



# Certificate of Design Application

From Designer: Chappell Engineering Associates, LLC  
 Date: February 05, 2015  
 Job Name: T-Mobile Antennae Installation @ PHA Harbor Terrace  
 Address of Construction: 284 Danforth Street, Portland, ME 04102

## 2009 International Building Code

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

Building Code & Year IBC 2009 Use Group Classification (s) Existing Building=R-2,  
 Type of Construction Proposed Construction = Rooftop Equipment Frame for Radio Cabinets on Existing Building Roof  
 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) \_\_\_\_\_  
 Supervisory alarm System? N/A Geotechnical/Soils report required? (See Section 1802.2) N/A

### 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 N/A Loads Shown N/A  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Wind loads (1603.1.4, 1609)

Analytical Procedure \_\_\_\_\_ Design option utilized (1609.1.1, 1609.6)  
100 mph Basic wind speed (1809.3)  
II Building category and wind importance Factor,  $I_w$  table 1604.5, 1609.5)  
B Wind exposure category (1609.4)  
N/A Internal pressure coefficient (ASCE 7)  
N/A Component and cladding pressures (1609.1.1, 1609.6.2.2)  
N/A Main force wind pressures (7603.1.1, 1609.6.2.1)

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

N/A Design option utilized (1614.1)  
N/A Seismic use group ("Category")  
N/A Spectral response coefficients,  $S_D$  &  $S_{D1}$  (1615.1)  
N/A Site class (1615.1.5)

None \_\_\_\_\_ Live load reduction  
31.5 psf \_\_\_\_\_ Roof live loads (1603.1.2, 1607.11)  
31.5 psf \_\_\_\_\_ Roof snow loads (1603.7.3, 1608)  
50 psf \_\_\_\_\_ Ground snow load,  $P_g$  (1608.2)  
31.5 psf \_\_\_\_\_ If  $P_g > 10$  psf, flat-roof snow load  $P_f$   
0.9 \_\_\_\_\_ If  $P_g > 10$  psf, snow exposure factor,  $C_e$   
1.0 \_\_\_\_\_ If  $P_g > 10$  psf, snow load importance factor,  $I_s$   
1.0 \_\_\_\_\_ Roof thermal factor,  $C_t$  (1608.4)  
N/A \_\_\_\_\_ Sloped roof snowload,  $P_s$  (1608.4)  
N/A \_\_\_\_\_ Seismic design category (1616.3)  
N/A \_\_\_\_\_ Basic seismic force resisting system (1617.6.2)  
N/A \_\_\_\_\_ Response modification coefficient,  $R$ , and deflection amplification factor,  $C_d$  (1617.6.2)  
N/A \_\_\_\_\_ Analysis procedure (1616.6, 1617.5)  
N/A \_\_\_\_\_ Design base shear (1617.4, 1617.5.1)

### Flood loads (1803.1.6, 1612)

N/A \_\_\_\_\_ Flood Hazard area (1612.3)  
78ft AGL \_\_\_\_\_ 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)