

## CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

| City of Portland, Maine - Building or Use Permit 389 Congress Street. 04101 Tel: (207) 874-8703.Fax: (207) 874-8716 |  |  | Permit No: <br> $06-0734$ | $\begin{aligned} & \hline \text { Date Applied For: } \\ & 05 / 17 / 2006 \end{aligned}$ | CBL:  <br>   <br> 052 C006001  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ocation of Construction: 295 PARK AVE | Owner Name: <br> FIREHOUSE FIVE |  | Owner Address: 295 PARK AVE |  | Phone: |
| 3usiness Name: | Contractor Name: <br> Avery Services, Inc. |  | Contractor Address: <br> 7 Thomas Drive | estbrook | Phone <br> (207) 772-8687 |
| -essee/Ruyer's Name | Phone: |  | Permit Type: HVAC |  |  |
| Proposed Use: <br> Commercial install a Carrier gas/electric rooftop unit |  | $\begin{aligned} & \text { Proposed } \\ & \text { Install a } \end{aligned}$ | Project Description a Carrier gas/elec | ic rooftop unit |  |

Fill in and Sign with !ink

## APPLICATION FOR PERMIT <br> HEATING OR POWER EQUIPMENT

To the INSPECTOR OF BUILDINGS, Portland, Me.
The undersigned hereby appliesfor a pe mit to install the following heating, cooking orpower equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and thefollowing specifications:



Location of appliance:

- Basement
- Attic
- Floor
R Roof
Type of Chimney:
- Masonry Lined
Factory built
NA
Type of Fuel:
Appliance Name: Cavies Cas/Electsic Rooftop lon
U.L. Approved $\because$ Yes a No
Will appliance be installed in accordance with the manufacture's installation instructions? Yes IF NO Explain:
The Type of License of Installer:


Approved
Fire:
Ell.
Ell.:
$\qquad$ -
Bldg.:


Signature of Installer

## Approved with Conditions

- See attached letter or requirement

Inspector's Signature
Date Approved $\xrightarrow[\text { White - Inspection }]{\text { Hollow - File }}$ rect if

```
NVERY SERUICES, INC.
        7Thomas Drive
WESTEROOK, MANE 04032
        (207) 772.8587
```

            FAX (207) 874.0093
    TO:
Firehouse Five
c/o J. Michael M. Taylor, M.D.
295 Park Avenue
Portland ME 04102

| PHONE | DATE |
| :--- | :--- |
| 775-3526 | $14 / 11 / 06$ |
| JOB NAME/ LOCATION |  |
| Rooftop unit replacement |  |
|  |  |

Remove and dispose of the two (2) existing York rooftop units, as per EPA laws.
Supply and install manufacturer's adapter curbs into the existing roof curbs.
Supply and install two (2) Carrier 48TFE, 4-ton gas/electric rooftop units with economizer onto the new curbs.
Reconnect to existing services, ductwork, gas piping, power, control systems.
Supply and install a PVC condensate trap on each of the two (2) new rooftop units.
Price includes; Start up and test, freight, taxes, and permit.
EXCLUSIONS: Structural, roof work, electrical costs if require code/system upgrades, and adequacy of existing systems.

NOTE: Price shown below reflects $10 \%$ promotional discount.

We Propose hereby to furnish material and labor - complete in accordance with the above specifications, for the sum of:
Twelve Thousand Four Hundred Ninety and 00/100 Dollars
\& \&iliafs 徫
$12,490.00)$

## Faynentit to be made as follows:

$25 \%$ upon acceptance - Progress billing/net ten (10) days - All balances due upon substantial completion.



All material is guaranteed to be as specified All work to be completed in a professional manner according to standard practices Any alteration or deviation from above specifica Authorized tons involving extra costs will be executed only upon written orders and will become an extra Signature charge ovel and above the estimate All agreements contingent upon strikes, accidents or delays beyond our control Owner to carry fire tornado and other necessary insurance Our workeis are filly covereo by Workers Compensationinsurance withdrawn by us if not accepted within


Acceptance of Proposal - The above prices specifications and conditions are satisfactory and are hereby accepted You are authorized to do the work as specified Payment will be made as outlined above

Signature $\qquad$

Date of Acceprance
Signature $\qquad$
$\qquad$

## System Component Layout

(For Duct layout see Sheetmetal Info, Pg)


ALEXANDERHUTCHEONAssociates
49 Falmouth Road
Engineers
Falmouth, Maine 04105
Telephone (207) 781-3364
Fax (207)781-3364
Cell (207) 233-7662

Date: May 16, 2006 Time: $\begin{gathered}4: 201 \mathrm{M}\end{gathered}$


Re: $\qquad$

G pages are being telecopled, including this cover page.
Please notify us if you do not receive all pages.

