

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

Location of Construction: 28 Morse St		Owner: Barry, Kathleen		Phone: 773-5429		Permit No: 980942	
Owner Address:		Lessee/Buyer's Name:		Phone:		BusinessName:	
Contractor Name: James Merry		Address: 453 Gorham, Rd Scarborough, ME		Phone: 04074 839-5429		<div style="border: 2px solid black; padding: 5px; text-align: center;"> PERMIT ISSUED Aug 24 1998 CITY OF PORTLAND </div>	
Past Use: 1-fam		Proposed Use: Same		COST OF WORK: \$ 11,308.00 PERMIT FEE: \$ 75.00			
Proposed Project Description: A. Lift & Level House B. Put several new footing under existing footings C. Install new concrete floor over old floor D. Install new bulkhead		FIRE DEPT. <input type="checkbox"/> Approved <input type="checkbox"/> Denied Signature: _____		INSPECTION: Use Group: _____ Type: _____ Signature: _____		Zone: _____ CBL: 163A-A-013	
						PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.) Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved with Conditions <input type="checkbox"/> Denied Signature: _____ Date: _____	
Permit Taken By: UB		Date Applied For: 14 August 1998					

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..

Zoning Approval:
 Shoreland
 Wetland
 Flood Zone
 Subdivision
 Site Plan maj minor mm

Special Zone or Reviews:

Zoning Appeal

Variance
 Miscellaneous
 Conditional Use
 Interpretation
 Approved
 Denied

Historic Preservation

Not in District or Landmark
 Does Not Require Review
 Requires Review

**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 provisions of the code(s) applicable to such permit

Action:

Approved
 Approved with Conditions
 Denied

Date: _____

SIGNATURE OF APPLICANT _____ ADDRESS: _____ DATE: 17 August 1998 PHONE: _____

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE _____ PHONE: _____

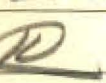
White-Permit Desk Green-Assessor's Canary-D.P.W. Pink-Public File Ivory Card-Inspector

CEO DISTRICT 2

KC/TR

COMMENTS

9/4/98

met w/ Jim Merry - New Bulkhead Stairs do not conform to Tread/Riser & Wood Clearance specs - Jim will try to re configure and call back @ nwa is probably a doghouse IPO bulkhead 

9/17/98 BOCA RESEARCH REPORT ALLOWS CONFIGURATION AS AN EMERGENCY EGRESS. (VERIFIED 9/16/98)

MR. MERRY WAS ALLOWED TO INSTALL BUT MUST MAKE EVERY ATTEMPT TO MEET HEADROOM REQ. (80")
Ollie Cluff

8,9

Inspection Record

Type	Date
Foundation: _____	_____
Framing: _____	_____
Plumbing: _____	_____
Final: _____	_____
Other: _____	_____

THIS IS NOT A PERMIT/CONSTRUCTION CANNOT COMMENCE UNTIL THE PERMIT IS ISSUED

**Building or Use Permit Pre-Application
Additions/Alterations/Accessory Structures
To Detached Single Family Dwelling**

In the interest of processing your application in the quickest possible manner, please complete the Information below for a Building or Use Permit.

NOTEIf 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.**

Location/Address of Construction: <u>28 Morse St. Portland, Me.</u>		
Tax Assessor's Chart, Block & Lot Number Chart# <u>CBL</u> Block# <u>163A</u> Lot# <u>A-13</u>	Owner: <u>Kathleen Barry</u>	Telephone#: <u>773-5429</u>
Owner's Address: <u>28 Morse St. Portland Me. 04103</u>	Lessee/Buyer's Name (If Applicable)	Cost Of Work: Fee <u>\$11,308.00 15</u>
Proposed Project Description: (Please be as specific as possible) <u>A. Lift & level house, B. Put several new footings under existing footings. C. Install new concrete floor over old floor. D. Install new bulkhead.</u>		
Contractor's Name, Address & Telephone: <u>James G. Merry Tel 839-3313 453 Gorham Rd. Scarborough Me. 04074</u>		Rec'd By: <u>UB</u>

Separate permits are required for Internal & External Plumbing, HVAC and Electrical installation.

- All construction must be conducted in compliance with the 1996 B.O.C.A. Building Code as amended by Section 6-Art II.
- All plumbing must be conducted in compliance with the State of Maine Plumbing Code.
- All Electrical Installation must comply with the 1996 National Electrical Code as amended by Section 6-Art III.
- HVAC (Heating, Ventilation and Air Conditioning) installation must comply with the 1993 B.O.C.A. Mechanical Code.

You must include the following with you application:

- 1) A Copy of Your Deed or Purchase and Sale Agreement
- 2) A Copy of your Construction Contract, if available
- 3) A Plot Plan (Sample Attached)

If there is expansion to the structure, a complete plot plan (Site Plan) must include:

- The shape and dimension of the lot, all existing buildings (if any), the proposed structure and the distance from the actual property lines. Structures include decks porches, a bow windows cantilever sections and roof overhangs, as well as, sheds, pools, garages and any other accessory structures.
- Scale and required zoning district setbacks

4) Building Plans (Sample Attached)

A complete set of construction drawings showing all of the following elements of construction:

- Cross Sections w/Framing details (including porches, decks w/ railings, and accessory structures)
- Floor Plans & Elevations
- Window and door schedules
- Foundation plans with required drainage and dampproofing
- Electrical and plumbing layout. Mechanical drawings for any specialized equipment such as furnaces, chimneys, gas equipment, HVAC equipment (air handling) or other types of work that may require special review must be included.

