Date: 03/14/17

167-169 WOODFORD STREET

PORTLAND, MAINE

Two Family Residence Code Review

167-196 Woodford Street
Portland, Maine

Project Description:
This project is the re-construction of an existing Two Family Residence which was destroyed by fire. The re-construction is based on the same footprint, area and volume of the original structure. The reconstruction includes replacement of the foundation and entire superstructure.

CODES: These plans are intended to comply with the following codes.
Maine Uniform Building and Energy Code
2009 International Residential Code
2009 International Energy Conservation Code
City of Portland, Maine Ordinances

CODE REVIEW: IRC2009

CH3
SECT 301 DESIGN CRITERIA
Design Wind speed = 100mph, therefore design per IRC
Design Snow, Pg= 60psf, therefore design per IRC
For additional structural design criteria, refer to Structural notes.

SECT 302 FIRE RESISTANT CONSTRUCTION
R302.1 Exterior Walls shall comply with Table R302.1
Left side of building is within 5ft. of property line.
Exterior wall shall be 1 hr. rated.
Underside of eave shall be 1 hr. rated
R302.3 TWO FAMILY DWELLINGS Dwelling Units shall be separated by wall/floor assemblies having a 1hr rating, Except a ½hr separation is permitted Where protected throughout by a sprinkler system installed in accordance with NFPA13. FOR THIS PROJECT WALL/FLOOR SEPARATIONS WILL BE DESIGNED AS 1HR RATED ASSEMBLIES.
R302.3.1 Where floor assemblies are required to be rated, the supporting construction shall have an equal or greater rating
R302.4 Penetrations in rated assemblies, Penetrations shall be protected by an approved penetration firestop system per ASTM E814 or UL 1479. Membrane penetrations shall comply with R302.4.1 and electrical boxes shall be installed per this section
R302.7 Under stair protection shall be provided by walls with min. ½" gyp
R302.9 Wall and ceiling finishes shall meet flame spread <200 and smoke index <450.
R302.10 Insulation materials including vapor barriers shall meet flame spread <25 and smoke index <450 except as otherwise provided in this section
R302.11 Fireblocking is required at floors and ceilings, top and bottom of stair runs, and openings at vents, pipes, ducts, cables and wires with materials approved in this code
R302.12 Draftstoping at floor/ceilings is not required for this project
R302.13 Recessed lights shall be installed per this section
R303 LIGHT VENTILAITION AND HEATING
R303.1 Habitable rooms shall have glazing >8 % of floor area, with 4% openable
R303.3 Bathrooms, min. glazing area of 3 sq. ft. with half openable
R303.6 Stairways shall have artificial illumination per this section
R303.8 Heating shall be provided per the requirements of this code

R304 MINIMUM ROOM AREA requirements have been met in these plans
R305 CEILING HEIGHT min. of 7ft has been met
R306 SANITATION requirements have been met
R307 TOILET, BATH AND SHOWER SPACES comply with this section
R308 GLAZING shall comply with the requirements of this section
R310 EMERGENCY ESCAPE is required from the basement for new construction
R311 MEANS OF EGRESS each unit in these plans has one egress in compliance with this section
R311.6 Hallways are > 36 in. wide
R311.7 Stairways, handrails, rise and run, nosings, headroom, etc are in compliance with this code refer to stairway sections and details within
R313 AUTOMATIC SPRINKLER SYSTEMS R313.2, new two family dwellings shall have an automatic sprinkler system complying with NFPA13D
R314 SMOKE ALARMS shall be provided in each sleeping room, outside each separate sleeping area in the immediate vicinity, and on each additional level including attic and basement, and shall be interconnect per this code
R315 CARBON MONOXIDE ALARMS shall be provided in the immediate vicinity outside sleeping areas

CHAPTER 6 WALL CONSTRUCTION
602.10.1 Braced Wall Panels
Mixed wall types are used
See plans on A1.1 for Braced Wall Designations

CHAPTER 11 ENERGY EFFICIENCY
N1101.2 Climate zone 6A
Windows, U= 0.35, SHGC = NR
Doors, U = 0.35
Glazed Fenestrations, U = 0.35, SHGC = NR
Attic, R= 49 (R30 if uncompressed over exterior walls)
Exterior walls, R=20
Basement, R= 30 at ceiling

