STRUCTURAL GENERAL NOTES

584 Congress St. Portland, Maine SI Job #: 15-0151

Lateral:

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

Occupancy Category, Table 1604.5 Ground Snow, Pg 60 psf (used for drifting calculations) Flat Roof Snow, Pf Snow Exposure Factor, Ce Table 1608.3.1 0.9 Table 1604.5 1.0 Snow Importance Factor, Is

Table 1608.3.2 1.0 Snow Thermal Factor, Ct Residential Corridors above first floor 40 psf 125 psf Storage Areas 100 psf

Wind IBC 1603.1.4, ASCE 7-05 Analytic Method 3 Second Gust Velocity 100 mph Importance Factor Building Category and Internal Pressure Coefficient GCpi=0.18 IBC 1609.2, ASCE Figure 6-5 Enclosed

Exposure Components and Cladding Pressures DP 50 uno. Also see specs Seismic Use Group Importance Factor Spectral Response Coefficient Acceleration

One Second Table 1615.1.1 D Soils Site Class Design Category Table 1616.3 B Basic Force Resisting System, Table 1617.6.2 Design Base Shear 0.056 Seismic Response Coefficient Cs 6.5

Response Modification Coefficient R Equivalent Lateral Force Analysis Procedure

STRUCTURAL WOOD FRAMING:

In-Grade Base Values have been used for design.

2x framing shall be Spruce-Pine-Fir S4S No. 2 and better unless noted.

Short Period

All lumber shall be 19% maximum moisture content, unless noted. Solid timber beams and posts shall be Douglas Fir-Larch No. 1.

Studs shall be Spruce-Pine-Fir S4S No. 2 and better.

Top and bottom plates shall be Spruce-Pine-Fir S4S No. 2 and better. Wood in contact with concrete shall be pressure-treated Spruce-Pine-Fir S4S No. 2 or Southern Yellow Pine.

Conventional light framing shall comply with IBC Section 2308.

Except as noted otherwise, minimum nailing shall be provided as specified in IBC Table 2304.9.1 "Fastening Schedule."

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.

Nail wall sheathing with 8d commons at 4" o.c. at panel edges, and 12" o.c. at intermediate framing except as noted. SHEATH ALL EXTERIOR WALLS. SHEATH INTERIOR WALLS AS SHOWN ON THE DRAWINGS. BLOCK AND NAIL

0.217 g

0.362 g

 S_{D1} 0.175 g

 S_{DS}

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.

Minimum height of sheathing panels shall be 16" to assure that plates are tied to studs. Minimum 3-8d per stud and nail plates with "edge nail" spacing.

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.

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. Truss to truss connections specified shall be by truss supplier, unless specifically noted on the drawings.

Lower chord of gable end trusses shall be anchored to wall plate with framing anchors at 4'-0 spacing and laterally braced to roof

Truss supplier shall specify all floor and roof truss bracing and bridging.

All roof rafters, joists, trusses, and beams shall be anchored to supports with metal framing anchors. 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.

Note that heavy-duty hangers and skewed hangers may not be stocked locally and require special order from the factory. All beams and trusses shall be braced against rotation at points of bearing.

Provide solid blocking between joists under jamb studs of openings.

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. Lead holes for lag screws shall be drilled in accordance with Table 6.23 of the AITC Timber Construction Manual, 3rd edition.

SHOP DRAWINGS:

Construction Documents are copyrighted and shall not be copied for use as erection plans or shop details. Use of SI Inc.'s electronic files as base for shop drawings requires prior approval by SI Inc,

signed release of liability by subcontractor,

payment of an administration fee of \$100 per drawing sheet to SI Inc, and

deletion of SI Inc's name and Logo from all sheets so used.

The General Contractor and his subcontractors shall submit in writing any requests to modify the plans or specifications. All shop and erection drawings shall be checked and stamped by the General Contractor prior to submission for Engineer's review.