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/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: <u>James G. Merry</u>	Date: <u>8-14-98</u>
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Building Permit Fee: \$25.00 for the 1st \$1000 cost plus \$5.00 per \$1,000.00 construction cost thereafter.

0ANSPICORRESPMNUGENTYAPADSFD.WPD

Mail permit:

* Jim Merry — ph # 839 3213
453 Gorham Rd
Scarborough Me 04074

425
80
855



BUILDING PERMIT REPORT

DATE: 8/21/98 ADDRESS: 28 Morse St
 REASON FOR PERMIT: 1st level house - New footings - New concrete floor over old - New built
 BUILDING OWNER: Kathleen Barry
 CONTRACTOR: James Merry
 PERMIT APPLICANT: Contractor
 USE GROUP R-3 BOCA 1996 CONSTRUCTION TYPE _____

CONDITION(S) OF APPROVAL

This Permit is being issued with the understanding that the following conditions are met:

Approved with the following conditions: #2, 2.5, #2.6, #6, #8, #9, #10, #11, #12, #16, #23, #24, #26, #28

1. 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)
- 2.3. 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
- 2.6. Foundations anchors shall be a minimum of 1 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)
3. Precaution must be taken to protect concrete from freezing. Section 1908.0
4. 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.
5. 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 means of 1/2 inch gypsum board or the equivalent applied to the garage side. (Chapter 4 Section 407.0 of the BOCA/1996)
6. 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
7. Sound transmission control in residential building shall be done in accordance with Chapter 12 section 1214.0 of the city's building code.
8. 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", except Use Group R which is 36". In occupancies in Use Group A, B, H-4, I-1, I-2 M and R and 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". Use Group R-3 shall not be less than 30", but not more than 38".) 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)
9. Headroom in habitable space is a minimum of 7'6". (Section 1204.0)
10. Stair construction in Use Group R-3 & R-4 is a minimum of 10" tread and 7 3/4" maximum rise. All other Use group minimum 11" tread, 7" maximum rise. (Section 1014.0)
11. The minimum headroom in all parts of a stairway shall not be less than 80 inches. (6' 8") 1014.4
12. 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

over

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 (508mm), and a minimum net clear opening of 5.7 sq. ft. (Section 1018.6)

13. 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

14. All vertical openings shall be enclosed with construction having a fire rating of at least one (1)hour, including fire doors with self closer's. (Over 3 stories in height requirements for fire rating is two (2) hours.) Section 710.0

15. 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

16. 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 19, 920.3.2 (BOCA National Building Code/1996), 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

In addition to the required AC primary power source, required smoke detectors in occupancies in Use Groups R-2, R-3 and I-1 shall receive power from a battery when the AC primary power source is interrupted. (Interconnection is required) Section 920.3.2

17. 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

18. The Fire Alarm System shall be maintained to NFPA #72 Standard.

19. The Sprinkler System shall maintained to NFPA #13 Standard.

20. All exit signs, lights, and means of egress lighting shall be done in accordance with Chapter 10 Section & Subsections 1023. & 1024. Of the City's building code. (The BOCA National Building Code/1996)

21. 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".

22. 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 to the Division of Inspection Services.

23. Ventilation shall meet the requirements of Chapter 12 Sections 1210. Of the City's Building Code. (crawl spaces & attics)

24. All electrical, plumbing and HVAC permits must be obtained by a Master Licensed holders of their trade.


25. All requirements must be met before a final Certificate of Occupancy is issued.

26. 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).

27. 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)

28. Please read and implement the ~~amended~~ Land Use-Zoning report requirements. → to remain 1 family

- 29. _____
- 30. _____
- 31. _____
- 32. _____

P. Samuel Hoffses, Building Inspector 

cc: LL McDougall, PFD
Marge Schmuckal, Zoning Administrator

Submission Requirements Residential Construction

When a property owner is proposing either a new structure or an addition, this office requires:

- A plot or site plan, showing the shape and dimensions of the entire lot, all existing and proposed structures on the lot and the distance that the structures are from all lot lines. For a new dwelling the plan must be prepared by a registered design professional. For dwelling additions, the plan can be prepared by the owner or agent. (See Figure 1)

