

**City of Portland, Maine - Building or Use Permit Application**  
 389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 01-0973	Issue Date: 4/11/01	CBL: 248 B014001
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Location of Construction: 42 Pierce St	Owner Name: Savage Bruce M & Anne N Jts	Owner Address: 42 Pierce St	Phone: 207-780-1762
Business Name: n/a	Contractor Name: no contractor/self	Contractor Address: n/a n/a	Phone:
Lessee/Buyer's Name n/a	Phone: n/a	Permit Type: Building Miscellaneous	Zone:

Past Use: Single Family	Proposed Use: Same: Build a Masonary Lined Chimney.	Permit Fee: \$30.00	Cost of Work: \$800.00	CEO District: 3
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Proposed Project Description: Build a Masonary Lined Chimney.	FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: 09-3 Type: 572 BOCA/BC/1999 PERMIT ISSUED WITH REQUIREMENTS
	Signature: <i>[Signature]</i>	

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)		
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied	Signature: _____ Date: _____	

Permit Taken By: cih	Date Applied For: 08/08/2001	<b>Zoning Approval</b>	
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1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules. 2. Building permits do not include plumbing, septic or electrical work. 3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..	<b>Special Zone or Reviews</b> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: _____	<b>Zoning Appeal</b> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date: _____	<b>Historic Preservation</b> <input type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: _____
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**PERMIT ISSUED  
WITH REQUIREMENTS**

**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.

\_\_\_\_\_  
SIGNATURE OF APPLICANT ADDRESS DATE PHONE

\_\_\_\_\_  
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHONE

**BUILDING PERMIT REPORT**

DATE: 13 August 2001 ADDRESS: 42 Pierce ST. CBL: 248-B-014

REASON FOR PERMIT: To Construct Chimney

BUILDING OWNER: B & A Savage

PERMIT APPLICANT: CONTRACTOR OWNER

USE GROUP: A-3 CONSTRUCTION TYPE: 53 CONSTRUCTION COST: \$8000 PERMIT FEES: \$30.00

The City's Adopted Building Code (The BOCA National Building Code/1999 with City Amendments)  
 The City's Adopted Mechanical Code (The BOCA National Mechanical Code/1993)

**CONDITION(S) OF APPROVAL**

This permit is being issued with the understanding that the following conditions shall be met: \*1 \*9

- X1. This permit does not excuse the applicant from meeting applicable State and Federal rules and laws.
2. Before concrete for foundation is placed, approvals from the Development Review Coordinator and Inspection Services must be obtained. (A 24 hour notice is required prior to inspection) **"ALL LOT LINES SHALL BE CLEARLY MARKED BEFORE CALLING."**
3. Foundation drain shall be placed around the perimeter of a foundation that consists of gravel or crushed stone containing not more than 10 percent material that passes through a No. 4 sieve. The drain shall extend a minimum of 12 inches beyond the outside edge of the footing. The thickness shall be such that the bottom of the drain is not higher than the bottom of the base under the floor, and that the top of the drain is not less than 6 inches above the top of the footing. The top of the drain shall be covered with an approved filter membrane material. Where a drain tile or perforated pipe is used, the invert of the pipe or tile shall not be higher than the floor elevation. The top of joints or top of perforations shall be protected with an approved filter membrane material. The pipe or tile shall be placed on not less than 2" of gravel or crushed stone, and shall be covered with not less than 6" of the same material. Section 1813.5.2
4. Foundations anchors shall be a minimum of 1/2" in diameter, 7" into the foundation wall, minimum of 12" from corners of foundation and a maximum 6' O.C. between bolts. Section 2305.17
5. Waterproofing and dampproofing shall be done in accordance with Section 1813.0 of the building code.
6. Precaution must be taken to protect concrete and masonry. Concrete Sections 1908.9-19.8.10/ Masonry Sections 2111.3-2111.4.
7. It is strongly recommended that a registered land surveyor check all foundation forms before concrete is placed. This is done to verify that the proper setbacks are maintained.
8. Private garages located beneath habitable rooms in occupancies in Use Group R-1, R-2, R-3 or I-1 shall be separated from adjacent interior spaces by fire partitions and floor/ceiling assembly which are constructed with not less than 1-hour fire resisting rating. Private garages attached side-by-side to rooms in the above occupancies shall be completely separated from the interior spaces and the attic area by means of 1/2 inch gypsum board or the equivalent applied to the garage side. (Chapter 4, Section 407.0 of the BOCA/1999)
- X9. All chimneys and vents shall be installed and maintained as per Chapter 12 of the City's Mechanical Code. (The BOCA National Mechanical Code/1993). Chapter 12 & NFPA 211
10. Sound transmission control in residential building shall be done in accordance with Chapter 12, Section 1214.0 of the City's Building Code.
11. Guardrails & Handrails: A guardrail system is a system of building components located near the open sides of elevated walking surfaces for the purpose of minimizing the possibility of an accidental fall from the walking surface to the lower level. Minimum height all Use Groups 42". In occupancies in Use Group A, B,H-4, I-1, I-2, M, R, public garages and open parking structures, open guards shall have balusters or be of solid material such that a sphere with a diameter of 4" cannot pass through any opening. Guards shall not have an ornamental pattern that would provide a ladder effect. Handrails shall be a minimum of 34" but not more than 38". Exception: Handrails that form part of a guard shall have a height not less than 36 inches (914 mm) and not more than 42 inches (1067 mm). Handrail grip size shall have a circular cross section with an outside diameter of at least 1 1/4" and not greater than 2". (Sections 1021 & 1022.0). Handrails shall be on both sides of stairway. (Section 1014.7) **R-3 (ONE & TWO FAMILY DWELLINGS) GUARD HEIGHT IS 36" MINIMUM.**
12. Headroom in habitable space is a minimum of 7'6". (Section 1204.0)
13. Stair construction in Use Group R-3 & R-4 is a minimum of 10" tread and 7 1/4" maximum rise. All other Use Group minimum 11" tread, 7" maximum rise. (Section 1014.0)
14. The minimum headroom in all parts of a stairway shall not be less than 80 inches. (6'8") 1014.4
15. The Minimum required width of a corridor shall be determined by the most restrictive of the criteria under section 1011.3 but not less than 36".
16. Every sleeping room below the fourth story in buildings of Use Groups R and I-1 shall have at least one operable window or exterior door approved for emergency egress or rescue. The units must be operable from the inside without the use of special knowledge or separate tools. Where windows are provided as means of egress or rescue they shall have a sill height not more than 44 inches (1118mm) above the floor. All egress or rescue windows from sleeping rooms shall have a minimum net clear opening height dimension of 24 inches (610mm). The minimum net clear opening width dimension shall be 20 inches (508)mm, and a minimum net clear opening of 5.7 sq. ft. (Section 1010.4)
17. Each apartment shall have access to two (2) separate, remote and approved means of egress. A single exit is acceptable when it exits directly from the apartment to the building exterior with no communications to other apartment units. (Section 1010.1)
18. All vertical openings shall be enclosed with construction having a fire rating of at least one (1) hour, including fire doors with self closure's. (Over 3 stories in height requirements for fire rating is two (2) hours. (Section 710.0)
19. The boiler shall be protected by enclosing with (1) hour fire rated construction including fire doors and ceiling, or by providing automatic extinguishment. (Table 302.1.1)