Unchecked submittals will be returned without review. Furnish one (1) reproducible and two (2) prints of shop and erection drawings to the Structural Engineer for review prior to

fabrication for reinforcing steel, structural steel, wood trusses

Submit in a timely manner to permit ten (10) working days for review. Shop drawings submitted for review do not constitute "in writing" unless specific suggested changes are clearly marked.

In any event, such changes by means of the shop drawing submittal process become the responsibility of the one initiating such change. FIELD VERIFICATION OF EXISTING CONDITIONS:

Contractor shall thoroughly inspect and survey existing structure to verify conditions that affect the work shown on the drawings. Contractor shall report any variations or discrepancies to the Architect before proceeding.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS: The structural drawings illustrate the completed structure with elements in their final positions, properly supported and braced.

These construction documents contain typical and representative details to assist the contractor. Details shown apply at all similar conditions unless otherwise indicated.

Although due diligence has been applied to make the drawings as complete as possible, not every detail is illustrated, nor is every

exceptional condition addressed.

All proprietary connections shall be installed in accordance with the manufacturers' recommendations. All work shall be accomplished in a workmanlike manner and in accordance with the applicable code and local ordinances.

The general contractor is responsible for coordination of all work, including layout and dimension verification, materials coordination,

shop drawing review, and the work of subcontractors. Any discrepancies or omissions discovered in the course of the work shall be immediately reported to the architect for resolution.

Continuation of work without notification of discrepancies relieves the architect and engineer from all consequences.

Unless otherwise specifically indicated, the drawings do not describe methods of construction.

The contractor, in the proper sequence, shall perform or supervise all work necessary to achieve the final completed structure, and to

protect the structure, workmen, and others during construction. Such work shall include, but not be limited to, bracing, shoring for construction equipment, shoring for excavation, formwork,

scaffolding, safety devices and programs of all kinds, support and bracing for cranes and other erection equipment. Do not backfill against basement or retaining walls until supporting slabs and floor framing are in place and securely anchored, unless

Temporary bracing shall remain in place until all floors, walls, roofs and any other supporting elements are in place.

The architect and engineer bear no responsibility for the above items, and observation visits to the site do not in any way include inspection of them.

STRUCTURAL STEEL

Structural steel shall be detailed, fabricated, and erected in accordance with latest AISC Specifications, and Code of Standard Practice

Structural steel wide flange beams shall conform to ASTM A992.

Except as noted, framed beam connections shall be bearing-type with 3/4" diameter, snug tight, A325-X bolts, detailed in conformance with Part 4, Tables II and III, for 0.6 times the allowable uniform loads tabulated in Part 2 of the AISC Manual, 9th Edition. Install bolts in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts".

All beams shall have full depth web stiffeners each side of webs above and below columns

Anchor rods shall conform to ASTM F1554, Grade 55), with weldability supplement S1.

Headed anchor studs (HAS) shall be attached to structural steel with equipment approved by the stud manufacturer according to the stud manufacturer's recommendations.

Welding shall be done by a certified welder in accordance with AISC and AWS specifications and recommendations using E70electrodes. Where not specifically noted, minimum weld shall be 3/16" fillet by length of contact edge.

All post-installed anchors shall have current National Evaluation Report, and shall be installed in accordance with the manufacturer's requirements.

Expansion anchors shall be approved "wedge" type unless specifically noted to be "sleeve" type.

