

**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: Zeppelin

Agreement # 30-093611

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

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

**Northwest Region
919 N. Township St.
Sedro-Woolley, WA 98284**

**Contact Person: Laurie Bergvall
Telephone: (360) 856-3500**

4. Date checklist prepared: **06/27/2016**

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

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

- a. *Auction Date: 2/22/2017*
- b. *Planned contract end date (but may be extended): 3/31/2019*
- c. *Phasing: Does not apply.*

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

Timber Sale:

- a. *Site preparation: Harvest units may be treated with herbicides prior to planting. Assessment for treatment will occur after completion of harvest.*
- b. *Regeneration Method: Hand plant conifer seedlings within two years after completion of harvest.*
- c. *Vegetation Management: Treatment to be assessed in 3 to 5 years. Competing vegetation may be treated by manual cutting and/or herbicides.*
- d. *Thinning: Treatment to be assessed in 10 to 15 years for pre-commercial thinning. A commercial thinning is possible in 25 to 45 years.*

Roads: The VZ-ML, VZ-16, VZ-21, VZ-2115, VZ-2115-20, VZ-2116, MM-ML, MM-22, and MM-2217 roads will continue to be used for future timber sales and forest management activities.

Rock Pits and/or Sale: The McCoy Pit and Zinfandel Pit will be used for future management activities. Onsite rock may be used for road construction, if rock sources are discovered along haul routes or within the sale area.

Other: Firewood from piled material, if available, may be sold following the completion of harvest activities.

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 Nooksack River South Fork, Hardscrabble Creek, Sygitowicz Creek and Todd Creek are all listed for temperature. Information was taken from the DOE website (www.ecy.wa.gov) on 06/27/16.
- Landscape plan:
- Watershed analysis: **Acme and Hutchinson Creek Watershed Analysis**
- Interdisciplinary team (ID Team) report:
- Road design plan: **Please see the Zeppelin Road Plan.**
- Wildlife report: **See “Biologist Review of Zeppelin Timber Sale”, dated August 15, 2016.**

Zeppelin, 11/2/2016

January 2016

- Geotechnical report:*
 Other specialist report(s): See Geologist Memo, "In and Around Landslide Unit 5 Zeppelin Timber Sale", dated August 9, 2016.
 Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):
 Rock pit plan: Please see the Zeppelin Road Plan.
 Other: State Soil Survey, 1992; Policy for Sustainable Forests, December 2006; Final Habitat Conservation Plan (HCP) & Environment Impact Statement, September 1997; HCP Riparian Forest Restoration Strategy, April 2006.

All documents available upon request at Northwest Region office.

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 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:*

Proposal Area:

The proposal is a Variable Retention harvest (VRH) with an estimated harvest volume of 3,620 mbf of timber on State managed trust lands. The harvest will occur via ground-based and cable yarding systems. The proposal is surrounded by State managed trust land and private industrial forest land.

Approximately 180 acres were considered for this proposal; this has been reduced to approximately 144.6 gross acres due to stream buffers. The resulting timber sale area consists of 5 variable retention harvest units (Unit 1, Unit 2, Unit 3, Unit 4 and Unit 5). VRH harvest totals 137.1 harvest acres after deducting leave tree areas and existing roads. Net acres were determined using a handheld GPS.

Rock pits will be utilized with this proposal. See A.7.

Road work will be completed as part of this proposal, as described in A.11.c.

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

Pre-Harvest Stand Description:

There are two different timber types associated with the proposed harvest. Units 1 through 4 are conifer dominated stands with an origin date of approximately 1974. According to the agency's Forest Resource Inventory System (FRIS), the stand has a 50-year site index of DF-153 with an RD of 62 and a QMD of 17.7. By basal area the stand is 91% Douglas-fir, 7% bigleaf maple and 2% western hemlock. Scattered western redcedar and red alder stems have been identified on site but aren't reflected in the agency's inventory data.

The second timber type is a conifer dominated stand with an origin date of approximately 1943. According to the agency's FRIS, the stand has a 50-year site index of DF-98 with an RD of 70 and a QMD of 10.5. By basal area the stand is 70% Douglas-fir, 15% western redcedar and 15% western hemlock. There are scattered hardwood stems in the unit that are not reflected in the agency's inventory data.

Type of Harvest:

All units will be treated with a VRH prescription that will retain at least 8 trees per acre.

Overall Unit Objectives:

1. Generating revenue for state trust beneficiaries;
2. Maintaining biological productivity of the site, retaining short and long term forest structural diversity, protecting and maintaining water quality;
3. Meet or exceed internal procedures derived from the Forest Practices Rules, Policy for Sustainable Forests, and the HCP;
4. Identify and protect historic and archaeological sites consistent with state/federal law.

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 (#)	Steepest Side Slope Road Crosses
Construction		2,036	0.70		30
Reconstruction		0		0	0
Abandonment		0	0	0	0
Pre-Haul Maintenance		37,049	12.76		50
Temporary construction		0	0		
Bridge Install/Replace	0				
Culvert Install/Replace (fish)	0				
Culvert Install/Replace (no fish)	1*				

*This refers to only typed stream crossings and does not include relief culverts.

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:*
Sections 26, 27, 28 and 33 of Township 38 North, Range 5 East, W.M.

Zinfandel Rock pit is located in Section 33 of Township 38 North, Range 5 East, W.M.
McCoy Rock pit is located in Section 36 of Township 38 North, Range 5 East, W.M.

Pre-haul maintenance is located in: Section 4 of Township 37 North, Range 5 East and Sections 26, 27, 28, 33, 34 and 35 of Township 38 North, Range 5 East, W.M.

b. *Distance and direction from nearest town (include road names):*
The proposal area is located approximately 2 miles northeast of Acme, WA.

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 Acres
Acme	24,267
Sub-Basin 11 (Acme)	5,199
Sub-Basin 12 (Acme)	1,751
Hutchinson Creek	14,060
Sub-Basin 5(Hutchinson Creek)	1,919

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.)

No cumulative change in the environment is expected from the combination of past and future activities with this proposal. This proposal as well as past and future activities meet or surpass Forest Practice Rules by complying with the commitments of the HCP and as such protect water quality and mitigate environmental impacts.

Data in the table below was reported in the Department's GIS database on June 24, 2016.

Name of WAU	Acres	DNR Managed Acres	Federal Managed Acres	Private Managed Acres	Percent DNR Managed Land	Percent Federal Managed Land	Percent Private Managed Land
Acme WAU	24,267	6270	--	17,997	25.8	--	74.2
Sub-basin 11 (Acme)	5,199	1,370	--	3,829	26.4	--	73.6
Sub-basin 12(Acme)	1,751	1,354	--	397	77.3	--	22.7
Hutchinson Creek WAU	14,060	6,184	10	7,866	44.0	0.1	55.9
Sub-basin 5 (Hutchinson Creek)	1,919	1,377	--	542	71.8	--	28.2

Past Activities in WAU

The following table reports Forest Practices approved applications for harvest activities in the Hutchinson Creek and Acme WAU within the past seven years on both DNR managed lands and non-DNR lands. The data was reported in the Department's GIS database on June 24, 2016.