20. All single and multiple station smoke detectors shall be of an approved type and shall be installed in accordance with the provisions of the City's Building Code Chapter 9, Section 920.3.2 (BOCA National Building Code/1999), and NFPA 101 Chapter 18 & 19. (Smoke detectors shall be installed and maintained at the following locations):
  - In the immediate vicinity of bedrooms
  - In all bedrooms
  - In each story within a dwelling unit, including basements
21. A portable fire extinguisher shall be located as per NFPA #10. They shall bear the label of an approved agency and be of an approved type. (Section 921.0)
22. The Fire Alarm System shall be installed and maintained to NFPA #72 Standard.
23. The Sprinkler System shall be installed and maintained to NFPA #13 Standard.
24. All exit signs, lights and means of egress lighting shall be done in accordance with Chapter 10 Section & Subsections 1023.0 & 1024.0 of the City's Building Code. (The BOCA National Building Code/1999)
25. Section 25 - 135 of the Municipal Code for the City of Portland states, "No person or utility shall be granted a permit to excavate or open any street or sidewalk from the time of November 15 of each year to April 15 of the following year".
26. The builder of a facility to which Section 4594-C of the Maine State Human Rights Act Title 5 MRSA refers, shall obtain a certification from a design professional that the plans commencing construction of the facility, the builder shall submit the certification the Division of Inspection Services.
27. Ventilation and access shall meet the requirements of Chapter 12 Sections 1210.0 and 1211.0 of the City's Building Code. (Crawl spaces & attics).
28. All electrical, plumbing and HVAC permits must be obtained by Master Licensed holders of their trade. No closing in of walls until all electrical (min. 72 hours notice) and plumbing inspections have been done.
29. All requirements must be met before a final Certificate of Occupancy is issued.
30. All building elements shall meet the fastening schedule as per Table 2305.2 of the City's Building Code (The BOCA National Building Code/1996).
31. Ventilation of spaces within a building shall be done in accordance with the City's Mechanical code (The BOCA National Mechanical Code/1993). (Chapter M-16)
32. Please read and implement the attached Land Use Zoning report requirements.
33. Boring, cutting and notching shall be done in accordance with Sections 2305.3, 2305.3.1, 2305.4.4 and 2305.5.1 of the City's Building Code.
34. Bridging shall comply with Section 2305.16.
35. Glass and glazing shall meet the requirements of Chapter 24 of the building code. (Safety Glazing Section 2406.0)
36. All flashing shall comply with Section 1406.3.10.
37. All signage shall be done in accordance with Section 3102.0 signs of the City's Building Code, (The BOCA National Building Code/1999).

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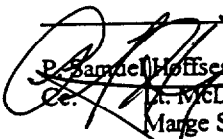
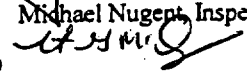
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 P. Samuel Hoffses, Building Inspector  
 Cc. A. McDougall, PFD  
 Marge Schmuckal, Zoning Administrator  
 Michael Nugent, Inspection Service Manager  


PSH 10/1/00

**\*\*This permit is herewith issued, on the basis of plans submitted and conditions placed on these plans, any deviations shall require a separate approval.**

**\*\*\*THIS PERMIT HAS BEEN ISSUED WITH THE UNDERSTANDING THAT ALL THE CONDITIONS OF THE APPROVAL SHALL BE COMPLETED. THEREFORE, BEFORE THE WORK IS COMPLETED A REVISED PLAN OR STATEMENT FROM THE PERMIT HOLDER SHALL BE SUBMITTED TO THIS OFFICE SHOWING OR EXPLAINING THAT THE CONDITIONS HAVE BEEN MET. IF THIS REQUIREMENT IS NOT RECEIVED YOUR CERTIFICATE OF OCCUPANCY SHALL BE WITHHELD. ( You Shall Call for Inspections )**

**\*\*\*\*ALL PLANS THAT REQUIRE A PROFESSIONAL DESIGNER'S SEAL, (AS PER SECTION 114.0 OF THE BUILDING CODE) SHALL ALSO BE PRESENTED TO THIS DIVISION ON AUTO CAD LT. 2000, DXF FORMAT OR EQUIVALENT.**

**\*\*\*\*\*CERTIFICATE OF OCCUPANCY FEE \$50.00**

**STATE OF MAINE  
CHIMNEY OR FIREPLACE DISCLOSURE**

Dear Consumer: State law, specifically 32 M.R.S.A., Chapter 33, requires chimney or fireplace installers, as of January 1, 1992, to provide you with this Disclosure prior to the installation work being done on your chimney or fireplace. The purpose of this Disclosure is to help you, as a consumer, make an informed decision as to the abilities of the installer and under what requirements the installation must comply. It is important to note that the State of Maine does not require registration or licensure of chimney or fireplace installers; however, it is just as important to realize that many fires are caused each year by improperly constructed fireplaces and chimneys. For further information about this law, call the Division of Licensing & Registration at 624-8629 or write to the Division at #35 State House Station, Augusta, Maine 04333.

**INSTALLER INFORMATION**

Name of Installer \_\_\_\_\_

D.B.A. \_\_\_\_\_

Name of Installer (if incorporated) \_\_\_\_\_

D.B.A. \_\_\_\_\_

Legal Address \_\_\_\_\_

(Street and No.)