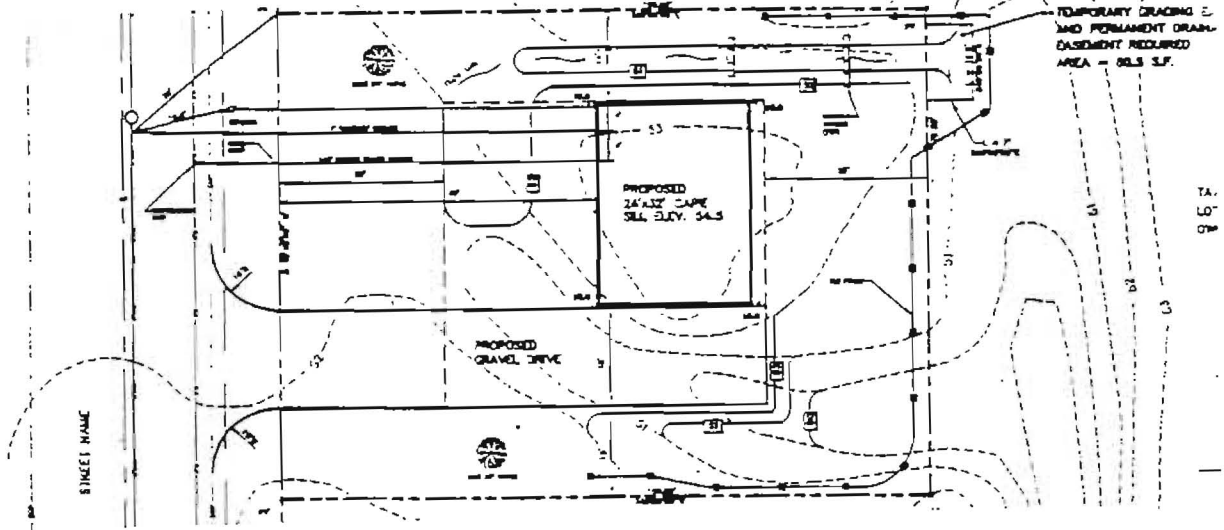


Figure 1. Typical Plot Plan

As can be seen, it is easy to establish the extent of compliance with the required setbacks and lot coverage.

- For new construction, structural alterations, or additions, plans showing structural details must be provided. Minimally they should include foundation plans, including drainage and support column spacing framing details, floor plans and a cross section. (See Figures 2, 3 & 4)

