

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

**CITY OF PORTLAND**

**BUILDING INSPECTION**

**PERMIT**

Permit Number: 100160

Please Read Application And Notes, If Any, Attached

This is to certify that E L C INC /HVAC Services, Inc.

has permission to Install a Type I kitchen hood system

AT 30 MARKET ST CBL 032 F003001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is lathed or otherwise closed-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. CAPT. A. [Signature]

Health Dept. APR 22 2010

Appeal Board \_\_\_\_\_

Other \_\_\_\_\_

PERMIT ISSUED

CITY OF PORTLAND

Department Name

[Signature] 4/21/10  
Director - Building & Inspection Services

**PENALTY FOR REMOVING THIS CARD**

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 10-0160	Date Applied For: 02/22/2010	CBL: 032 F003001
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Location of Construction: 30 MARKET ST	Owner Name: E L C INC	Owner Address: 42 MARKET ST	Phone:
Business Name:	Contractor Name: HVAC Services, Inc.	Contractor Address: 73 Bradley Drive Westbrook	Phone (207) 854-4822
Lessee/Buyer's Name	Phone:	Permit Type: Hood Systems, Commerical	

Proposed Use: Commercial "Pat's Pizza" - Install a Type I kitchen hood system	Proposed Project Description: Install a Type I kitchen hood system
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Dept: Historic	Status: Approved	Reviewer: Deborah Andrews	Approval Date: 03/17/2010
Note:			Ok to Issue: <input checked="" type="checkbox"/>
Dept: Zoning	Status: Approved	Reviewer: Marge Schmuckal	Approval Date: 02/23/2010
Note:			Ok to Issue: <input checked="" type="checkbox"/>
Dept: Building	Status: Approved with Conditions	Reviewer: Jeanine Bourke	Approval Date: 04/20/2010
Note:			Ok to Issue: <input checked="" type="checkbox"/>
<ol style="list-style-type: none"> <li>1) Exterior duct shall be 18" from the combustible wall or shielded for reduction per code</li> <li>2) The hood, duct and exhaust shall be installed per IMC 2003 and NFPA 96 This permit is approved based on the plans submitted and/or updated for reductions in the cleaances based on the application of a UL approved fire wrap or equivalent assembly per code.</li> <li>3) Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review and approrval prior to work.</li> </ol>			
Dept: Fire	Status: Approved with Conditions	Reviewer: Capt Keith Gautreau	Approval Date: 04/21/2010
Note:			Ok to Issue: <input checked="" type="checkbox"/>
<ol style="list-style-type: none"> <li>1) Install shall comply with all manufacture's specifications.</li> <li>2) Install shall comply with NFPA 96. A compliance letter is required</li> </ol>			

**Comments:**  
 2/23/2010-mes: I called Brent at HVAC services - I requested drawings that depict where the hood vents on the outside of the building. I explained that the bldg is in a Historic District and it needs to be reviewed. He said it was behind the building behind a stairway. He will get me a drawing and maybe pictures. I will hold on to the permit until I receive the information before I pass it on to Historic for review.  
 3/17/2010-mes: I left a voice mail for Brent reminding him that we need the vent plans for this job as he had promised - left my name and number for him to return my call. The owner is now calling Joe on how long the process is taking - Historic is ok with it - Deb went to the site to check out where the the vent was probably going. Deb is signing off on it today (she actually never received the permit because I was waiting for the plans to give her with the permit)



# PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • [www.portlandmaine.gov](http://www.portlandmaine.gov)

Lee Urban - Director of Planning and Development  
Jeanie Bourke - Inspection Division Services Director

## Kitchen Exhaust System Checklist and code Provisions

Dear Applicant,

The following is a checklist to assist you in filing for a permit for a Kitchen Exhaust system. The applicable Mechanical Code provisions have also been attached. Please complete this and submit job specific construction documents that demonstrate compliance with the attached information.

### Type of System:

Type I  Type II

Type I systems are systems that vent fryers, grills, broilers, ovens or woks.

Type II systems are systems that vent steamers and other non grease producing appliances.