NAME OF WAU	DNR ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS	DNR ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS	DNR EXPECTED HARVEST ACRES WITHIN NEXT 7 YEARS*	PRIVATE ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS	PRIVATE ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS
Hutchinson Creek WAU	283	0	1,332	570	51
Acme WAU	197	0	1,249	1,414	167

NOTE: This information is derived from activity locations collected by varying methods ranging from hand drawn maps to precise GPS collection. No verification of map accuracy or activity completion is conducted. Totals may not be the sum of all harvest types due to overlapping activities. The same land may be counted more than once if, in the past seven years, more than one Forest Practice application has been approved for different harvests (salvage and even-age for example). Future harvest acres for non-DNR lands are difficult to determine and are not represented in the table.

NOTE: All acreages are approximate. Rounding to the nearest 10 or even to the nearest 50 acres may be appropriate. Totals may not be the sum of all harvest types due to overlapping activities.

*NOTE: * Acres include even-aged, uneven-aged and salvage. Expected harvest acres and gross acres and include multiple proposals that may not be feasible harvest areas but are simply scheduled for review and reconnaissance. No screening for slope stability, wildlife habitat, stream impacts, or other issues has been completed on these reported acres.*

Future forest management activities in this WAUs will include road building, rock pit expansion, silvicultural work and timber harvesting. Activities occurring on DNR managed land will follow Forest Practices Rules, Habitat Conservation Plan (HCP) guidelines, and the Policy for Sustainable Forests – policies designed to minimize environmental impacts. Future forest management activities on privately managed, non-DNR lands will be subject to Forest Practices Rules.

The Department's Habitat Conservation Plan (HCP) outlines strategies to protect federally listed threatened and endangered species, and species that are in danger of being listed in the future, as well as uncommon habitat types found on forest lands in western Washington. HCP riparian buffers intended to protect salmon and trout habitat were applied to this proposal, and will be applied to all future sales in the vicinity. The HCP identifies large, structurally unique trees and snags as uncommon habitats that need to be protected. An average of 8 trees per acre will be left in the proposed harvest units. These trees will function for future snag and large structurally unique tree recruitment.

Under the Interim Strategy for the Marbled Murrelet in the North Puget Planning Unit outlined in the Department's HCP, several stands in these WAUs have been deferred from timber harvest to protect known murrelet nesting sites and to provide potential additional nesting habitat. This Interim Strategy also requires Department field staff to search for and delineate any "newly

identified" marbled murrelet habitat in the vicinity of any proposed timber harvest. These stands may be deferred from timber harvest throughout the remainder of the Interim Strategy (with occasional exceptions made to allow road and/or yarding access into non-habitat areas.) Field staff have determined that no "newly identified" marbled murrelet habitat exists in or near the proposal. This has been verified by a region biologist. Therefore, the proposal meets all requirements of the Interim Strategy.

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).*

Acme WAU: The South Fork Nooksack River valley, the eastern slopes of Stewart Mountain and the western slopes of the Van Zandt Dike define the Acme WAU. It is comprised of forested slopes that drain into the lower part of the South Fork Nooksack River. The elevation ranges from 216 to 3,079 feet. The climate is typical of the western slopes of the Cascade Range, with influences from Mount Baker and the Fraser River Valley. The yearly precipitation is 50 to 60 inches throughout the WAU with a 10-year, 24-hour storm event of 3 inches. The forest vegetation zone is the westside western hemlock zone with the major timber type being Douglas-fir and western redcedar with western hemlock as sub-species. A hardwood component of bigleaf maple, red alder, birch, and cottonwood is present at lower elevations.

Hutchinson Creek WAU: The Hutchinson Creek WAU is somewhat mountainous, ranging in elevation from below 303 to 4,213 feet. Bowman Mountain borders the northeast. On the west, the WAU climbs the south tip of the Van Zandt Dike. Blue Mountain borders the southeast. Most of the WAU is forested. The major timber types are second growth conifer/hardwood (Douglas-fir, western redcedar, western hemlock, and red alder). There are many Douglas-fir planted stands throughout the WAU. Hutchinson Creek is the major water body found in the north central portion of the WAU. Hutchinson Creek drains into the South Fork Nooksack River to the south. The climate is typical of the foothills of the western Cascade Range.

2) *Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).*
None known.

b. What is the steepest slope on the site (approximate percent slope)?
90%

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.

Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.

State Soil Survey #	Soil Texture	% Slope	Mass Wasting Potential	Erosion Potential
8723	VOLC. ASH OVER GLACIAL TILL	15-30	INSIGNIFIC'T	LOW
7506	VOLC. ASH OVER HARD SHALEY BEDROCK	30-60	MEDIUM	MEDIUM
8722	VOLC. ASH OVER GLACIAL TILL	0-15	INSIGNIFIC'T	LOW
4787	VOLC. ASH OVER GLACIAL TILL	5-30	INSIGNIFIC'T	LOW

4791	VOLC. ASH OVER GLACIAL TILL	0-8	LOW	MEDIUM
6699	VOLC. ASH OVER HARD SHALEY BEDROCK	30-60	MEDIUM	MEDIUM
0140	ANDIC XEROCHREPTS-ROCK OUTCROP-COMPLEX	60-90	N/A	N/A

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

1) *Surface indications:*

There is evidence of shallow slope failures within incised stream channels and inner gorges and also deep-seated landslides. There is evidence of past road fill failures along extremely steep side slopes.

The statewide landslide inventory (LSI) screening tool indicates no presence of polygons mapped as landslides within the proposed harvest unit boundaries. This landslide database is maintained by the Washington Department of Natural Resources, Forest Practices Division. The LSI includes landslides mapped during many different projects including large-scale geologic mapping, watershed analyses, landscape planning, and landslide hazard zonation, in addition to other case studies and mapping efforts. A large majority of landslides identified by these projects are mapped by remote review with minimal field verification. In addition, dormant and ancient deep-seated landslides are mapped in many projects included in the LSI. A large number of the remotely identified landslides and deep-seated features have been mapped with a questionable, probable, or unknown certainty. As a result, the LSI database is meant to be used as a screening tool and field verification is a necessary step in confirming the absence, presence, and extent of mapped features, as well as their actual level of activity/instability. No LSI polygons are in the immediate vicinity of the proposal area.

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:

From Hutchinson Creek Watershed Analysis – Mass Wasting
Mass wasting in Hutchinson Creek is dominated by numerous shallow-rapid landslides from inner gorge areas and gullies.

The following is a summary of the completed watershed analysis of Acme Creek WAU- Mass Wasting:

Shallow-rapid landslides and debris flows are the dominant form of mass wasting. The majority of shallow landsliding occurs in convergent areas (bedrock hollows) located at the heads of first-order channels and within inner gorges (which contain all slope forms). Deep-seated landsliding in the WAU is concentrated in the phyllite formation in the southwest portion of the WAU.

*Information was not provided by sub-basin.

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:

Shallow fill failures exist on orphaned road grades within the Acme and Hutchinson Creek WAU. See B.1.d.1.