SITE LOCATION

CODE REVIEW NFPA 101
Chapter 24 One and Two Family Dwellings
24.2 Means of Egress - One primary means of egress and one secondary means of escape is required from every sleeping room and every living area. This design meets this requirement
24.2.5 Stairs - min. width =36in,
24.2.6 Hallways - min. width 36in
24.2.7 Bulkheads - shall provide direct access to the basement, are exempt from requirements of 24.2.5.1
24.3.4.1 Smoke alarms shall be provided in each sleeping room, outside each separate sleeping area in the immediate vicinity, and on each additional level including attic and basement, and shall be interconnect per this code
24.3.5.2 Sprinkler system is required per NFPA 13D

RESIDENTIAL SPECIFICATIONS:

FLOOR SYSTEM:
Joists As Indicated
Bridging at Center
Subfloor As Indicated

EXTERIOR WALLS:
2x Studs as Indicated (16"oc)
Sheathing as Indicated
Vapor Barrier at Inside
Siding/Finish By Owner

INTERIOR WALLS:
2x4 Studs @ 16"oc U.N.O.
½" Gypboard as Indicated-U.N.O.

ROOF SYSTEM:
Joists as Indicated
Sheathing as Indicated (⅝")
15# Underlayment
Ice & Water Shield at Eaves/Valleys
.060 EPDM Adhered Rubber Membrane

INSULATION:
Exterior Walls R-21
Roof R-38
Basement Ceiling R-30

BEAMS/HEADERS:
As Indicated on Plan, or
(3)2x6 Max. 40" Span
(3)2x8s Max 80" Span
Min. 4" Bearing all Beams

INTERIOR FINISHES:
½" Gypboard or As Indicated At Walls/Ceilings
Flooring As Indicated
Paint/Stain As Indicated

Note: Items not Indicated Shall be Per Contract/

DRAWING LIST:

A0.0	COVER SHEET
A1.0	FLOOR PLANS
A1.1	ROOF PLAN
A2.0	ELEVATIONS
A3.0	BLDG SECTIONS
A3.1	STAIR SECTIONS
S0.1	NOTES
S1.0	FOUNDATION PLAN
S2.0	FRAMING PLANS
S3.0	FRAMING DETAILS

WALL TYPE LEGEND

A — 2X6 WOOD STUDS, 5/8" GWB ON EACH SIDE

B — 2X4 WOOD STUDS, 5/8" GWB ON EACH SIDE

C — 2X4 WOOD STUDS, (1) LAYERS OF 5/8" GWB ON EACH SIDE (1-HOUR RATED WALL; UL U305)

D — 2X6 WOOD STUDS, (2) LAYERS OF 5/8" GWB ON EACH SIDE (2-HOUR RATED WALL; UL U301)

E — 2X WOOD STUDS, (1) LAYERS OF 5/8" GWB ON EACH SIDE (1-HOUR RATED WALL; UL U305). At Exterior Walls Use ⅝" Dens-Glas at Exterior Face

WALL TYPE "A" | WALL TYPE "B" | WALL TYPE "C" | WALL TYPE "D"

1HR. Rated UL #305

PARTITION TYPES

WALL TYPE "E" (Exterior)

1HR. Rated UL #303

Note: This Design Based on Boise Cascade Fire Design and Installation Guide Requires Approval of the AHJ

RATED CEILING ASSEMBLY

TYPICAL AT FIRST FLOOR CEILING

FOR PERMIT
ISSUED
3/8/17

STATE OF MAINE
BRUCE W. MACLEOD
No. 5422
LICENSED
PROFESSIONAL ENGINEER

MacLeod
Structural Engineers, PA
90 Bridge Street Ste252 Westbrook, Maine 04038 207.839.0980

167-169 Woodford Street

Portland, Maine

TITLE: COVER SHEET

DATE: 1/27/17	DRAWN BY: BWM	DRAWING NUMBER:
SCALE: as noted	PROJ NO: 2017-010	A-0.0