Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 03/25/16

## NOTES:

tes on the drawings are not intended to replace
ations. in addition to general notes. See specifications
uirements

al drawings shall be used in conjunction with job
ations and architectural, mechanical, electrical, plumbing, and site drawings. Consult, openings, chases, inserts, reglets, sleeves, depressions, and other details not shown on structural drawings.

3. All dimensions and conditions must be verified in the field. Any discrepancies shall be brought to the attention of the engineer before proceeding with the affected part of the work.
4. Do not scale plans.
5. Sections and details shown on any structural drawings shall be considered typical for similar conditions.
6. All propietary products shall be installed in accordance with the manufacturers written instructions.
7. The structure is designed to be self supporting and stable after the erection is complete. It is the contractor's sole responsibility to determine erection procedures and sequencing to ensure the safety of the building and its components during erection. This includes the addition of necessary shoring, sheeting temporary bracing, guys or tiedowns. Such material shall remain the property of the contractor after completion of the project.
8. All applicable federal, state, and municipal regulations shall be followed, including the federal department of labor occupational safety and health act.

## DESIGN LOADS:

1. Building code: IBC (2009) International Building Code.
2. Design Live Loads: (Ground Snow load = 50 psf)
   Roof ..... 40 psf + drift as applicable
   Office ..... 50 psf (+20 psf partition)
   Common areas and corridors. 100 psf
   Corridors above 1st floor..... 80 psf
   Stairs & exit ways ..... 100 psf
   Storage areas ..... 125 psf
3. Seismic Design per IBC 2009.

## FOUNDATION NOTES:

1. Foundations have been designed with a presumptive soil bearing capacity of 2000 psf to be verified by the general contractor in the field.
2. Interior spread footings and exterior strip footings shall be founded on undisturbed native soil or compacted structural fill.
3. Slabs on grade shall bear on a minimum of 12" of compacted structural fill or compacted ⅜" crushed stone. If loose or undesirable fills are encountered at the slab subgrade level, they shall be over excavated to the surface of the natural soil and replaced with structural fill. Refer to drawings and specifications for vapor barrier requirements. Moist cure slabs in accordance with ACI.
4. Structural fill shall be used at all locations below footings and slabs and adjacent to the foundation walls. Prior to placement of structural fill, remove all topsoil and other unsuitable material. Compacted structural fill shall consist of clean granular material free of organics, loam, trash, snow, ice, frozen soil or any other objectionable material. It shall be well graded within the following limits:

| SCREEN OR SIEVE SIZE | PERCENT FINER BY WEIGHT |
|---|---|
| 6 INCH | 100 |
| 3 INCH | 70–100 |
| NO. 4 | 35–70 |
| NO. 40 | 5–35 |
| NO. 200 | 0–5 |

5. Structural fill (or ⅜" crushed stone) beneath slabs shall be placed in layers not exceeding 6 inches in loose measure and compacted by self-propelled compaction equipment at approximate optimum moisture content to a dry density of at least 95% of the maximum in place dry density as determined by the modified proctor test (ASTM D-1557). For structural fill or 100% of the rodded unit weight as determined by ASTM C-29 for ⅜" crushed stone.

## CONCRETE NOTES:

1. All concrete work shall conform to ACI 318-Latest Edition.
2. Concrete strength at 28 days shall be:
   a) 3000 psi for footings.
   b) 4000 psi for all slabs on grade.
3. All concrete shall be air entrained 4% to 6% per the specifications.
4. Concrete shall not be placed in water or on frozen ground.
5. Concrete materials:
   A. Portland Cement: ASTM C 150, Type I or Type II unless otherwise acceptable to Architect. Use one brand of cement throughout project, unless otherwise acceptable to Architect.
   B. Normal Weight Aggregates: ASTM C 33. Provide from a single source for exposed concrete. Do not use aggregates containing soluble salts or other substances such as iron sulfides, pyrite, marcasite, or ochre which can cause stains on exposed concrete surfaces.
   C. Light Weight Aggregates: ASTM C 330.
   D. Water: Potable.
   E. Air-Entraining Admixture: ASTM C 260.
   F. High-Range Water-Reducing Admixture (Super Plasticizer): ASTM C 494, Type F or Type G containing not more than 1% chloride ions.
      1. Fiber reinforcement shall be added and distributed prior to incorporation of Super Plasticizer.
   G. Normal range water reducing admixture: ASTM C 494 Type A containing no calcium chloride.
   H. Accelerating Admixture: ASTM C 494 Type C or E.
   I. Calcium Chloride not permited.
6. Provide PVC sleeves where pipes pass through concrete walls or slabs.
7. Reinforcing bars shall conform to ASTM A615 Grade 60 deformed bars, and shall be detailed, fabricated and erected in accordance with ACI 315-Latest edition.
8. Welded wire fabric shall be provided in flat sheets.
9. Fiber reinforced concrete shall conform to ASTM C-1116.
10. Splices of reinforcing bars shall be in accordance with ACI 318. Splices of WWF shall be 6" minimum.
11. Concrete finishes:
    • Slabs: Steel trowel and light broom (non-slip)
12. Anchor bolts shall conform to ASTM A307 hot dipped galvanized unless noted otherwise on plan.
13. The general contractor shall be responsible for coordination of door bondout locations, slab depression & other required bondouts. Coordinate location of bondouts with Architectural, Mechanical & Plumbing, Electrical and kitchen equipment vendors as necessary to properly install each specific item.
14. Provide ½" wide x 1" deep control joints in slabs at 15'X15' intervals (225 SF max) as shown on drawings. Clean joint free of dust and debris; fill with elastomeric caulk compatible with concrete.