Associated management activity:

Unmanaged orphan roads, lack of road maintenance and installation of undersized culverts are typically the cause of road related failures.

From Hutchinson Creek Watershed Analysis – Mass Wasting: The greatest frequency and density of landslides are related to inner gorge landforms. Roads and recent clear-cuts are the most frequently associated land-uses.

From Acme Creek Watershed Analysis – Mass Wasting: Landslide activity was concentrated in the late 1970's and during the mid-1980's coinciding with timber harvest, logging roads and large winter storms.

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 area and the surrounding areas contain steep slopes. Incised stream channels and inner gorges are present within some of the buffers of streams associated with the proposal. Unit 5 is partially on a dormant-indistinct or a dormant-mature deep-seated landslide. See Geologist Memo, dated August 9, 2016.

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

Areas discussed in B.1.d.1., located in and around the harvest units, have been assessed by a licensed engineering geologist, a Forest Practices qualified expert. Field visit with the engineering geologist was conducted on March 25, 2016.

Inner gorges are located inside RMZs and are excluded from the proposal. No stability protection measures were deemed necessary on the deep-seated landslide because it is dormant-indistinct or a dormant-mature. Two-thirds of area on this landslide was harvested 12 years ago and also pre-1970 with no apparent adverse impacts. The area has since achieved hydro-maturity. Only approximately 9% of this deep-seated landslide is proposed for harvest in Unit 5. There are no rule identified features within the proposal area.

See Geologist Memo, dated August 9, 2016.

Roads were designed to minimize ground-based yarding distances to an average of 600 feet or less.

- 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: 0.7 acres Approx. acreage new landings: 1.0 acres

Fill Source: Native (bank run) materials.

Road construction will utilize standard cut and fill methodology to obtain grade and alignment. Native soil and rock will be excavated from the road prism and used for fill in the sub-grade and over cross drains and stream crossings.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
Minor erosion may occur from freshly exposed soils along road cut slopes and embankment slopes. Yarding, rock and timber hauling, and road construction during periods of heavy rainfall could cause localized erosion. Any erosion should be contained on site.
- 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):*
Less than 2% of the site will be covered with impervious surfaces.
- 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 following timing and access restrictions will be applied to the project:

- No road construction, or timber or rock haul will occur from November 1 to March 31 unless the operator formulates an adequate plan to prevent erosion from entering surface waters.
- No ground-based yarding operations will occur from November 1 to March 31 during times of heavy precipitation and/or soil saturation unless the operator formulates an adequate plan, approved by the Contract Administrator, to prevent erosion from entering surface waters.

The following strategies will be applied to proposed road construction/ maintenance:

- Road pioneering will generally not extend more than 500 feet beyond completed construction.
- Culverts will be installed concurrently with construction of the road subgrade, and culvert outlets will not terminate on unprotected soils.
- On newly constructed roads, cross-drain culverts will be adequate in size and frequency to prevent concentration of road runoff to the extent that it would cause gullyng of stream drainages. Cross drain culverts will be placed in order to minimize the amount of ditch water that flows into surface waters. Rip-rap will be utilized at culvert inlets

and outlets as necessary to prevent erosion at these vulnerable points. Existing roads will be maintained so that drainage structures remain functional.

- Storm patrols will be conducted as necessary on existing and newly constructed roads to identify and address potential erosion problems.

The following strategies will be applied to the proposed timber harvest:

- Riparian (RMZ) buffers as described in B.3.a.1.b. and B.3.a.1.c., will be retained.
- Only low-ground-pressure tracked machines will be used to conduct ground-based falling and yarding.
- Ground-based equipment will be restricted to operating on sustained slopes of 40% or less, except for the use of self-levelling harvesters which may be used on sustained slopes up to 50%.
- Any equipment trails will be water-barred if necessary.

2. Air

- 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 equipment and dust from vehicle traffic and logging equipment are expected while the project is active. Following harvest, logging slash debris may be reduced by accumulating it into piles and burning.
- Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
Does not apply.
- Proposed measures to reduce or control emissions or other impacts to air, if any:
If slash is burned, it will be burned in adherence to the State's Smoke Management Plan.

3. Water

a. Surface Water:

- 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, seasonal stream segments and perennial stream segments are in or within 200 feet of the harvest area.

a. Downstream water bodies:

All surface water from this proposal flows into the South Fork of the Nooksack River via Hutchinson Creek and Black Slough.

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)
Black Slough	Type 4	1	100 feet
Unnamed Stream	Type 4	12	100 feet
Unnamed Stream	Type 5	18	30-foot equipment limitation zone

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

See A.11.a., A.11.b. and B.5.d. All new and existing roads through RMZs will be monitored during hauling to ensure ditchwater and road runoff will not enter or otherwise adversely affect water quality or RMZ function. Corrective action such as straw bales, silt fencing, rock-lined ditches, and sediment traps will be installed/constructed as necessary. Ditchwater will be diverted through relief culverts prior to stream crossing. See B.1.h.

- 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):

One type 4 water will be crossed during road construction. This work will be done per contract specifications and is a culvert replacement. Ditchwater will be diverted through relief culverts or will make use of topographic controls prior to stream crossings to keep sediment out of streams. In addition, two areas of excess road ditchwater drainage were identified during fieldwork. These areas have created unnatural channels. This ditchwater will be alleviated with installation of additional relief culverts to redirect the water to the forest floor in a less concentrated manner. Timber will be felled immediately adjacent to the RMZs as described in the table in B.3.a.1.b. Timber will be felled away from the streams where practicable to avoid damage to residual trees within the RMZ. Timber will be felled and yarded away from type 5 streams where safely practicable. All timber will have the leading end of the logs elevated during yarding to reduce soil disturbance near these features. In addition, there are 30-foot equipment limitation zones on all type 5 streams in the proposal.

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.
Does not apply.

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:

All stream flow will be temporarily diverted through bypass culverts or retained behind (or pumped around) a coffer dam during culvert installation in typed streams. Also, typed waters may be temporarily diverted, if culvert replacement is deemed necessary, through the course of operations, on typed water crossing on existing roads.

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, the following data was reported in the Department's GIS database on June 20, 2016. This data is not available by sub-basin.

Acme WAU:

Erosion Potential	Acres	% in WAU	Mass Wasting Potential	Acres	% in WAU
High	5626.2	23.2	High	5626.2	23.2
Medium	2577.4	10.6	Medium	2202.7	9.1
Low	12512.4	51.6	Low	838.5	3.5
Variable	347.3	1.4	Insignificant	15001.6	61.8
No Data	0.0	0.0	No Data	0.0	0.0
N/A	2957.0	12.2			

Hutchinson Creek WAU

Erosion Potential	Acres	% in WAU	Mass Wasting Potential	Acres	% in WAU
High	1420.3	10.1	High	578.2	4.1
Medium	5715.5	40.7	Medium	5445.3	38.7
Low	6631.3	47.2	Low	1584.3	11.3
Variable	25.4	0.2	Insignificant	6234.0	44.3
No Data	0.0	0.0	No Data	0.0	0.0
N/A	136.3	1.1			

Acme and Hutchinson Creek WAU: Soil data may not be available for 100% of the WAUs.

