Certificate of Design Application

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 03/10/16

From Designer: Archetype

Date: 12/14/15

Job Name: Winslow Lofts Balconies

Address of Construction: 545 Congress Street

2009 International Building Code

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

Building Code & Year IBC 2009 Use Group Classification (s) R-2

Type of Construction Type 3

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? yes If yes, separated or non separated or non separated (section 302.3) separated

Supervisory alarm System? yes Geotechnical/Soils report required? (See Section 1802.2) N/A

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
Balcony	60psf

Wind loads (1603.1.4, 1609)

Analytical Design option utilized (1609.1.1, 1609.6)

100mph Basic wind speed (1809.3)

II, 1.0 Building category and wind importance Factor, I_w table 1604.5, 1609.5)

C Wind exposure category (1609.4)

.85 Internal pressure coefficient (ASCE 7)

35 Component and cladding pressures (1609.1.1, 1609.6.2.2)

--- Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

NA Design option utilized (1614.1)

Seismic use group ("Category")

Spectral response coefficients, S_{Ds} & S_{D1} (1615.1)

Site class (1615.1.5)

none Live load reduction

Roof *live* loads (1603.1.2, 1607.11)

60psf Roof snow loads (1603.7.3, 1608)

60psf Ground snow load, P_g (1608.2)

42psf If P_g > 10 psf, flat-roof snow load P_f

1 If P_g > 10 psf, snow exposure factor, C_e

1 If P_g > 10 psf, snow load importance factor, I_s

1 Roof thermal factor, C_t (1608.4)

-- Sloped roof snowload, P_s (1608.4)

-- Seismic design category (1616.3)

-- Basic seismic force resisting system (1617.6.2)

-- Response modification coefficient, R_f and deflection amplification factor C_d (1617.6.2)

-- Analysis procedure (1616.6, 1617.5)

-- Design base shear (1617.4, 16175.5.1)

Flood loads (1803.1.6, 1612)

-- Flood Hazard area (1612.3)

-- Elevation of structure

Other loads

200lb & 50lb/ft handrail 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