

## North Shore Geo, PLLC

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Subject: **GEOTECHNICAL REVIEW  
STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES (DNR)  
FOREST PRACTICES APPLICATION (FPA) NO. 2618493  
“TREE WELL” TIMBER SALE  
CLALLAM COUNTY, WASHINGTON**

To whom it may concern,

Thank you for considering my comments related to the subject FPA. The following review summarizes my research and analysis regarding the proposed timber sale. The terminology herein and comments are intended to be consistent with Section 16 of the DNR Forest Practices Board Manual, dated 5/2016. I have also included comments independent of the Board Manual and/or its typical interpretation and policies with respect to the subject FPA.

I am not a DNR Qualified Expert (QE) for forest practices ([https://www.dnr.wa.gov/publications/fr\\_geo\\_experts.pdf](https://www.dnr.wa.gov/publications/fr_geo_experts.pdf)). I am a State of Washington Licensed Engineering Geologist (LEG), which is the same license required for QEs, and I have 15+ years of engineering geology experience particularly focused on slope stability and geomorphology. However, in my opinion, I do not have the required “...3 years of field experience in the evaluation of relevant problems in forest lands” consistent with the type of work intended by the DNR for QEs. I am intentionally independent of the forest industry and the State regulators.

I reviewed the subject FPA digitally and did not visit the units in the field for this timber sale, but I did review the (Deep-Seated Landslides) DSL-1 and DSL-2 in the field in 2021 in association with my review of the Black Diamond timber sale FPA 2617163. The subject FPA includes a “Geologic Field Summary for the Tree Well Timber Harvest, Clallam County, Washington” report dated October 30, 2023 (GFS) by the State Lands QE Geologist documenting rule-identified landforms (RILs) around the proposed harvest units.

In my opinion the GFS for the subject timber sale does not appear to have considered all of the relevant slope stability hazards for the proposed harvest and should be reclassified as a Class IV special or the east edge of unit 3 should be moved to the west as shown in my figure-1 below.

### Unit 3

The downhill / southwest edge of unit 3 includes DSL-1 and DSL-2 as described in the GFS report. The topographic groundwater recharge area (GWRA) for DSL-2 is bound out of the sale as a RIL which would typically require reduced harvest. Harvesting in a RIL would typically mean that the timber sale would have to be a Class IV special, rather than the Class III which it is under the current FPA. The northwest edge of the GWRA for DSL-2 defines the southeast edge of unit 3, as shown on the Forest Practices Application Mapping Tool (FPAMT) website (<https://fpamt.dnr.wa.gov/2d-view>), as shown in my figure-1 below. I have annotated figure-1 with red (apparent DSL-2 scarp) and blue (northwest edge of GWRA) to illustrate my opinion of the conservative location of these two features. It appears to me that a significant portion of the east edge of Unit 3 should be removed from the timber sale.