(City or Town)

(State)

(County)

(Zip Code)

Home Telephone \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Business Telephone \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Years of experience doing fireplace or chimney installations \_\_\_\_\_.

**CONSUMER IDENTIFICATION**

Consumer's Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

(Street and No.)

(City or Town)

(State)

(County)

(Zip Code)

Home Telephone \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Business Telephone \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Installer, please give a brief description of installation being offered.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

I, \_\_\_\_\_, the installer, hereby attest that the preceding information provided is true to the best of my knowledge. I also understand that if I fail to conform with the standards as outlined in NFPA 211 that I shall be subject to penalties as outlined under Title 32, Chapter 33, Oil and Solid Fuel Board.

Signature \_\_\_\_\_ Date \_\_\_\_\_

**3-2 Use.** Factory-built chimneys shall be permitted to be used for exhaust systems and ducting from hoods, industrial ovens, furnaces, and process equipment of any temperature classification (see Table 2-2.1), provided that the system is engineered so that gas temperatures and pressures do not exceed the applicable limit for the type of chimney.

**Chapter 4 Masonry Chimneys**

**4-1 General Requirements.**

**4-1.1 Support.** Masonry chimneys shall be supported on properly designed foundations of masonry or reinforced portland or refractory cement concrete or on noncombustible material having a fire resistance rating of not less than 3 hours, provided such supports are independent of the building construction and the load is transferred to the ground.

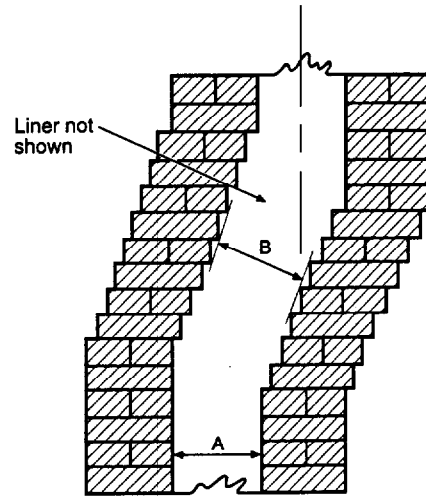
**4-1.2 Corbeling.** Individual and maximum projections of corbels in masonry chimneys shall comply with the requirements of this section. [See Figures 4-1.2(a), (b), (c), and (d).]

*Exception:* Corbeling limitations shall be permitted to be varied for engineered reinforced brick masonry construction.

**4-1.2.1** Individual corbels occurring at any point within a masonry chimney shall not exceed  $\frac{1}{2}$  the individual masonry unit height nor  $\frac{1}{3}$  the thickness.

**4-1.2.2** Masonry chimney support shall be permitted to be formed by corbeling from a wall that is not less than 12 in. (305 mm) in thickness to form a maximum total projection of not more than  $\frac{1}{2}$  the wall thickness.

*Exception:* Where the corbeling projects equally on each side of the wall, the masonry chimney support shall be permitted to be formed by corbeling from a wall that is not less than 8 in. (203 mm) in thickness to form a maximum total projection on each side of the wall that is not more than  $\frac{1}{2}$  the wall thickness.



Chimney offset construction — centerline of upper flue does not fall beyond center of lower flue wall. Chimney size, A, and offset size, B, are equal.

Figure 4-1.2(b) Corbels to change chimney direction.

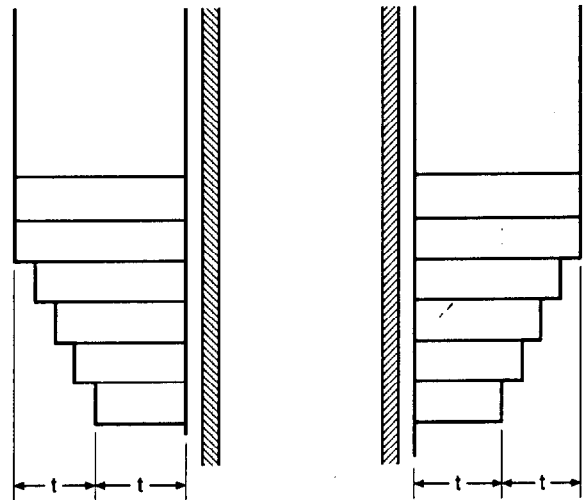


Figure 4-1.2(c) Corbels to increase chimney wall thickness.

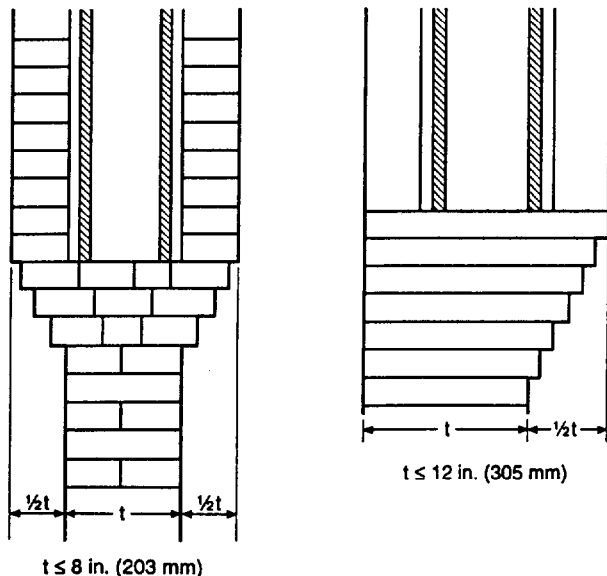


Figure 4-1.2(a) Corbels for supporting chimneys.

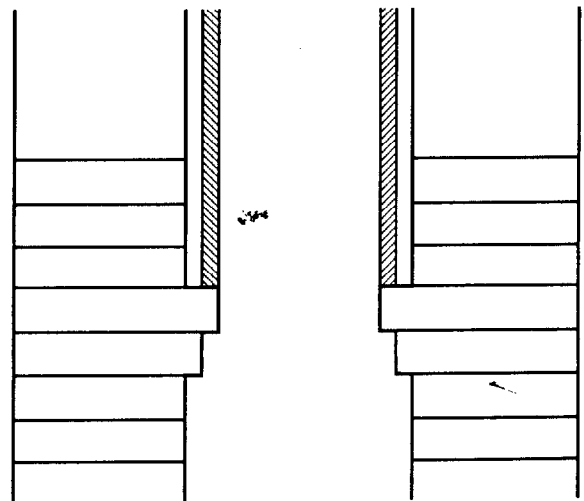


Figure 4-1.2(d) Corbels to support flue lining.

