



# Certificate of Design Application

From Designer:

JOSEPH DIDONATO

Date:

10/19/2016

Job Name:

INFINITY FEDERAL CREDIT UNION

Address of Construction:

29 BAXTER BOULEVARD PORTLAND, ME.

## 2009 International Building Code

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

Building Code & Year 2009 IBC Use Group Classification (s) BUSINESS GROUP B

Type of Construction VB COMBUSTIBLE UNPROTECTED

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IBC NO

Is the Structure mixed use? NO If yes, separated or non separated or non separated (section 302.3) N/A

Supervisory alarm System? YES Geotechnical/Soils report required? (See Section 1802.2) PROVIDED

### Structural Design Calculations

N/A 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>OFFICE</u>	<u>160 PSF</u>

### Wind loads (1603.1.4, 1609)

ASCE 7, 6.4 Design option utilized (1609.1.1, 1609.6)  
110 MPH Basic wind speed (1809.3)  
CAT II, Iw=1.0 Building category and wind importance Factor,  $I_w$  (table 1604.5, 1609.5)  
B Wind exposure category (1609.4)  
0.18 Internal pressure coefficient (ASCE 7)  
20 PSF Component and cladding pressures (1609.1.1, 1609.6.2.2)  
16 PSF Main force wind pressures (7603.1.1, 1609.6.2.1)

### Earth design data (1603.1.5, 1614-1623)

EQ. LAT. FORCE Design option utilized (1614.1)  
CAT II, Ie=1.0 Seismic use group ("Category")  
0.482, 0.180 Spectral response coefficients,  $S_D$  &  $S_{DI}$  (1615.1)  
E Site class (1615.1.5)

N/A Live load reduction  
20 PSF Roof live loads (1603.1.2, 1607.11)  
46 PSF Roof snow loads (1603.7.3, 1608)  
60 PSF Ground snow load,  $P_g$  (1608.2)  
46 PSF If  $P_g > 10$  psf, flat-roof snow load  $P_f$   
1.0 If  $P_g > 10$  psf, snow exposure factor,  $C_e$   
I<sub>s</sub> = 1.0 If  $P_g > 10$  psf, snow load importance factor,  $I_s$   
1.1 Roof thermal factor,  $C_t$  (1608.4)  
N/A Sloped roof snowload,  $P_s$  (1608.4)  
C Seismic design category (1616.3)  
WOOD FRAMED SHEAR WALLS Basic seismic force resisting system (1617.6.2)  
6.5 Response modification coefficient,  $R$ , and  
4 deflection amplification factor  $C_d$  (1617.6.2)  
EQ. LATERAL FORCE Analysis procedure (1616.6, 1617.5)  
75 KIPS Design base shear (1617.4, 1617.5.1)  
**Flood loads (1803.1.6, 1612)**  
N/A Flood Hazard area (1612.3)  
 Elevation of structure  
**Other loads**  
N/A Concentrated loads (1607.4)  
N/A Partition loads (1607.5)  
N/A Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)