STRUCTURAL GENERAL NOTES

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

Occupancy Category, Table 1604.5 — II Standard

Floors:
- Residential — Attic/Sleeping

Snow:
- Ground Snow Load

Wind:
- Wind Velocity

FOUNDATION:

* Foundations are designed without an engineer's soil investigation. Foundation design criteria was assumed for purposes 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.)
* Footings shall be placed on undisturbed natural soil or compacted fill tested and approved by soils engineer.
* Maximum design soil pressure: 1,500 psf

STRUCTURAL WOOD FRAMING:

2x framing shall be Spruce-Pine-Fir S4S No. 2 and better unless noted.
All lumber shall be 19% maximum moisture content, unless noted.
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."
Nail wall sheathing with 8d commons at 6" o.c. at panel edges, and 12" o.c. at intermediate framing except as noted.
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.
Provide solid blocking between joists under jamb studs of openings.
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 framing at 8'-0 spacing.
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" or equal Code approved connectors 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.
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.

CONCRETE AND REINFORCEMENT:

* Concrete shall conform to applicable provisions of ACI-301 and 318.
* Minimum 28 day compressive strength (F'c) as follows:

Footings :	3,000	psi
Walls:	3,500	psi w/ 6% air entrainment
Interior Slabs:	4,000	psi w/ fibermesh
Exterior Slabs:	4,000	psi w/ fibermesh and 6% air entrainment

* Cement Type: I/II
* Deformed reinforcement: ASTM A615 grade 60.
* Fibermesh: 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 lb. per cubic yard.
* Welded Wire Fabric (WWF): ASTM A185. See also plan.
* Typical minimum foundation reinforcing: 2 #5 top and bottom,(except as noted) continuous at corners and steps.
* Reinforcement shall be fabricated and placed per ACI Manual of Standard Practice (ACI-315).
* At all splices, lap bars 50 diameters unless noted otherwise.
* Minimum 2 #5 around all four sides of all openings, extend min. 2' 0 beyond openings.
* Concrete cover over reinforcing: 1 1/2" for concrete placed against forms; 2" if exposed to weather; 3" for concrete placed against earth. See also drawings.
* In continuous members, splice top bars at mid span and bottom bars over supports.
* Keep reinforcement clean and free of dirt, oil, scale. Oil forms prior to placing reinforcement.

STRUCTURAL STEEL:

* Structural WF Beams.:	ASTM A992
* Angles, misc:	ASTM A36
* Anchor Bolts:	(HDG) ASTM A307 or A36 or F1554 gr. 36
* Standard pipe columns:	ASTM A 53, Grade B.
* HSS Columns:	ASTM A500, Grade B, 46 ksi
* Connector bolts:	ASTM A307

* Expansion Anchors shall be NER approved, installed in accordance with manufacturers specifications.
  In concrete: Wedge Type
  In solid masonry: Sleeve Type
* Non shrink grout beneath column base and beam bearing plates shall be non metallic with minimum compressive strength 5000psi.
* All structural steel shall be fabricated and erected per the current edition of AISC Steel Construction Manual.
* Welding by qualified welders. E70XX electrodes. 3/16" fillet welds, unless noted otherwise.
* Except as noted, framed beam connections shall be detailed to develop 0.6 x Allowable Uniform Load values tabulated in the 9th Edition AISC Manual, Pp. 2 27 and following.
* All beams shall have full depth fitted web stiffeners each side of webs above and below columns.
* Attach wood nailer plates to beams with 1/2" diameter machine or carriage bolts at maximum 32" o.c., or 3/8" diameter bolts at 32" with glued contact face, or 5/32" diameter powder actuated drive pins at 24" o.c., U.O.N.
* All steel beams exposed to weather shall be HDG typ.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

* The structural drawings illustrate the completed structure with all elements in their final positions, properly supported and braced. The contractor, in the proper sequence, shall provide proper shoring and bracing as may be required to achieve the final completed structure.
* These plans have been engineered for construction at one specific building site. Plans shall not be used for construction at any other building site. Contact engineer for review.
* Observations of foundation reinforcing or framing required by the owner, lender, insurer, building department or any other party will be accomplished at the owner's expense.
* All slabs on grade shall be separated from adjacent structural and finish elements to allow free movement of the slab, unless specifically shown and noted otherwise.
* All existing conditions shall be verified by the contractor. All discrepancies shall be brought to the attention of the architect/engineer for review.

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BUILD WITH CONFIDENCE

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PROJECT:

Date Issued:

Project Number:

Drawn By:

FLASHING AT DOOR OPENING:
PROVIDE SHEET METAL PAN FLASHING AT DOOR TO DECK PAN TO HAVE BACK DAM, CORNERS SEALED OR SOLDERED, END DAMS AT EACH DOOR JAMB AND LIP AT EXTERIOR SHEATHING

1 DECK DETAIL
Scale: 1 1/2" = 1'-0"

*NOTE: BASEMENT BEAM & POST BEARING STRUCTURE SHOWN EACH LEVEL--CONTRACTOR TO CONFIRM ALIGNMENT OF NEW BEAM'S BEARING ON POST/BEAM BELOW AS ASSUMED CONTACT STRUCTURAL ENGINEER IF FIELD CONDITIONS DIFFER FROM DRAWINGS

D THIRD FLOOR PLAN
Scale: 1/8" = 1'-0"

C SECOND FLOOR PLAN
Scale: 1/8" = 1'-0"

B FIRST FLOOR PLAN
Scale: 1/8" = 1'-0"

A BASEMENT PLAN
Scale: 1/8" = 1'-0"

0 4 8 12 16 FT

PERMIT SET

RESIDENTIAL DESIGN STUDIO

LICENSED ARCHITECT CAROL A. MORRISSETTE No. 3769 STATE OF MAINE

Structural Integrity Consulting Engineers, Inc.

Design Firm: RESIDENTIAL DESIGN STUDIO, LLC, Carol A. Morrissette, 21 Chestnut Street, Suite 506, Portland, Maine 04101, T 207.699.4184 C 207.671.7965	Project Title: COOPER RESIDENCE, 81 MORNING STREET, PORTLAND, MAINE	Sheet Status: PERMIT SET	
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Reviewed for Code Compliance
Approved as Noted
Approved with Conditions
Date:_____