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: Variety  
   Agreement # 30-096432

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: 12/20/17

5. Agency requesting checklist: Washington Department of Natural Resources

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

   a. Auction Date: 10/25/2018
   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 VRH units will be 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. Talus rock removed for road construction will be put back in place once timber haul is completed.

Rock Pits and/or Sale:

Beehive Pit located in Section 30 of Township 6N, Range 5E will be utilized as a rock source for current and future sales, 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):
- Landscape plan:
- Watershed analysis:
- Interdisciplinary team (ID Team) report:
- Road design plan: Available upon request at the Pacific Cascade Region Office.
- Wildlife report:
- Geotechnical report: Geotechnical Report
- Other specialist report(s): Biologist Variances
- 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; Planning and Tracking Reports and associated maps; Road Maintenance

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and Abandonment Plan (RMAP): #2900971. 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.

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 # 2934565 ☐ FHPA ☒ Burning permit ☐ Shoreline permit ☒ Incidental take permit
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:

Variety timber sale includes 13 Variable Retention Harvest (VRH) and 6 Right-of-Way (ROW) units within the Lewis River Block. This proposal will use both ground-based, cable and cable assist harvesting methods. Rock will be obtained from the Beehive pit.
b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Age</th>
<th>Species Composition</th>
</tr>
</thead>
</table>
| 1    | 93-years-old| **Overstory:** Douglas-fir, western hemlock, red cedar  
**Understory:** Oregon grape, bear grass                                  |
| 2    | 72-years-old| **Overstory:** Douglas-fir, western hemlock, red cedar  
**Understory:** Oregon grape, bear grass                                  |
| 3    | 93-years-old| **Overstory:** Douglas-fir, western hemlock, red cedar  
**Understory:** Oregon grape, bear grass, Alaskan huckleberry, salal            |
| 4    | 93-years-old| **Overstory:** Douglas-fir, western hemlock, red cedar  
**Understory:** Oregon grape, bear grass                                  |
| 5    | 87-years-old| **Overstory:** Douglas-fir, western hemlock, red cedar  
**Understory:** Oregon grape, bear grass, Alaskan huckleberry, salal            |
| 6    | 42 and 102-years-old| **Overstory:** Douglas-fir, western hemlock, red cedar  
**Understory:** Oregon grape, sword fern, Oregon Oxalis                      |
| 7    | 43-years-old| **Overstory:** Douglas-fir, western hemlock  
**Understory:** sword fern, Oregon Oxalis                                   |
| 8    | 42-years-old| **Overstory:** Douglas-fir, western hemlock  
**Understory:** sword fern                                                  |
| 9    | 42-years-old| **Overstory:** Douglas-fir, western hemlock  
**Understory:** sword fern, Oregon Oxalis                                   |
| 10   | 42-years-old| **Overstory:** Douglas-fir, western hemlock  
**Understory:** sword fern, Oregon Oxalis                                   |
| 11   | 38-years-old| **Overstory:** Douglas-fir, western hemlock  
**Understory:** sword fern                                                  |
| 12   | 38-years-old| **Overstory:** Douglas-fir, western hemlock  
**Understory:** Oregon grape, sword fern, salal                             |

*Unit 6 contains a groundwater recharge area to a glacial deep seated landslide identified by the State Lands Geologist and was excluded from harvest.*
<table>
<thead>
<tr>
<th>Year</th>
<th>Age</th>
<th>Overstory</th>
<th>Understory</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>38-years-old</td>
<td>Douglas-fir, western hemlock</td>
<td>Oregon grape, sword fern</td>
</tr>
<tr>
<td>14</td>
<td>87-years-old</td>
<td>Douglas-fir, western hemlock, red cedar</td>
<td>Oregon grape, bear grass</td>
</tr>
<tr>
<td>15</td>
<td>42-years-old</td>
<td>Douglas-fir, western hemlock</td>
<td>sword fern</td>
</tr>
<tr>
<td>16</td>
<td>42-years-old</td>
<td>Douglas-fir, western hemlock</td>
<td>sword fern</td>
</tr>
<tr>
<td>17</td>
<td>42-years-old</td>
<td>Douglas-fir, western hemlock</td>
<td>sword fern</td>
</tr>
<tr>
<td>18</td>
<td>42-years-old</td>
<td>Douglas-fir, western hemlock</td>
<td>sword fern</td>
</tr>
<tr>
<td>19</td>
<td>38-years-old</td>
<td>Douglas-fir, western hemlock</td>
<td>sword fern</td>
</tr>
</tbody>
</table>

**Overall Unit Objectives:** This proposal is 359 acres of VRH and 7 acres of ROW; for a total of 366 acres.

The object of this proposal is to:
1) Produce revenue for the State Forest Transfer Fund (01), State Forest Purchase (02), Common School Trust (03), and Scientific School (10).
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.