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:

There is evidence of minor changes and aggradation to the channels of some streams. These changes can most likely be attributed to past mass wasting and peak flow events. Debris flows or torrents have scoured some channels down to bedrock and may have historically resulted in small course changes in some low gradient channel segments.

9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*

No Yes, explain:

This proposal includes both the harvest of timber and road work. The removal of overstory vegetation will temporarily reduce interception of water and increase infiltration and saturation of water into the forest floor which could temporarily increase overland flow.

RMZ buffers (see B.3.a.1.b) and other operation-system control measures (see B.1.h) ensure that any overland flow from disturbed soil areas will filter through substantial amounts of forest-floor vegetation before entering any perennial stream channels.

Road work disturbs surface soils where some temporary surface erosion is likely to occur, especially with the first winter rains following road work at culvert installation locations. The culvert replacement will follow Forest Practices Rules and Road Maintenance and Abandonment Plan (RMAP) requirements to minimize any erosion-related water quality impacts. See question B.1.h, B.3.a.1.c, and B.3.d. for a partial listing of some of the specific erosion protection measures.

10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)?*

The following data was reported in the Department's GIS database on June 24, 2016. Data is not available for sub-basins.

Acme WAU

Land Owner	Miles of Road	Miles per Square Mile
Non-DNR	102.4	2.7
DNR	56.0	1.5
Total	158.4	4.2

Hutchinson Creek WAU

Land Owner	Miles of Road	Miles per Square Mile
Non-DNR	69.2	3.1
DNR	62.5	2.8
Total	131.7	6.0

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:

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:

Based on a GIS report generated in June 24, 2016:

See B.3a.12 below for percentage of sub-basin(s) is in significant ROS zone.

Acme WAU

Sub-Basin 11: 9.91%

Sub-Basin 12: 48.09%

Hutchinson Creek WAU

Sub-Basin 5: 38.93%

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?

Based on a GIS report generated in June 24, 2016:

WAU <u>or</u> sub-basin(s)	ROS acres:	% sub-basin in significant ROS zone	DNR hcp-managed forest land acres in ROS:	% DNR hcp-managed forest lands in ROS:	% DNR managed lands rated hydrologically mature
Acme Sub-Basin 11	515	9.91	512	99.41	37.14
Acme Sub-Basin 12	842	48.09	841	99.85	19.14
Hutchinson Creek Sub-Basin 5	747	38.93	681	91.13	34.38

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):

Shallow rapid failures on steep slopes and inner-gorges have occurred throughout the WAUs as stated in B.1.d.2. These events were likely the result of peak flow events.

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.

Both the Acme and Hutchinson Creek WAUs have been assessed for rain on snow and peak flow sensitivity through the completed watershed analyses and showed that these WAUs do not have a high hazard for peak flow impacts; therefore, the Acme and Hutchinson Creek WAUs will not be managed for rain on snow events.

- a. *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 is a water intake on the Black Slough Stream. The stream has a 100-foot no-harvest buffer and the water intake should not be affected by the proposal.

- 15) *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.*

See B.3.a.2, B.3.a.1.c., and B.1.h.

As stated in B.3.a.14, this proposal is not expected to cause a damaging increase in peak flows. In order to minimize the risk of road failures during peak flow events, all culverts utilized in new road construction will be sized to withstand a 100-year flood event. Culverts and ditches will be maintained so that they remain functional. Storm patrols will be conducted as necessary on existing and newly constructed roads to identify and address potential erosion problems.

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.

Groundwater will not be withdrawn.

Channelized water through ditches and culverts emptying out onto the forest floor will increase surface saturation in localized areas, but is not expected to affect ground water.

- 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 and lubricants could be inadvertently spilled as a result of heavy equipment use. No lubricants will be disposed of on site. See also B.7.a.

- 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.*

Road locations were selected to minimize ground water interception. Intercepted ground water will remain within its original drainage basin. The Black Slough stream and the water intake that is on it have a 100-foot no-harvest buffer and should not be affected by the proposal.

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 landings and road surfaces will be collected by ditches and diverted through cross drain culverts onto the forest floor. Culverts will be placed to minimize the amount of ditch water entering existing streams.

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

No Yes, describe:

Minor spills of petroleum products resulting from logging operations may occur on roads or landings but it is unlikely that any waste material could enter any surface or ground water.

a. Note protection measures, if any.

Existing regulations and contract requirements regarding spill prevention and waste cleanup will be followed.

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

New road construction may intercept subsurface water flows. Intercepted water will be collected by ditches and directed to relief culverts affecting drainage patterns as described in B.3.b.1.

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.)

Constructed ditches, cross-drain culverts, drain dips, and water bars will be used to control road related runoff. Straw, grass seeding, or other appropriate methods may be used on any soil exposed cut and fill slopes during the course of this proposal in order to prevent sediment movement. Roads and landings will be crowned to avoid water accumulation. Falling and yarding away from all seasonal streams will be applied where feasible. All activities associated with this proposal will meet or exceed Forest Practices standards and will follow the Habitat Conservation Plan. See also B.1.d.5 and B.1.h.

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: Sword Fern

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:

plant communities of concern:

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.)

See A.11. Second growth and third growth conifer and hardwoods will be removed using a VRH prescription over the majority of the proposed harvest area. Some immature trees or snags may be left unless they need to be felled for safety or operational reasons. Understory vegetation will be disturbed by logging or road building activities. These stands will retain snags, dominant and co-dominant and/or structurally unique trees via clumps and scattered leave trees to increase horizontal and vertical diversity over the landscape.

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.")

Units 1 – 4 are surrounded by RMZ stream buffers containing timber similar to the unit and conifer and hardwood plantations ranging in ages from 0 – 50 years.

Unit 5 is surrounded by RMZ stream buffers containing timber similar to the unit and conifer plantations ranging in ages from 5 – 25 years.

2) *Retention tree plan:*

An average of 8 trees per acre will be left as scattered leave trees and in clumps that are distributed across the proposal area. These clumps include all tree species currently found in the proposal area. These clumps were located around features that will contribute to the maintenance of biological diversity such as snags, down logs, areas with extensive understory development, large wind firm conifer trees.

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

DNR's TRAX system indicates wetlands associated with the South Fork Nooksack River drainage basin in Section 33 of Township 38 North, Range 5 East. This proposal should have no impact on the wetlands identified.

- b. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
The proposal area will be planted with conifer seedlings after harvest. See green tree retention plan in B.4.b.2.
- c. List all noxious weeds and invasive species known to be on or near the site.
There are no noxious weeds or invasive species known to be 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:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other:

unique habitats: talus slopes, caves, cliffs, oak woodlands, balds,
mineral springs

Eagle -No eagle nest or roosts were found on or within 660 feet of the proposal.