**4-1.2.3 Corbeling** used to change the direction of a masonry chimney shall have a maximum offset so that the centerline of the upper flue does not fall beyond the center of the lower flue wall. The cross-sectional area of the flue shall not be reduced throughout the offset.

**4-1.2.4 Corbeling** used to increase the chimney wall thickness shall have a maximum total projection that does not exceed the thickness of the chimney wall.

**4-1.2.5 Corbeled or solid masonry** shall be provided in masonry chimneys to support the entire perimeter of flue liners.

*Exception: Where a flue is constructed of two flue liners without a separation, three sides of each flue liner shall be supported entirely on corbeled masonry.*

**4-1.2.6 Corbels** shall be made with solid units, and, where corbels are located on the walls of hollow masonry units, there shall be not less than three courses of solid masonry units below the corbels.

**4-1.3 Change in Size or Shape of Flue at Combustible Members Not Permitted.** A chimney flue shall not change in size or shape within 6 in. (152 mm) above or below any point where the chimney passes through combustible floor, ceiling, or roof components.

#### 4-1.4 Cleanout Openings.

**4-1.4.1 Cleanout openings** or a means for cleaning shall be provided in all chimney flues. Cleanout openings shall be equipped with ferrous metal, precast cement or other approved noncombustible doors and frames arranged to remain tightly closed and secured when not in use.

**4-1.4.2 Interior Cleanout Openings.** The lower edge of a cleanout opening inside a building shall be a minimum of 16 in. (406.4 mm) above the lowest accessible floor level.

**4-1.4.3 Exterior Cleanout Openings.** The lower edge of a cleanout opening located outside a building shall be a minimum of 16 in. (406.4 mm) above grade, provided the cleanout opening is below the lowest chimney connector entrance.

**4-1.4.4 Cleanout openings and doors** shall not be obstructed. Combustible material located or projected beyond the face of the chimney shall be kept a minimum of 18 in. (457.2 mm) away from the cleanout opening. Cleanout doors shall be permanently marked with the following message: "DO NOT OBSTRUCT. KEEP COMBUSTIBLE MATERIAL AT LEAST 18 IN. (457.2 MM) AWAY FROM THIS DOOR," or equivalent.

*Exception: Listed cleanout doors shall be installed in accordance with the terms of their listing and the manufacturer's instructions.*

**4-1.5** The base of the chimney flue shall start at a point at least 6 in. (152 mm) but not more than 12 in. (305 mm) below the bottom edge of the cleanout door opening. Any space within the chimney below the level of the flue base shall be filled with noncombustible masonry material, mortar, concrete, or sand and topped with a wash or cap that prevents the entry of moisture or creosote.

**4-1.6 Firestopping.** All spaces between chimneys and the floors and ceilings through which the chimneys pass shall remain fully open but shall be firestopped with noncombustible material. The firestopping of spaces between chimneys

and wood joists, beams, or headers shall be of galvanized steel not less than 26 gauge [0.019 in. (0.483 mm)] thick or of noncombustible sheet material not more than 1/2 in. (12.7 mm) thick.

**4-1.7 Smoke Test.** Masonry chimneys shall be proved tight by a smoke test after erection and before being put into use.

**4-1.8 Structural Design.** Chimneys shall be designed, anchored, supported, and reinforced as required in this standard. A chimney shall not support any structural load other than its own weight, unless designed to act as a supporting member. Chimney design shall consider seismic and wind loading.

Masonry chimneys shall be permitted to be constructed as part of the masonry or reinforced concrete walls of buildings.

#### 4-1.9 Thimbles.

**4-1.9.1 Thimbles** for chimneys or vent connectors shall be of fireclay (ASTM C 315, *Standard Specification for Clay Flue Linings*), galvanized steel of a minimum thickness of 24 gauge [0.024 in. (0.61 mm)], or material of equivalent durability. Thimbles shall be installed without damage to the liner. The thimble shall extend through the wall to, but not beyond, the inner face of the liner and shall be cemented firmly to masonry.

**4-1.9.2 Thimbles** shall be located to provide adequate pitch or rise of chimney or vent connectors, and, where the ceiling above the appliance is constructed of combustible material, the location of the thimble shall provide the minimum clearance required for the connector as specified in Section 6-5.

**4-1.9.3** The installation of thimbles through walls or partitions constructed of combustible materials shall conform with the requirements of Section 6-7.

#### 4-1.10 Relining.

**4-1.10.1** Where masonry chimneys are relined, the liner shall be listed or of approved material that resists corrosion, softening, or cracking from flue gases at temperatures appropriate to the class of chimney service. Listed liner systems shall be installed in accordance with the listing. Approved materials shall be installed in accordance with Section 4-2.

**4-1.10.2** The relined chimney shall meet the requirements of the class of chimney service.

**4-2 Construction of Masonry Chimneys.** Masonry chimneys shall be constructed as outlined in Table 4-2 and as detailed in this section.

**4-2.1** Masonry chimneys shall be constructed of solid masonry or solid, waterproofed, modular concrete blocks in nominal thicknesses not less than those specified in Table 4-2, Column I, or of reinforced portland or refractory cement concrete in actual thicknesses not less than those specified in Table 4-2, Column I, or of rubble stone masonry in actual thicknesses not less than those specified in Table 4-2, Column II. Masonry shall be laid with full, push-filled, head and bed mortar joints.

*Exception No. 1: Reinforced masonry chimneys for residential-type appliances shall be permitted to be constructed of hollow masonry units not less than 6 in. (152 mm) nominal thickness, with cells fully filled with mortar.*

*Exception No. 2: Masonry chimneys for high-heat appliances shall be constructed with double walls of solid masonry or reinforced portland or refractory cement concrete. Each wall shall be not less than 8 in. (203 mm) thick with an air space of not less than 2 in. (51 mm) between walls.*

**4-2.2** Masonry chimneys shall be lined. The selection of the lining material shall be appropriate for the class of chimney service and the type of appliance connected in accordance with the terms of the appliance listing and the manufacturer's instructions. Listed materials used as chimney linings shall be installed in accordance with the terms of their listings and the manufacturer's instructions. The materials specified in 4-2.2.1 through 4-2.2.6 shall be permitted for the indicated class of chimney service.

