DESIGN LOADS: International Building Code; IBC 2009 Edition, except as noted

Occupancy Category, Table 1604.5 — II — Standard

Roofs:

Ground Snow,	Pg		60 psf	(used for drifting calculations)
Sloped Roof Snow,	Ps		42 psf	
Snow Exposure Factor	Ce	Table 1608.3.1	1.0	
Snow importance Factor,	Is	Table 1604.5	1.0	
Snow Thermal Factor,	Ct	Table 1608.3.2	1.0	

Floors:

Retail Areas — 100 psf

Lateral:

Wind — IBC 1603.1.4, ASCE 7-05 — Analytic Method
3 Second Gust Velocity — 100 mph
Importance Factor — 1.0
Building Category and Internal Pressure Coefficient
IBC 1609.2, ASCE Figure 6-5 — Partially Enclosed GCpi=0.18
Exposure — C
Components and Cladding PressuresDP 50 uno.

GENERAL NOTE:

1. Structural Design for finished structure temporary & erection shoring as needed by General Contractor

FOUNDATION DESIGN:

1. Foundations are designed without an engineer's soil investigation. Foundation design criteria was assumed for purpose of foundation design and shall be confirmed by a soils engineer, at owner's expense, prior to construction. (This procedure may require revisions to foundation design, at additional expense to the owner, if soils engineer determines that such design criteria are inappropriate for this building site.)
2. Footings shall be placed on undisturbed natural soil or compacted fill tested and approved by soils engineer.
3. Allowable bearing pressure = 1,500 psf. Bear on soil approved by the Soils Engineer. –typ

REINFORCED CONCRETE:

We encourage the use of blast furnace slag.
Design is based on "Building Code Requirements for Reinforced Concrete"(ACI 318). Concrete work shall conform to "Standard Specifications for Structural Concrete" (ACI 3019).

Structural concrete shall have the following properties:

Intended Use	F'c, psi 28day	MaxW/C Ratio	Maximum Aggregate	Slump inches	Entrained Air Percent ±1.5%	Cement Type	Admixtures, Comments
footings	3,500	.6	¾" Stone	4	---	I/II	
walls	4,000	.45	¾" Stone	4	6%	I/II	
~~struct slab on deck~~	~~4,000~~	~~.5~~	~~¾" Stone~~	~~4~~	~~---~~	~~I/II~~	~~6x6 – W2.1xW2.1 W.F.F.~~
~~formed struct slab~~	~~4,000~~	~~.45~~	~~¾" Stone~~	~~4~~	~~3%~~	~~I/II~~	
exterior slab on grade	4,500	.45	¾" Stone	4	6%	I/II	
interior slabs on grade	3,500	.5	¾" Stone	4	---	I/II	Fibermesh
~~beams, columns~~	~~4,000~~	~~.45~~	~~¾" Stone~~	~~4~~	~~6%~~	~~I/II~~	

1. Detailing, fabrication, and placement of reinforcing steel shall be in accordance with the Manual of Standard Practice for Detailing Reinforced Concrete Structures (ACI 315).
2. Welded wire fabric shall conform to ASTM A185.
3. Reinforcing bars shall conform to ASTM A615, Grade 60, except ties or bars shown to be field-bent, which shall be Grade 40.
4. Epoxy coated reinforcing bars shall conform to ASTM 775.
5. Zinc coated (galvanized) reinforcing bars shall conform to ASTM 767.
6. Bars to be welded shall conform to ASTM 706.
7. At splices, lap bars 50 diameters unless noted otherwise.
8. At corners and intersections, make horizontal bars continuous or provide matching corner bars.
9. Around openings in walls and slabs, provide 2-#5, extending 2'-0 beyond edge of opening.
10. In continuous members, splice top bars at mid-span and splice bottom bars over supports.
11. Provide intermittent shear keys at all construction joints and elsewhere as shown on the drawings.
12. Except as noted on the drawings, concrete protection for reinforcement in cast-in-place concrete shall be as follows:
    a. Cast against and permanently exposed to earth — 3"
    b. Exposed to earth or weather:
       #6 through #18 bars — 2"
       #5 bar, W31 or D31 wire, and smaller — 1-1/2"
    c. Not exposed to weather or in contact with ground:
       Slabs, walls, joists: #11 bar and smaller — 3/4"
       Beams, columns:
       Primary reinforcement — 1-1/2"
       Stirrups, ties, spirals — 1-1/2"
13. Fibremesh admixture shall be 100% virgin polypropylene, fibrillated fibers as manufactured by Fibremesh Co. per ASTM C-1116 type 111 4.1.3 and ASTM C-1116 performance level one, 1.5 lbs per cubic yard of concrete.
14. Anchor bolts and rods for beam and column-bearing plates shall be placed with setting templates.
15. Permanent corrugated steel forms for concrete floor slabs shall be manufactured and erected according to the "Specifications and Code of Standard Practice" of the Steel Deck Institute.
16. All concrete work is subject to inspection by a qualified special inspector employed by the owner in accordance with IBC Section 1704.4.

