Sunshine Coast Regional District
Building Division Policy

Building Permit Applications—Geotechnical **June 23-2010**

Subject: Building Permit Applications, Development Permit Applications and Subdivisions

Policy:

Pursuant to recent Provincial legislative changes to the British Columbia Building Code, effective February 1st, 2010 , the seismic geotechnical requirements for residential housing in particular has become a significant concern for Local Governments.

The attached Building and Policy Branch Bulletin #B10-01 refers to new design requirements to which Registered Professional Engineers must now subscribe.

Essentially, the current seismic design requirements for 10% in 50 year probability level otherwise defined as a 1 in 475 event introduced in January of 2007, have now been repealed and replaced with 2% in 50 year probability level, or a 1 in 2475 event.

The design criteria must be applied not just to the subject lot slated for building, but will extend to include surrounding influences that may contribute to slope stability such as adjacent or nearby slopes, watercourses, rock-falls, logged property or any other hazards that may be identified by the Registered Professional in his findings regarding site influences.

Residential developments, the subject of this policy, that may trigger a slope stability assessment include, but not limited to:

1. Subdivisions, including consolidation or property line adjustments,
2. Construction of new buildings or structures including earth retention,
3. Structural alteration or additions to existing buildings or structures,
4. Removal of vegetation, site grading, filling, installation of infrastructure, installation of utilities or modification of site drainage.

Applications for residential development as defined above made after **February 1st 2010** will be required to include in their application a Landslide Assessment Statement signed and sealed by a Qualified Registered Professional.

A copy of the Landslide Assessment Statement is attached.

The Sunshine Coast Regional District Building Division may also require that a designated Registered Professional act as a Coordinating Registered Professional to insure that all aspects of design, where Registered Professionals are involved, are properly included and addressed.

To this end, a signed and sealed Schedule A, (BC Building Code document), is to be submitted along with the Building Permit application and appropriate schedules B1 and B2 documentation for all Registered Professionals involved in the project where applicable as determined by the Building Inspector.

Peter Longhi, Chief Building Inspector, SCRD.

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Information Bulletin

Building and Safety Policy Branch

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No. B10-01
DATE January 18, 2010

British Columbia Building Code Amendments Related to Seismic Slope Stability and Technical Guidance

Effective February 1, 2010, the BC Building Code is amended with the new additions of Sentence 4.1.8.16.(8) and Sentence 9.4.4.4.(2).

With the new changes,

1) the consideration of potential for slope instability and its consequences at a building site becomes an explicit requirement in designs of structures and their foundations, and
2) the seismic hazard probability level to be used in the consideration, particularly in assessment of seismic slope stability, will be as referenced in Subsection 1.1.3 of Division B of the BC Building Code, namely a 2%-in-50 year probability of exceedance.

As a result, the Geotechnical Slope Stability (Seismic) Regulation, B.C. Reg. 358/2006 is repealed. The companion Commentary on Geotechnical Slope Stability (Seismic) Regulation issued by the Building and Safety Policy Branch in January 2007 is also withdrawn. As originally intended, the repealed B.C. Reg. 358/2006 served as an interim provision for specifying a seismic hazard probability level to be used for slope assessments for building sites. That level was a 10%-in-50 year probability of exceedance.

Copies of the Minister's Orders amending the BC Building Code and repealing the Geotechnical Slope Stability (Seismic) Regulation are available online at http://www.housing.gov.bc.ca/building/regs/codes/index.html--see Revision 7.

Technical guidance on seismic slope assessment to the 2%-in-50 year seismic hazard probability level can be found in the document *Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia,* published by the Association of Professional Engineers and Geoscientists of BC. These guidelines provide a risk-based approach for professionals to assess and mitigate building sites and to design structures at the sites. Authorities may also find the guide helpful in defining criteria for and evaluating results from professional geotechnical reports. The document is available online at http://www.apeg.bc.ca/ppractice/documents/ppguidelines/guidelineslegislatedlandslide1.pdf

APPENDIX D: LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

Note: This Statement is to be read and completed in conjunction with the "APEGBC Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia", March 2006/Revised September 2008 ("APEGBC Guidelines") and the "2006 BC Building Code (BCBC 2006)" and is to be provided for *landslide assessments* (not floods or flood controls) for the purposes of the Land Title Act, Community Charter or the Local Government Act. Italicized words are defined in the APEGBC Guidelines.