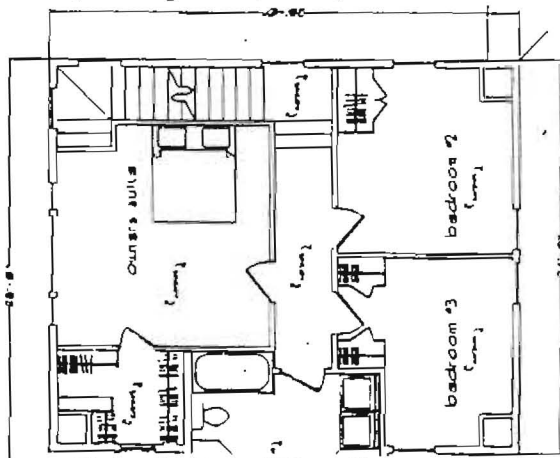


Figure 3. Typical Floor Plan

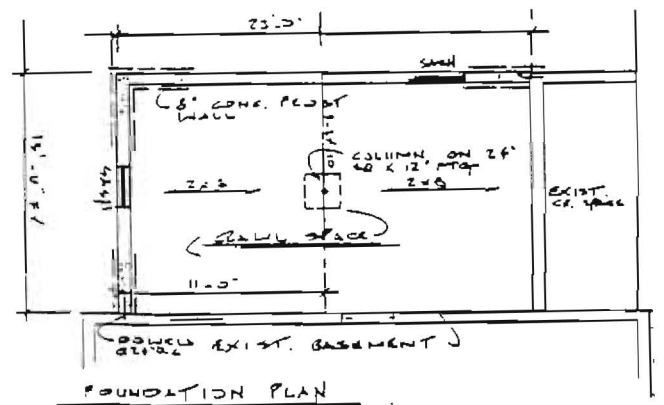


Figure 2. Typical Foundation Plan

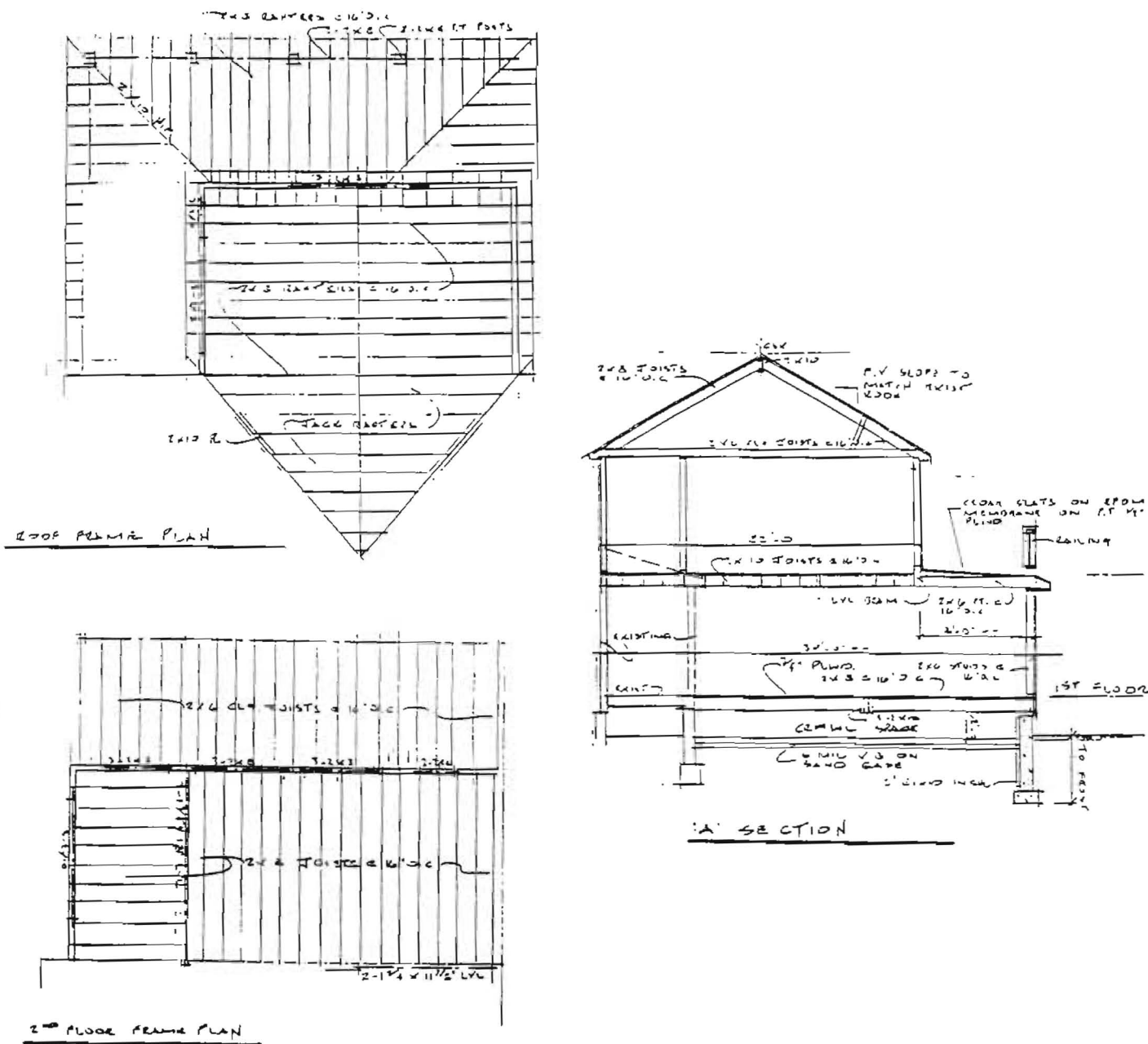


Figure 4. Typical Framing and Cross Section

These plans are all done by professionals, you can do your own plans for the purposes of residential construction, the plan does not have to be of this quality, but the level of detail and accuracy is important. When proposing an addition, similar plans are required, the same goes for a detached garage or an attached deck.

MORTGAGE LOAN INSPECTION PLAN

TO THE LENDING INSTITUTION AND ITS TITLE INSURER

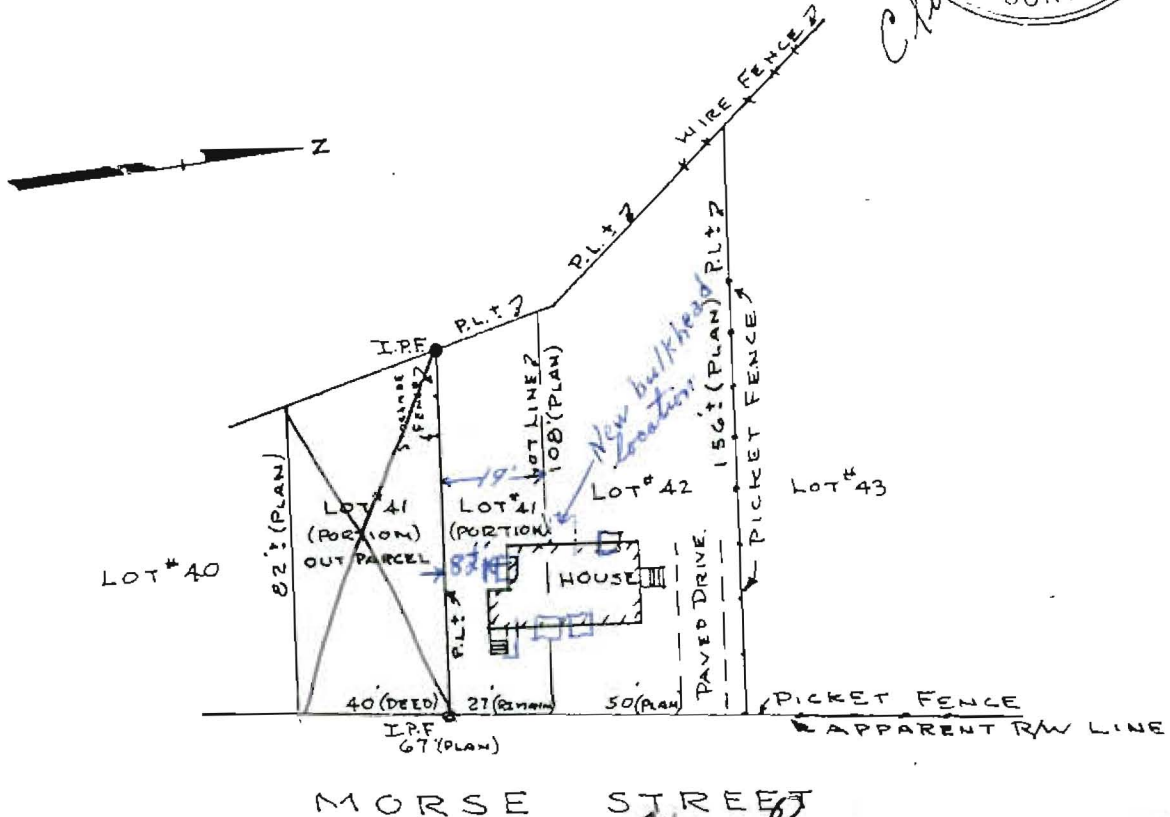
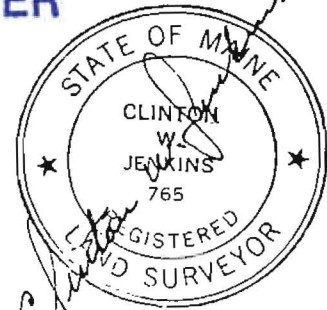
I HEREBY CERTIFY THAT THE LOCATION OF THE DWELLING SHOWN ON THIS PLAN DOES NOT CONFORM WITH THE LOCAL ZONING LAWS IN EFFECT AT THE TIME OF CONSTRUCTION. THE PROPERTY DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD ZONE.