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>How Many</th>
<th>Length (feet) (Estimated)</th>
<th>Acres (Estimated)</th>
<th>Fish Barrier Removals (#)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td></td>
<td>6,157</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Reconstruction</td>
<td></td>
<td>5,642</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abandonment</td>
<td></td>
<td>10,373</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Bridge Install/Replace</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Culvert Install/Replace (fish)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Culvert Install/Replace (no fish)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There is 16,758 feet of pre-haul maintenance 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: July 2016)
http://www.dnr.wa.gov/state-environmental-policy-act-sepa. Click on the appropriate region under "Current SEPA Actions – Timber Sales.")

a. Legal description:

Unit 1 is located in portions of Section 15, 16, 21, and 22 of Township 6 North, Range 5 East, W.M.

Unit 2 located in Section 21 of Township 6 North, Range 5 East, W.M.

Unit 3 is located in portions of Section 21 and 22 of Township 6 North, Range 5 East W.M.

Unit 4 located in Section 28 of Township 6 North, Range 5 East, W.M.

Units 5 and 14 located in Section 22 of Township 6 North, Range 5 East, W.M.

Unit 6 is located in portions of Section 25 and 36 of Township 6 North, Range 4 East W.M.

Units 7, 8, 9, 10, 15, 16, 17, and 18 are located in Section 36 of Township 6 North, Range 4 East, W.M.

Units 11, 13, and 19 are located in Section 35 of Township 6 North, Range 4 East, W.M.

Unit 12 is located in portions of Section 25, 26, 35, and 36 of Township 6 North, Range 4 East, W.M.

Beehive Pit is located in Section 30 of Township 6 North, Range 5 East, W.M.

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

Units 1, 2, 3, 4, 5 and 14 are located approximately 35 miles, by road east of Woodland, Washington. The route from Woodland is east on Cedar Creek, to NE Healy Rd, to USFS 54, to the S-8050, the S-1000, to S-2000 and to the S-2090.

Units 6 and 7 are located approximately 31 miles, by road east of Woodland, Washington. The route from Woodland is east on Cedar Creek, to NE Healy Rd, to USFS 54, to the S-8050, the S-1000 and to the S-2000.

Units 8, 9, 10, 11, 12, 13, 15, 16, 17, 18 and 19 are located approximately 30 miles by road east of Woodland, Washington. The route from Woodland is east on Cedar Creek, to NE Healy Rd, to USFS 54, to the S-8050, the S-1000 and the S-1200.

Beehive Pit is located approximately 32 miles, by road east of Woodland, Washington. The route from Woodland is east on Cedar Creek, to NE Healy Rd, to USFS 54, to the S-8050, the S-1000 and to the S-2000.
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.”

<table>
<thead>
<tr>
<th>WAU Name</th>
<th>WAU/ Sub-basin Acres</th>
<th>Proposal Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siouxon</td>
<td>42705</td>
<td></td>
</tr>
<tr>
<td>Sub-basin# 7</td>
<td>1093</td>
<td>135</td>
</tr>
<tr>
<td>Sub-basin# 9</td>
<td>1051</td>
<td>88</td>
</tr>
<tr>
<td>Sub-basin# 10</td>
<td>1229</td>
<td>39</td>
</tr>
<tr>
<td>Sub-basin# 15</td>
<td>1345</td>
<td>42</td>
</tr>
<tr>
<td>Sub-basin# 16</td>
<td>2318</td>
<td>144</td>
</tr>
<tr>
<td>Sub-basin# 18</td>
<td>2027</td>
<td>28</td>
</tr>
<tr>
<td>Sub-basin# 19</td>
<td>931</td>
<td>32</td>
</tr>
</tbody>
</table>

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 in the Siouxon Watershed Administrative Unit (WAU). There appears to be a trend towards increasing conversion of agriculture and forest land to home sites in the low to mid elevations. The uplands are mainly managed for timber production. Ownership includes industrial forests, United States Forest Service, small private, and DNR managed forests. Forested stands within the WAU appear to primarily second and third growth stands. The numbers of forest practices shown on the WAU map (referenced above on the DNR Website) along with observations within the WAU indicate that the WAU is intensively managed for timber production, including regeneration 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 Siouxon WAU (information is based on Forest Practices applications that have been approved in the last seven years as of October 3, 2017 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.