### Type of Materials:

Is the hood Stainless steel or other type of steel? Stainless Steel If Other, what Type? Steel

Is the duct work Stainless steel or other type of steel? Black Iron If Other, what type? 16ga

Thickness of the steel for the hood 403 SS

Thickness of the duct for the hood 16ga B.I.

Type of Hood and Duct Supports

Threaded Rod - Angle Iron

Type of seams and Joints Welded

Grease Gutters provided? Yes

Hood Clearance reduction to Combustibles design /specs:  
Per Factory spec (included)

Duct Clearance reduction to Combustibles design /specs:  
2 Layers  $\emptyset$  Clearance as state requires to combustibles

Vibration Isolation System:  
Yes -

Air Velocity within the duct system 2000 FPM

Grease accumulation prevention system:  
pitched -

Cleanouts As Required by NFPA

Grease Duct enclosure 2 Layers  $\emptyset$  Clearance to combustibles

Exhaust Termination Roof                      Wall                     

Fire Suppression System By owner (Ansul)

Exhaust fan mounting and clearance from the roof / wall or Combustibles:  
ground (Utility Set)

Exhaust fan distance from property lines 15'

Exhaust fan distance from other vents or openings 12'

Exhaust fan distance from adjacent buildings 15'

Exhaust fan height above adjoining grade 4' min discharge

**Hood Specs**

Style of Hood Low Profile Captive Air type I (2)

Type of Filter Alum Baffle

Height of filter above nearest cooking surface 32" min - 47" max

Capacity of hood CFM 3000 cfm + 1938 CFM

Make up Air system description and capacity  
Direct Gas Fired MUA (393,904 output BTUs)

**EXHAUST FAN INFORMATION**

FAN UNIT NO.	FAN UNIT MODEL #	MODEL	TAG	CFM	S.P.	RPM	H.P.	Ø	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)
1	B122CARM	B122CARM		4938	1.500	1067	3.000	3	208	9.5	1708 FPM	469.80
3	DU30HFA	DU30HFA		700	0.500	1321	0.250	1	115	4.0		105.65

**HEATER/MUA FAN INFORMATION**

FAN UNIT NO.	FAN UNIT MODEL #	BLOWER	HOUSING	TAG	CFM	S.P.	RPM	H.P.	Ø	VOLT	FLA	WEIGHT (LBS.)
2	A2-D.500-G15	G15	A2-D.500		3950	0.500	895	3.000	3	208	9.5	927.28

**GAS FIRED MAKE-UP AIR UNIT(S)**

FAN UNIT NO.	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
2	428157	393904	90 deg F	7 in. w.c. - 14 in. w.c.	Natural

**CUSTOMER APPROVAL TO MANUFACTURE:**

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE \_\_\_\_\_

Your Title \_\_\_\_\_ Date \_\_\_\_\_

**FAN OPTIONS**

FAN UNIT NO.	OPTION (Qty. - Descr.)
1	1 - B120-24 Spring Isolators For Utility Set, Indoor/Outdoor use.
	1 - Exhaust Fan Grease Cup (Utility Set)
2	1 - Inlet Pressure Gauge, 0-35"
	1 - AC Interlock Relay - 24VAC Coil
	1 - Low Fire Start
	1 - Manifold Pressure Gauge, -5 to 15" wc
	1 - Motorized Backdraft Damper For A2-D Housing
	1 - Full Crating For Commercial Heater
	1 - Opposite Side Heater Controls
	1 - Separate 120V Wiring Package (Required For EMS or Prewire with VFD or BMS/Thermostat Control)
3	1 - Fan Base Ceramic Seal - For Grease Ducts
	1 - 1 15-BDD Damper
	1 - Wallmount 20.5' Sq. x 5'
	1 - Wall Mount Construction For Fan
	1 - Full Crating For Exhaust Fans



JOB	Pat's Pizza Portland		
LOCATION	PORTLAND, ME		
DATE	12/30/2009	JOB #	1077167
DWG #	Pat's Pizza Portland	DRAWN BY	BFC
REV.	1.00	SCALE	8.5' x 11'