To: The *Approving Authority* Date:_____

_____

_____

Jurisdiction and address

With reference to (check one):

- ☐ Land Title Act (Section 86) – Subdivision Approval
- ☐ Local Government Act (Sections 919.1 and 920) – Development Permit
- ☐ Community Charter (Section 56) – Building Permit
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Variance
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Exemption
- ☐ Local Government Act (Section 692 (D)) – Provincial Regulation M268, Geotechnical Slope Stability (Seismic) Regulation

For the Property:

_____

Legal description and civic address of the Property

The undersigned hereby gives assurance that he/she is a *Qualified Professional* and is a *Professional Engineer* or *Professional Geoscientist.*

I have signed, sealed and dated, and thereby certified, the attached *landslide assessment* report on the Property in accordance with the *APEGBC Guidelines*. That report must be read in conjunction with this Statement. In preparing that report I have:

Check to the left of applicable items

___1. Collected and reviewed appropriate background information
___2. Reviewed the proposed *residential development* on the Property
___3. Conducted field work on and, if required, beyond the Property
___4. Reported on the results of the field work on and, if required, beyond the Property
___5. Considered any changed conditions on and, if required, beyond the Property
6. For a *landslide hazard analysis* or *landslide risk analysis* I have:
   ___6.1 reviewed and characterized, if appropriate, any *landslide* that may affect the Property
   ___6.2 estimated the *landslide hazard*
   ___6.3 identified existing and anticipated future *elements at risk* on and, if required, beyond the Property
   ___6.4 estimated the potential *consequences* to those *elements at risk*
7. Where the *Approving Authority* has adopted a *level of landslide safety* I have:
   ___7.1 compared the *level of landslide safety* adopted by the *Approving Authority* with the findings of my investigation
   ___7.2 made a finding on the *level of landslide safety* on the Property based on the comparison
   ___7.3 made recommendations to reduce *landslide hazards* and/or *landslide risks*
8. Where the *Approving Authority* has **not** adopted a *level of landslide safety* I have:
   ___8.1 described the method of *landslide hazard analysis* or *landslide risk analysis* used
   ___8.2 referred to an appropriate and identified provincial, national or international guideline for *level of landslide safety*
   ___8.3 compared this guideline with the findings of my investigation

___8.4 made a finding on the *level of landslide safety* on the Property based on the comparison
___8.5 made recommendations to reduce *landslide hazards* and/or *landslide risks*
___9. Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections.

Based on my comparison between

Check one

☐ the findings from the investigation and the adopted *level of landslide safety* (item 7.2 above)
☐ the appropriate and identified provincial, national or international guideline for *level of landslide safety* (item 8.4 above)

I hereby give my assurance based on the conditions[18] contained in the attached *landslide assessment* report

Check one or more where appropriate

☐ for subdivision approval, as required by the Land Title Act (Section 86), "that the land may be used safely for the use intended"

Check one

☐ with one or more recommended registered *covenants.*
☐ without any registered *covenant.*
☐ for a development permit, as required by the Local Government Act (Sections 919.1 and 920), my report will "assist the *local government* in determining what conditions or requirements under [Section 920] subsection (7.1) it will impose in the permit"
☐ for a building permit, as required by the Community Charter (Section 56), "the land may be used safely for the use intended"

Check one

☐ with one or more recommended registered *covenants.*
☐ without any registered *covenant.*
☐ for flood plain bylaw variance (for debris flows only), as required by the "Flood Hazard Area Land Use Management Guidelines" associated with the Local Government Act (Section 910), "the development may occur safely."
☐ for flood plain bylaw exemption (for debris flows only), as required by the Local Government Act (Section 910), "the land may be used safely for the use intended."

_____ _____
Name (print) Date

_____
Signature

_____
Address

_____

_____ (Affix Professional seal here)
Telephone

If the *Qualified Professional* is a member of a firm, complete the following.

I am a member of the firm _____
and I sign this letter on behalf of the firm. (Print name of firm)

[18] When seismic slope stability assessments are involved, level of landslide safety is considered to be a "life safety" criteria as described in the National Building Code of Canada (NBCC 2005), Commentary on Design for Seismic Effects in the User's Guide, Structural Commentaries, Part 4 of Division B. This states:

"The primary objective of seismic design is to provide an acceptable level of safety for building occupants and the general public as the building responds to strong ground motion; in other words, to minimize loss of life. This implies that, although there will likely be extensive structural and non-structural damage, during the DGM (design ground motion), there is a reasonable degree of confidence that the building will not collapse nor will its attachments break off and fall on people near the building. This performance level is termed 'extensive damage' because, although the structure may be heavily damaged and may have lost a substantial amount of its initial strength and stiffness, it retains some margin of resistance against collapse".