THIS PLAN WAS NOT MADE FROM AN INSTRUMENT SURVEY. THE CERTIFICATIONS ARE FOR MORTGAGE PURPOSES ONLY. THIS PLAN APPLIES ONLY TO CONDITIONS EXISTING AS OF THE DATE SHOWN HEREON, AND DOES NOT SHOW ANY POSSIBLE CONFLICTS WITH ADJUTING DEEDS. THIS PLAN IS NOT FOR RECORDING.

THIS IS NOT A LAND BOUNDARY SURVEY.

DATE MARCH 11, 1987 PROJ. 87070
 /PLAN 25 PAGE 50
COUNTY CUMBERLAND SCALE 1" = 50'

BORROWER

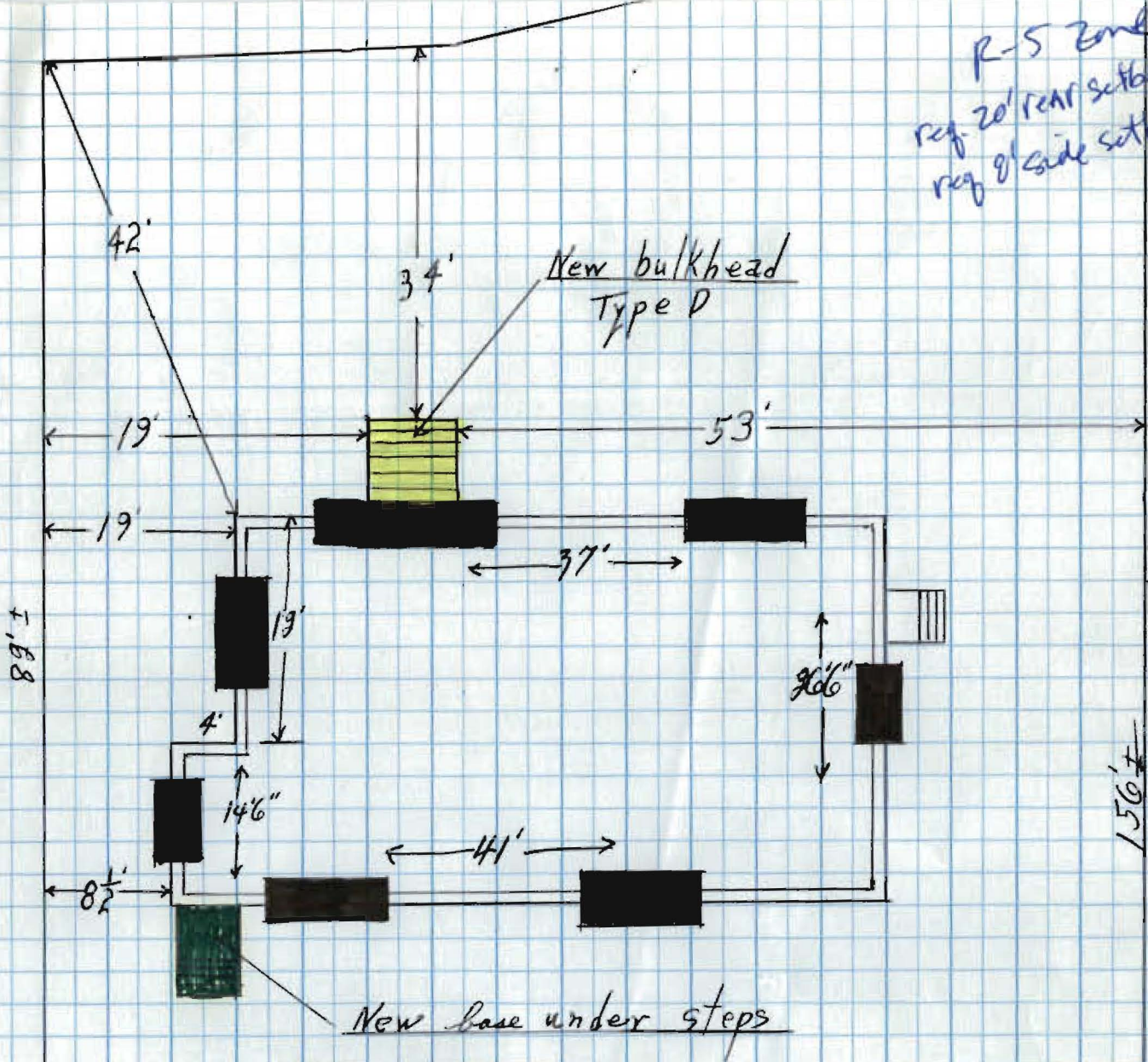


Handwritten: CBL 163 A-A-13

PROPERTY OF JOAN E. DERICE.
LOCATED AT #28 MORSE STREET, PORTLAND, MAINE.

PURCHASER - SHIRLEY C. AND KATHLEEN L. BARRY.

R-5 Zone
 req. 20' rear setback - 34' shown
 req. 9' side setback - 19' & 53' shown



New perimeter Bulkhead
 New concrete bases under footings
 New concrete base for front steps

Kathleen Barry
 28 Morse St.
 Portland, Me.
 04103

CBL 163A-A-13

Contractor
 James J. Murray
 457 Gorham Rd.
 Scarborough, Me.
 04074
 Tel. 877-3917

James G. Merry Building Movers

Kathleen Barry
28 Morse Street
Portland, Maine 04103
773-5429
Narty-Ho 799-9256 on Wo 856-4474

453 Gorham Road
Scarborough, Maine 04074
[207] 839-3213
We Also Own American Foundations, Inc.

Page 162 Reel Book 1/98

August 10, 1998

RE: CORRECT SINKING "BARRY HOME" & REPAIR DAMAGES IN PORTLAND.