- b. List any threatened and endangered species known to be on or near the site (include federal- and state-listed species). None known.
- c. Is the site part of a migration route? If so, explain.
 Pacific flyway Other migration route: Explain if any boxes checked:
All of Washington State is considered part of the Pacific Flyway. No impacts are anticipated as a result of this proposal.
- d. Proposed measures to preserve or enhance wildlife, if any:

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

Species /Habitat: Fish Habitat

Protection Measures: Stream protection measures listed in B.3.a.1.b.c., B.3.a.2; soil protection measures in B.1.h.; slope stability protection in B.1.d.5.; and peak flows protection in B.3.a.16.

Species /Habitat: Mature Forest Components

Protection Measures: Retention tree plan described in B.4.b.2.

- e. List any invasive animal species known to be on or near the site.
None known.

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.
Does not apply.
- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
Does not apply.
- 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:
Does not apply.

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.
There is minimal anticipated hazard from heavy equipment operations. There is also a potential fire hazard if operations occur in moderate to severe fire weather conditions during summer months. The contract contains language for operations during fire season. There is a slight chance of hydraulic or oil spills from equipment operating on the site. The timber sale contract contains language that addresses hazardous materials spill prevention; hazardous material spill containment, control and cleanup; hazardous material release reporting. If any toxic or hazardous chemical spill occurs, or if past contamination is discovered, the Department of Ecology will be notified.
 - 1) Describe any known or possible contamination at the site from present or past uses.
No known contamination on or near the site.
 - 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.
 - 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.
Heavy equipment fuel and fluids will be used on-site during the project. The timber sale contract contains language that addresses these materials and potential spills. In addition, various pesticides may be used on the site for vegetation management.
 - 4) Describe special emergency services that might be required.
Firefighting by the Department of Natural Resources, possibly supported by local fire districts. Emergency medical and/or ambulance service for personal injuries. Responses by the Department of Ecology if a spill were to occur.
 - 5) Proposed measures to reduce or control environmental health hazards, if any:
Safe operation of all equipment will be encouraged. Industrial restrictions and precaution levels regarding forest fire protection will be enforced. The timber purchaser will be required to have fire suppression equipment on site during the restricted fire season while harvest activity is ongoing. Operations will cease if relative humidity falls below 30%.
- 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.
Noise from rock drilling/crushing machinery, rock blasting, road building, and logging equipment such as chain saws, yarding whistles, and log/dump trucks will increase noise levels during periods of operation, typically occurring between 4 a.m. and 5 p.m. on weekdays, on a short-term basis. Noise from road construction and harvest activity will be present in the immediate vicinity of this proposal during operations. Noise from log hauling will be present along the haul routes during operations.
 - 3) Proposed measures to reduce or control noise impacts, if any:
Noise associated with harvest and road construction activity will be minimal anywhere but in the immediate vicinity of the proposal. Harvest activity and log hauling are historic activities in the area and noise should not be present above customary levels.

8. Land and shoreline use

- a. What is the current use of the site and adjacent properties? 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.*)
Timber production. The proposal should have minimal effects on nearby properties.
- 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?
Yes, this site has historically been working forest land. No conversion is planned.
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:
Yes, the proposal is a forest land management operation. This is typical for the area and has been so historically. See also A.7.a, A.11.a, A.11.c, B.1.h, B.3.a.1.c, and B.3.d.
- c. Describe any structures on the site.
No structures on site.
- d. Will any structures be demolished? If so, what?
No.
- e. What is the current zoning classification of the site?
Industrial Forestry
- f. What is the current comprehensive plan designation of the site?
Industrial Forestry
- g. If applicable, what is the current shoreline master program designation of the site?
Does not apply.
- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.
Does not apply.
- i. Approximately how many people would reside or work in the completed project?
Does not apply.
- j. Approximately how many people would the completed project displace?
Does not apply.
- k. Proposed measures to avoid or reduce displacement impacts, if any:
Does not apply.
- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
This project is consistent with current comprehensive plans and zoning regulations.
- m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:
Project should have no effect on adjacent agricultural or forest lands.

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
Does not apply.
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
Does not apply.
- c. Proposed measures to reduce or control housing impacts, if any:
Does not apply.

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?
Does not apply.
- b. What views in the immediate vicinity would be altered or obstructed?

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

No Yes, viewing location: Acme, WA

- 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:
State Route 9

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

View will be impacted by variable retention harvest activities.

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

Timber harvesting is a normal occurrence in the vicinity of the proposal, and recent timber harvests are visible throughout the area. Within and around the proposal area, un-harvested stands, stream buffers, and leave tree clumps will remain to reduce the visual impact. These residual stands will break up the view of the harvested area considerably, and will help maintain the aesthetic quality of the area. Furthermore, the proposal area will be planted with conifer trees within two years of completion of harvest activities.

11. Light and glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
Does not apply.
- b. Could light or glare from the finished project be a safety hazard or interfere with views?
Does not apply.
- c. What existing off-site sources of light or glare may affect your proposal?
Does not apply.
- d. Proposed measures to reduce or control light and glare impacts, if any:
Does not apply.

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?
Informal recreational opportunities exist in the vicinity. These include hiking, mountain biking, hunting, berry picking and mushroom picking.
- b. Would the proposed project displace any existing recreational uses? If so, describe.
Use of the proposal area by other users may be limited during the course of operations due to safety/security concerns. No permanent displacement of existing use will occur as a result of this proposal.
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
None planned.

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.
None known.
- 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.
None known.
- 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.
Methods for review include reviewing DNR TRAX reports, consulting affected tribes, reviewing historical GLO and USGS maps and consultation with a DNR cultural resources technician on 8/16/2016.
- 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.
Any cultural resources identified during operations will be protected. Should archaeological materials or cultural items be discovered during the course of operations, all work in the vicinity will be stopped and associated tribes and Department of Archaeological and Historic preservations (DAHP) will be contacted.

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.
See WAU and adjacency maps on the DNR website under "SEPA CENTER". See A.12.b.
 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.
- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?
Does not apply.
- 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).
New forest roads will be constructed as part of this proposal. See A.11.c.
 1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*
Apart from log hauling traffic during the course of operations, this proposal will have minimal impact on the overall transportation system in the surrounding area.
- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
Does not apply.
- 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?
The completed project will generate approximately 1-2 trips per year for management purposed, for the first 5-10 years after the completion of the proposal. Up to 25 vehicular trips per day could occur during peak harvest activities. These trips would occur primarily between the hours of 4 a.m. and 5 p.m. on weekdays.
- 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: Samuel Petska