**HOOD INFORMATION**

HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM					SUPPLY PLENUM					HOOD CONSTRUCTION	HOOD CONFIG			
				TOTAL EXH. CFM	RISER(S)				TOTAL SUP. CFM	RISER(S)					END TO END	ROW		
				WIDTH	LENG.	DIA.	CFM	S.P.		WIDTH	LENG.	DIA.	CFM	S.P.				
1	4812 SND-2	12' 0.00'	450 Deg.	3000	10'	28'		3000	-0.561'	0						430 SS Where Exposed	ALONE	ALONE
2	6612 SND-2	8' 6.00'	450 Deg.	1938	10'	18'		1938	-0.454'	0						430 SS Where Exposed	ALONE	ALONE
3	<del>246 MISC-PSY</del>	12' 3.00'	300 Deg.	0						<del>9950</del>						<del>430 SS Where Exposed</del>	ALONE	<del>ALONE</del>
4	<del>4212 VHB-G</del>	3' 6.00'	700 Deg.	700	10'	11'		700	-0.093'	<del>0</del>						<del>304 SS 100%</del>	ALONE	<del>ALONE</del>

*Reducted*  
*Reducted*

**HOOD INFORMATION**

HOOD NO.	FILTER(S)			LIGHT(S)			UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WGT			
	TYPE	QTY.	HEIGHT	LENGTH	QTY.	TYPE	WIRE GUARD	LOCATION	FIRE SYSTEM				ELECTRICAL	SWITCHES	
									TYPE	SIZE	MODEL #	QUANTITY	LOCATION		
1	Alum Baffle w/ Handles	4	16"	16"	4	Screw In Compact Fluore	NO							NO	775 LBS
2	Alum Baffle w/ Handles	5	16"	20"	3	Screw In Compact Fluore	NO							NO	716 LBS
3					0									NO	167 LBS
4					0									NO	112 LBS

**HOOD OPTIONS**

HOOD NO.	OPTION
1	RIGHT QUARTER END PANEL 23' Top Width, 0' Bottom Width, 23' High 430 SS
	LEFT END STANDOFF (FIN/SLP) 3' Wide Insulated
	TOP INSULATION
	INSULATION FOR BACK STANDOFF
	BALANCE DAMPERS
2	LEFT END STANDOFF (FIN/SLP) 3' Wide Insulated
	TOP INSULATION
	INSULATION FOR BACK STANDOFF
	BALANCE DAMPERS
	BACK STANDOFF (FLAT) 6' Wide

**PERFORATED SUPPLY PLENUM(S)**

HOOD NO.	POS.	LENGTH	WIDTH	HEIGHT	RISER(S)				
					WIDTH	LENG.	DIA.	CFM	S.P.
3	Front	147'	24'	6'	12'	28'		1316	0.212'
					12'	28'		1316	0.212'
					12'	28'		1316	0.212'

**CUSTOMER APPROVAL TO MANUFACTURE.**

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

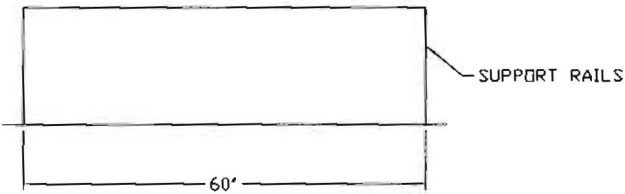
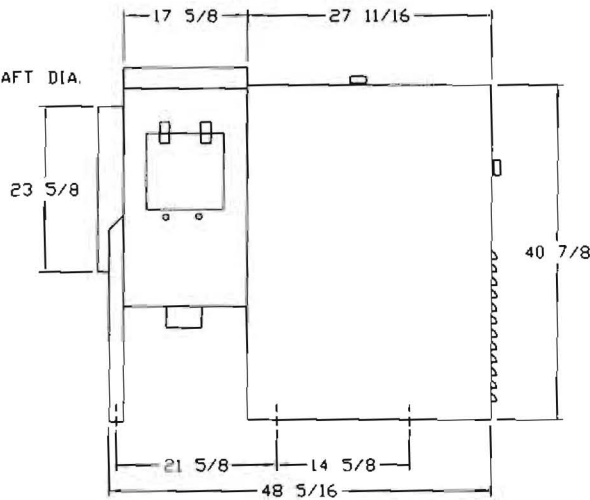
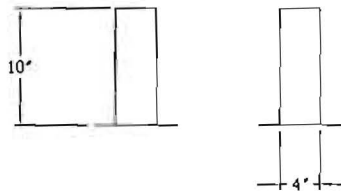
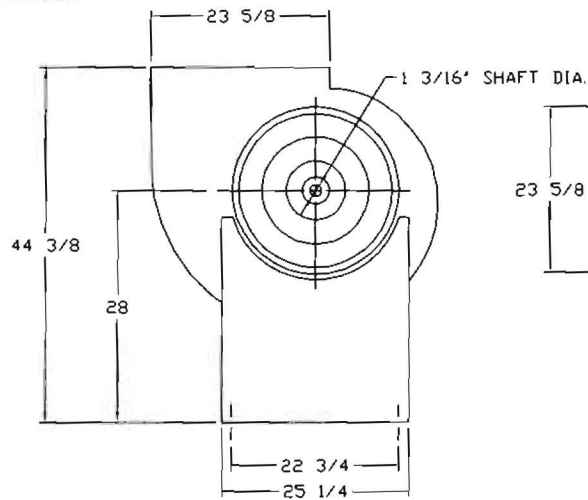
SIGNATURE \_\_\_\_\_

