

PERMITS AND INSPECTIONS BULLETIN

RMOW Building Department bulletin regarding Snow Loading

This bulletin is published to provide clarification of the 2018 BC Building Code Snow Load requirements in the Resort Municipality of Whistler.

Code Requirements:

Section 9.4 of the 2018 BC Building code addresses the specified loads for Part 9 Housing and Small Buildings of traditional light frame wood construction. The simplified snow load calculation in Article 9.4.2.2. anticipates the use of the prescriptive structural requirements outlined in Part 9 and is rarely seen in Whistler construction.

The high ground snow load in Whistler far exceeds the prescriptive requirements of Part 9 of the BC Building Code. Therefore, structural design of all Part 9 buildings and structures shall be designed to the loads outlined in Part 4 unless approved in writing by the Building Official. Utilize the specified snow load calculation outlined in **Article 4.1.6.2.:**

$$S = I_s [S_s (C_b C_w C_s C_a) + S_r]$$

Ground Snow Load:

For all buildings at an elevation between 600m and 1000m (above mean sea level), Environment Canada has provided the RMOW with a calculation for Ground Snow Load (GSL) based on Elevation, in meters.

$$\begin{aligned} S_s \text{ (50-year, kPa)} &= 0.0143 * z \\ S_r \text{ (50-year, kPa)} &= 0.66 + 0.00033 * z \end{aligned}$$

z = Mean Sea Level Elevation, in meters

For buildings above 1000m, please contact Environment Canada (416-739-4365 or ec.services.climatiques-climate.services.ec@canada.ca) to determine the appropriate ground snow load.

Conclusion: All Part 3 and 9 buildings in Whistler shall be designed by a licensed Professional Engineer to Part 4 due to the high snow loads in Whistler; unless approved in writing by the Building Official. Please include site elevation, ground snow load values and specified snow load calculation on all Structural Drawings.



Environment Canada
Environnement Canada

Reference Number
WhistlerKlassen20170208

Whistler, BC

Latitude: 50 ° 7 ' 12 " N

Longitude: 122 ° 57 ' 36 " W

Elevation (Metres): 665

Design element	Design value
January 2.5% design dry bulb temperature °C	
January 1% design dry bulb temperature °C	
July 2.5% design dry bulb temperature °C	
July 2.5% design wet bulb temperature °C	
Annual total degree days below 18 °C	
Maximum 15 minute rainfall (mm)	
Maximum one day rainfall (50 years) (mm)	
Annual rainfall (mm)	
Annual total precipitation (mm)	
Moisture Index	
Driving Rain wind pressure 1/5 years (Pa)	
Ground snow load, snow component S _s (30 years) (kPa)	
Ground snow load, rain component S _r (30 years) (kPa)	
Ground snow load, snow component S _s (50 years) (kPa)	9.5
Ground snow load, rain component S _r (50 years) (kPa)	0.9
Hourly wind pressure 1/10 (kPa)	0.25
Hourly wind pressure 1/30 years (kPa)	
Hourly wind pressure 1/50 years (kPa)	0.32
Hourly wind pressure 1/100 years (kPa)	

Please note that the recommended values may differ from the legal requirements established by the municipal or provincial (territorial) building authorities. The design values may have been interpolated from calculated values at surrounding locations with subjective modification. Topographic effects may introduce local variations in the design values. Environment Canada has not made and does not make any representation or warranties, either expressed or implied, arising by law or otherwise, respecting the accuracy of climatic information. In no event will Environment Canada be responsible for any prejudice, loss or damage which may occur as the result of the use of climatic information.

S_s (50-yr, kPa) = 0.0143*z, S_r (50-yr, kPa) = 0.66 + 0.00033*z
where z is the elevation above Mean Sea Level in metres and 600 < z (m) < 1000.

February 9, 2017