

# LANDSLIDE HAZARD AREA REPORT GUIDE AND WORKSHEET

## ABOUT LANDSLIDE HAZARD AREAS

Landslide hazard areas are areas that are potentially subject to risk of ground movement and areas of steep slopes. Some of these areas are mapped by the USDA Natural Resources Conservation Service (NRCS), the US Geological Survey (USGS), and the Washington Department of Natural Resources (DNR).

Landslide hazard areas are defined under [SMC 21.04.040.B](#).

Landslide hazard areas and their buffers are regulated under [SMC 21.03.020.T.4](#).

Landslide hazard areas are protected by creating a clear definition that identifies landslide hazard areas, limiting ground disturbance, minimizing any reductions to the standard buffer, minimizing footprint (by square footage or percentage) of any allowed encroachments, and requiring a buffer to the side of landslide hazard areas (instead of just top and toe).

For activities that require a critical area report for landslide hazard areas, please use the following report checklist. The checklist is intended to document conformance with applicable sections of code and reduce review time by City staff. If a requirement is not applicable, the report must include an explanation as to the lack of applicability.

To determine if a critical areas report is required, please refer to the [Critical Areas Review Flowchart](#) and/or [SMC 21.03.020.T.4](#) for additional information.

REPORTS MUST BE PREPARED BY A QUALIFIED PROFESSIONAL.

A QUALIFIED PROFESSIONAL FOR LANDSLIDE HAZARD AREAS MUST BE BOTH A GEOTECHNICAL ENGINEER WITH A PROFESSIONAL CIVIL ENGINEERING LICENSE AND A LICENSED GEOLOGIST, LICENSED BY THE STATE OF WASHINGTON.

ALTERNATIVELY, GEOTECHNICAL REPORTS AND GEOTECHNICAL DESIGN RECOMMENDATIONS MAY BE PREPARED JOINTLY BY A LICENSED GEOTECHNICAL ENGINEER WITH A PROFESSIONAL CIVIL ENGINEERING LICENSE AND A LICENSED GEOLOGIST, LICENSED BY THE STATE OF WASHINGTON.

## Code Reference

Landslide Definition  
[SMC 21.04.040.B](#)

Landslide Regulations  
[SMC 21.03.020.T.4](#)

Contents of a Critical Area Report  
[SMC 21.03.020.I.3](#)

Avoiding Impacts to Critical Areas (mitigation sequencing)  
[SMC 21.030.020.K](#)

## Resources

[Sammamish Property Tool](#)

[NRCS Soil Survey](#)

[USGS Maps](#)

[WA DNR Geologic Maps](#)

## Questions?

[Submit Project Guidance](#)

City of Sammamish  
801 228th Ave SE  
Sammamish, WA 98075  
[www.sammamish.us](http://www.sammamish.us)

# REPORT WORKSHEET

Critical Area Report Requirements – Landslide Hazard Area	Location (document name, page number, etc.)
<b>General Report Requirements</b>	
1. Disclosure of presence of landslide hazard area and any mapped or identifiable critical areas within the distance equal to the largest potential required buffer applicable to the development proposal area on the applicant’s property.	
2. Documentation that the geotechnical reports and geotechnical design recommendations associated with alteration or modification of a landslide hazard or within the minimum 15-foot buffer is prepared by a geotechnical engineer with a professional civil engineering license and is a licensed geologist, licensed by the State of Washington, or jointly by a geotechnical engineer with a professional civil engineering license and a licensed geologist, licensed by the State of Washington.	
3. Documentation of any field work or research used to identify, map, and classify critical areas in the project vicinity.	
4. Photographic records of the development proposal site and any critical areas present on site.	
5. A scale map of the subject property and the existing and proposed development.	
6. Assessment of impacts and risks to the landslide hazard area related to the development and proposed site alterations.	
7. Assessment of impacts and risks to the landslide hazard area affecting other properties and any critical areas buffers on them.	
8. Assessment of impacts and risks to the landslide hazard area with cumulative impacts to any other critical area or buffer in project vicinity, including consideration of both proposed development and future potential development in vicinity based on zoning and development allowances.	
9. Assessment of potential impacts that may occur downstream or downhill from the development site, such as sedimentation, erosion, or landslides.	
10. Analysis of mitigation sequencing in compliance with SMC 21.03.020.K.	
11. Analysis of conformance with applicable critical area regulations subsections.	
12. Description of how the proposal will be consistent with all other applicable local, state, and federal regulations.	
13. Description of the extent and type of vegetative cover.	

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14. Description of subsurface conditions based on data from site-specific explorations.	
15. Description of surface and groundwater conditions, public and private sewage disposal systems, fills and excavations, and all structural improvements.	
16. An estimate of the bluff retreat rate that recognizes and reflects potential catastrophic events such as seismic activity or a 100-year storm event.	
17. Consideration of the run-out hazard of landslide debris and/or the impacts of landslide run-out on downslope properties.	
18. Recommendations for building siting limitations.	
19. An analysis of proposed surface and subsurface drainage, and the vulnerability of the site to erosion.	
20. An evaluation of the slope by a qualified professional of the general slope stability.	
<b>Alteration of Landslide Hazard Area or Buffers</b>	
21. Studies that include mitigation, maintenance, monitoring, contingency plans and bonding measures necessary to offset impacts to the landslide hazard area from the proposed development (See SMC 21.03.020.L and M).	
<b>Reduction or Removal of Buffers</b>	
22. Exploration(s) that provide strength data such as soil Standard Penetration Tests (SPT) or other industry accepted methods. For construction above a landslide hazard at least one exploration must be conducted near the top of the slope or above the proposed construction area and extend at least to the elevation of the base of the landslide hazard. For sites where structures are planned at the base of a landslide hazard area at least one exploration is required to be conducted near the top of the slope or the property boundary if the hazard extends off of the property. Another exploration should be performed near the base of the landslide hazard or if the landslide hazard extends off the property the exploration should be placed near the property boundary where the hazard exists.	

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<p>23. A comprehensive study of slope stability including an analysis of proposed cuts, fills, and other site grading and construction effects where the overall minimum factor of safety for slope stability is 1.5 for static conditions and 1.1 for seismic conditions as based on current building code seismic design conditions for the post construction conditions. Additionally, a slope stability analysis of the worst case conditions during construction must also be evaluated for static conditions and show a factor of safety of 1.5 or greater. These analyses must be included in a report including soil parameters and loading conditions utilized for the analysis.</p>	
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