CITY OF PORTLAND
BUILDING CODE CERTIFICATE
389 Congress St., Room 315
Portland, Maine 04101

TO: Inspector of Buildings City of Portland, Maine
Department of Planning & Urban Development
Division of Housing & Community Service

FROM: Neill and Gunter Incorporated

RE: Certificate of Design

DATE: February 24, 2005

These plans and / or specifications covering construction work on:

Foundations for Rubb Building Systems Pre-Engineered Building - Portland International Marine Terminal

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the ***2003 International Building Code*** and local amendments.

STATE OF MAINE
R. SEAN OLIVE
4316
REGISTERED PROFESSIONAL ENGINEER

2/24/05

As per Maine State Law:

$50,000.00 or more in new construction, repair expansion, addition, or modification for Building or Structures, shall be prepared by a registered design Professional.

Signature:

Title: Structural Engineer

Firm: Neill and Gunter Incorporated

Address: 482 Payne Road
Scarborough, ME 04074

FROM DESIGNER: R. HARRY OLIVE, P.E.

DATE: FEBRUARY 24, 2005

Job Name: FOUNDATIONS FOR RUBB BUILDING SYSTEMS PRE-ENGINEERED BLDG.

Address of Construction: PORTLAND INTERNATIONAL MARINE TERMINAL

2003 International Building Code

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

Building Code and Year IBC 2003 Use Group Classification(s) _____

Type of Construction FOUNDATIONS - DESIGNED TO RESIST LOADS PROVIDED BY RUBB BUILDING SYSTEMS (SEE ATTACHED SHEET)

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC_____

Is the Structure mixed use?_____ if yes, separated or non separated (see Section 302.3)_____

Supervisory alarm system?_____ Geotechnical/Soils report required?(See Section 1802.2)_____

STRUCTURAL DESIGN CALCULATIONS

_____ Submitted for all structural members *(106.1, 106.1.1)*

DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603)

Uniformly distributed floor live loads *(1603.1.1, 1607)*

Floor Area Use	Loads Shown

Wind loads *(1603.1.4, 1609)*

_____ Design option utilized *(1609.1.1, 1609.6)*

_____ Basic wind speed *(1609.3)*

_____ Building category and wind importance factor, I_w *(Table 1604.5, 1609.5)*

_____ Wind exposure category *(1609.4)*

_____ Internal pressure coefficient *(ASCE 7)*

_____ Component and cladding pressures *(1609.1.1, 1609.6.2.2)*

_____ Main force wind pressures *(1609.1.1, 1609.6.2.1)*

Earthquake design data *(1603.1.5, 1614 - 1623)*

_____ Design option utilized *(1614.1)*

_____ Seismic use group ("Category") *(Table 1604.5, 1616.2)*

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

_____ Site class *(1615.1.5)*

_____ Live load reduction *(1603.1.1, 1607.9, 1607.10)*

_____ Roof live loads *(1603.1.2, 1607.11)*

Roof snow loads *(1603.1.3, 1608)*

_____ Ground snow load, P_g *(1608.2)*

_____ If P_g > 10 psf, flat-roof snow load, P_f *(1608.3)*

_____ If P_g > 10 psf, snow exposure factor, C_e *(Table 1608.3.1)*

_____ If P_g > 10 psf, snow load importance factor, I_s *(Table 1604.5)*

_____ Roof thermal factor, C_t *(Table 1608.3.2)*

_____ Sloped roof snowload, P_s *(1608.4)*

_____ Seismic design category *(1616.3)*

_____ Basic seismic-force-resisting system *(Table 1617.6.2)*

_____ Response modification coefficient, R_I and deflection amplification factor, C_d *(Table 1617.6.2)*

_____ Analysis procedure *(1616.6, 1617.5)*

_____ Design base shear *(1617.4, 1617.5.1)*

Flood loads *(1603.1.6, 1612)*

_____ Flood hazard area *(1612.3)*

_____ Elevation of structure

Other loads

_____ Concentrated loads *(1607.4)*

_____ Partition loads *(1607.5)*

_____ Impact loads *(1607.8)*

_____ Misc. loads *(Table 1607.6, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)*

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RUBB BUILDING SYSTEMS

ESTIMATED FOUNDATION FORCES

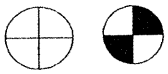
02/15/05

60' BVE w/ 19.7 Leg with metal clad sidewalls.

The following estimated foundation forces are the maximum values of all applicable load case combinations and are based upon the following assumptions:

Bay Spacing:	12'-6"
Wind Bracing:	One (1) X -Braced Bay Each End
Basic Wind Speed:	100 mph 3 sec gust, Exp. C, IBC 2003
Live Roof Load:	30 psf
Ground Snow Load:	50 psf
Mechanical Load:	
Dead Load:	5 psf

I) Unbraced Sidewall Leg Location



A. D + Live Load: Fx = 4.7k Lateral
Fy = 15.4k Downward

B. D + Wind Load: Fx = 3.1k Lateral
Fy = 4.7k Net Uplift

II) Corners and Second Span From Ends

A. D + Gable Wind: Fx = 1.0k Lateral
Fy = 9.0k Net Uplift
Fz = 6.6k Lateral

or

Fx = 4.1k Lateral
Fy = 21.4 Downward
Fz = 0.0k Lateral

III) Gable End Wall Columns:
(Assuming 3 Columns per endwall)

A. Gable Wind: Fz = 4.0k Lateral

Notes:

1) The forces in I are for one 12'-6" bay length. The loads are point loads at each column.

2) Forces in II and III are all point loads at span or column locations.