Certificate of Design Application

From Designer: David Mollenkopf, Architect

Date: 04.25.2014

Job Name: Phase II Terminal Addition for: Old Dominion Freight Line

Address of Construction: 185 Rand Road

2009 International Building Code

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

Building Code & Year 2009 Use Group Classification (s) Occupancy Type - Storage S1

Type of Construction Type IIB

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IBC No, Not Required

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

Supervisory alarm System? No Geotechnical/Soils report required? (See Section 1802.2) Yes

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

Wind loads (1603.1.4, 1609)

ASCE 7-05 Design option utilized (1609.1.1, 1609.6)

100mph Basic wind speed (1809.3)

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

C Wind exposure category (1609.4)

+/- 0.18 Internal pressure coefficient (ASCE 7)

-29.5 psf Component and cladding pressures (1609.1.1, 1609.6.2.2)

-19.2 psf Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

ASCE 7-05 Design option utilized (1614.1)

2 Seismic use group ("Category")

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

D Site class (1615.1.5)

Permitted Live load reduction

20 psf Roof *live* loads (1603.1.2, 1607.11)

37.8psf Roof snow loads (1603.7.3, 1608)

60 psf Ground snow load, P_g (1608.2)

37.8 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)

37.8 psp Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

OSMF Basic seismic force resisting system (1617.6.2)

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

Equiv Lat Frc Analysis procedure (1616.6, 1617.5)

0,11xDL 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

N/A 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