**4-2.2.1 Low-, Medium-, and High-Heat Appliances (Table 2-2.1, Columns II, III, IV, and V).**

(a) Clay flue lining complying with the requirements of ASTM C 315, *Standard Specification for Clay Flue Linings*, or the equivalent, as specified in Table 4-2, Columns III and IV.

(b) Fireclay brick complying with the requirements of ASTM C 27, *Standard Classification of Fireclay and High-Alumina Refractory Brick*, or the equivalent, as specified in Table 4-2, Columns III and IV.

**4-2.2.2 Residential-Type and Building Heating Appliances (Table 2-2.1, Columns I and II).**

(a) Clay flue lining or fireclay brick complying with 4-2.2.1, as specified in Table 4-2, Columns III and IV.

(b) Listed chimney lining systems.

(c) Factory-built chimneys or chimney units listed for installation within masonry chimneys.

(d) Other approved materials that resist corrosion, erosion, softening, or cracking from flue gases and condensate at temperatures up to 1800°F (982°C).

**4-2.2.3 Category I Gas Appliances (Table 2-2.2, Column I).**

(a) Chimney liners complying with 4-2.2.2.

(b) Chimney lining systems listed for use with listed gas appliances with draft hoods and other Category I appliances listed for use with Type B vents. (See 4-2.2.7 for marking.)

(c) Type B vents listed for installation within masonry chimneys. (See 4-2.2.7 for marking.)

**4-2.2.4 Categories II, III, and IV Gas Appliances (Table 2-2.2, Column III).** Special gas vents listed for installation within masonry chimneys. (See 4-2.2.7 for marking.)

**4-2.2.5 Pellet Fuel-Burning Appliances (Table 2-2.2, Column VI).**

(a) Chimney liners complying with 4-2.2.2.

(b) Pellet vents listed for installation within masonry chimneys. (See 4-2.2.7 for marking.)

**4-2.2.6** Other materials listed for installation within masonry chimneys for the class of chimney service and for the appliance type shall be permitted. Other approved materials that resist corrosion, erosion, softening, or cracking from flue gases and condensate at temperatures appropriate for the class of chimney service and appliance type shall be permitted.

**Table 4-2 Construction, Termination, and Clearances for Masonry Chimneys**  
(See text for requirements.)

Column	I		II		III	IV		V	VI		VII		VIII		IX	
Chimney Type	Chimney Wall Thickness				Chimney Liner (See Note 1.)				Termination				Minimum Air Space Clearances (See Note 1.)			
	Brick or Concrete		Rubble Stone		Type	Thickness		Cement	Highest Point		Nearby Structures		Interior Chimney		Exterior Chimney	
	(in.)	(mm)	(in.)	(mm)		(in.)	(mm)		(ft)	(mm)	(ft)	(mm)	(in.)	(mm)	(in.)	(mm)
Residential	4	102	12	305	Fireclay	5/8	16	Medium duty	3	0.91	2	0.61	2	51	1	25
Low-heat	8	203	12	305	Fireclay	5/8	16	Medium duty	3	0.91	2	0.61	2	51	2	51
Medium-heat	8	203	12	305	Fireclay brick	4.5	114	Medium duty	10	3.05	10	3.05	4	102	4	102
High-heat	See Note 2				Fireclay brick	4.5	114	High duty	20	6.1	20	6.1	See Note 3			

**NOTES**

- Where masonry chimneys are lined with a listed chimney liner system, the system shall be installed in accordance with the listing.
- Masonry chimneys for high-heat appliances shall be constructed with double walls of solid masonry units or reinforced portland or refractory cement concrete. Each wall shall be not less than 8 in. (203 mm) thick with an air space of not less than 2 in. (51 mm) between walls.
- Masonry chimneys for high-heat appliances shall have sufficient clearance from buildings and structures to avoid overheating combustible material, to allow inspection and maintenance operations on the chimney, and to avoid the danger of burns to persons. Clearance shall be based on good engineering practice and shall be acceptable to the authority having jurisdiction.

**4-2.2.7 Notice of Usage.** Where a Type B gas vent, special gas vent, pellet vent, or other material not suitable for use under Columns I and II of Table 2-2.1 is used as a liner for a masonry chimney, the chimney shall be plainly and permanently identified by a label attached to the wall or ceiling or at another conspicuous location adjacent to the point where the connector enters the chimney. The label shall read: "This (type of product) Is for (type or Category of appliance) Appliances that Burn (type of fuel) Only. Do Not Connect Other Types of Appliances," or Equivalent Language.

**4-2.3** Fireclay flue liners shall be installed ahead of the construction of the chimney as it is carried up, carefully bedded one on the other in a medium-duty, nonwater-soluble calcium aluminate refractory cement mixture, or its equivalent, with close-fitting joints left smooth on the inside. Portland cement bonded mixtures shall not be used.

**4-2.4** Fireclay brick flue liners shall be installed laid in full-width refractory mortar as specified in Table 4-2, Column V, or the equivalent.

**4-2.5** Fireclay flue lining for residential and low-heat masonry chimneys shall be separated from the chimney wall by a minimum of 1/2 in. (12.7 mm) and a maximum of 4 in. (102 mm) of air space. The air space shall not be filled, and only enough mortar shall be used to make a good joint and hold the liners in position.

*Exception:* Where masonry chimneys are lined with a listed chimney liner system, the system shall be installed in accordance with the listing.

**4-2.6** The fireclay flue liner shall start at or below the base of the chimney flue and shall be supported by solid masonry. The lining shall be carried up as nearly vertically as possible, with a maximum slope no greater than 30 degrees from the vertical. The lining shall extend for the entire height of the chimney to a level not less than 2 in. (51 mm) above the splay or wash. The splay or wash shall be constructed to allow for unrestricted vertical movement of the flue lining due to thermal expansion without allowing the introduction of moisture into the chimney.