<table>
<thead>
<tr>
<th>SIOUXON WAU</th>
<th>WAU ACRES</th>
<th>ACRES OF EVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS</th>
<th>ACRES OF UNEVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS</th>
<th>PROPOSED EVEN-AGED HARVEST IN THE FUTURE*</th>
<th>PROPOSED UNEVEN-AGED HARVEST IN THE FUTURE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNR MANAGED LAND</td>
<td>18,515</td>
<td>129</td>
<td>151</td>
<td>181 (estimated)</td>
<td>105 (estimated)</td>
</tr>
<tr>
<td>PRIVATE MANAGEMENT</td>
<td>814</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

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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 a minimum of 8 trees per acre (greater than 10 inched 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 characteristics within the new plantation.
- Analyzing, designing, and constructing roads to minimize effects on the environment.
- The old growth polygon adjacent to Units 1, 3 and 5 are no harvest areas and all tailholds within the polygon will have protective straps and will be on the younger second growth trees.
- Retaining Riparian Management Zones (RMZ) averaging 157 feet from Siouxon Creek (Type 1 stream), 145 feet from North Siouxon Creek (Type 1 stream), and a minimum 100 feet wide RMZ along all Type 4 streams, measured from the outer edge of the 100 year floodplain. These measurements 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.
- Retaining Wetland Management Zones (WMZ) averaging 165 feet on one wetland greater than 1 acre, and a 100 feet wide WMZ three wetlands greater than 0.25 acres but less than 1 acre.
- Evaluating the proposal for potential slope stability. There was an area adjacent to the proposal, located along the north side of Siouxon Creek, approximately 2 acres that was identified as potentially unstable. The area was identified as glacial deep seated landslide and groundwater recharge areas, and no activities are proposed over the area.
- A relic glacial deep seated landslide was identified by the State Lands Geologist south of Siouxon Creek and was determined that timber harvest within the body of the landslide would not negatively impact the area. All identified landslides including those in the Forest Practice’s Statewide Landslide Inventory screening tool are addressed in the Geotechnical Report prepared by the State Lands Geologist.
- Road construction through talus field will be abandoned post haul. Talus rock removed for road construction will be put back in the talus field to minimize impact.
Road cut banks within 50 feet of live water 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 may 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 Lewis River Block was completed and approved. Road improvement projects identified in the RMAP began in 2003.

The 303 (d) stream that is in the Siouxon WAU is listed for Temperature; however, due to the distance from the proposal area (approximately 2.2 miles) and mitigation measures in this proposal, there should be no impact to listed water, Siouxon 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).

      Siouxon WAU contains steep slopes in mountainous terrain. The WAU averages 108 inches of precipitation per year. Minimum elevation is 842 feet and rises to a maximum of 4,368 feet. Rain-on-snow zones are as follows: "Rain Dominated Zone" 11,066 acres (26%); "Peak Rain-on-snow Zone" 20,197 (47%); Snow-Dominated Zone 11,442 acres (27%). The Forested Vegetation Zone is western hemlock with the major timber type being Douglas-fir with western hemlock and western red cedar in the upland soils. Red alder and big leaf 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 mid elevations in the rain dominated zone, rain-on-snow zone and snow dominated zone. The proposal is very similar to the above description except slopes are generally less than 70 percent.

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

85%

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.

