Certificate of Design Application

From Designer: STRUCTURAL INTEGRITY

Date: 10.4.2016

Job Name: STATION 415

Address of Construction: 415 CUMBERLAND AVE, PORTLAND ME 04101

2009 International Building Code

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

Building Code & Year IBC 2009 Use Group Classification (s) BUSINESS & R-3 RESIDENTIAL

Type of Construction 3B & 5B

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IBC _____

Is the Structure mixed use? YES If yes, separated or non separated or non separated (section 302.3) SEPERATED

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

Structural Design Calculations

_____ 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
OFFICE	50 PSF
RESIDENTIAL	40 PSF
PUBLIC SPACES	100 PSF

Wind loads (1603.1.4, 1609)

ANALYTIC Design option utilized (1609.1.1, 1609.6)

100 MPH Basic wind speed (1809.3)

II, 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)

45 PSF Component and cladding pressures (1609.1.1, 1609.6.2.2)

22 PSF Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

EQUIV. LAT. Design option utilized (1614.1)

1 Seismic use group ("Category")

0.325, 0.123 Spectral response coefficients, S_{DS} & S_{D1} (1615.1)

D Site class (1615.1.5)

NONE Live load reduction

_____ Roof *live* loads (1603.1.2, 1607.11)

42 PSF Roof snow loads (1603.7.3, 1608)

60 PSF Ground snow load, P_g (1608.2)

42 PSF 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

1.0 Roof thermal factor, C_t (1608.4)

42 PSF Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

MAS. SHEAR WALL Basic seismic force resisting system (1617.6.2)

1.5 Response modification coefficient, R_I and deflection amplification factor C_d (1617.6.2)

EQUIV. LAT. FORCE Analysis procedure (1616.6, 1617.5)

51 KIPS Design base shear (1617.4, 16175.5.1)

Flood loads (1803.1.6, 1612)

_____ Flood Hazard area (1612.3)

_____ Elevation of structure

Other loads

_____ 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