

# Natural Hazard Assurance Statement

For Development Approvals and Building Permits

Please complete this form in its entirety. If fields are left blank or responses are inconsistent, the form will be returned.

## A. Project Information

Date \_\_\_\_\_ CVRD File No. \_\_\_\_\_

### Property Information

Project Name & Description \_\_\_\_\_

Legal Description \_\_\_\_\_

Site Address \_\_\_\_\_ PID \_\_\_\_\_

### Client Information

Name \_\_\_\_\_

Role (check on or more)      Property Owner      Developer      Other \_\_\_\_\_

Client Address \_\_\_\_\_

### Qualified Professional

Name \_\_\_\_\_

EGBC Designation(s)      P.Eng.      P. Geo.      Eng.L      Geo.L

Firm Name<sup>1</sup> \_\_\_\_\_

Email Address \_\_\_\_\_

Phone Number(s) \_\_\_\_\_

Mailing Address \_\_\_\_\_

### Natural Hazard Assessment Report Reference (the Report)

Title \_\_\_\_\_ Date \_\_\_\_\_

*1. The Qualified Professional is a representative of the firm, and submits this Assurance Statement on behalf of the firm.*

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## B. Assurance

Based on the contents of this Assurance Statement and the Report, I hereby give assurance that  
(check as applicable):

<b>Development Permit:</b>	The Report will “assist the local government in determining what conditions or requirements under [Section 920] subsection (7.1) it will impose in the permit”, as required by the Local Government Act (Sections 488 and 489).
<b>Building Permit:</b> Community Charter  Seismic Slope	“The land may be used safely for the use intended” , as required by the Community Charter (Section 56),  The Report addresses the requirements of the BC Building Code 2006, 4.1.8.1.6 (8) and 9.4.4.4 (2), as detailed in the BC Building & Safety Policy Branch Information Bulletin B10-01, Jan 18, 2010
<b>Floodplain Management Bylaw Exemption:</b>	“The land may be used safely for the use intended”, as required by the Local Government Act (Section 524).
<b>Subdivision</b>	The land may be used safely for the use intended”, as required by the Land Title Act (Section 86).
<b>Other:</b> (e.g. Zoning Bylaw Amendment Official Community Plan Amendment Temporary Use Permit, etc.)	Insert statement as appropriate:

## C. EGBC Professional Practice Guidelines

The Report and this Assurance Statement should be completed in accordance with the current version of one or both of the following Professional Practice Guidelines issued by the Engineers and Geoscientists of BC (EGBC):

- *Legislated Flood Assessments in a Changing Climate in BC, and*
- *Legislated Landslide Assessments for Proposed Residential Development in British Columbia* (“EGBC Landslide Guidelines”).

These two documents are collectively referred to as the “EGBC Guidelines”. The italicized words in this Assurance Statement are defined in the EGBC Guidelines.

The Report has been prepared pursuant to the following EGBC Guidelines (check one or both as applicable).

EGBC Flood Guidelines

EGBC Landslide Guidelines

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If the Report is not prepared pursuant to either of the EGBC Guidelines, please explain.

## D. Background Information

Qualified Professionals **must** confirm and check that each item is included in the Report.

1. Property location map — 8.5 x 11 size, *Show the spatial extent of hazard assessment zones.*
2. Development proposal site plan — 8.5 x 11 size. *Show the spatial extent of hazard assessment zones and locations of mitigative features. If a subdivision, show the parent parcel and all lots to be created, including any remainder.*
3. Description of the proposed development project (including building use) to the extent this is known at the time of Report preparation. *Specify ALL that apply.*

residential

industrial

commercial

institutional

other \_\_\_\_\_

## E. Technical Requirements

Qualified Professionals must review, confirm and check completed items (as pertinent).

### Report Content

The Report contains the following items:

4. Relevant information pertaining to the Property and pertinent potential hazards from appropriate background sources, including the CVRD online library.
5. Complete listing of previous reports and other relevant information that has been reviewed in preparing the Report, including that from the CVRD online library.
6. Maps, illustrations and diagrams to illustrate areas referred to in the Report.
7. Description of field work conducted on and, if required, beyond the Property.
8. Contact and consultation with the Cowichan Valley Regional District. Provide name and title of contact:

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9. Review of relevant CVRD bylaws and other statutory requirements.
10. Restrictive covenants registered against the Property title that pertain to natural hazards (if registered, the Report provides relevant information about the covenants).
11. Notation of any visibly apparent natural hazards or other hazards identified in background reports, which are not identified and addressed in the Report.

Yes      No

Comment: \_\_\_\_\_

12. Does the Report rely on one or more Supporting Reports, each of which is independently reviewed, signed and sealed.

Yes      No

13. For subdivision approval, the Report addresses natural hazards for:

the parent parcel prior to subdivision; and  
any lots to be created (including any remainder)  
adjacent properties affecting the proposed lot

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## Natural Hazard Assessment, Risk Acceptability and Risk Transfer