JAMES G. MERRY, BUILDING MOVER, (James G. Merry, Pres.) & SUB-CONTRACTORS., will correct the damage caused by a 'sinking foundation' on the "BARRY HOME", a Building approximately 28'x 32', located at 28 Morse Street, Portland, Maine, under the authority of one Kathleen Barry of that address. LIFTING will done by JAMES G. MERRY, BUILDING MOVER, & the FOUNDATION WORK, by SUB-CONTRACTORS. Listed below are the prices for the LIFT, & LABOR & MATERIALS for the Project.

LIFTING the "BARRY HOME" \$ 2,000.00 *
FOUNDATION WORK:

1. CONCRETE & LABOR FOR FOOTINGS	\$ 2,280.00
2. CONCRETE & LABOR FOR NEWLY POURED, LEVEL FLOOR	\$ 1,265.00
3. CONCRETE & LABOR FOR "PARGING" TOP OF EXISTING FOUNDATION WALL	\$ 1,000.00
4. CONCRETE & LABOR FOR "PARGING" EXISTING FOUNDATION WALL CRACKS	\$ 200.00
5. CONCRETE, WINDOW, & LABOR FOR INSTALLING & PARGING NEW WINDOW	\$ 200.00
6. CONCRETE BLOCKS & LABOR FOR NEW BASE FOR EXISTING FRONT STEPS (TO FOOTING)..	\$ 600.00
7. LABOR FOR CUTTING OUT BULKHEAD SPACE IN EXISTING FOUNDATION WALL	\$ 300.00
8. SUPPLY & INSTALL NEW BULKHEAD (PRECAST STEPS & STEEL ENTRANCE (ROBERTS)) ...	\$ 1,063.00
9. REMOVE & DISPOSE OF BUSHES	\$ 200.00
10. (DIG-SAFE) PROTECTIVE 'SILT' FENCE	\$ 200.00
11. (DIG-SAFE) DIG & BACKFILL (MACHINE)	\$ 2,000.00

FOUNDATION WORK TOTAL: LABOR & MATERIALS, AS DESCRIBED \$ 9,308.00 *

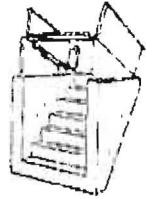
LIFT & FOUNDATION WORK, TOTAL FOR "BARRY HOME", AS DESCRIBED ABOVE \$ 11,308.00 *

* Payment Plan:

1. Down Payment of \$5,000.00, on signing of this Agreement.
2. Second Payment of \$ 2,000.00, when Bushes have been removed, Stockpile Fence has been moved by MOVER, Existing FRONT STEPS HAVE BEEN MOVED ASIDE, & THE "BARRY HOME" has been LIFTED to the desired height.
3. Third Payment of \$ 2,000.00, when the digging is done, new BULKHEAD SPACE has been cut, the FOOTINGS have been constructed, & the new PRECAST CONCRETE BULKHEAD (Stairs & Steel Entrance) has been INSTALLED by "ROBERTS COMPANY".
4. Fourth Payment of \$ 2,000.00, when all PARGING WORK on the FOUNDATION TOP & CRACKED WALLS is completed, the NEW WINDOW has been INSTALLED & PARGED IN (on the driveway side), a newly prepared CEMENT BLOCK BASE to the FOOTING BELOW has been constructed for the EXISTING FRONT STEPS, & the new POURED CONCRETE FLOOR is done.
6. Balance of \$ 308.00, (Plus any Extras added & completed) when the BACKFILLING has been completed, "BARRY HOME" has been positioned onto the CORRECTED FOUNDATION, THE EXISTING FRONT STEPS have been POSITIONED onto the newly prepared Base, & the PROTECTIVE SILT FENCE & MOVER'S EQUIPMENT have been removed.

** ANY EXTRAS ADDED (WOODEN BEAMS INSTALLED) BEYOND THIS AGREEMENT DESCRIPTION WILL BECOME AN EXTRA COST.
NOTE: OWNER MUST OBTAIN PERMIT, IF LAW REQUIRES, FROM CITY HALL, BEFORE WORK CAN START.

PermEntry
The Complete Easement Entrance



The PermEntry Company

Memorandum

DATE: September 16, 1998
TO: Kevin Carol - Code Enforcement Portland, Me
FROM: Rick Temli - PermEntry Field Coordinator
RE: Single Family Dwelling on Morse street
CC: George Roberts Company

*Exp. Sec 3.2
192
\$ Copy right date
at bottom of 181*

Mr. Carol,

The attached BOCA RESEARCH REPORT 92-2 is an active document authorized by BOCA for reference in 1998 and supersedes any changes to BOCA codes. With this in mind, the unit installed on Morse Street does meet BOCA requirements, as specified in the BOCA RESEARCH REPORT 92-2. This report has been annually certified, by the BILCO Company every year since its existence and continues to be valid today.

The PermEntry Unit has been installed on over 100,000 homes in the U.S. and Canada and provides the homeowner a means of egress in case of emergency. With an excellent track record and our RESEARCH REPORT, we hope this resolves any open or future concerns about the unique characteristics of the PermEntry basement entrance system.