Name of signee Samuel Petska

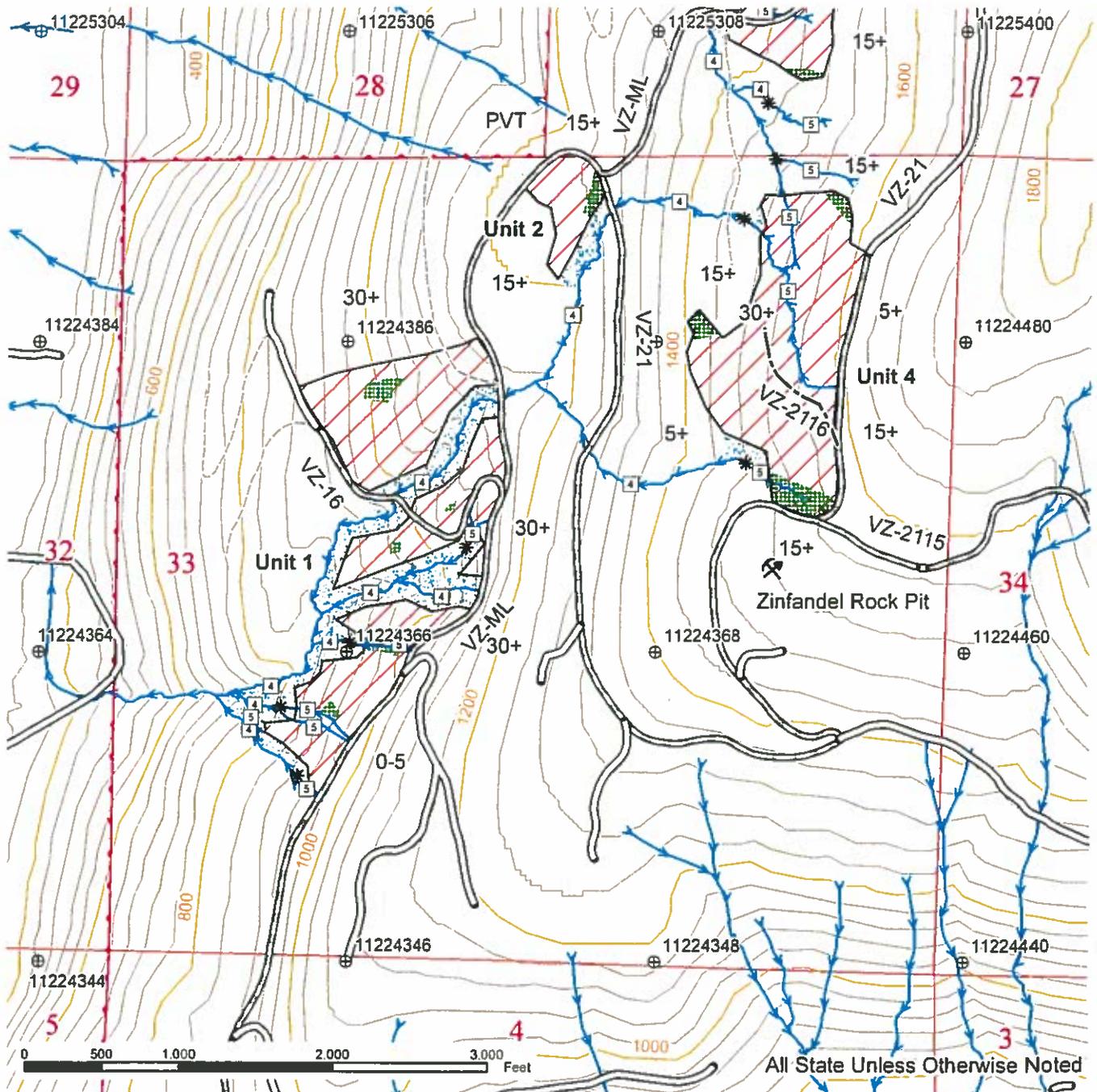
Position and Agency/Organization DNR Forester

Date Submitted: 11/10/12

FOREST PRACTICES ACTIVITY MAP

SALE NAME: ZEPPELIN
APPLICATION #: None

COUNTY(S): WHATCOM
TOWNSHIP(S): T38R05E



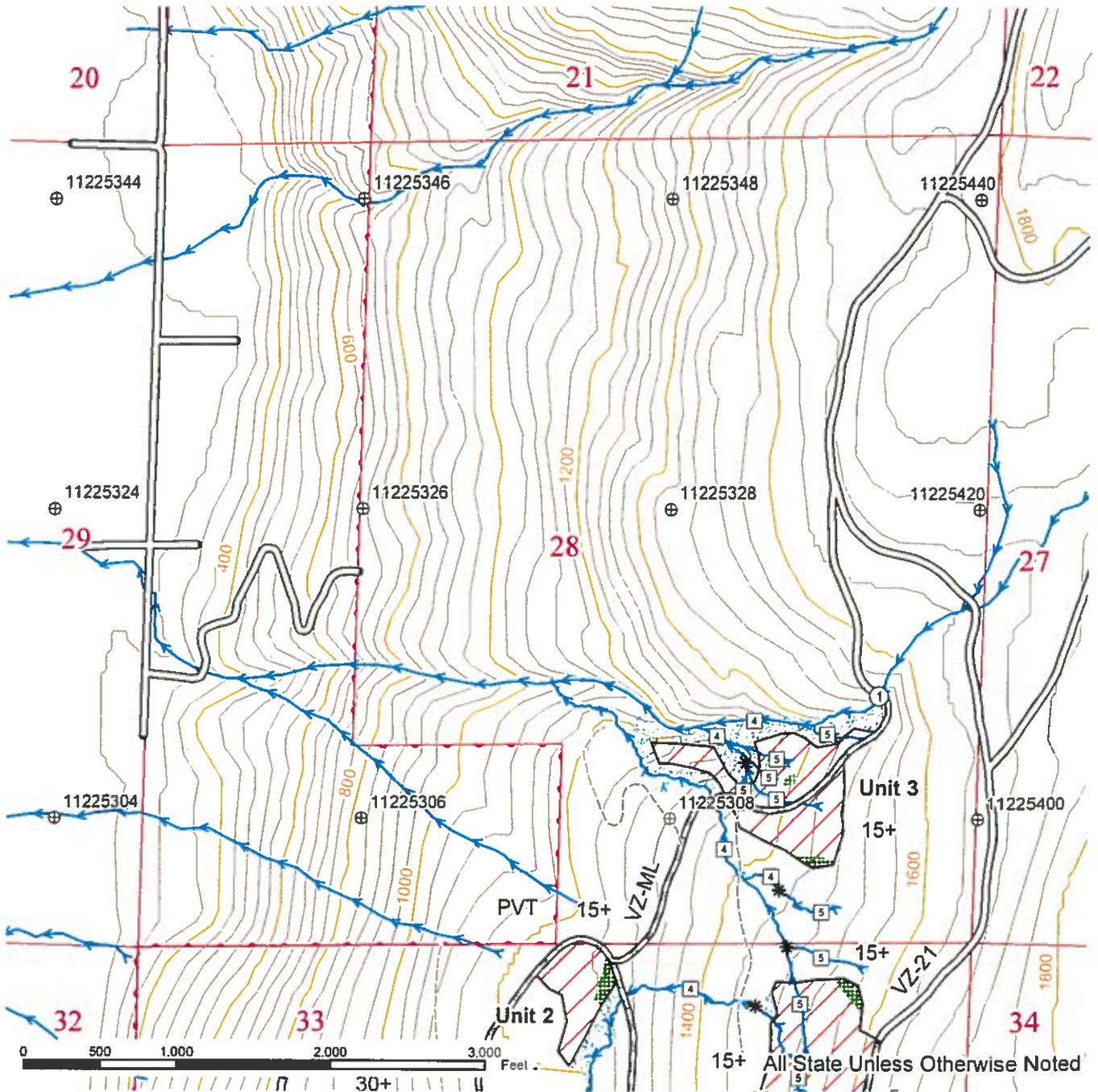
Even Aged Harvest	Existing Roads	Streams
Riparian Mgt Zone	Existing Roads	Stream Type
Leave Tree Area	Temporary Construction	Stream Type Break
Crossing Identifier	Old Grades/Trails	DNR Managed Lands
		Tics - 2000' Interval
		Existing Rock Pit