NOTES:
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

ALEXANDER HUTCHEON Associates, Engineers



May 16, 2006

Mr. Doug Avery
Avery Services
7 Thomas Drive
Westbrook, Maine
Re: New rooftop A/C units at 295 Park Ave., Portland

## Dear Doug:

At your request $I$ examined the roof framing at the former Fire House \# 5, 295 Park Avenue, Portland, Maine, and I examined the locations of existing rooftop $A / C$ units and the proposed locations of $t w o$ new units.

As shown on the enclosed sketch of the roof framing, and on calculation sheets 1,2 and 3 , it is my opinion that the roof framing is adequate for the changes in loading.

Your questions and comments regarding this report are welcome.
Very truly yours,
ALEXANDER HUTCHEON Associates, Engineers


Alexander Hutcheon, P.E.
President

[^0]


Fire house 5 ; PakE Ave, Portheud
Roof Framing Capacity for New R/t A.C units
Snowloso 42pss

Rafters 13/4×91/4@19"s.C.
Allowable Beniting Stress: Ensrepn Hembock \$1

$$
F_{b}=1500 \text { p } 31, \text { 㫙 } P .4 \int 0 \times 1.15 D O L=1725 \mathrm{ps}
$$

Saction MoDuLus: $(1 / 6)(1.75)(9.25)^{2}=24.961 n^{3}$
AllowAtble Bending; $M_{\text {allow }}=24.96(1725) / 12=3587^{\circ} \%$
UNIF.LOAD - $1.583(51)+4=84.7$ PLF SAY 85


$$
R=.5(85)(9.906)=424.4 *
$$

joisr (a)

$R_{L}=443^{\circ}$

$$
R_{R}=469.5
$$


$M_{\text {MAN }}=1152.4^{*}<3507^{1 *}$ ACCOWABCE OK
Joists (b). (c) (d) ARE wdentreal
Hencer (A)


$$
\begin{aligned}
& 139.7 \\
& 3.288(85)(.5)+469.5=609.2^{4} \\
& 1870\left(895(5.5)+469.5=549.3^{\prime \prime}\right. \\
& 0.468(0.5)(.5)+469.5=489.4
\end{aligned}
$$

$V=0$ at $2.109^{\prime}$ prome $R_{L}$
$M_{\text {max }}=1.007 .6$
$S=3(31.64)=94.92 \omega^{3}$
$\vec{f}_{b}=1002.6(12) / 24.98=127.400<995$ alcowntio OE

Fire Hoase"E; Farki OT. Foretland
Roop Framine cataciit (Cont'd)

ALEXANDER HUTCHEON ASSOCLTETE
GNGINEERS SLIT QAF 3 .....

$V=0$ ar 7.97 fman K
MaAX $3193.1<3363^{1+}$ Alloutale OK


$$
Q_{L}=639.4
$$

$$
\begin{array}{r}
12.412 \\
d_{0}, 1,4 \\
g
\end{array}
$$



$$
R_{R} \cdot \operatorname{ccc} 0.0
$$

Solst of : $L=14.075 \quad \omega=85 \quad R_{L}-P_{D}=14.078(.5)\left(85 ;=5 \% \%_{2} 1\right.$


$$
R_{L}=381.3{ }^{H D E} \quad R_{R}=099.4
$$

Firee Sta. 5 ; ; PaRK Ave., Poretland
Roof framing caphcity (contid)

$Z_{L}=: \ldots$
VoO AT CENTETL
CENTETO Pan. $4 \times 8 \% \times 16.0 \%$.

$$
\begin{aligned}
& W=12.75(.5)(51)+10=335.1 \\
& \left.R_{\text {ro }} \text { nore ( }\right)=16.125(.5)(335.1)=2702 . \\
& f=598.1
\end{aligned}
$$

$R_{R_{2}}=2217.5$ CEVTEF LOAR $=592.1+2702=3200$

$$
M_{\text {MAX }}=12979.2^{15}
$$

Revise.