**4-2.7** Where a chimney contains more than one flue, a separation shall be provided between adjacent flues. The separation shall be constructed of solid masonry wythes (partitions) not less than 4 in. (102 mm), nominal, in thickness or of reinforced portland or refractory cement concrete not less than 4 in. (102 mm), actual, in thickness, and the partitions shall be bonded or securely tied to the chimney walls.

*Exception No. 1:* Where two flues are used to vent a single fireplace or appliance, this separation shall not be required.

*Exception No. 2:* Multiple flues in one chimney shall not be permitted for medium-heat appliances, high-heat appliances, or commercial and industrial incinerators.

#### 4-3 Clearance from Combustible Material.

**4-3.1** The minimum air space clearance between interior masonry chimneys (where any portion of the chimney is located within the exterior wall of the building) and combustible materials shall be at least the distance specified in Table 4-2, Column VIII. The minimum air space clearance between exterior masonry chimneys (where the chimney is located completely outside the exterior wall of the building, excluding the soffit or cornice area) and combustible material shall be at least the distance specified in Table 4-2, Column IX. The air space shall not be filled; however, this shall not eliminate the firestopping requirements in 4-1.6.

*Exception No. 1:* For residential and low-heat chimneys, noncombustible trim shall be permitted to be used to prevent the entry of debris into the air space.

*Exception No. 2:* Masonry chimneys for high-heat appliances shall have sufficient clearance from buildings and structures to avoid overheating combustible material, to allow inspection and maintenance operations on the chimney, and to avoid the danger of burns to persons. Clearances shall be based on good engineering practice and acceptable to the authority having jurisdiction.

**4-3.2** Chimneys constructed with listed chimney liners shall be built with clearances in conformance with the listing of the liner system.

**4-4 Masonry Chimneys for Incinerators.** In addition to the requirements in Sections 4-1 through 4-3, masonry chimneys for incinerators shall meet the requirements of 4-4.1 through 4-4.3.

**4-4.1** Chute-fed incinerators shall meet the requirements of NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*.

**4-4.2** Masonry chimneys for commercial and industrial incinerators shall be supported on properly designed foundations of masonry or reinforced portland or refractory cement concrete or on noncombustible material having a fire resistance rating of not less than 3 hours, provided such supports are independent of the building construction and the load is transferred to the ground.

*Exception:* Chimneys shall be permitted to be supported on incinerator walls if the incinerator foundation and walls are built to support the load imposed. They shall be constructed to prevent excessive stress upon the roof of the combustion chamber.

**4-4.3** The terminus of the chimney for commercial and industrial incinerators shall be equipped with an approved spark arrester if the incinerator does not include effective means for arresting sparks and fly ash. (See NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*.)

## Chapter 5 Unlisted Metal Chimneys (Smokestacks) for Nonresidential Applications

### 5-1 General Requirements.

**5-1.1** Single-wall metal chimneys or unlisted metal chimneys shall not be used inside or outside of one- and two-family dwellings.

**5-1.2** Unlisted metal chimneys shall be constructed of steel or cast iron. Sheet steel shall have a thickness not less than that indicated in Table 5-1.2.

**5-1.3** Unlisted metal chimneys shall be properly riveted, welded or bolted, securely supported, and constructed in accordance with good engineering practice as necessary to provide the following:

(a) Strength to resist stresses due to steady or gusting wind loads;

(b) Adequate anchoring, bracing, and inherent strength to withstand seismic and wind-induced vibrational stresses;

(c) Proper material thickness for durability considering fuel analysis, gas temperature, and exposure;



# All Purpose Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

04102

Location/Address of Construction: 42 Pierce Ave. Portland

Total Square Footage of Proposed Structure N/A - Chimney Square Footage of Lot 20,981

Tax Assessor's Chart, Block & Lot Chart# 248 Block# B Lot# 014001 Owner: Bruce and Anne Savage Telephone: 780-1762

Lessee/Buyer's Name (If Applicable) N/A Applicant name, address & telephone: Bruce Savage 42 Pierce Av. 780-1762 Cost Of Work: \$ 800.00 Fee: \$ 30.00

Current use: Residence  
If the location is currently vacant, what was prior use: \_\_\_\_\_  
Approximately how long has it been vacant: \_\_\_\_\_  
Proposed use: \_\_\_\_\_  
Project description: Construction of a masonry chimney to support an oil burning furnace. (vent)

Contractor's name, address & telephone: Home owner  
Who should we contact when the permit is ready: Home owner  
Mailing address: Same  
Phone: Same

**IF THE REQUIRED INFORMATION IS NOT INCLUDED IN THE SUBMISSIONS THE PERMIT WILL BE AUTOMATICALLY DENIED AT THE DISCRETION OF THE BUILDING/PLANNING DEPARTMENT, WE MAY REQUIRE ADDITIONAL INFORMATION IN ORDER TO APPROVE THIS PERMIT.**

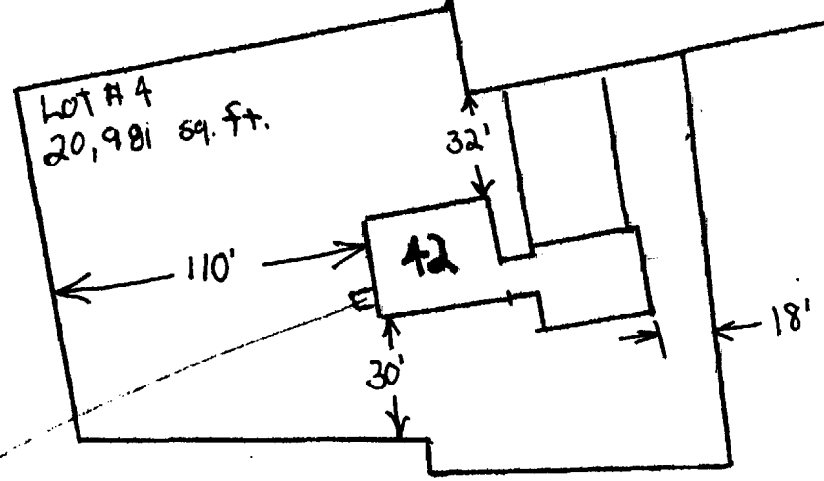
*I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.*