<table>
<thead>
<tr>
<th>State Soil Survey #</th>
<th>Soil Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0166</td>
<td>V. Cobbly Loam</td>
</tr>
<tr>
<td>0167</td>
<td>V. Cobbly Loam</td>
</tr>
<tr>
<td>0176</td>
<td>V. Gravely Loam</td>
</tr>
<tr>
<td>0177</td>
<td>V. Cobbly Loam</td>
</tr>
<tr>
<td>9604</td>
<td>Stony Loam</td>
</tr>
<tr>
<td>9615</td>
<td>Sandy Loam</td>
</tr>
<tr>
<td>9616</td>
<td>Sandy Loam</td>
</tr>
<tr>
<td>9811</td>
<td>Gravelly Loam</td>
</tr>
</tbody>
</table>

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. A relic deep seated landslide, formed partially in glacial deposits, was identified in Units 8, 9, 15, 16 and 17. The Pacific Cascade Region Geologist reviewed the site and determined that the site was stable, and minimal risk. Several glacial deep seated landslide and upslope groundwater recharge areas were identified adjacent to Unit 6. No harvest will occur in the groundwater recharge area. The S-1000 road crosses the head scarp areas of the landslides. There are road drainage improvements around the groundwater recharge area planned for the sale. These landslides are assessed in the November 2017 Geotechnical Report prepared by the Region Geologist.

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 shallow slope failures with the Siouxon WAU and associated sub-basins. These are generally associated with slopes greater than 70% within convergent
landforms such as bedrock hollows and gorges. These landforms, per local knowledge, typically occur within the RMZs, lower slopes if the main draws, and on headwalls at the top of steep draws. Deep seated landslides also occur on steep slopes that typically toe into the RMZ.

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.

- Construction on side slopes over 45% will require full bench excavation with end haul.
- Cross-drains and ditch outs will be utilized to minimize the potential for mass wasting and slope failures associated with poor drainage.
- Most steeper Type 5 headwalls have leave trees clumps protecting them.
- Lead end suspension will be required on all cable settings.
- Glacial deep seated landslides and upslope groundwater recharge areas adjacent to Unit 6 are excluded from harvest.

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: 8  Approx. acreage new landings: 2
Fill Source: Native Material  Approx. cubic yards of fill: 500
Purpose: New road construction, reconstruction, Type 4 and Type 5 culvert installation, cross-drain installation, culvert removal, development of rock source and waste areas.
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.)*

Erosion control and reduction measures are addressed in the sale layout and harvest system design.

- Leave tree clumps were left around the headwalls of most Type 5 streams.
- Harvested areas will be replanted with conifer tree species to reestablish root bound soils.
- Sediment control measures will be used as necessary during active haul and harvesting to prevent sediment delivery to live water.
- Roads will be constructed with cross-drains and ditch outs to ensure drainage.
- The proposal will be harvested utilizing lead end suspension to minimize soil disturbance.
- Areas of soil exposed through road construction will be grass seeded.
- Harvested areas will be planted with coniferous tree species to re-establish root bound soils.
- Extra material as a result of road construction will be hauled away to a waste area.

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: Siouxon Creek, North Siouxon Creek, Yale Lake, Lake Merwin

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

<table>
<thead>
<tr>
<th>Wetland, Stream, Lake, Pond, or Saltwater Name (if any)</th>
<th>Water Type</th>
<th>Number (how many?)</th>
<th>Avg RMZ/WMZ Width in feet (per side for streams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siouxon Creek</td>
<td>1</td>
<td>1</td>
<td>157'</td>
</tr>
<tr>
<td>North Siouxon Creek</td>
<td>1</td>
<td>1</td>
<td>145'</td>
</tr>
<tr>
<td>Unnamed Stream</td>
<td>4</td>
<td>23</td>
<td>100'</td>
</tr>
<tr>
<td>Unnamed Streams</td>
<td>5</td>
<td>28</td>
<td>None</td>
</tr>
<tr>
<td>Forested Wetland</td>
<td>&gt;1 ac.</td>
<td>1</td>
<td>165'</td>
</tr>
<tr>
<td>Forested Wetland</td>
<td>&lt;1 ac, &gt;.25 ac</td>
<td>3</td>
<td>100'</td>
</tr>
</tbody>
</table>

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 the Type 5 streams. WMZs are no harvest buffers. RMZs are no harvest areas except for ROW Units 15-19. Wind buffers were not necessary as all streams were less than 5 feet wide.
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):

Tailholds may be strung through the Type 1 and Type 4 RMZs, however no timber will be yarded through them. Timber harvest may occur approximately 157 feet (required average RMZ width for Siouxon Creek) and 145 feet (required average RMZ width for North Siouxon Creek) for the Type 1 streams and 100 feet (required RMZ width) to all Type 4 streams. Timber harvest may occur approximately 165 feet (required average WMZ width) for wetlands greater than 1 acre and 100 feet (required WMZ width) for wetlands greater than 0.25 acres but less than 1 acre. Trees in the RMZs and WMZs can only be cut for safety and operational needs, but will be left in place to provide large woody debris functions in the riparian area.