$$
S=(16)(6)(8.5)^{2}=72.25 \mathrm{~m}^{3}
$$

$$
f_{b}=12970.2(12) / 72.25=2150
$$

$F_{2}$ : Enareen Hencock, Select Sitaver 1400

$$
\text { DOL. }=1.15 \quad F_{6}=1610 \mathrm{~F}
$$

Teviged, with canntulviten pafterss:

$$
\text { R. } 6.275(51)(.5)-\frac{481.7}{637.5}=87.08
$$

W To CENTCK Eur - $2(87.08)+10 \cdot 184.2$

$$
R_{L}=2076.1 \quad R_{R}=1732.8^{*}
$$

$$
f+598.1+16+275=(184.2)=2082.7
$$

$M_{\text {MAS }}$ Q.censtic $=10,092$
1484.8

$$
f_{b}=10,092(12) / 72.25-16260>1610 \Rightarrow 40
$$



## Physical data - 48TF



| UNIT SIZE 48TF | E/F/H/M/N004 | OE/F/G/H/K/LM/N005 | D/E/F/G/R/KL/M/N006 | D/E/F007 |
| :---: | :---: | :---: | :---: | :---: |
| NOMINAL CAPACITY (tons) | 3 | $\bigcirc 4$ | 5 | 6 |
| OPERATINGWEIGHT ( ${ }^{\text {b }}$ ) |  |  |  |  |
| Unit |  | $470,{ }^{W}$ | 490 |  |
| A/ A// $/{ }^{*}{ }^{*}$ | 465 | $\frac{478}{488} W^{\circ}$ | 497 | 565 576 587 |
| Cu/Cu* | 466 | 82 | 505 |  |
| Economiser+ | 50 | 50 | 50 | 50 |
| Roof Curbt | 115 | 115 | 115 | 115 |
| COMPRESSOR <br> Quantity <br> No. Cylinders (per Circuit) <br> Oil (Oz) | 1 2 50 | $\begin{gathered} \hline \text { Reciprocating } \\ 1 \\ 2 \\ 50 \end{gathered}$ | 1 2 50 | $\begin{gathered} \hline \text { Scroll } \\ 1 \\ 2 \\ 54 \end{gathered}$ |


| REFRIGERANTTYPE Expansion Device Operating Charge (lb-oz) Circuit 1 Circuit 2 | Acutrol ${ }^{\text {TM }}$ Meletering Device |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  | 4-4 | 6-6 | 6-14 | 9-0 |
| CONDENSERCOIL <br> Rows..Fins/in. <br> Total Face Area (sq ft) | $\begin{aligned} & 1 . .17 \\ & 8.36 \\ & \hline \end{aligned}$ | $\begin{array}{r} 2 . .17 \\ 6.36 \\ \hline \end{array}$ | 2.17 <br> 10.42 | 2.17 10.42 |

Quantity...Diameter (ln
Quantity...Diame

Motor Hp...Rpm | watts Input (Total) |
| :--- |
| EVAPORATOR COIL |
| Rows...Fins/in. | Rows...Fins/in.

Total Face Area ( $\mathbf{s q} \mathbf{f t}$ ) EVAPORATOR FAN
Quantity_Size (In.)

Type Drive
Nominal Cfm
Maximum Continuous Eho
Motor Frame Size
Nominal Rpm High/Low (Direct Drive)
Fan Rpm Range

|  | Ald |
| :--- | :--- |
|  | High-Static |
| Motor Bearing Type |  |
| Maximum Allowable Rpm |  |
| Motor Pulley Pitch Diameter Min/Max (in.) | Std |
|  | Alt |
|  | High-Static |
|  | Sominal Motor Shaft Diameter (in.) |
|  | Std |
|  | Alt |
|  | High-Static |
| Fan Pulley Pltch Diameter (in.) | Std |
|  | Alt |
|  | High-Static |
|  | Std |
| Belt, Quantity. ..Type...Length (in.) | Alt |
|  | High-Static |
|  | Std |
| Pulley Center Line Distance (in.) | Alt |
|  | Sigh-Static |
|  | Alt |
| Speed Change per Full Turn of | High-Static |
| Movable Pulley Flange (rpm) | Sld |
| Movable Pulley Maximum Full Turns | Slt |
| From Closed Position | High-Static |
| Factory Setting | Atd |
|  | Alt |
| Factory Speed Setting (rpm) | Std |
|  | Alt |
|  | High-Static |
| Fan Shaft Diameter at Pulley (in.) |  |

Fan Shaft Diameter at Pulley (in.)

|  | 3500 |
| :---: | :---: |
| $1 \ldots 22.0$ |  |
| $1 / 4 \ldots 1100$ |  |
| 325 | $2 \ldots 15$ |
|  | 4.17 |
|  |  |
|  |  |
|  |  |
|  |  |



## UNTT DIMENSIONS <br> MODELSD3EC048, D3EC060 <br> (4 THRU 5)

All dimentions are In inchec. They ore cubjent to chane without notica Cartified dinmmions will be provided ugoen requert.

4


NOTE: CLEARANCE BETYEEN TOP FLANGE AND COMPRESSOR SERVICE ACCESS MUST BE MAINTAINED AT THIS SIDE.



[^0]:    Enclosures: Sketch of roof framing Calculations sheets 1, 2 and 3