FOREST PRACTICES ACTIVITY MAP

SALE NAME: ZEPPELIN
 APPLICATION #: None

COUNTY(S): WHATCOM
 TOWNSHIP(S): T38R05E

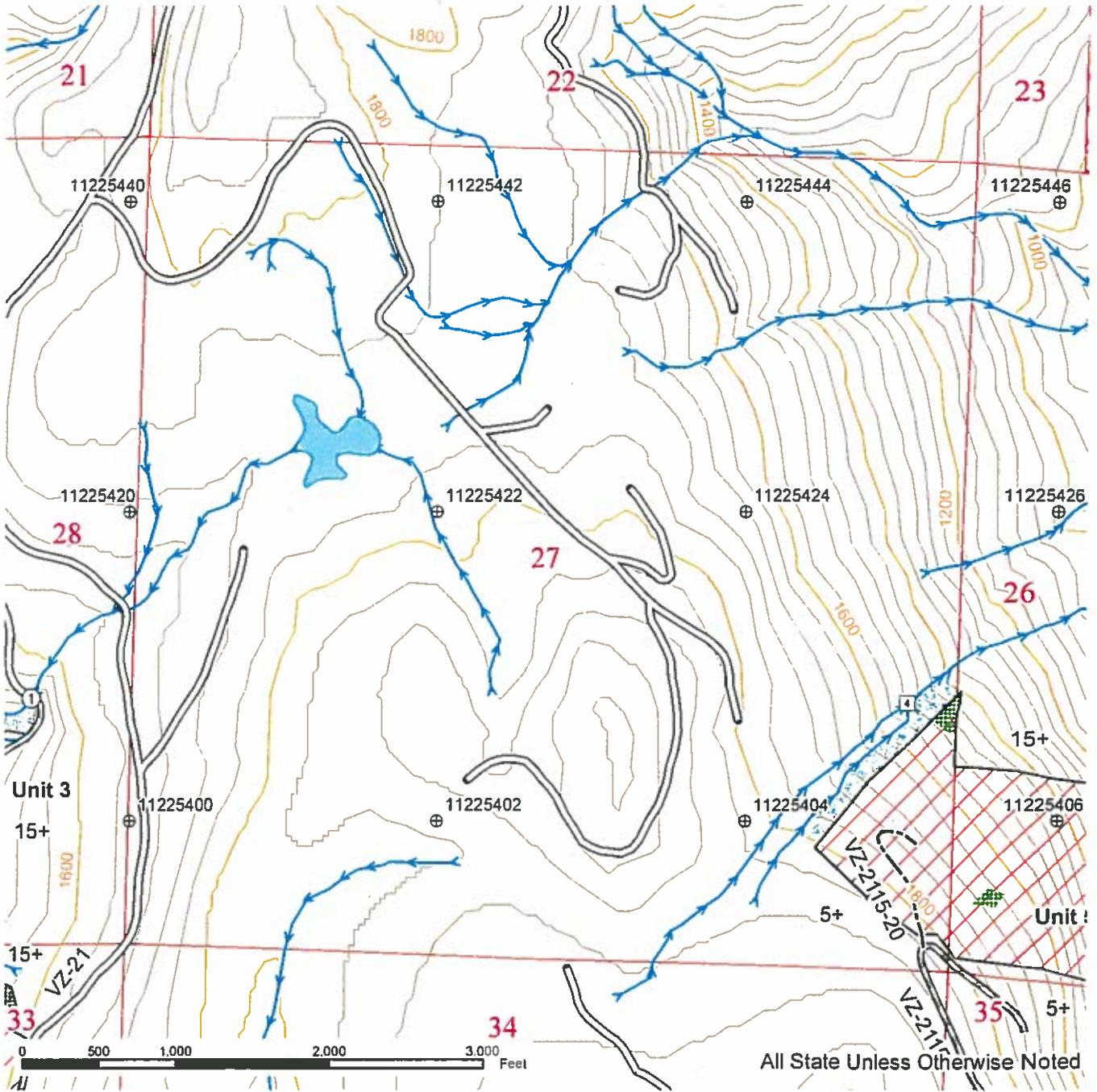


Even Aged Harvest	Existing Roads	Streams
Riparian Mgt Zone	Existing Roads	Stream Type
Leave Tree Area	Temporary Construction	Stream Type Break
Crossing Identifier	Old Grades/Trails	DNR Managed Lands
		Tics - 2000' Interval

