1 S2 INTERIOR COLUMN FOOTING
Scale: 1/2" = 1'-0"

2 S2 JOISTS @ EXIST. FDN. WALL
Scale: 1/2" = 1'-0"

3 S2 JOISTS PARALLEL @ EXIST. FDN. WALL
Scale: 1/2" = 1'-0"

4 S2 BEAM @ EXIST. FDN. WALL
Scale: 1/2" = 1'-0"

5 S2 BEAM @ EXIST. FDN. WALL
Scale: 1/2" = 1'-0"

STRUCTURAL NOTES:

CODE: Comply with the 2012 International Residuntal Building Code (IRBC).

DESIGN LOADS:
Dead Loads: Roof = 16.0 psf., Floors = 12.0 psf.
Live Loads: Roof = 45.0 psf (Plus Drift), 1st Floor = 100.0 psf, 2nd, 3rd & 4th Floors = 40.0 psf.
Wind Load: Building = 31.0 psf

FOUNDATIONS:
1. Bear footings on firm, undisturbed dense native soil at 4"-6" minimum below lowest adjacent finish or natural grade, whichever is lower.
2. Place foundation concrete only on clean, firm, dry bearing material.
3. Engineer shall be notified if stone ledge or marine clay is found during excavation.
4. Allowable Bearing Capacity = 2,000 psf (Code Max.)

CONCRETE:
1. Concrete regular weight (144 pcf) with Type II cement per ASTM C150, aggregate per ASTM C33, and potable water. No fly-ash permitted in floor slab. Aggregate size = 1-1/2" maximum for footings and slab. Minimum 28-day compressive strength = 3000 psi for foundations and slab on grade and 4,000 psi for exterior slabs an sidewalks.
2. Wet cure concrete for 5 days or with a curing compound approved by the Engineer.
3. Saw cuts for floor slab control joints shall be made as soon as the slab can support the weight of the saw, but no more then 12 hours after placing concrete.
4. Provide isolation joints using 2" thick formed pre-molded joint filler where slab on grade abuts all vertica surfaces.
5. Submit foundation, interior slab and exterior slab concrete mix designs for engineers review.
6. Non shrink grout shall be rammed in tight to maximum density attainable with a minimum 28 day strength o 5.000 psi.

NON-SHRINK GROUT:
1. Provide L & M non-shrink flowable structural grout (Duragrout) or approved equal.
2. Grout shall meet the requirements of ASTM C-1107 with minimum 28 day compressive strength = 9,000 psi.
3. Placement shall be in accordance with manufacturer recommendations.

REINFORCING:
1. ASTM A 615-S1, Grade 60 except as follows:
   a. #2 and #3 bars ASTM A615-S1: Grade 40.
   b. Welded Plain Wire Fabric: ASTM A 185.
   c. Field Bent and/or Welded Bars: A706.
2. Reinforcing bars deformed except #2 bars and welded plain wire fabric.
3. Concrete coverage for reinforcing bars (to face of bar including ties) except as shown or noted:
   a. Unformed concrete in contact with earth: 3"
   b. Formed concrete in contact with earth: 2"
4. Lap splices in concrete: 42 bar diameters.
   a. Welded wire fabric splices: Mesh spacing + 2".
5. Provide bent corner reinforcing to match and lap with horizontal reinforcing at corners and intersections of walls, and footings per AC.I. Detailing Manual (ACI 315).
6. Dowel all vertical reinforcing to footings.

STEEL:
1. Rolled sections and plates: ASTM A-36, Fy = 36 ksi.
2. Steel Pipe Column: (not lally columns) ASTM A-36, Fy = 36 ksi.
3. Bolts and plain anchors: ASTM A 307.

WOOD:
1. General:
   a. Each piece of lumber shall be "S-DRY" and bear the grade stamp of a grading rules agency approved by the American Lumber Standards Committee.
   b. Double up studs at jambs and under beams.
   c. Do not notch or drill joists, beams or load bearing studs without approval.
2. Connections:
   a. Nail roof plywood with 8d common at 6" o.c. at all edges and boundary members and 10"o.c. at intermediate supports.
   b. Nail wall plywood with 10d common nails at 6" o.c. at all edges and boundary members and 12" o.c. at intermediate supports.
3. Structural SawnLumber:
   a. 2 x 6 thru 2 x 14 joists: Spruce Pine Fir No. 1 with Fb (repetitive) = 1200 p.s.i.
   b. Studs: Spruce Pine Fir No. 1 with Fb (repetitive) = 1200 p.s.i.
4. Laminated Veneer Lumber (LVL): Fb = 2900 psi, Fv = 285 psi, E = 2,000 ksi.

SUPPLEMENTARY NOTES:
1. Verify all dimensions and conditions with architectural drawings prior to starting work. Notify the Engineer of any discrepancies or inconsistencies.
2. Provide all necessary temporary bracing, shoring, guying or other means to avoid excessive stresses and to hold structural elements in place during construction.

7 S3 FLOOR JOIST @ BRG. WALL
Scale: ¾" = 1'-0"

8 S3 FLOOR JOIST @ NON-BRG. WALL
Scale: ¾" = 1'-0"

9 S3 JOIST to WOOD BEAM CONN.
Scale: ¾" = 1'-0"

10 S3 WOOD BM. to WOOD POST CONN.
Scale: ¾" = 1'-0"

11 S3 WOOD BM. to WOOD POST CONN.
Scale: ¾" = 1'-0"

12 S3 POST to WOOD BEAM CONN.
Scale: ¾" = 1'-0"

13 S3 STL. BEAM to COL. CONN.
Scale: ¾" = 1'-0"

14 S3 STL. BEAM to COL. CONN.
Scale: ¾" = 1'-0"

15 S3 ROOF FRAMING CONN.
Scale: ¾" = 1'-0"

ENGINEERING DESIGN PROFES
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P.O. BOX 575, FREEPORT, MAINE 04032 • (20

EDP

Date: 02/2/16

Building Renovations at
223 Cumberland Avenue, Portland, Me.

PROJECT:

DRAWING:

STRUCTURAL NOTES & MISC. DETAILS

STATE OF MAINE
LARRY A. WICHROSKI No. 5059
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	Larry A. Wichroski, P.E.
DRAWN BY:	LAW
JOB #:	02915
DATE:	05-26-2015

REVISIONS

1	10-28-2015
2	01-03-2016

SHEET:

S1
of 4