## STRUCTURAL STEEL NOTES:

1. Structural steel fabrication, erection, and connection design shall conform to AISC "Specification for the design, fabrication, and erection of structural steel"-Ninth edition.
2. Structural steel:
   a) Structural steel shall conform to ASTM A-36 (or ASTM A992; Fy = 50 ksi as noted in plan).
   b) Structural tubing shall conform to ASTM A-500 GR-B
   c) Structural pipe shall conform to ASTM A-53, TYPE E OR S
3. The fabricator shall design connections for the reactions shown on the drawings or the maximum end reaction that can be produced by a laterally supported uniformly loaded beam for each given beam size and span.
4. Field connections shall be bolted using 3/4" diameter ASTM A325 high strength bolts except where field welding is indicated on the drawings.
5. All welding shall conform to AWS D1.1-Latest edition. Welding electrodes shall be E70XX.
6. Structural Steel Primer Paint. TNEMEC 10-99 Alkyd rust inhibitive primer, 2.0 to 3.5 mils dry thickness, or approved alternate.

## TIMBER FRAMING:

1. All Timber framing shall be in accordance with the AITC timber construction manual or the national design specification (NDS) - latest edition
2. Individual timber framing members shall be visually graded, minimum grade #2 Spruce-Pine-Fir (SPF), kiln dried to 19% maximum moisture content.
3. Timber shall be southern yellow pine treated with ACQ water borne preservative in accordance with AWPA treatment C1 with 0.40 PCF retainage for items in contact with roofing, masonry or concrete with 0.60 PCF retainage for items in contact with earth.
4. Metal connectors shall be used at all timber to timber connections or as noted on the design drawings. All metal connectors in contact with pressure treated timber shall be hot-dippped galvanized.
5. Provide Simpson H2.5A hurricane anchors where timber framing and/or trusses bear on bearing walls and structural beams.
6. Nails and screws not specified shall conform with IBC 2009. All nails and screws in contact with pressure treated timber shall be stainless steel.
7. Provide ½" thick APA rated exterior wall sheathing fastened w/ 10d nails @ 4" o.c. at panel edges and 6" o.c. intermediate. Lap sheathing 1'-0" minimum over existing structure (Where applicable).
8. Provide ⅝" thick APA rated roof sheathing fastened w/ 10d nails @ 6" o.c. at panel edges and intermediate.
9. Provide ¾" thick APA rated floor sheathing fastened w/ construction adhesive and 10d ring shank nails @ 6" o.c. at panel edges and intermediate.
10. LVL indicated laminated veneer lumber beams manufactured by Boise Cascade or approved equal.

THESE DRAWINGS HAVE BEEN DEVELOPED BY L&L STRUCTURAL ENGINEERING SERVICES, INC. FOR THE TITLED SET ONLY. THE DRAWINGS ARE THE SOLE PROPERTY OF L&L ENGINEERING SERVICES, INC. AND THEY SHALL NOT BE USED, LENT, COPIED OR ALTERED WITHOUT THE WRITTEN CONSENT OF L&L STRUCTURAL ENGINEERING SERVICES, INC.

L & L STRUCTURAL
ENGINEERING SERVICES, INC.
SIX Q STREET
SOUTH PORTLAND, MAINE 04106
PHONE: (207) 767-4830
FAX: (207) 799-5432
EMAIL: JLEASURE@L-L-ENG.COM

STATE OF MAINE
JOSEPH H. LEASURE
No. 6242
LICENSED
PROFESSIONAL ENGINEER

| rev. | date | description | appr'd |
|---|---|---|---|
| | | | |

designed by: JHL
drawn by: RJW
checked by: JHL
scale: AS NOTED
date: 02/24/2016
plot date: 02/24/2016
project #: 2015-177

# RM DAVIS BUILDING - STAIR ADDITION

24 City Center
PORTLAND, MAINE

GENERAL NOTES

**S1**