
To: Charlie McMonagle (Chuckanut Crest Road Association)
From: Aaron Hartvigsen, PE and Sean Cool, PE
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Subject: Chuckanut Crest – Best Practices

The purpose of this memorandum is to provide best practices for road and property maintenance near slopes in the Chuckanut Crest Community. The recommendations are a combination of experience from slope observations and case histories throughout the Puget Sound.

Best Practices

- Vegetation should be maintained on slopes. Root mass from small to medium sized vegetation can help stabilize a slope surface and limit erosion.
- Large trees can result in additional weight on a slope causing decreased slope stability. Removing large leaning trees is typically beneficial; however, the stump and root system may remain and will continue to provide stabilization for the slope.
- Placement of loose fill or yard debris on steep slopes is not recommended. Excessive yard debris can smother healthy vegetation.
- Redirect surface runoff away from surface cracks or tops of slopes; this reduces potential for erosion or saturation (additional weight) on the slope.
- Intercepting groundwater seepage uphill of a slope with a “French drain” can reduce slope saturation and seepage and provide a beneficial stabilizing effect on the slope.
- Yard and downspout drains should not be discharged at the top of slopes. Water collected in yard and downspout drains should be tightlined to the base of the slope or to a suitable stormwater collection system.
- Permanent irrigation near the tops of slopes is discouraged. A broken irrigation line can quickly erode or saturate the slope resulting in a landslide. Any existing sprinklers or water source near the top of a slope should be carefully maintained and monitored.
- Avoid placement of asphalt overlays for repairs of roadways near slope crests as the overly increases weight to the edge of the slope which decreases the slope stability.
- Large loads or surcharges should not be stored at the top of slopes. For example, storage containers, heavy equipment, material stockpiles should be set back from the top of slopes.
- Excavation at the toe of slopes is discouraged. Excavation at the toe can result in destabilization of the slope and decreased slope stability.

Our recommendations have been provided to assist in evaluating conditions associated with soil movement and associated roadway area. Our recommendations are intended to help manage risk associated with the potential for future earth movements, drainage and/or erosion. However, all slope movement/landslides are the result of dynamic and unpredictable conditions and involve risk. Favorable performance of conditions in the near term does not imply a certainty of long-term performance, especially under conditions of adverse weather or seismic activity.