



# Certificate of Design

Date: 7/12/16

From: L & L STRUCTURAL ENGINEERING SERVICES, INC.

These plans and / or specifications covering construction work on:

EXTERIOR PORCH/DECK REPAIR/REPLACEMENT  
1 SAINT. LAWRENCE STREET, PORTLAND, MAINE

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the **2009 International Building Code** and local amendments.



Signature: *Joseph H. Leasure*

Title: PRINCIPAL

Firm: L & L STRUCTURAL

Address: 6 Q STREET

SOUTH PORTLAND, ME 04106

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# Certificate of Design Application

From Designer: L & L STRUCTURAL ENGINEERING SERVICES, INC.  
 Date: 7/12/16  
 Job Name: PORCH/DECK REPAIR/REPLACEMENT  
 Address of Construction: 1 SAINT LAWRENCE STREETS, PORTLAND, MAINE

## 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 ASCE 7 V B

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

Is the Structure mixed use? NO. If yes, separated or non separated or non separated (section 302.3) NA

Supervisory alarm System? - Geotechnical/Soils report required? (See Section 1802.2) NO.

### Structural Design Calculations

YES Submitted for all structural members (106.1 - 106.11)

### Design Loads on Construction Documents (1603)

Floor Area Use	Loads Shown
EXTERIOR PORCH/DECK	60 PSF (ASCE 7)
EGRESS DECK/STAIR	100 PSF (IBC)

### Wind loads (1603.1.4, 1609)

1609.1.1 Design option utilized (1609.1.1, 1609.6)  
100 MPH Basic wind speed (1609.3)  
II 1.0 Building category and wind importance Factor,  $w_b$  (table 1604.5, 1609.5)  
C Wind exposure category (1609.4)  
NA (+/- 0.18) Internal pressure coefficient (ASCE 7)  
+31.8 PSF / -41.6 PSF Component and cladding pressures (1609.1.1, 1609.6.2.2)  
26.3 PSF / 33.1 PSF Main force wind pressures (7603.1.1, 1609.6.2.1)

### Earth design data (1603.1.5, 1614-1623)

1613 Design option utilized (1614.1)  
II / C Seismic use group ("Category")  
0.36 / 0.16 Spectral response coefficients,  $S_D$  &  $S_{D1}$  (1615.1)  
D Site class (1615.1.5)

NA Live load reduction  
- Roof live loads (1603.1.2, 1607.11)  
42 PSF Roof snow loads (1603.7.3, 1608)  
50 PSF Ground snow load,  $P_g$  (1608.2)  
42 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,  $I_s$   
1.2 Roof thermal factor,  $C_t$  (1608.4)  
42 PSF Sloped roof snowload,  $P_s$  (1608.4)  
C Seismic design category (1616.3)  
2 J Basic seismic force resisting system (1617.6.2)  
5.0 Response modification coefficient,  $R_f$  and  
4.5 deflection amplification factor,  $C_d$  (1617.6.2)  
1617.5 Analysis procedure (1616.6, 1617.5)  
0.085 W Design base shear (1617.4, 1617.5.1)

### 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)



# Accessibility Building Code Certificate

Designer: \_\_\_\_\_

Address of Project: \_\_\_\_\_

Nature of Project: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The technical submissions covering the proposed construction work as described above have been designed in compliance with applicable referenced standards found in the Maine Human Rights Law and Federal Americans with Disability Act. Residential Buildings with 4 units or more must conform to the Federal Fair Housing Accessibility Standards. Please provide proof of compliance if applicable.

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Firm: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

**(SEAL)**

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