Your Title \_\_\_\_\_ Date \_\_\_\_\_



JOB	Pat's Pizza Portland
LOCATION	PORTLAND, ME
DATE	12/30/2009
JOB #	1077167
DWG #	Pat's Pizza Portland
DRAWN BY	BFC
REV.	1.00
SCALE	8.5' x 11'

FAN #1 B122CARM - EXHAUST FAN



**FEATURES:**

- FULL AMCA CLASS 1 OPERATION
- VENTED MOTOR COVER FOR WEATHER PROTECTION
- UL762 LISTED FOR RESTAURANT DUTY
- UPBLAST DISCHARGE DIRECTS AIR AWAY FROM FLOOR
- CONTINUOUSLY WELDED HOUSING
- CLEANOUT DOOR WITH LATCHES PROVIDE EASY ACCESS WITHOUT TOOLS
- 2" GREASE DRAIN WILL NOT CLOG

**OPTIONS**

B120-24 SPRING ISOLATORS FOR UTILITY SET, INDOOR/OUTDOOR USE.  
EXHAUST FAN GREASE CUP (UTILITY SET)

**CUSTOMER APPROVAL TO MANUFACTURE:**

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- Approved with NO Exception Taken
- Revise and Resubmit

SIGNATURE \_\_\_\_\_

Your Title \_\_\_\_\_ Date \_\_\_\_\_



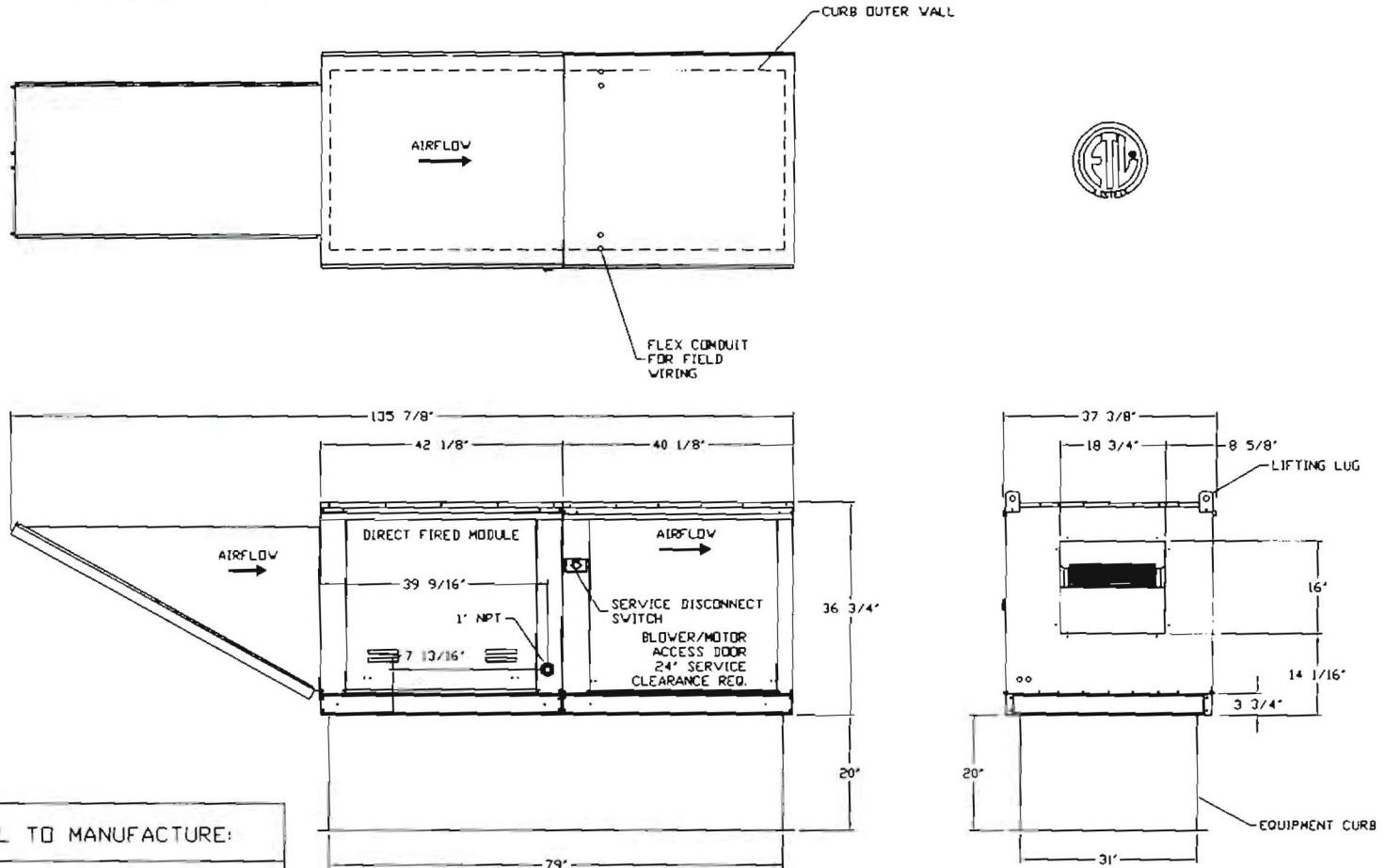
JOB Pat's Pizza Portland	
LOCATION PORTLAND, ME	
DATE 12/30/2009	JOB # 1077167
DWG # Pat'sPizzaPortl	DRAWN BY BFC
REV 1.00	SCALE 8.5' x 11'

**FAN #2 A2-D500-G15 - HEATER**

1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15' BLOWER
2. INTAKE HOOD WITH E2 FILTERS
3. SIDE DISCHARGE - AIR FLOW LEFT -> RIGHT
4. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
5. COOLING INTERLOCK RELAY, 24VAC COIL, 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
6. LOW FIRE START ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
7. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE
8. MOTORIZED BACK DRAFT DAMPER 22.75" X 24" FOR SIZE 2 STANDARD & MODULAR DIRECT FIRED HEATERS V/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LF120S ACTUATOR INCLUDED
9. FULL CRATING FOR COMMERCIAL HEATERS FOR SHIPPING
10. MOUNT MOTOR AND CONTROLS ON OPPOSITE SIDE OF HEATER.
11. SEPERATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH EMS PACKAGE PROVIDES SEPERATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM EMS TO MUA SWITCH.

**SUPPLY SIDE HEATER INFORMATION:**

WINTER TEMPERATURE = 0°F, TEMP RISE = 99°F,  
 OUTPUT BTUs AT ALTITUDE OF 0.0 Ft = 395117  
 INPUT BTUs AT ALTITUDE OF 0.0 Ft = 429475