Portions of three Type 4 RMZ (Units 15-19) will be harvested to facilitate road construction.

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.

Approximately 200 cubic yards of native material fill will be placed over a 36” x 50’ culvert installation on a Type 4 stream on the S-1050 road. Approximately 50 cubic yards of native material fill will be placed over an 18” x 40’ culvert installation on a Type 5 stream on the S-1050 road. Approximately 100 cubic yards of native material will be placed over a 36” x 40’ culvert installation on a Type 4 stream on the S-1051 road.
Approximately 100 cubic yards of native material will be removed from two 18” x 30’ culvert removals on Type 5 streams. Approximately 100 cubic yards of native material will be removed from a 24” x 40’ culvert removal on a Type 4 stream.

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:

This activity may include creating a check dam and diverting the water around the work area to prevent sediment delivery to typed water. Water will be returned to the original stream channel at the best possible location. Temporary diversions or pumping may be necessary for the 2 Type 4 streams and 1 Type 5 stream culvert installations. Temporary diversions or pumping may be necessary for 2 Type 5 and 1 Type 4 stream culvert removal.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
The 2 Type 4 and 1 Type 5 culvert installations are located within the 100-year floodplain. The 2 Type 5 and 1 Type 4 culvert removals are located in the 100-year floodplain.

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:

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The Siouxon WAU has 2.3 miles per road square mile. Road mileages for the sub-basin are similar to the WAU mileages.

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:

**Siouxon WAU:**
- Sub-basin#7: 84%
- Sub-basin#9: 100%
- Sub-basin#10: 59%
- Sub-basin#18: 73%

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?

**Siouxon WAU:**
- Sub-basin#7: 85%
- Sub-basin#9: 100%
- Sub-basin#10: 72%
- Sub-basin#18: 82%

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 return interval 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.

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

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

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

☐ No  ☐ Yes, possible impacts:

There are no surface water intakes downstream of the proposal. There are areas of slope stability adjacent and downstream to the sale. However no measureable impacts as a result of this proposal are anticipated.

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

- Type 1 and 4 are no harvest RMZs to protect stream banks from erosion, except ROW Units 15-19.
- No harvest WMZs.
- The proposal's harvest units are each less than 100 acres to minimize impacts to watershed hydrology (Unit 1=33, Unit 2=27, Unit 3=74, Unit 4=27, Unit 5=95, Unit 6=29, Unit 7=3, Unit 8=3, Unit 9=15, Unit 10=1, Unit 11=7, Unit 12=44, Unit 13=1, Unit 14=2, Unit 15=1, Unit 16=1, Unit 17=1, Unit 18=1, Unit 19=1)
- 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:

There are no water resource concerns downstream from the proposal. There are areas of slope instability downstream from the proposal, and they are not anticipated to be impacted by the proposed activities.

a. Note protection measures, if any.

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

c. Water runoff (including stormwater):

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

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

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

☐ No    ☑ Yes, describe:

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

a. Note protection measures, if any.

Slash which enters any typed stream and is identified by the Contract Administrator will be removed post-harvest. No additional protection measures will be necessary to protect these resources beyond those described in B.1.d.5., B.1.h., B.3.a.2., and B.3.a.16.
3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

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

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

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

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: [ ] western white pine, [ ] noble fir
- Shrubs: [ ] huckleberry, [ ] salmonberry, [ ] salal, [ ] other: [ ] Oregon Grape, [ ] Oregon Oxalis, [ ] blackberry, [ ] scotch broom
- Grass
- Pasture
- Crop or grain
- Wet soil plants: [ ] cattail, [ ] buttercup, [ ] bullrush, [ ] skunk cabbage, [ ] devil’s club, [ ] other:
- Water plants: [ ] water lily, [ ] elgrass, [ ] milfoil, [ ] other:
- Other types of vegetation: [ ] sword fern, [ ] bear grass
- Plant communities of concern:

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

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

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See color landscape/WAU and adjacency maps on the DNR website: http://www.dnr.wa.gov/sepa (Click on the DNR region under the Topic “Current SEPA Project Actions - Timber Sales.”)

