FILL IN AND SIGN WITH INK

# APPLICATION FOR PERMIT
# HEATING OR POWER EQUIPMENT

*To the* INSPECTOR OF BUILDINGS, PORTLAND, ME.

*The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:*

Location / CBL 115 Fox Street Use of Building Bldg Date

Name and address of owner of appliance Doug Cardente
322 Forest St 3rd Fl Portland ME 04101

Installer's name and address HVAC SERVICES
13 Bradley Drive Westbrook me 04092 Telephone 8544822

**Location of appliance:**

- ☐ Basement ☐ Floor ☒ hung from ceiling
- ☐ Attic ☐ Roof

**Type of Fuel:**

- ☒ Gas ☐ Oil ☐ Solid

**Appliance Name:** TRANE FURNACE

U.L. Approved ☒ Yes ☐ No

Will appliance be installed in accordance with the manufacture's installation instructions? ☒ Yes ☐ No

IF NO Explain: ϕ

**The Type of License of Installer:**

- ☐ Master Plumber #
- ☐ Solid Fuel #
- ☐ Oil #
- ☒ Gas # PNT 1058
- ☐ Other

**Type of Chimney:**

- ☐ Masonry Lined
  Factory built
- ☐ Metal
  Factory Built U.L. Listing #
- ☒ Direct Vent
  Type PVC UL#

**Type of Fuel Tank**

- ☐ ~~Oil~~
- ☐ Gas

**Size of Tank** N/A NATURAL

**Number of Tanks** N/A

**Distance from Tank to Center of Flame** N/A **feet.**

**Cost of Work:** $ 3,800

**Permit Fee:** $

**Approved**

Fire:

Ele.:

Bldg.:

**Approved with Conditions**

☐ See attached letter or requirement

Inspector's Signature Date Approved

**Signature of Installer**

White - Inspection Yellow - File Pink - Applicant's Gold - Assessor's Copy

**L & L STRUCTURAL**
ENGINEERING SERVICES, INC.
Six Q Street
South Portland, ME 04106
Phone: (207) 767-4830
Fax: (207) 799-5432

February 8, 2012

Brent Grass
**HVAC Services, Inc.**
73 Bradley Drive
Westbrook, Maine 04092

Subject: Analysis of the Roof Structure to Support HVAC Unit for the building located at 115 Fox Street, Portland, Maine

Dear Brent,

As per your request we have reviewed and analyzed the existing flat roof structure of the single story building located at 115 Fox Street, Portland, Maine. The purpose of our analysis and review was to determine if the existing roof structure is capable of safely supporting a proposed HVAC unit to be installed beneath the existing roof. The proposed HVAC unit, according to information provided by your office, is a Trane Model TUX1D120A9601A Upflow/Horizontal Type Furnace Unit with an operational weight of 200 pounds. The unit footprint is approximately 3'-5 ¾" x 2'-2 ½" x 2'-6 ½" tall. The proposed unit is to be supported on a Unistrut Frame hung with four ½" diameter steel rods with clamps fastened to the existing W10 steel beams. .

The existing roof structure consists of 2" thick gypsum/cementitious roof deck spanning approximately 2'-9" between steel bulb tees which are supported on top of the W10 structural steel beams spaced at approximately 4'-3" on center. The W10 beams are supported on structural steel girders. The mechanical unit is to be hung from the end of two existing W10 steel beams with the rods approximately 1'-0" and 4'-6" from the end of the beams. Our analysis and review of the roof structure was performed utilizing the 2009 International Building Code (IBC) adopted by the City of Portland and considering the Building Code Requirements for the material utilized in the existing roof structure.

The existing roof structure is capable of safely supporting the weight of the proposed HVAC unit to be installed beneath the existing roof as described above along with the code stipulated roof (snow) live load. However, the unit also requires diagonal bracing to resist potential lateral seismic loads. The unit shall be braced utilizing two L 1 ½" x 1 ½" x 1/8" diagonal steel angles (or approved equal member) installed at an approximate 45 degree angle fastened to the Unistrut frame beneath the HVAC unit and fastened to the existing W10 steel beams at the top. The steel angles shall be installed in two opposite directions (north-south & east-west) and fastened at the top and bottom with clamps having a minimum capacity of 50#.

If you have any further questions or require any additional technical assistance, please do not hesitate to call.

Sincerely,

**L&L Structural Engineering Services, Inc.**
Joseph H. Leasure, P.E.
Principal
cc: File