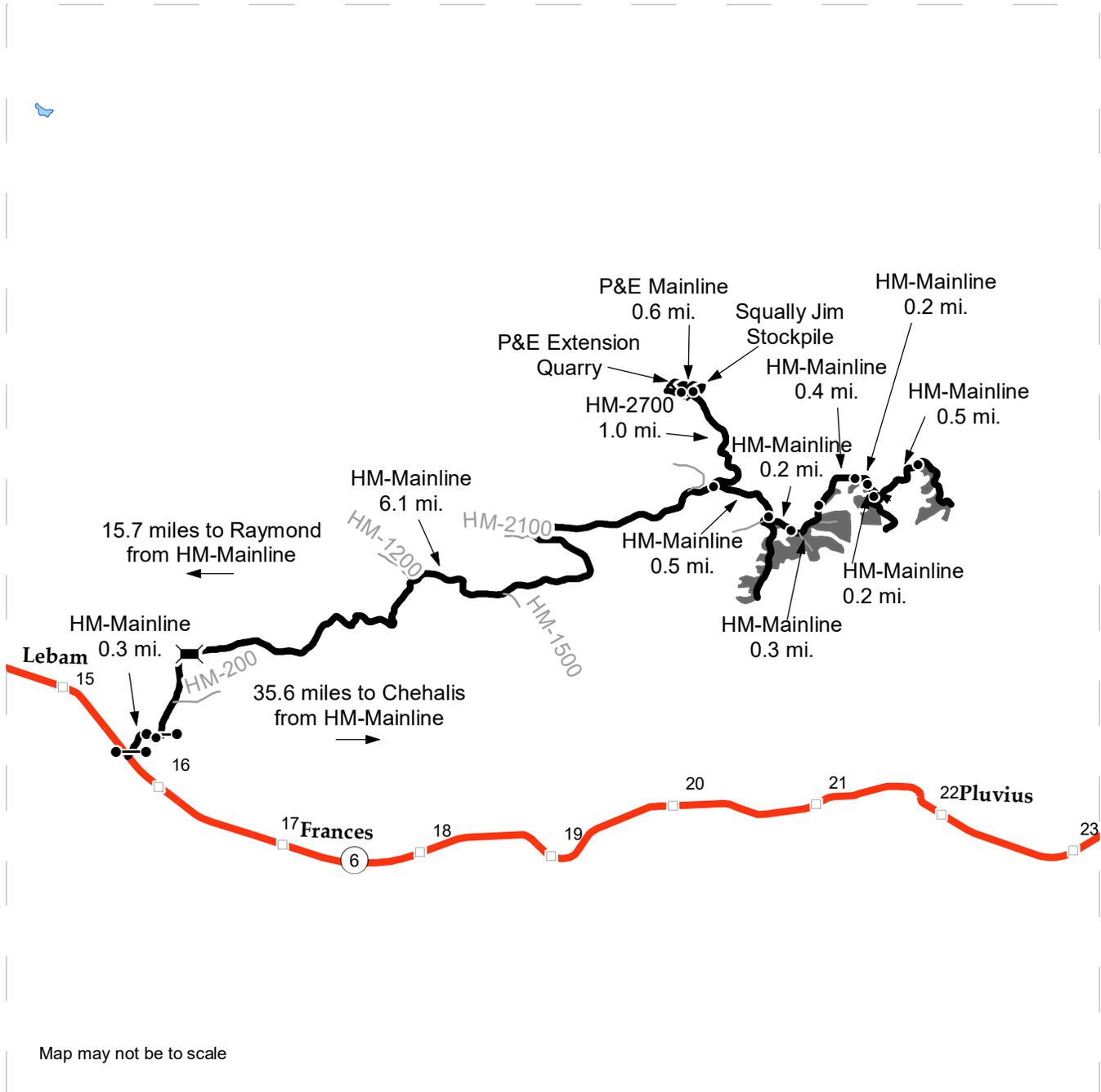
Variable Retention Harvest	Existing Roads	Streams
Leave Tree Area	Optional Construction	Stream Type
Riparian Mgt Zone		Stream Type Break
Potentially Unstable Slopes		Survey Monument
Sale Boundary Tags		Leave Tree
Leave Tree Tags		



DRIVING MAP

SALE NAME: CANNECTIVITY
AGREEMENT#: 30-098244
TOWNSHIP(S): T13R6W
TRUST(S): Agricultural School (4), Common School and Indemnity (3), Scientific School (10)

REGION: Pacific Cascade Region
COUNTY(S): Pacific
ELEVATION RGE: 1040-1480



- Timber Sale Unit
- Haul Route
- Other Road
- Milepost Markers
- Highway
- Bridge
- Distance Indicator
- Gate (No Lock)
- Rock Pit

DRIVING DIRECTIONS:

Units: Between MM 15 and 16 on Highway 6, turn onto the Halfmoon(HM)-Mainline at "Globe Farm". Go through unlocked farm gate and continue for 0.3 miles to second unlocked farm gate. Drive 6.7 miles to Unit 1. Continue on the HM-Mainline for 0.2 miles to Unit 2. Continue on the HM-Mainline for 0.3 miles to Unit 3. Continue on the HM-Mainline for 0.4 miles to Unit 4. Continue on HM-Mainline for 0.2 miles to Unit 5. Continue on HM-Mainline for 0.2 miles to Unit 6. Continue on HM-Mainline for 0.5 miles to Unit 7.

Rock Quarry: From the HM-Mainline and HM-2700 continue on the HM-2700 for 1.0 miles to reach Squally Jim Stockpile. Turn on to the P and E Mainline for 0.6 miles to P and E Extension Quarry.

