

GUIDE

ENVIRONMENTAL LOADS FOR USE WITH THE BRITISH COLUMBIA BUILDING CODE

GUIDE OVERVIEW

As with previous editions of the British Columbia Building Code (the “BCBC”), the current version does not list environmental loads for the City of Coquitlam in its Division B – Appendix C, Climate and Seismic information for Building Design in British Columbia. In the City of Coquitlam, Building Permit applications under the BCBC must be based on the climatic and seismic values tabulated in this Guide.

The choice of climatic elements tabulated in this Guide and the form in which they are expressed, correspond to the entries in the Appendix. They are dictated largely by the requirements for specific values in several sections of the BCBC. These elements include the Ground Snow Loads, Wind Pressures, Design Temperatures, Climate Zones, One-Day and 15-Minute Rainfalls, the Annual Total Precipitation values and Seismic Data.

Coquitlam’s topography varies significantly resulting in various ranges of data. Data is provided to reflect that snow loads vary continuously as one climbs in elevation. Three bands of data have been provided to address the remaining environmental loads. The bands correspond to the topographic elevations at which significant threshold values trigger qualitative changes in design requirements that may have cost implications for developers:

- Elevation 250 m - energy efficiency requirements, below this elevation Climate Zone 4, above this elevation is Climate Zone 5 under BCBC Part 9; and
- Elevation 425 m - above this elevation extensive development is unlikely to occur in the near future.

For development above the 425 m elevation, designers should obtain data from the appropriate agencies. Proposed values and data sources must be documented and submitted with the Building Permit application.

The tabulated values for Coquitlam were obtained from BCBC Appendix C and:

Climatic Design Values

Environment Canada
Atmospheric Environment Service
4905 Dufferin Street
Downsview, Ontario, M3H 5T4
Tel (416) 739-4365
Climate.Services.ec.gc.ca

Seismic Hazard in Spectral Format

Natural Resources Canada
Geological Survey of Canada
P.O. Box 6000
Sidney, B.C., V8L 4B2.
Web site www.earthquakescanada.nrcan.gc.ca

Attach.

Elevation	Snow Load kPa, 1/50		Design Temperature				15 Minute Rain mm	One Day Rain 1/50 mm	Annual Rain mm	Moisture Index	Annual Total Ppn., mm	Driving Rain Wind Pressure s, Pa, 1/5	Hourly Wind Pressures kPa		Frost Depth mm	Climate Zone	Degree- Days Below 18°C
			January		July 2.5%								1/10	1/50			
			2.50% °C	1% °C	Dry °C	Wet °C											
meters	Ss	Sr															
401 to 425 (1)	5.70	0.4	-11	-13	28	20	10	170	1880	1.97	2100	160	0.36	0.48	650	Zone 5 > 250 meters	3000- 3999
351 to 400	5.40	0.4															
326 to 350	4.70	0.4															
301 to 325	4.40	0.3															
251 to 300	4.20	0.3	-10	-12	29	20	10	155	1820	1.91	1960	160	0.36	0.48	450	Zone 4 < or = 250 meters	< 3000
201 to 250	3.70	0.3															
151 to 200	3.30	0.3															
101 to 150	3.00	0.3															
0 to 100	2.60	0.2															
			-9	-10	29	20	10	140	1750	1.81	1810	160	0.34	0.44			

Notes To Table:

(1) - For elevations exceeding 425 meters obtain data from the appropriate agencies.

Seismic Data							
Sa(0.2)	Sa(0.5)	Sa(1.0)	Sa(2.0)	Sa(5.0)	Sa(10.0)	PGA	PGV
0.784	0.691	0.393	0.24	0.077	0.027	0.399	0.511

Notes To Table:

(1) - See the paragraph dealing with Sentence 4.1.8.4.(1) in the Commentary entitled Design for Seismic Effects in the "User's Guide - NBC 2015, Structural Commentaries (Part 4 of Division B)" for guidance regarding sites in the Yukon and the British Columbia panhandle that are close to active faults.

Elevation meters	Required Performance of Windows and doors in Part 9 Buildings (2)							
	Climate Data		Specified Loads			NAFS		
	1/5 DRWP	1/50 HWP	DRWP	Wind Load		Required Fenestration Performance		
	Pa	kPa	Pa	Pa	(psf)	DP	PG	Water Resistance
151 to 425 (1)	160	0.48	160	972	20.3	1200	25	180
0 to 150	160	0.44	160	960	18.61	960	20	180

Notes To Table:

(1) - For elevations exceeding 425 meters obtain data from the appropriate agencies.
 (2) - Table may not be used for skylights see Sentence 9.7.4.3.(1)

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