**CUSTOMER APPROVAL TO MANUFACTURE:**

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

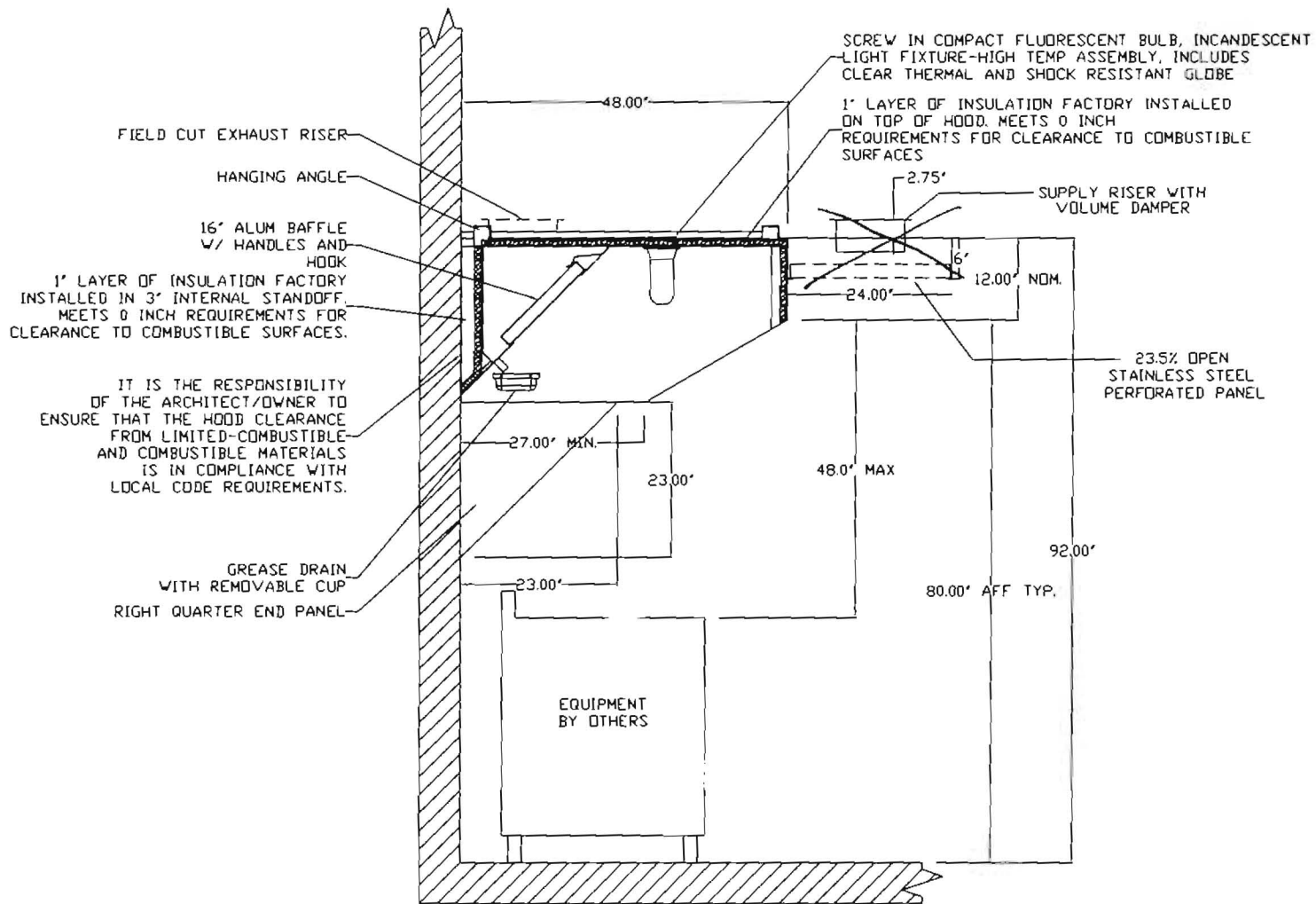
SIGNATURE \_\_\_\_\_

Your Title \_\_\_\_\_ Date \_\_\_\_\_

**CAPTIVE AIR**

JOB Pat's Pizza Portland	
LOCATION PORTLAND, ME	
DATE 12/30/2009	JOB # 1077167
DWG # Pat'sPizzaPort	DRAWN BY BFC
REV. 1.00	SCALE 8.5' x 11'