Chemical anchors shall be approved epoxy or similar adhesive type and shall have current National Evaluation Report. Where base

material is not solid, approved screen tubes shall be used. Grout beneath column base and beam-bearing plates shall be

E-E End to End

minimum 28-day compressive strength of 7,500 psi, approved pre-bagged, non-metallic, non-gaseous, bleed free,

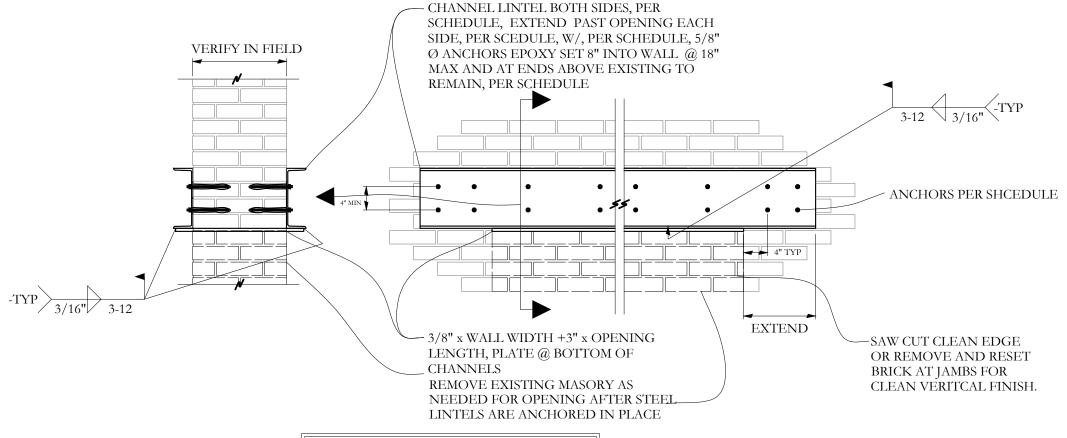
non-shrink, when tested in accordance with ASTM C1107

Grade B or C at a flow cone fluid consistency of 20 to 30 seconds

ABBREVIATIONS KEY Anchor Rod (Bolt) Each Face MACH Machine SC Slip Critical SCH Schedule MASY Masonry ADDL Additional Expansion Joint SDST Self Drilling Self Tapping MATL Material Adjustable ELEV Elevation AFF Above Finished Floor ELEC | Electric (Electrical) MAX Maximum SECT Section ENGR Engineer MB Machine bolt SF Square Feet Alternate AMT Amount MECH Mechanical SHT Sheet ANCH Anchor, Anchorage MEZZ Mezzanine SHTG Sheathing EQUIP Equipment APPROX Approximate MFR Manufacture, -er, -ed SIM Similar EQUIV Equivalent ARCH Architect, -ural Each Side MIN Minimum SLH Short Leg Horizontal SLV Short Leg Vertical ATR All Thread Rod Microllam EST Estimate E-W East to West (Trus-joist brand LVL) SOG Slab on Grade Average Bottom of Concrete Masonry Opening EXC Excavate Spaces EXP Expansion SPEC Specifications Brick Ledge Metal EXT Exterior SQ Square Block Near Face NIC Not In Contract BLKG Blocking FND Foundation ST Snug Tight STD Standard Far Face, Finished Floor NS Near Side Beam STIFF Stiffener Bottom North to South NTS Not to Scale Bearing OCJ OSHA Column Joist STRUCT Structure, -al Bottom of Wall Flush SUPT Support OD Outside Diameter Cubic Foot Floor Outside Face Square Yard Center of Gravity Face of Opposite Hand SYM Symmetrical T&B Top and Bottom OPNG Opening Cast in Place Full Penetration T&G Tongue and Groove OPP Opposite Construction Joint Far Side (Control Joint) OSB Oriented Strand Board TB Top of Beam Footing PAF Powder Actuated Fast'nt TC Top of Concrete Ceiling Gage (Gauge) GALV Galvanized TD Top of Deck PCF Pounds Per Cubic Foot THD Thread General Contractor Construction Manager (Management) GEN General PEN Penetration THK Thick, -ness Concrete Masonry Unit Glue laminated (Glulan PERP Perpendicular TJ Top of Joist GND Ground TL Total Load COL Column Property Line GR Grade PLF Pounds per Linear Foot TPG Topping COM Common COMB Combination PNL Panel GT Girder Truss TRANS Transverse CONC Concrete GYP BD Gypsum Board Panel Point TW Top of Wall HAS Headed Anchor Stud TYP Typical CONN Connection Prestressed PSF Pounds per Square Foot ULT Ultimate CONT | Continue (Continuous HORIZ Horizontal UNO Unless Noted Otherwin COORD Coordinate, -tion Height Pounds per Square Inch Inside Diameter Parallel Strand Lumber | VERT | Vertical Countersink (generic term) VIF Verify in Field CTR Center Inside Face WA Wedge Anchor Cubic Yard Interior (Intermediate) PT (1) Post Tensioned PT (2) Pressure Treated WP Work Point Deformed Anchor Bar Joist Bearing DET Detail PTN Partition WT Weight Joist PWD Plywood WWF Welded Wire Fabric DEV Develop DIAG Diagonal XS Extra Strong Kip (1,000 lbs.) QTY Quantity XSECT Cross-section Radius Dimension XXS Double Extra Strong RE Reference (refer to) Dead Load Live Load Long Leg Horizontal RECT Rectangle Down REINF | Reinforce, -ed, -ing Drilled Pier Long Leg Vertical Double Tee LOC REQ Required Location Remove REQMT Requirement DWG Drawing Laminated Strand Lumber (generic term) RET Retaining DWL Dowel RM Room Each ECC Eccentric RMO Rough Masonry Opening Laminated Veneer