Unit 1: To the north is a 102-year-old mixed conifer stand. To the east is a 332-year-old mixed conifer stand. To the south is a 93-year-old mixed conifer stand. To the west is a 18-year-old mixed conifer stand.

Unit 2: To the north and west is a 72-year old mixed conifer stand. To the east is a 93-year-old mixed conifer stand. To the south is a 15-year-old Douglas-fir plantation and 100-year-old mixed conifer stand.

Unit 3: To the north is 93-year-old mixed conifer stand. To the east is a 332-year-old mixed conifer stand. To the south is a 25-year-old Douglas-fir plantation. To the west is a 96-year-old mixed conifer stand.

Unit 4: To the north is a 25-year-old Douglas-fir plantation. To the east and south is a 101-year-old mixed conifer stand. To the west is a 96-year-old mixed conifer stand.

Unit 5: To the north and south is an 87-year-old mixed conifer stand. To the east and west is a 332-year-old mixed conifer stand.

Unit 6: To the north is a 19-year-old Douglas-fir plantation and a 102-year-old mixed conifer stand. To the east is a 27-year-old Douglas-fir plantation. To the south and west is a 39-year-old mixed conifer RMZ.

Unit 7: to the north and west is a 27-year-old Douglas-fir stand. To the east is a 102-year-old mixed conifer stand. To the south is a 39-year-old mixed conifer RMZ.

Unit 8: To the north and west is a 39-year-old mixed conifer RMZ. To the east is a 102-year-old mixed conifer stand. To the south is a 30-year-old mixed conifer stand.

Unit 9: To the north, east and west is a 39-year-old mixed conifer RMZ. To the south is a 30-year-old mixed conifer stand.

Unit 10: To the north, east and west is a 39-year-old mixed conifer RMZ. To the south is a 30-year-old mixed conifer stand.

Unit 11: To the north and west is a 38-year-old mixed conifer RMZ. To the east and south is a 47-year-old Douglas-fir plantation.
Unit 12: To the north is a 38-year-old Douglas-fir plantation and 105-year-old mixed conifer stand. To the east and south is a 38-year-old mixed conifer RMZ. To the west is a 5-year-old Douglas-fir plantation.

Unit 13: To the north, east and south is a 38-year-old mixed conifer RMZ. To the west is a 38-year-old mixed conifer stand.

Unit 14: To the north is Unit 5 which is an 87-year-old mixed conifer stand. To the east and west is an 87-year-old mixed conifer stand. To the south is 25-year-old Douglas-fir plantation.

Unit 15: To the north and east is Unit 8 which is a 42-year-old mixed conifer stand. To the south is a 30-year-old mixed conifer stand. To the west is 39-year-old mixed conifer stand.

Unit 16: To the north and south is 39-year-old mixed conifer RMZ. To the east is Unit 8 which is a 42-year-old mixed conifer stand. To the west is Unit 9 which is a 42-year-old mixed conifer stand.

Unit 17: To the north and south is 39-year-old mixed conifer RMZ. To the east is Unit 8 which is a 42-year-old mixed conifer stand. To the west is Unit 9 which is a 42-year-old mixed conifer stand.

Unit 18: To the north is a 39-year-old mixed conifer RMZ. To the east, south and west is Unit 9 which is a 42-year-old mixed conifer stand.

Unit 19: To the north and west is a 38-year-old mixed conifer RMZ. To the east is a 47-year-old Douglas-fir plantation. To the south is Unit 11 which is a 38-year-old mixed conifer stand.

2) Retention tree plan:

A combination of Douglas-fir, western hemlock, noble fir, western red cedar, big leaf 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:

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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. Older legacy trees were identified and retained individually and in leave tree clumps. All tailholds trees that are located in sub-mature or better habitat will be protected with an effective means to prevent mortality.

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

Scotch broom and blackberry has 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: northern spotted owl, bald eagle, pileated woodpecker.

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

   fish: ☑ bass, ☑ salmon, ☑ trout, ☑ herring, ☑ shellfish, ☑ other: - FRAM confirms northern spotted owls in the vicinity.