Signature of applicant: Bruce M. Savage Date: Aug. 7, 2001

**This is not a permit, you may not commence ANY work until the permit is issued**



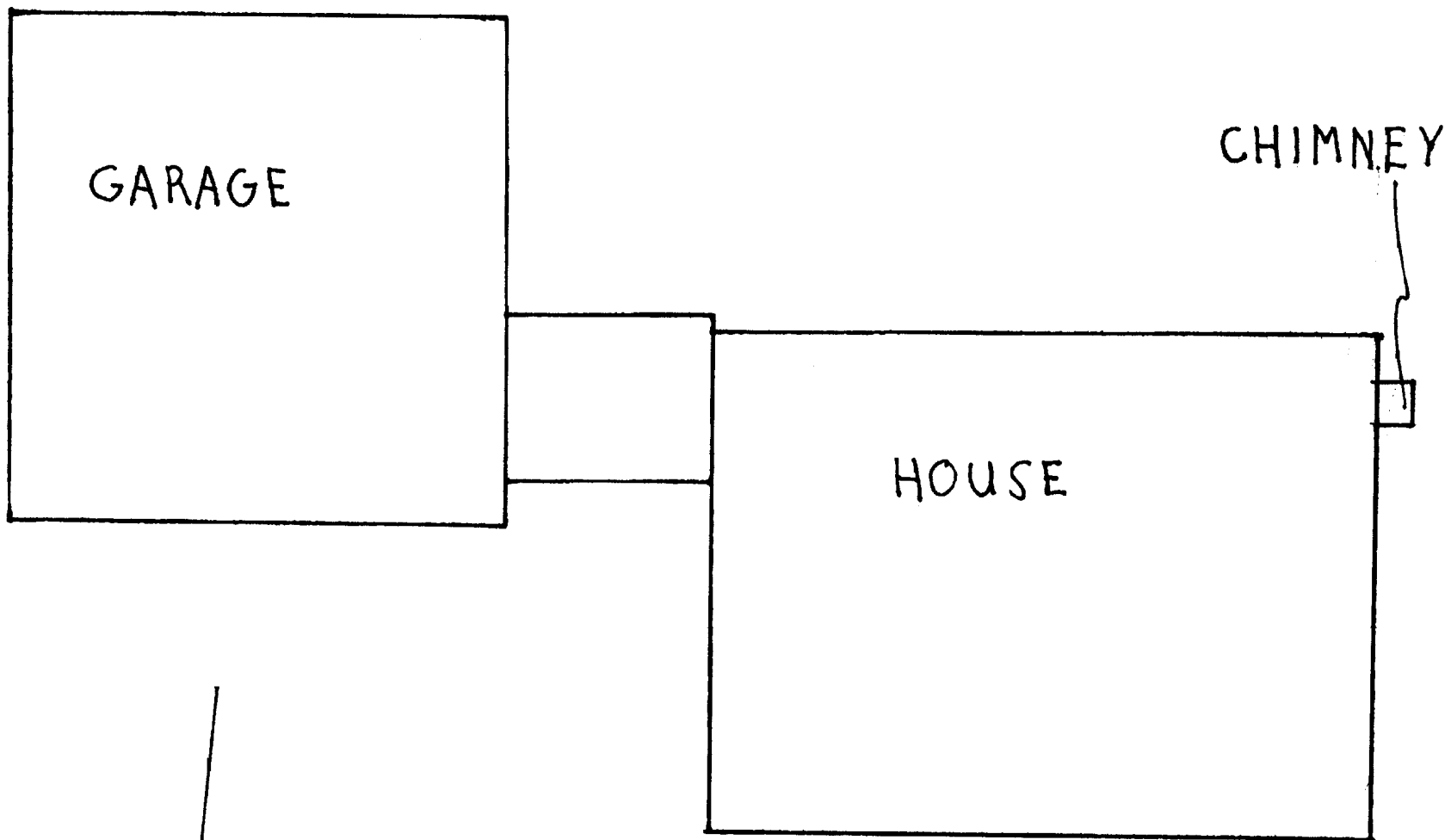
PIERCE AVE.