RO Rough Open

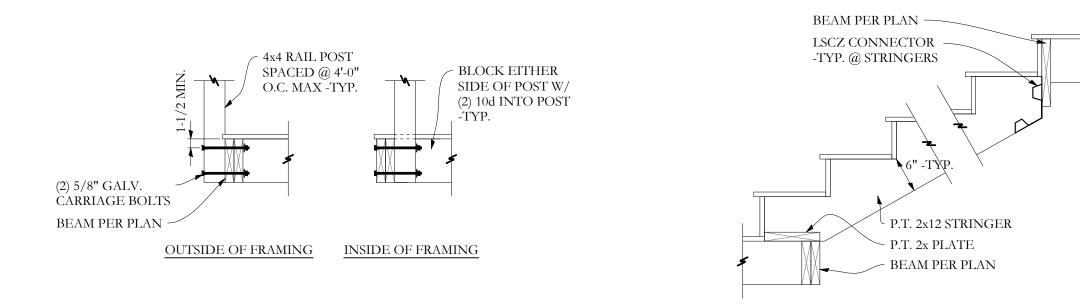
Lumber (generic term)



NOTE: AT FIRE RATED AREAS CONSULT WITH ARCHITECT FOR FIRE PROOFING ETC.

OPENING SIZE	LINTEL SIZE	JAMB ANCHORS	JAMB EX	XTENSION LENGTH	
LESS THAN 4'-0	C6 x 8.2	(2) 5 /8" x 18"	6"	5 / 8" x 8" @ 12"	
4'-0 TO 8'-0	C8 x 11.5	(2) 5 /8 " x 18"	6"	5 / 8" x 8" @ 18"	
6'-0 TO 12'-0	C10 x 15 3	(4) 5 /8 " x 18"	10"	5 / 8" x 8" @ 18"	

LINTEL INSTALLATION IN EXISTING BRICK BEARING WALL



TYPICAL HANDRAIL ATTACHMENT

TYPICAL STRINGER ATTACHMENT

Structural Drawing Index General Notes, Etc. S-1.0S-1.1 First Floor Framing Plan Second Floor Framing Plan S-1.2 Third Floor Framing Plan S-1.3 Fourth Floor / Low Roof Framing Plan S-1.4 S-1.5 Roof Framing Plan S-2.1 Details

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4 DATE DESCRIPTION 10/6/17 REVIEW DWG 10/23/17 PFRMIT SET

Portland, Maine

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GENERAL NOTES, ETC.

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As Noted