FOREST PRACTICES ACTIVITY MAP

SALE NAME: ZEPPELIN
 APPLICATION #: None

COUNTY(S): WHATCOM
 TOWNSHIP(S): T38R05E

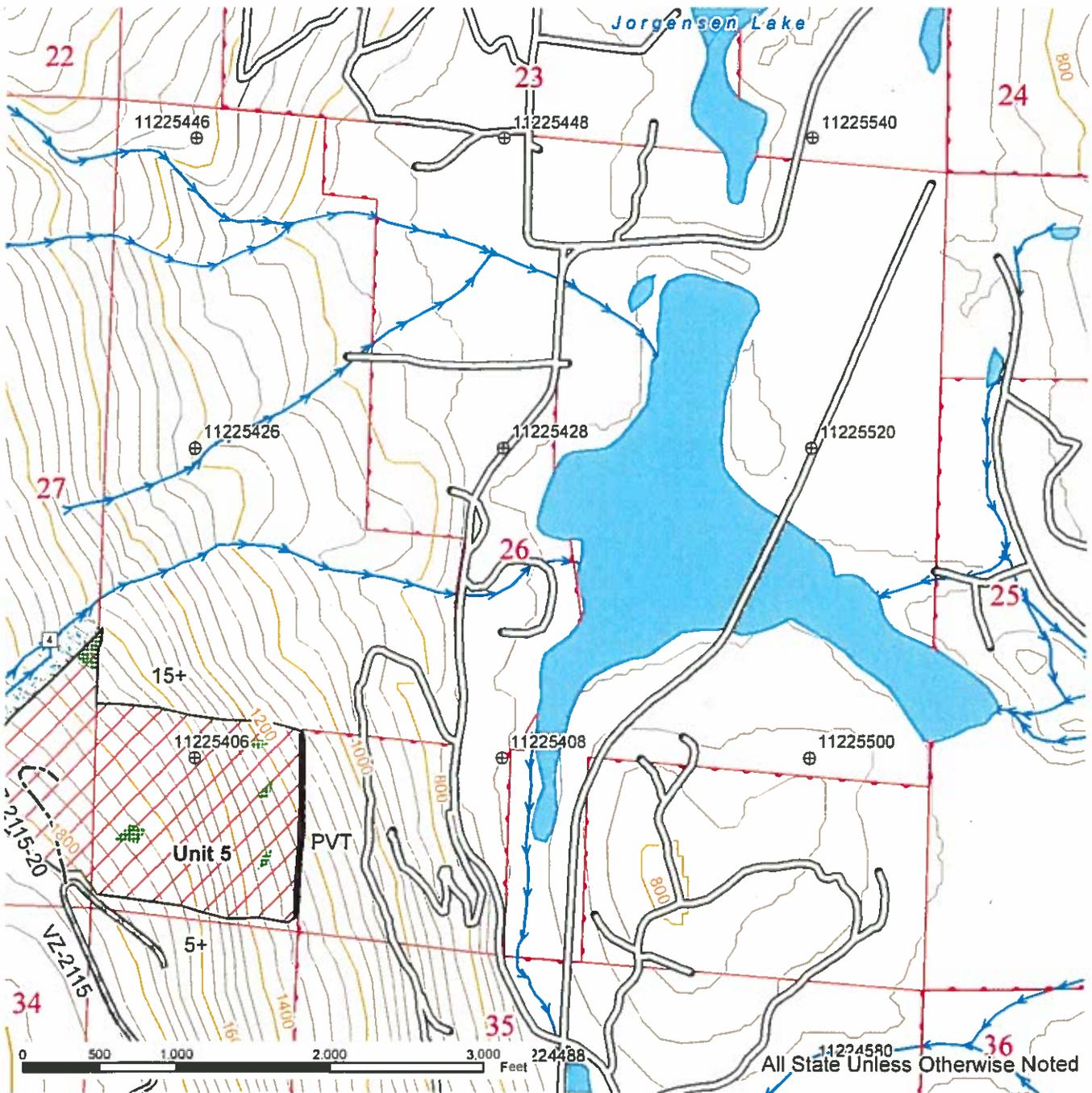


Even Aged Harvest	Existing Roads	Streams
Riparian Mgt Zone	Existing Roads	Stream Type
Leave Tree Area	Temporary Construction	Stream Type Break
Crossing Identifier	Old Grades/Trails	DNR Managed Lands
		Tics - 2000' Interval

FOREST PRACTICES ACTIVITY MAP

SALE NAME: ZEPPELIN
 APPLICATION #: None

COUNTY(S): WHATCOM
 TOWNSHIP(S): T38R05E

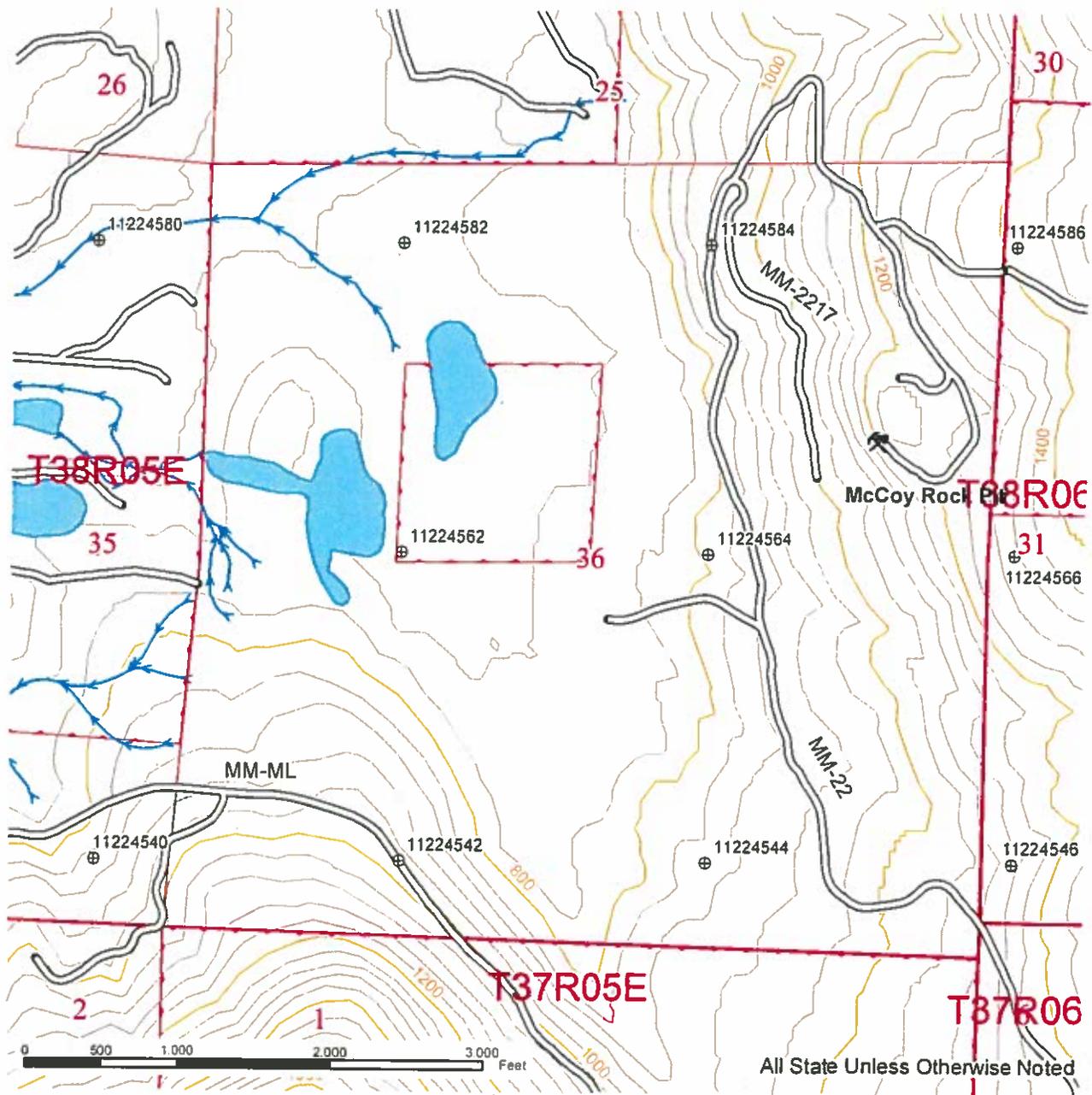


Even Aged Harvest	Existing Roads	Streams
Riparian Mgt Zone	Existing Roads	Stream Type
Leave Tree Area	Temporary Construction	Stream Type Break
Crossing Identifier	Old Grades/Trails	DNR Managed Lands
		Tics - 200' Interval
		Existing Rock Pit

FOREST PRACTICES ACTIVITY MAP

SALE NAME: ZEPPELIN
APPLICATION #: None

COUNTY(S): WHATCOM
TOWNSHIP(S): T38R05E



Even Aged Harvest	Existing Roads	Streams
Riparian Mgt Zone	Existing Roads	Stream Type
Leave Tree Area	Temporary Construction	Stream Type Break
	Old Grades/Trails	DNR Managed Lands
		Tics - 2000' Interval
		Existing Rock Pit