Reviewed for Code Compliance
Inspection Division
Portland, Maine
Date: 08/31/16

GENERAL STRUCTURAL NOTES

SI Job # 16-0109
183 Middle Street
Portland, Maine

DESIGN LIVE LOADS: 2003 IBC, U.O.N.

* Snow 60 psf, (Pg, used for drifting calcs, etc.)
* Wind 100 mph, exp B, 3 second gust
* Floor 50 psf

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-N bolts, detailed in conformance with Part 4, Tables II and III, for 0.6 times the allowable maximum uniform loads tabulated in Part 2 of the AISC Manual, 9th Edition unless loads are otherwise noted on plan. 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 E70-electrodes. Where not specifically noted, minimum weld shall be 3/16" fillet by length of contact edge.
All post-installed anchors shall have current ICC 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 ICC Evaluation Report. Where base material is not solid, approved screen tubes shall be used.
Grout beneath column base and beam-bearing plates shall be
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

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.
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 shop drawings to the Structural Engineer for review prior to fabrication for:
* Concrete reinforcing steel
* Concrete masonry & reinforcing steel
* Structural steel / AESS steel

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

WOOD FRAMING:
* Dimension Lumber is designed and shall be supplied using BASE VALUES Design Criteria.
* SPF #2 and better (Maximum Moisture Content 19%) U.O.N.

Plates: Sill plates: Pressure Treated SPF or Southern Pine:
"Pressure treated lumber" shall be framing material of the specified species which has been pressure treated with a decay and insect resistant solution, meeting all current standards for wood in contact with concrete or earth.
Sill plates in contact with masonry or concrete foundations, footings or slabs may be treated Timber Strand LSL (zinc borate treatment). Sodium borate treatment may also be acceptable for sill plate applications when protected from weather.
Acceptable treatment mediums for wood in contact with earth or in exterior applications include ACQ-C and ACQ-D (Alkaline Copper Quaternary) and copper azole (CBA-A and CBA-B).
DO NOT USE WOODS WHICH HAVE BEEN TREATED WITH AMMONIA BASED CARRIERS.
All connectors shall meet the recommendations of the pressure treated wood manufacturer, but shall be not less than Hot Dipped Galvanized meeting requirements of ASTM A653, such as Simpson ZMAX. (G185). All screws, nails and bolts shall match hangers and other connectors, and shall meet ASTM A123 for individual connectors, and ASTM A153 for fasteners.
For durability, it is our recommendation that connectors used in exposed conditions with treated lumber be stainless steel.
Do not mix galvanized and stainless products.
Do not allow aluminum to contact treated wood.

Top and Bottom Plates: SPF No 2 and better
SPF U.O.N: 2 x 4 and 2 x 6 to 8'-0: stud grade
2 x 4 over 8'-0: standard and better
2x 6 over 8'-0: No. 2 and better

* Laminated Veneer Lumber (LVL): Manufactured 1 3/4" wide Microllams (ML) by Ilevel/Trus Joist or equivalent. Fb=2,600 psi, E=1,900,000 psi, Fv=285 psi, depth noted on plans.
* All plywood and oriented strand board (OSB) sheathing shall be engineered grades with APA grade stamp indicating appropriate maximum spacing of supports.
  Floor sheathing: nominal 3/4", APA Sturd-I-Floor "24" tongue & groove glued and nailed.
  Wall sheathing: 7/16" OSB
  Roof sheathing: 19/32" OSB
* Nail wall sheathing with 10d commons at 4" o.c. at panel edges, and 12" o.c. intermediate framing U.N.O. BLOCK AND NAIL ALL EDGES BETWEEN STUDS. 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. Use 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.
  SHEATH ALL EXTERIOR WALLS.
* Minimum nailing shall comply with IBC Table 2304.9.1 except where more or larger nailing shown on drawings.
* All roof rafters, joists, beams shall be anchored to supports with metal framing anchors.
* Double joists under partitions where joists are parallel to partitions.
* Provide continuous wall studs each side of wall openings equal to one half or greater of number of studs interrupted by openings.
* All wall studs shall be continuous from floor to floor or from floor to roof.
* Cross bridge all dimenston lumber roof and floor joists at midspan and provide solid blocking or rim joists at all joist supports and joist ends.
* Metal connectors: Simpson Strong Tie unless otherwise noted, installed with number and type of nails to achieve maximum rated capacity. Note that heavy duty and skewed hangers may require special order.
* All beams shall be braced against rotation at points of bearing.
* Drypack grout all beam pockets full after beams are set.
* 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 bolts shall be 60% to 70% of lag shank diameter in compliance with AITC criteria.