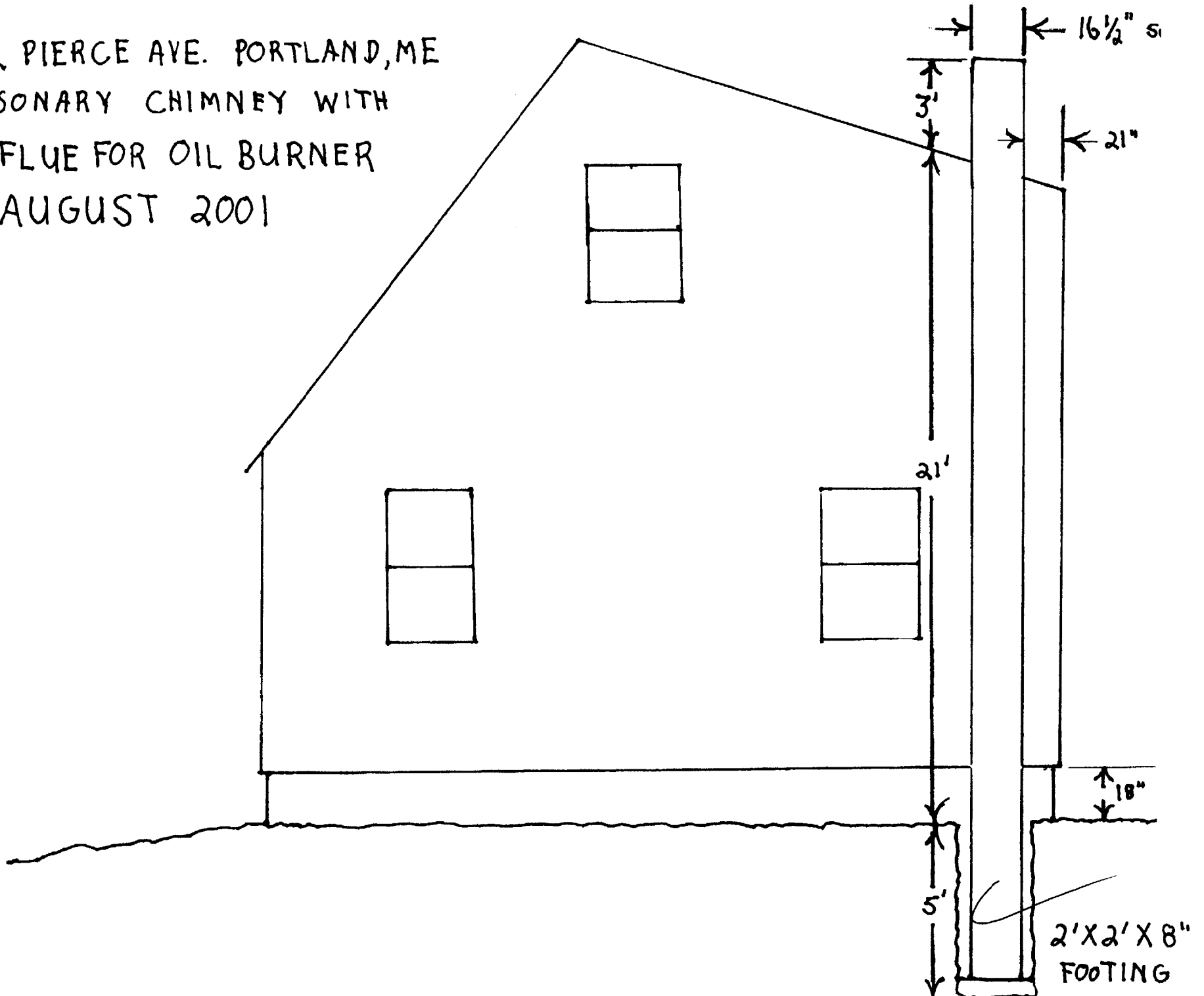
PROPOSED CHIMNEY  
AUGUST 2001

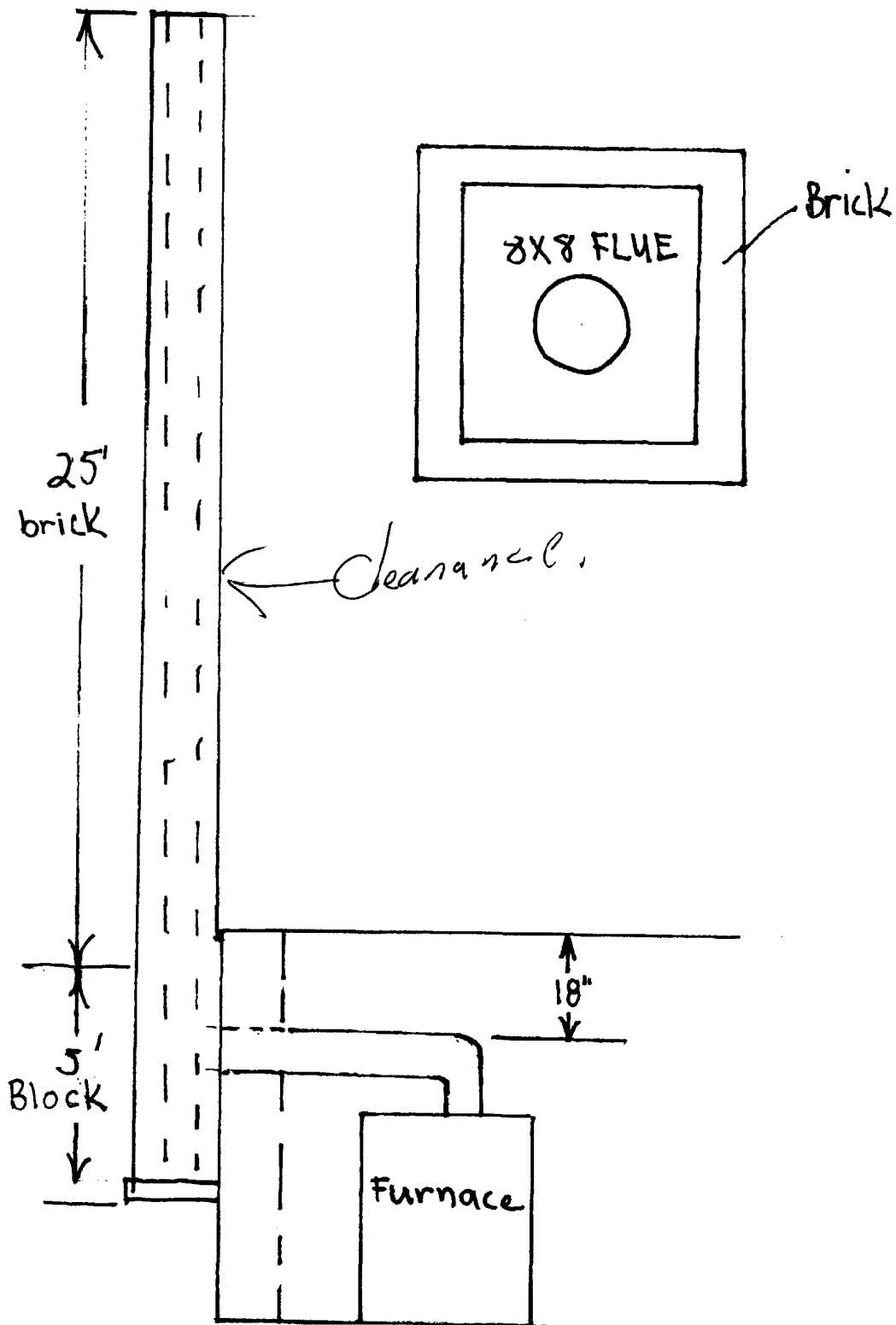
Assesed Property Description  
248-B-14

42 PIERCE AVE. PORTLAND  
AUGUST 2001



42 PIERCE AVE. PORTLAND, ME  
MASONARY CHIMNEY WITH  
8" FLUE FOR OIL BURNER  
AUGUST 2001





- 15 Flue, 8X8 (30 Ft.)
- 1 Clean out door
- 3 dozen wall ties
- 3 ft of lead (10" or 8")
- 6 list of whole block 8X8
- 10 bags premix mortar
- 5 bags premix cement
- 6" thimble long
- Cement for flue
- 730 brick (for 25 feet)

42 PIERCE AVE.  
August 2001