If you have any questions or need further documentation, you can reach me at 1-800-326-6097



MEMBER



PERMENTRY BASEMENT ENTRANCE

THE BILCO COMPANY, PERMENTRY DIVISION
P.O. BOX 1203
NEW HAVEN, CT 06505

1.0 DESCRIPTION OF EVALUATION

The PermEntry basement entrance has been evaluated for use as an alternative to a ladder, and as a means of providing emergency escape as required by Section 809.4.

2.0 DESCRIPTION AND USE OF PRODUCT

2.1 DESCRIPTION

The PermEntry exterior basement entrance consists of two major components: The precast concrete steps and the steel door cover. The steps are manufactured to five different sets of dimensions by authorized PermEntry dealers, using forms supplied by the PermEntry division of The Bilco Company. All castings are nonreinforced concrete, with the concrete mixed in compliance with the requirements of ACI 318.1-89. Figure 1 shows a typical PermEntry casting. The walls of the casting taper from

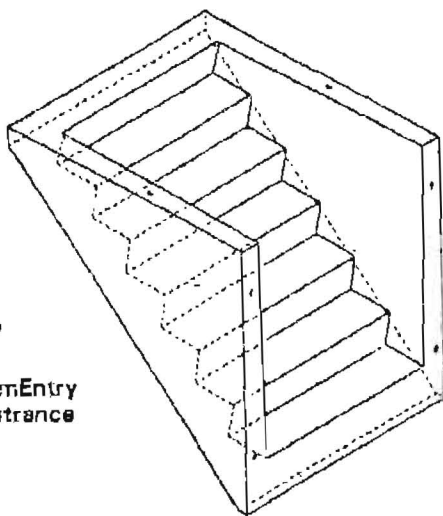


Figure 1*

The Bilco PermEntry
Basement Entrance

4 1/4-inch thickness at the top and front to 5 1/4-inch thickness at the bottom and back of the castings. The treads of all PermEntry units are 8 5/8-inches and the risers are 8 1/4-inches. Figure 2 shows the available types and their dimensions.

The PermEntry cover is a hinged double leaf steel assembly with overlapping flanges to prevent rain or snow from entering the stairwell. The doors latch automatically in the open position to prevent inadvertent closing and are equipped with a torsion/cam system to assist in their use. The covers are shipped in 6 parts for assembly in the field in accordance with manufacturer's instructions using 8 nuts and bolts, 4 hinge pins and 4 torsion rods furnished with the product. Doors are .100 inch thickness and sloping side pieces, header and sill are .090 inch thickness of hot rolled steel. A prime coat of red oxide is applied by flo-coat process and baked on at the factory.

2.1 SUMMARY OF THE MANUFACTURER'S INSTALLATION REQUIREMENTS

The PermEntry basement entrance is attached to 8-inch minimum thickness concrete or masonry block foundation walls on existing or new construction into which the required 40-inch wide opening is located. Lagstuds having a maximum allowable tension of 3975 lbs. and a maximum allowable shear of 2650 lbs. are inserted into the foundation wall and are used to anchor the stairway casting to the wall. Where block foundation walls are used, a vertical jack strut is installed beneath the stairway to provide support. The jack strut rests on a concrete pad of dimensions adequate to support the dead and live loads. A butyl strip sealant is applied to the casting where it will contact the foundation wall. Waterproofing mortar is placed between the stairway casting and the foundation wall. The double leaf door assembly is installed last.

The manufacturer shall provide detailed installation instructions to ensure the proper installation of the door and steps. The instructions shall include the necessary sequencing of operations and methods for a safe installation.

Please contact BOCA Evaluation Services, Inc. with any questions you may have regarding this report. Additionally, please contact us if you have any information on the performance of the product described herein which is contrary to this report. This report is subject to the limitations listed herein and to the specific product, data and test reports submitted by the applicants requesting this report. Independent tests were not performed by BOCA Evaluation Services, Inc., and BOCA Evaluation Services, Inc., specifically does not make any warranty, either expressed or implied, as to any findings or other matter in this report or as to any product covered by this report. Evaluation reports are not to be construed as representing aesthetic or any other attributes not specifically addressed nor as an endorsement or recommendation for the use of the subject of the report. This disclaimer includes, but is not limited to, merchantability.

3.0 CODE ANALYSIS OF SUBMITTED INFORMATION

The following data was submitted by the proponent for demonstration of compliance with the respective code sections listed above each item of information. The basis is The BOCA National Building Code/1993.

3.1 STRUCTURAL

CODE SECTION 107.7 Engineering details: This section states that the code official shall require that adequate details of the structural performance of the system be provided with the application for permit.

INFORMATION SUBMITTED:

3.1.1 A report prepared by Frank J. Zamecnik, Professional Engineer in the State of Connecticut, and dated November 12, 1990, has been submitted. The report addresses a structural analysis of the "Perm-Entry" Unit D precast concrete basement entrance. The objective of the analysis was to do the following:

- 3.1.1.1 Establish maximum live loads for the unit.
- 3.1.1.2 Determine the expected performance of the side wall when subjected to soil pressures.
- 3.1.1.3 Analyze the performance of the foundation connectors and threaded anchor studs.
- 3.1.1.4 Analyze the effect of the installation of the precast basement entrance on the foundation wall of the building.

The superimposed loads used for the analysis were the following:

- Density concrete = 145 lbs./ft.³
- Uniform live load over entire tread area = 100 lbs./ft.²
- Concentrated load at center of tread = 300 lbs.
- Soil pressure on walls = 50 psf/ft of depth

The analysis assumed that the concrete used for the precast unit had a design compressive strength of 3000 p.s.i. and the concrete used in the foundation wall had a design compressive strength of 2500 p.s.i. The analysis was performed twice using concrete basement wall thicknesses of 8-inches and 12-inches. The analysis assumed that no external support was provided under the tread or against the basement wall.

