Certificate of Design Application

From Designer: John Aharonian, RA

Date: 8/3/12

Job Name: Cumberland Farms Store Renovation & Addition.

Address of Construction: 801 Washington Ave

2009
~~2003~~ **International Building Code**

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

Building Code & Year IBC2009 Use Group Classification (s) Mercantile (M)

Type of Construction 5B

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC N/A

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) _____

Structural Design Calculations

✓ Submitted for all structural members (106.1 – ~~106.11~~ 106.3)

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use	Loads Shown
Retail	100 PSF
Storage	125 PSF

Wind loads (1603.1.4, 1609)

1609.6 Design option utilized (1609.1.1, 1609.6)

100 MPH Basic wind speed (1809.3)

II I 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)

17.5 PSF Component and cladding pressures (1609.1.1, 1609.6.2.2)

15.9PSF Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

Simplified Design option utilized (1614.1)

B Seismic use group ("Category")

0267/0.125 Spectral response coefficients, S_{DS} & S_{D1} (1615.1)

D Site class (1615.1.5)

N/A Live load reduction

N/A 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)

N/A Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

Ord. Moment Frames Basic seismic force resisting system (1617.6.2)

6'2/4 Response modification coefficient, R_I and deflection amplification factor C_d (1617.6.2)

Simplified Analysis procedure (1616.6, 1617.5)

4840+ Design base shear (1617.4, 16175.5.1)

Flood loads (1803.1.6, 1612)

N/A Flood Hazard area (1612.3)

_____ Elevation of structure

Other loads

2000 lbs. Concentrated loads (1607.4)

20 PSF Partition loads (1607.5)

N/A Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404