SECTION VIEW - MODEL 4812SND-2  
HOOD - #1

NOTE: SUPPLY PLENUM IS HUNG SEPERATELY FROM THE HOOD.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

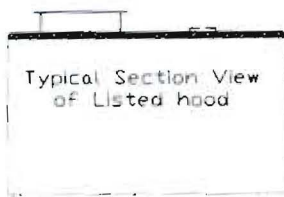
SIGNATURE \_\_\_\_\_

Your Title \_\_\_\_\_ Date \_\_\_\_\_

**CAPTIVE AIR**

JOB Pat's Pizza Portland	
LOCATION PORTLAND, ME	
DATE 12/30/2009	JOB # 1077167
DWG # Pat'sPizzaPortla	DRAWN BY BFC
REV. 1.00	SCALE 8.5' x 11'

## Top Clearance Reduction Options



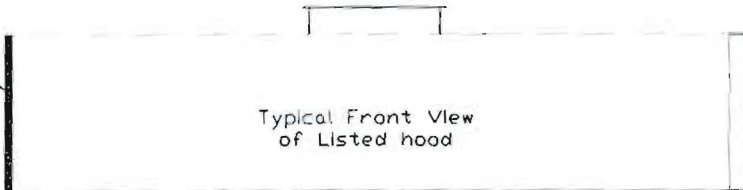
1" layer of insulation factory installed on top of hood (optional)  
Meets 0 inch requirements for clearance to combustible surfaces as outlined below



3" un-insulated airspace factory installed on top of hood (optional)  
Meets NFPA96 requirements for clearance to limited combustible surfaces

## End Clearance Reduction Options

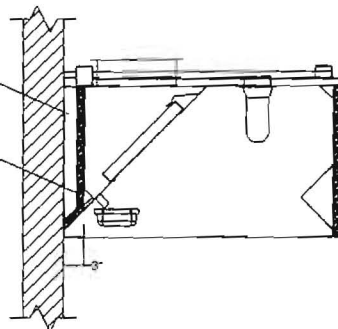
1" layer of insulation factory installed on end of hood (optional)  
Meets 0 inch requirements for clearance to combustible surfaces as outlined below



3" un-insulated airspace factory installed on end of hood (optional)  
Meets NFPA96 requirements for clearance to limited combustible surfaces

## Back & Front Clearance Reduction Options

2" un-insulated back standoff factory installed. Meets NFPA96 requirements for clearance to limited combustible surfaces OR  
1" layer of insulation factory installed in 3" standoff. Meets 0 inch requirements for clearance to combustible surfaces as outlined below



1" layer of insulation factory installed in front of hood  
Meets 0 inch requirements for clearance to combustible surfaces as outlined below

## Clearance Reduction Methods:

Clearance reduction methods have been evaluated and tested and are certified by ETL. The method of test was derived from UL 710 with temperature criteria taken from appropriate standards.

The hood may be installed with a 0 inch clearance to combustible materials per ETL if constructed in one of the following methods:

- 1 inch thick min. layer of insulation of type Owens Corning Type 475 or Johns Manville Type 475 or listed kitchen exhaust duct insulation
- 1 inch thick min. insulated backsplash. Insulation of type listed above.
- Back Return (BR) supply plenum with 1 inch thick min. insulation of type listed above.

To comply with the ETL certification, the cooking appliance must be located

- At least 6 inches from the rear wall
- At least 24 inches below the bottom edge of the hood
- Cooking surface must not exceed temperatures above 700°F

The hood may be installed with a 3 inch clearance to limited combustible materials per NFPA96 if constructed in one of the following methods:

- 3 inch factory installed rear un-insulated standoff.
- 3 inch factory installed top wrapper or enclosure panel system.
- 3 inch factory installed end standoff

### CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted	<input type="checkbox"/>
Approved with NO Exception Taken	<input type="checkbox"/>
Revise and Resubmit	<input type="checkbox"/>
SIGNATURE _____	_____
Your Title _____	Date _____

**CAPTIVE AIR**

JOB	Pat's Pizza Portland		
LOCATION	PORTLAND, ME		
DATE	12/30/2009	JOB #	1077167
DWG #	Pat's Pizza Portland	DRAWN BY	BFC
REV.	100	SCALE	8.5" x 11"