ABBREVIATIONS KEY

AB	Anchor Rod (Bolt)	EF	Each Face	MACH	Machine	SC	Slip Critical
ADDL	Additional	EJ	Expansion Joint	MASY	Masonry	SCH	Schedule
ADJ	Adjustable	ELEV	Elevation	MATL	Material	SDST	Self Drilling Self Tapping
AFF	Above Finished Floor	ELEC	Electric (Electrical)	MAX	Maximum	SECT	Section
ALT	Alternate	ENGR	Engineer	MB	Machine bolt	SF	Square Feet
AMT	Amount	EQ	Equal	MECH	Mechanical	SHT	Sheet
ANCH	Anchor, Anchorage	EQUIP	Equipment	MEZZ	Mezzanine	SHTG	Sheathing
APPROX	Approximate	EQUIV	Equivalent	MFR	Manufacture, -er, -ed	SIM	Similar
ARCH	Architect, -ural	ES	Each Side	MIN	Minimum	SLH	Short Leg Horizontal
ATR	All Thread Rod	EST	Estimate	ML	Microllam (Trus-joist brand LVL)	SLV	Short Leg Vertical
AVG	Average	E-W	East to West			SOG	Slab on Grade
BC	Bottom of Concrete	EXC	Excavate	MO	Masonry Opening	SP	Spaces
BL	Brick Ledge	EXP	Expansion	MTL	Metal	SPEC	Specifications
BLK	Block	EXT	Exterior	NF	Near Face	SQ	Square
BLKG	Blocking	FND	Foundation	NIC	Not In Contract	ST	Snug Tight
BM	Beam	FF	Far Face, Finished Floor	NS	Near Side	STD	Standard
BOT	Bottom	F-F	Face to Face	N-S	North to South	STIFF	Stiffener
BRG	Bearing	FIG	Figure	NTS	Not to Scale	STL	Steel
BW	Bottom of Wall	FL	Flush	OCJ	OSHA Column Joist	STRUCT	Structure, -al
CB	Counterbore	FLG	Flange	OD	Outside Diameter	SUPT	Support
CF	Cubic Foot	FLR	Floor	OF	Outside Face	SY	Square Yard
CG	Center of Gravity	FO	Face of	OH	Opposite Hand	SYM	Symmetrical
CIP	Cast in Place	FP	Full Penetration	OPNG	Opening	T&B	Top and Bottom
CJ	Construction Joint (Control Joint)	FS	Far Side	OPP	Opposite	T&G	Tongue and Groove
		FTG	Footing	OSB	Oriented Strand Board	TB	Top of Beam
CLG	Ceiling	GA	Gage (Gauge)	PAF	Powder Actuated Fast'nr	TC	Top of Concrete
CLR	Clear	GALV	Galvanized	PC	Precast	TD	Top of Deck
CM	Construction Manager (Management)	GC	General Contractor	PCF	Pounds Per Cubic Foot	THD	Thread
		GEN	General	PEN	Penetration	THK	Thick, -ness
CMU	Concrete Masonry Unit	GL	Glue laminated (Glulam)	PERP	Perpendicular	TJ	Top of Joist
COL	Column	GND	Ground	PL	Property Line	TL	Total Load
COM	Common	GR	Grade	PLF	Pounds per Linear Foot	TPG	Topping
COMB	Combination	GT	Girder Truss	PNL	Panel	TRANS	Transverse
CONC	Concrete	GYP BD	Gypsum Board	PP	Panel Point	TW	Top of Wall
CONN	Connection	HAS	Headed Anchor Stud	PS	Prestressed	TYP	Typical
CONT	Continue (Continuous)	HORIZ	Horizontal	PSF	Pounds per Square Foot	ULT	Ultimate
COORD	Coordinate, -tion	HT	Height	PSI	Pounds per Square Inch	UNO	Unless Noted Otherwise
CS	Countersink	ID	Inside Diameter	PSL	Parallel Strand Lumber (generic term)	VERT	Vertical
CTR	Center	IF	Inside Face			VIF	Verify in Field
CY	Cubic Yard	INT	Interior (Intermediate)	PT (1)	Post Tensioned	VWA	Verify with Architect
DAB	Deformed Anchor Bar	JB	Joist Bearing	PT (2)	Pressure Treated	WA	Wedge Anchor
DET	Detail	JST	Joist	PTN	Partition	WP	Work Point
DEV	Develop	JT	Joint	PWD	Plywood	WT	Weight
DIAG	Diagonal	K	Kip (1,000 lbs.)	QTY	Quantity	WWF	Welded Wire Fabric
DIM	Dimension	LD	Load	R	Radius	XS	Extra Strong
DL	Dead Load	LL	Live Load	RE	Reference (refer to)	XSECT	Cross-section
DN	Down	LLH	Long Leg Horizontal	RECT	Rectangle	XXS	Double Extra Strong
DP	Drilled Pier	LLV	Long Leg Vertical	REINF	Reinforce, -ed, -ing	(E)	Existing
DT	Double Tee	LOC	Location	REQ	Required	(N)	New
DWG	Drawing	LSL	Laminated Strand Lumber (generic term)	REQMT	Requirement	(R)	Remove
DWL	Dowel			RET	Retaining		
EA	Each	LT	Light	RM	Room		
ECC	Eccentric	LVL	Laminated Veneer Lumber (generic term)	RMO	Rough Masonry Opening		
E-E	End to End			RO	Rough Opening		

FRAMING PLAN SYMBOLS KEY

▫	WOOD POST
○	STEEL COLUMN
(X)	NUMBER OF WOOD STUDS IN POST BELOW
A	COLUMN ABOVE THIS LEVEL
C	COLUMN CONTINUOUS THROUGH THIS LEVEL
	JOIST BEARING
	CONTINUOUS JOIST WITH INTERMEDIATE BEARING
	FLUSH FRAMED JOIST BEARING WITH HANGER
	WOOD STUD BEARING WALL BELOW
"X"T	NUMBER OF TRIM STUDS UNDER HEADER
"X"K	NUMBER OF KING STUDS ADJACENT TO HEADER

Structural Drawing Index

S1.0	General Notes, Etc.
S1.1	Foundation Plan
S2.1	Sections / Details

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BUILD WITH CONFIDENCE

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Project:
HOFFMAN OFFICE
183 Middle Street
Portland, Maine

Drawing: GENERAL STRUCTURAL NOTES
Scale:
Drawn by: MKL/WMc CHECKED: ACJ
Date: June 27, 2016
Revised:

S1.0