



Certificate of Design Application

From Designer: Larry A. Wichroski, P.E.
 Date: July 06, 2016
 Job Name: Apartment Remodel
 Address of Construction: 50 Wilmot Street, Portland, Maine

2009 International Building Code

Construction project was designed to the building code criteria listed below:

Building Code & Year 2009 IRBC Use Group Classification (s) R2

Type of Construction III - Wood

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IRC Yes

Is the Structure mixed use? No If yes, separated or non separated or non separated (section 302.3) _____

Supervisory alarm System? Yes Geotechnical/Soils report required? (See Section 1802.2) No

Structural Design Calculations

Yes Submitted for all structural members (106.1 - 106.11)

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use	Loads Shown
<u>Residential</u>	<u>40.0 psf</u>
_____	_____
_____	_____
_____	_____

Wind loads (1603.1.4, 1609)

Method 1 Design option utilized (1609.1.1, 1609.6)
 100 mph Basic wind speed (1809.3)
 Cat #1, 1.0 Building category and wind importance Factor, w table 1604.5, 1609.5)
 B Wind exposure category (1609.4)
 0.18 Internal pressure coefficient (ASCE 7)
 25.0 psf Component and cladding pressures (1609.1.1, 1609.6.2.2)
 25.0 psf Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

Bearing Wall Design option utilized (1614.1)
 B Seismic use group ("Category")
 .324 & .123 Spectral response coefficients, S_D & S_I (1615.1)
 D Site class (1615.1.5)

None Live load reduction
45.0 psf Roof *live* loads (1603.1.2, 1607.11)
45.0 psf Roof snow loads (1603.7.3, 1608)
60.0 psf Ground snow load, P_g (1608.2)
0.9 If $P_g > 10$ psf, flat-roof snow load P_f
1.0 If $P_g > 10$ psf, snow exposure factor, C_e
1.0 If $P_g > 10$ psf, snow load importance factor, I_s
N/A Roof thermal factor, C_t (1608.4)
N/A Sloped roof snowload, P_s (1608.4)
B Seismic design category (1616.3)
Shear Walls Basic seismic force resisting system (1617.6.2)
N/A Response modification coefficient, R , and deflection amplification factor C_d (1617.6.2)
Wind Gov. Analysis procedure (1616.6, 1617.5)
64,000 # Design base shear (1617.4, 1617.5.1)
Flood loads (1803.1.6, 1612)
N/A Flood Hazard area (1612.3)
N/A Elevation of structure
Other loads
2,000# Point Concentrated loads (1607.4)
 _____ Partition loads (1607.5)
 _____ Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)