# Change Order

## HVAC SERVICES, INC.

73 BRADLEY DRIVE  
WESTBROOK, MAINE 04092  
(207) 854-4822 (207) 854-0775 (fax)

January 07, 2010  
Summary: CO  
Reference #: 1105-1142  
Tech: RAM

### Bill To:

HANGER ASSOCIATES  
ELC  
42 MARKET STREET  
PORTLAND, ME 04101

207-774-1000

207-774-2946

### Job Name:

PATS PIZZA (KITCHEN H&V SYSTEMS)  
KITCHEN HOOD SYSTEMS  
30 MARKET STREET (BASAEMENT)  
PORTLAND, ME 04102

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### Description of Work

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THE PROVISION AND INSTALLATION OF (2) KITCHEN HOOD SYSTEMS WITH HEATED MAKEUP AIR STAINLESS HOODS AND (1) EXHAUST FAN.

THIS SYSTEM TO INCLUDE: (1) STAINLESS 12' GREASE HOOD WITH PERFORATED DISTRIBUTION PLENUM, (1) CONVEYOR OVEN 8'6" STAINLESS HOOD, (1) GROUND MOUNTED UTILITY SET DUCTED TO EXHAUST BOTH GREASE HOODS, DISCHARGE OF UTILITY SET TO RISE UP THE EXTERIOR OF THE BUILDING TO ROOF LEVEL, WELDED GREASE DUCTING PER NFPA 96, CLEANOUT DOORS AS REQUIRED, STAINLESS DUCTING FOR DISHWASHER HOOD, (1) DIRECT FIRED HEATED MAKEUP AIR SYSTEM LOCATED AT GROUND LEVEL DUCTED TO DISCHARGE PLENUM AND SPACE, VARIABLE VENTILATION FLOW CONTROLS TO REDUCE VENTILATION LEVELS DURING LIGHT DEMAND, ELECTRICAL CONTROLS IN STAINLESS CABINET, AND BLACK IRON GAS PIPING TO MUA SYSTEM.

OUR WORK TO INCLUDE: HANG AND SETTING OF HOOD PACKAGE, GAS PIPING TO MAKE UP AIR UNIT, WELDED GREASE DUCTING, 0" CLEARANCE DUCT WRAP IF REQUIRED, INSULATED MUA DUCTING, RID AND SET EQUIPMENT, DUCT DESIGN/FABRICATE/INSTALL, COORDINATE OPENINGS LOCATIONS, AND A COMPLETE START UP TEST OUT TO ASSURE CORRECT OPERATION.

EXCLUSIONS: LINE VOLTAGE POWER WIRING, PLUMBING, ROOF CUTTING AND PATCHING, ANSUL SYSTEM, WALL CUTTING AND PATCHING, GAS PIPING AND DUCTING OTHER THAN LISTED, AND ADDITIONAL SPACE HEATING BEYOND MAKEUP AIR UNIT.

OPTIONS. FOR MAKEUP AIR UNIT TO BE LOCATED ON THE ROOF WITH ADDITIONAL CRANE SET, DUCTING, INSULATION AND GAS PIPING PLEASE ADD \$3600.

CO-1 PROVISION & INSTALLATION 1-KITCHEN HOOD SYS W/

# Change Order

## HVAC SERVICES, INC.

73 BRADLEY DRIVE  
WESTBROOK, MAINE 04092  
(207) 854-4822 (207) 854-0775 (fax)

January 07, 2010  
Summary: CO  
Reference #: 1105-1142  
Tech: RAM

**Bill To:**

HANGER ASSOCIATES  
ELC  
42 MARKET STREET  
PORTLAND, ME 04101

207-774-1000 207-774-2946

**Job Name:**

PATS PIZZA (KITCHEN H&V SYSTEMS)  
KITCHEN HOOD SYSTEMS  
30 MARKET STREET (BASAEMENT)  
PORTLAND, ME 04102

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**Description of Work**

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HEATED MAKE UP AIR  
STAINLESS HOODS & 1 EXHAUST FAN.

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**Subtotal**

**Total**

34989.00

\$34,989.00

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 specifications involving extra costs will be executed only upon written orders and will become an extra charge over and above the estimate. All agreements contingent upon delays beyond our control. Purchaser agrees to pay all costs of collection, including attorney's fees

Signature \_\_\_\_\_

Date \_\_\_\_\_

RECEIVED

APR 13 2010

Dept. of Building Inspections  
City of Portland Maine