   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).

This proposal is located in the Siouxon Spotted Owl Management Unit (SOMU) in designated Nesting, Roosting, and Foraging (NRF) habitat. The DNR HCP Northern Spotted Owl Conservation Strategy is being implemented for the proposed harvest activities occurring within identified non-habitat areas. The Siouxon SOMU is currently below the 50% threshold at 46.72%.

Northern spotted owl habitat delineation has been conducted on State Trust Lands in accordance with the State Lands Habitat Conservation Plan. The HCP allows for harvesting of non-habitat within the spotted owl management units when below threshold. Stand metrics were measured using a field plot based method, stand metrics were utilized to determine the habitat classification for each inventory unit. The VRH units within the Variety Timber Sale are considered non-habitat. Cruise data collected during the timber sale preparation process supported the non-habitat status of several units, due to the total stand density being greater than the required 280 trees per acre.

All Units and ROWs are located within non-habitat in the DNR’s HCP Columbia Planning Unit. The Federal Listing of the northern spotted owl is Threatened, and the State Listing status is endangered. Unit 5 and portions of the S-2000 road construction are located in a

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timing restriction, and no activities can take place from March 1st to August 31st. Tailholds may be used in sub-mature habitat for Unit 4 and core habitat in Units 1, 3 and 5. If tailholds are used in these areas, they will have a protective strap.

Road construction will occur within a talus field which is greater than 1 acre. Pacific Cascade Region Biologist assessed the talus field and determined that management activities are being mitigated which will minimize any damage to the habitat.

Bull trout are documented upstream of this proposal within the Lewis River Reservoir and associated tributaries.

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:
   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 1 and 4 streams, except at 3 Type 4 crossings
   • No harvest all WMZs
   • This sale is located within the Lewis River drainage basin of the federally threatened bull trout. As discussed in B-1-h and B-3-a-16, the proposed protection of fish bearing streams and their associated tributaries will not compromise the integrity of downstream conditions, or negatively affect bull trout or their Designated Critical Habitats found in the Lewis River Reservoirs and their associated tributaries.

   Upland habitat
   • A minimum of 8 leave trees per acre were left clumped and scattered
   • Older large down woody debris will be left onsite
   • Tailholds may be in sub-mature and core habitat, and they will all have protective straps to prevent any damage to the trees.

e. List any invasive animal species known to be on or near the site.
   None found in database search or observed onsite.

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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 507. 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 sale area is used 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 Long-Term Forestry.

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?

Siouxon Creek and North Siouxon Creek are shorelines of the state.

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?
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?

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

☐ No  ☑ Yes, viewing location:
Units 1-5 are visible from Swift Reservoir. Units 6-13 are visible from Yale Lake.

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 503.

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

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

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

None.

11. **Light and glare**

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

None.

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

No.

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

None.

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

None.

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?
There is no designated recreation within the proposal area. However, hunting, hiking, horseback riding, mountain biking, mushroom and berry picking, and other informal outdoor recreation activities may occur within the proposal area.

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

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

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

None at this time.

13. Historic and cultural preservation

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

No.

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

Cultural resources were not observed on or next to the proposal area.

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

The site was remotely assessed by a DNR Cultural Resource Technician, reviewing 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.

If a presently 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 503 to NE Healy Rd to USFS 54 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 Woodland, WA which is approximately 30 miles west from the 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.
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: [Signature]

Name of signee: Ben Jeske

Position and Agency/Organization: Natural Resource Specialist 2, Washington State Department of Natural Resources

Date Submitted: 1/22/2018

Reviewed By: Taylor Mizo - DNR Forest Practices

Date: 4/5/2018
FOREST PRACTICES ACTIVITY MAP

SALE NAME: VARIETY
APPLICATION #: None
COUNTY(S): CLARK, SKAMANIA
TOWNSHIP(S): T06R05E, T06R04E

All State Unless Otherwise Noted

Timber Sale Unit
Wetland Mgt Zone
Forested Wetland
Riparian Mgt Zone
Leave Tree Area
Glacial Recharge Area

Existing Roads
New Construction

Streams
Stream Type
Stream Type Break
Monumented Corners
Landing - Proposed
Culvert
Leave Trees

Prepared By: bjes490 03/14/2016
Modification Date: 2/1/2018