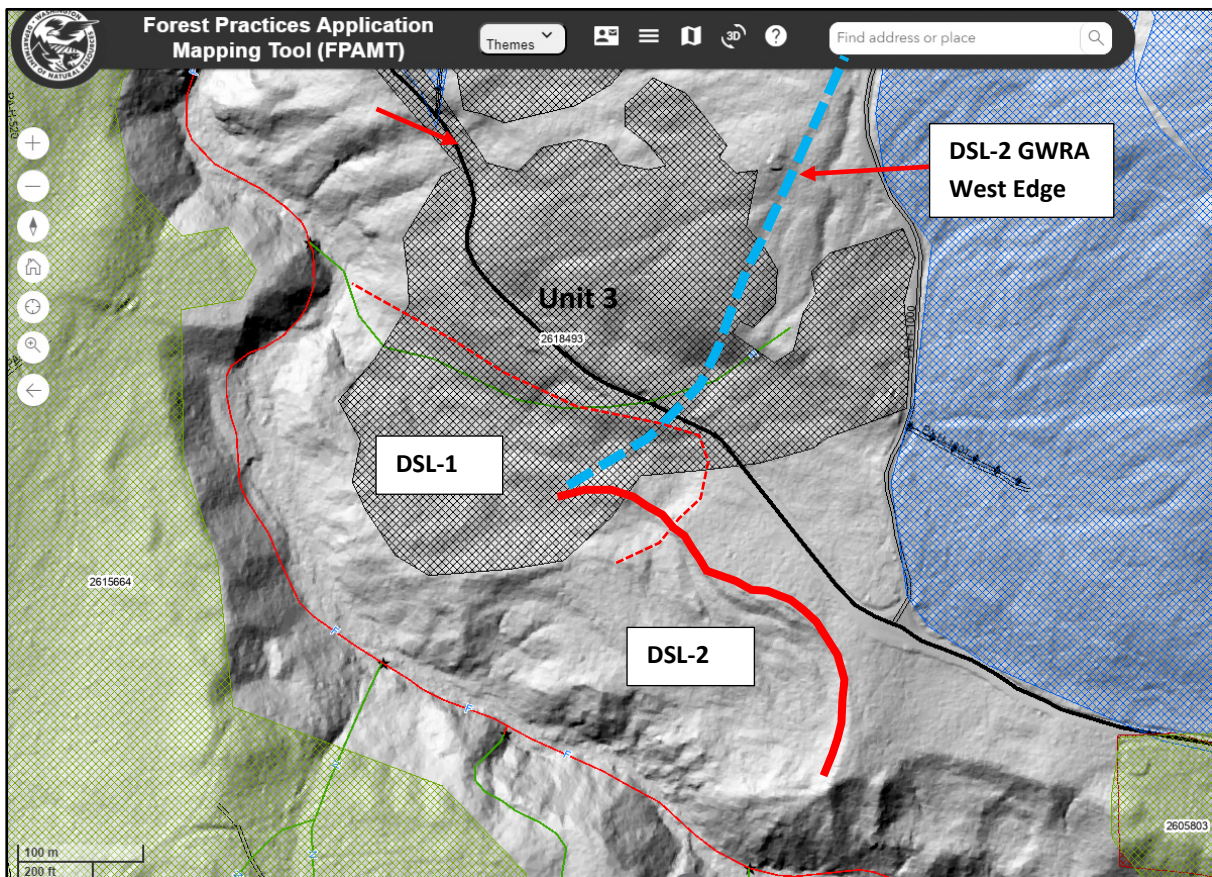


Figure-1: FPAMT Map with Annotations for Unit 3

Because DSL-2 has significantly more recent activity than DSL-1, and DSL-1 has been classified in the GFS report as a relict bedrock DSL or not a landslide at all, the GWRA for DSL-2 must be updated, similar to what I show above. It appears to me that this GWRA is the one shown for DSL-2 from the Black Diamond timber sale FPA 2617163 when DSL-1 also had a GWRA.

It is my opinion that DSL-2 should be considered active and not dormant-distinct to dormant-indistinct due to the active scour from the Little River at the toe of the landslide causing abundant shallow landslides and the crisp head-scarp features. This DSL would deliver sediment to the Little River fish stream at the toe and would threaten the Little River Road if future activity expanded the slide uphill.

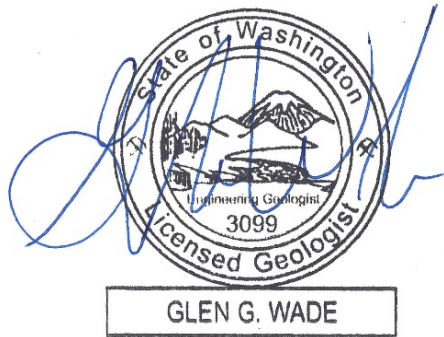
**LIMITATIONS**

The comments in this letter apply only to the subject land and they are not transferable to nearby or adjoining property.

These comments were based on a limited review of documents, limited field review from 2021, and no subsurface investigation. The prediction of hazard events is particularly difficult and speculative in nature and the discussion on that subject herein is my informed opinion only. Users who need a high level of reliance on the observations and conclusions of the study may wish to obtain further investigations.

No warranty, neither express, nor implied, is provided herewith. Please call on me if you have questions about the contents or meaning of this report.

Sincerely,



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Glen G. Wade, P.G., L.E.G.  
Engineering Geologist

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