The report concluded by stating that the analysis of Unit D PermEntry basement entry represented the most critical model because its dimensions are larger than the other models, and therefore, all other PermEntry precast basement entries will provide at least the equivalent performance that Unit D does.

3.2 LADDERS

Because the PermEntry basement entry does not conform to the requirements for minimum tread and maximum riser dimensions, the unit does not meet the requirements in the building code for stairways. Therefore, the PermEntry unit is being evaluated as an alternative to a ladder and for access to mechanical equipment and for emergency escape and shall not be considered to be an element of a means of egress.

CODE SECTION 102.3 Matters not provided for: This code section requires the code official to determine the essential requirements for structural, fire or sanitary safety of a building element when those requirements are not specifically provided for by the code. The code contains no provisions which specifically address ladders or the installation of ladders. Therefore, it is appropriate to apply the requirements Occupational Safety and Health Administration (OSHA) requirements contained in 29 CFR Part 1910.27 to establish a basis for evaluating the PermEntry unit. OSHA requires that the ladder support a concentrated load of 200 lbs., positioned at a point that would cause maximum stress in the structural members. Other requirements of OSHA pertain to a maximum rung spacing of 12 inches and a minimum rung diameter of 0.75 inch, both of which the PermEntry unit complies with.

INFORMATION SUBMITTED:

3.2.1 See Part 2.0 for a description of the product and Part 3.1 for the report of a structural analysis performed on the PermEntry unit.

4.0 INSTRUCTION TO THE CODE OFFICIAL

The PermEntry basement entrance has been evaluated for conformance with the sections of the 1993 Edition of the BOCA National Codes as listed in the "Code Analysis of Submitted Information" section of this report. This report is limited to the applications and products as stated herein. This evaluation is based solely upon information provided to the BOCA Evaluation Services, Inc. by The Bilco Company, PermEntry Division and has not been independently verified. The Committee intends that this report be used as information for determining compliance with those sections, with the following limitations:

Limitations

4.1 This report is subject to annual certification. The failure of the applicant to comply with this requirement will result in the lapse of this report. Further use of or reference to this report is then no longer permitted and it is removed from the quarterly listing. To verify that this is a current report see the current BOCA Evaluation Services, Inc. Product Evaluation Quarterly.

- 4.2 The Bilco Company PermEntry basement entrance is an alternative to a ladder for access to mechanical equipment and for emergency escape and shall not be considered to be an element of a means of egress.
- 4.3 Structural calculations and supporting documentation that are signed and sealed by a professional engineer or architect shall be submitted to the code official. The documentation shall address the PermEntry foundation and connections to the building foundation wall, including the net effect on the performance of the foundation wall. The calculations shall also account for any possible effect on the system due to frost action.
- 4.4 All concrete work shall be done to conform with Chapter 19 of the BOCA National Building Code.
- 4.5 Maximum soil pressure on the casing walls shall be 50 psf.
- 4.6 The design of the foundation wall into which the PermEntry casing is installed as well as determining the adequacy of soil bearing capacity for each installation is outside the scope of this report.

5.0 INFORMATION REQUIRED ON PLANS AND SPECIFICATIONS

- 5.1 The language "See BOCA Evaluation Services, Inc. Research Report No. 92-2."
- 5.2 The manufacturer shall provide detailed installation instructions that include the necessary sequencing of operations and methods for a safe installation.
- 5.3 Specifications shall be provided by the architect or engineer that state details for the opening in the foundation wall, including any bracing or special considerations during and after construction.

6.0 IDENTIFICATION

All PermEntry basement entrance manufactured in accordance with this research report shall be marked at the plant with the identifying language, "See BOCA Evaluation Services, Inc. Research Report No. 92-2."

Reference to this research report is limited to the identification as described herein. Any other reference to this report or the BOCA logo is prohibited.

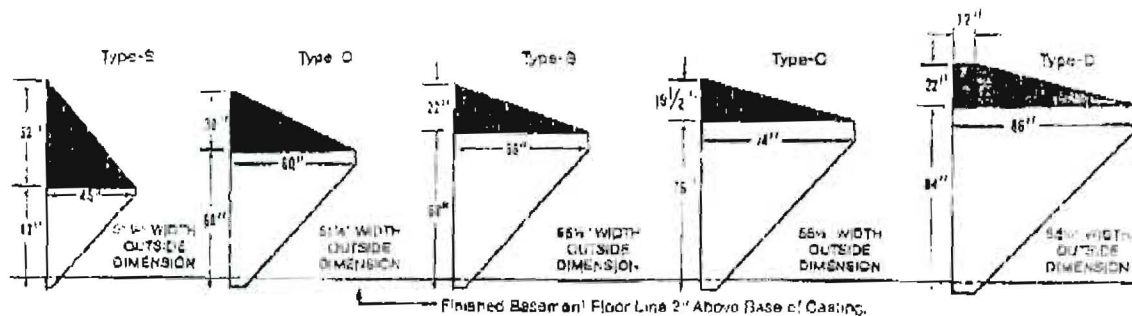


Figure 2*

Types of Bilco PermEntry Units

*THESE DRAWINGS ARE FOR ILLUSTRATION PURPOSES ONLY. THEY ARE NOT INTENDED FOR USE AS CONSTRUCTION DOCUMENTS FOR THE PURPOSE OF FABRICATION OR ERECTION.