14. In considering the above-noted potential hazards that may affect the property, I have:
- reviewed and characterized the potential hazard(s);
  - estimated the potential frequency and magnitude of the potential hazard(s);
  - relied on Supporting Report(s) as noted above;
  - relied on a pre-existing assessment of hazard frequency and magnitude;
  - considered the potential effects of climate change in the context identified in the Report;
  - considered the potential effects of changed future conditions (upstream watershed changes, forestry activity, land use changes, sea level rise, etc.) in the context identified in the Report.
15. This Assurance Statement pertains to all natural hazards that are assessed in the Report and any Supporting Reports, and accurately reflects the contents of those documents.
16. The CVRD has adopted ‘Natural Hazard Life Loss Policy’, which provides a specific level of hazard or risk tolerance. I have included a hazard summary table in the form presented in Section I, and which:
- lists all of the potential hazards addressed by the Report and any Supporting Reports;
  - provides an annual return frequency and acceptability threshold classification for the unmitigated condition;
  - proposes mitigative measures to appropriately reduce the natural hazard risk; and
  - provides an annual return frequency and acceptability threshold classification for the mitigated condition.
17. Following consultation with the CVRD, the Report proposes an alternative approach to risk mitigation, summarized as follows:
- design return period approach; or
  - risk assessment approach; or
  - another approach: \_\_\_\_\_
18. The Report describes the potential transfer of natural hazard risk to other properties or infrastructure as a result of the proposed project (*including any proposed structural mitigation works*): and
- considered the potential for transfer of natural hazard risk;
  - concludes that there is no significant transfer of natural hazard risk;
  - identifies the potential transfer of natural hazard risk and proposes measures to offset such transfer of risk.

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## Mitigation and Design Recommendations

The Report contains the following items:

19. Clearly identified safe locations for building(s), ancillary structures, and onsite utility services (as applicable, such as a septic field) out of the natural hazard area as a preferred development alternative.
20. Implementation steps for the identified structural mitigation works (in terms of design, construction and approval).
21. Commentary on the effectiveness of proposed structural mitigation works in terms of ability to reduce the potential hazard impact, and identification of any residual risk that would remain.
22. Proposed Flood Construction Level (FCL) for future development, including specification of an appropriate method of achieving the FCL.
23. Proposed watercourse setback, which is clearly referenced from the natural boundary, top of bank, or another suitable basis.
24. Proposed operation and maintenance actions that will be necessary in order for the level of safety to be maintained in the future, with indication of who should be responsible for those actions and when.

## Riparian Area Regulation (if applicable)

25. If a Riparian Area Regulation assessment has been completed for the property, and it has been reviewed to identify and avoid conflict with Report recommendations for hazard mitigation.

Yes      No      Uncertain

## Reviewer

26. The Report has received appropriate technical review which is consistent with the EGBC Professional Practice Guidelines, and the name of the reviewer is noted in the Report and below (insert name and professional designation):

Name \_\_\_\_\_

EGBC Designation(s)      P.Eng.      P. Geo.      Eng.L      Geo.L

## F. CVRD Supplemental Requirements

The following points are understood by the Qualified Professional when submitting a Report:

27. Permission is granted to the CVRD to use the Report in considering approval of the proposed development on the Property, provided that such permission is limited only to the proposed development project for which the Report was prepared.
28. Methodology used in the Report is described in sufficient detail to facilitate a professional review of the study by CVRD when necessary.
29. This Assurance Statement may be relied upon for permitting purposes for a period of 1 year after submittal. Beyond that time, CVRD should contact the QP for an updated Assurance Statement if needed.
30. Professional liability insurance coverage of at least \$1 million per claim is carried by the QP.
31. Third party review or supplemental information may be required by the CVRD, where complex development proposals warrant.
32. Permission is granted to the CVRD to include the Report in the online CVRD natural hazard report library (as background information, not for other parties to rely on).

## H. Hazard Summary Table

The natural hazard report and/or any supporting reports addresses the following hazard types:

TYPE	YES	NO	NOT RE-VIEWED	SUPPORTING REPORT? WAS THIS REPORT PREPARED BY OTHERS?			HAZARD ACCEPTABILITY THRESHOLDS CLASSIFICATION					COMMENTS
				NO	YES	IF YES Report Name, Date & Author	ANNUAL RISK OF FATALITY (UNMITIGATED)	ACCEPTABILITY THRESHOLD CLASSIFICATION (UNMITIGATED)	MITIGATION (if necessary)			
									PROPOSED MITIGATION MEASURES	ANNUAL RISK OF FATALITY (MITIGATED)	ACCEPTABILITY THRESHOLD CLASSIFICATION (MITIGATED)	
Rock fall – Small Scale Detachment												
Debris Flood												
Major Catastrophic Landslide												
Debris Flow and Debris Torrent												
Small Scale Localized Landslip												
Snow Avalanche												
Inundation by Floodwaters, Rivers and Tributaries												
River Erosion or Avulsion												
Mountain Stream Erosion or Avulsion												
<b>EGBC – HAZARD SUPPLEMENT</b>												
Coastal Flooding							NOT APPLICABLE					
Tsunami												
Seismic Effects/Liquefaction												
Slope Stability												
Fan (Alluvial/Debris/Colluvial)												
Erosion												
Flooding (River/Lake/Etc.)												

The natural hazard report covers: (check one or both)      Individual Risk Assessment      Group Risk Assessment



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## G. Qualified Professional (QP)

Prepared by: (QP of Record)

Name \_\_\_\_\_

Designation                      P.Eng.                      P. Geo.                      Eng.L                      Geo.L

Reviewed by:

Name \_\_\_\_\_

Designation                      P.Eng.                      P. Geo.

Professional Seal, Signature and Date:

I am a Qualified Professional as defined in the EGBC Guidelines, and I fulfill the education, training and experience requirements as outlined in the EGBC Guidelines

I have signed, sealed, dated and thereby certify, this Assurance Statement and the attached report.