STRUCTURAL WOOD FRAMING:

1. In-Grade Base Values have been used for design.
2. 2x framing shall be Spruce-Pine-Fir S4S No. 2 and better unless noted.
3. All lumber shall be 19% maximum moisture content, unless noted.
4. Solid timber beams and posts shall be Douglas Fir-Larch No. 1.
5. Studs shall be Spruce-Pine-Fir S4S No. 2 and better.
6. Top and bottom plates shall be Spruce-Pine-Fir S4S No. 2 and better.
7. Wood in contact with concrete shall be pressure-treated Spruce-Pine-Fir S4S No. 2 or Southern Yellow Pine.
8. Conventional light framing shall comply with IBC Section 2308.
9. Except as noted otherwise, minimum nailing shall be provided as specified in IBC Table 2304.9.1 "Fastening Schedule."
10. Plywood and oriented strand board (OSB) floor and roof sheathing shall be APA graded with panel identification index, thickness, and nailing as noted on the drawings.
11. Nail wall sheathing with 8d commons at 4" o.c. at panel edges, and 12" o.c. at intermediate framing except as noted.
12. SHEATH ALL EXTERIOR WALLS. SHEATH INTERIOR WALLS AS SHOWN ON THE DRAWINGS. BLOCK AND NAIL ALL EDGES BETWEEN STUDS.
13. Sheathing shall be continuous from bottom plate to top plate. Cut in "L" and "T" shapes around openings. Lap sheathing over rim joists min. 4" at all floors to tie upper and lower stud walls together.
14. Minimum height of sheathing panels shall be 16" to assure that plates are tied to studs.
15. Minimum 3-8d per stud and nail plates with "edge nail" spacing.
16. Sole plate at all perimeter walls and at designated shear walls shall be nailed as for braced panels with 3-16d x 3 1/2" long box nails (coated or deformed shank) per 16". 12d nails are not acceptable.
17. Provide solid blocking between joists under jamb studs of openings.
18. Pre-engineered, prefabricated trusses shall be designed for the fabricator by a Professional Engineer Registered in the State of construction, and shall comply with Code Requirements.
19. Truss to truss connections specified shall be by truss supplier, unless specifically noted on the drawings.
20. Lower chord of gable end trusses shall be anchored to wall plate with framing anchors at 4'-0 spacing and laterally braced to roof framing at 8'-0 spacing.
21. Truss supplier shall specify all floor and roof truss bracing and bridging.
22. All roof rafters, joists, trusses, and beams shall be anchored to supports with metal framing anchors.
23. Light gage framing anchors shown or required, shall be Simpson "Strong Tie" and installed with the number and type of nails recommended by the manufacturer to develop the rated capacity.
24. Note that heavy-duty hangers and skewed hangers may not be stocked locally and require special order from the factory.
25. All beams and trusses shall be braced against rotation at points of bearing.
26. Unless otherwise indicated, install two lengths of solid blocking x joist depth x 12 inches long in floor framing under column loads. Columns must have a continuous load path to foundation.
27. Lead holes for lag screws shall be drilled in accordance with Table 6.23 of the AITC Timber Construction Manual, 3rd edition.

Structural Engineer of record has provided a letter under separate cover to address comments by the local code enforcement officer received by the Architect on 10/21/2016 The Contractor is to review this letter for direction for repairs of existing back multi level wood framed deck.

02 CH-03

5 RIDGE BEAM DETAIL
SCALE: 3/4" = 1'-0"

4 STRUCTURAL - ROOF FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"

3 STRUCTURAL - 3RD FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"

2 STRUCTURAL - 2ND FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"

STRUCTURAL LEGEND:

4 = # OF STUDS IN STUD PACK
2T, 1K = # TRIMMER AND KING STUDS
A = COLUMN ABOVE (A), BELOW (B) OR CONTINUOUS (C)

1 STRUCTURAL - FOUNDATION & 1ST FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"

Reviewed for Code Compliance Inspection Division Approved as Noted
Date: 10/31/16

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PROJECT ARCHITECT:

CHANGES THIS ISSUE:

ID	DESCRIPTION
CH-03	Structural Engineer Comments

SEE NUMBER / CHANGE NUMBER A CH-03

ISSUE	DATE	DESCRIPTION
01	8/17/16	PERMIT-SET
02	10/26/16	CITY PERMIT COMMENTS

SUBMISSIONS:

STRUCTURAL ENGINEER: Structural Integrity 77 Oak Street Portland, ME 04101 207-774-4614 Aaron Jones, PE

DRAFTSPERSON: Patrick Boothe, AIA

DATE OF ISSUE: 10/26/16

PROJECT STATUS: PERMIT SET

PERMIT SET

15 Huntress Street Renovations
Marshall Home Pros
15 Huntress Street Portland ME 04102

STRUCTURAL FRAMING PLANS

S-1.1

/Volumes/Network Files/CJAB/PROJECTS/B COMMERCIAL STUDIO/1 Current Projects/15 Huntress Street/1 DESIGN/DRAWINGS/15 Huntress Street_Current.pln