

FIELD OBSERVATION REPORT
Price Structural Engineers, Inc. (PSE)

Project: 3 – Unit Apartment
Location: 62 Cumberland St.; Portland, ME
Date: April 7, 2011
Time: 2:00 PM

Weather: Partly Cloudy
Temperature: 50 deg. F. +/-
Contractor: Island Carpentry
Site contact: Mike White, Paul Ledman

Project Items to be Observed:
Wood Framing

Field Observations / Project Status:

Basement and 1st Floor Framing

1. Drainage stone was being installed in preparation for placement of basement slab.
2. Missing anchor bolts adequately replaced with expansion bolts.
3. Steel beam at south end in concrete wall pocket appeared to be adequately supported by concrete bearing.

1st Floor walls and 2nd Floor Framing

1. Joist sizes, spacing and hangers were checked and in general appeared acceptable.
2. Bridging observed.
3. Spliced column noted during previous site visit has been replaced by a single piece column which appeared to be acceptable.
4. The beam between B/5 and B/6 was not as large as what was specified on drawing S4.1.
5. Except for beam between B/5 and B/6, beam sizes were checked and in general appeared acceptable.
6. Lintel sizes were checked and in general appeared acceptable.
7. Deck guardrail posts appeared to be a concern.
8. Contractor reported that beam at deck had been reduced in size with the top of one 2x12 removed and the other 2x12's were full size. A check was made and the beam was found to be adequate in its current state.

2nd Floor walls and 3rd Floor Framing

1. Stair stringers were supported at mid-span which is acceptable, however the center stair stringer was not adequately supported at the top, see Corrections section.
2. Bridging observed.
3. Joist sizes, spacing and hangers were checked and in general appeared acceptable.
4. Beam sizes were checked and in general appeared acceptable.
5. Lintel sizes were checked and in general appeared acceptable.

3rd Floor walls and Roof Framing

1. Joist sizes, spacing and hangers were checked and in general appeared acceptable.
2. Beam sizes were checked and in general appeared acceptable.
3. Lintel sizes were checked and in general appeared acceptable.

Items Needing Correction:

Basement walls and 1st Floor Framing

1. A double 2x10 beam supporting the front porch was not adequately supported at the east end near the steel column at B/2. This beam needs to be supported by a wood 4x4 column underneath. The 4x4 will need to be pressure treated if it bears on concrete.
2. At the same area as above each deck and floor joist needs to be checked to be sure they are supported by a joist hanger that is fully nailed.
3. Non pressure -treated door jambs observed adjacent to the garage door openings. These need to be replaced with pressure treated jambs.

4. Anchorage of top level guardrail posts were not be observed at this level and based on concerns expressed at other floor levels the first floor level guardrail anchorage will need to be inspected for code compliance.

1st Floor walls and 2nd Floor Framing

1. The guardrail posts were not installed in accordance with Detail C1/S5.1 and do not satisfy code requirements with regard to strength. The base of the posts were reduced in size to 1.75"x3.5" causing the posts to be significantly overstressed. These life/safety components will need to satisfy code requirements.
2. Incorrect stair stringers were installed that do not conform to Detail C1/S5.0. Add a 1.75"x 6" (w/Fb=3100 psi) VLAM sister (ripped to 6") to stringers. Fasten with (2) 16d nails at 8" oc,
3. Stair stringer connection at top of stairs does not conform to Detail E4/S5.0 and is not adequate. Stairs must not be covered with finishes until a connection repair detail stamped by PSE engineers has been prepared and the repair installed.
4. The beam extending between grid B/5 and B/6 is specified on drawing S4.1 as a 5 ¼"x14" Versalam beam. The installed beam does not conform with this requirement. A check will need to be made by PSE engineers to see if the installed beam is adequate.
5. Triangular blocking was supporting a wall at the north end of the stair opening and this support is inadequate. The blocking may remain; however, a 2x4 ledger needs to be installed below the wall plate between the blocking to support the wall. Face nail the ledger to the beam at the north end of the stair with (2) 16 penny nails at 4" on center.

2nd Floor walls and 3rd Floor Framing

1. The guardrail posts were not installed in accordance with Detail C1/S5.1 and do not satisfy code requirements with regard to strength. At areas where posts could be observed, the base of the posts were reduced in size to 1.75"x3.5" causing the posts to be significantly overstressed. These are life/safety components that will need to satisfy code requirements.
2. The ceiling joists at the west side of the building are not adequately nailed to the sloped rafters. Fasten ceiling joists to rafters with 10d nails at 24".
3. The triple 2x beam at the west side of the elevator was not connected with beam hangers at each end. Add these hangers.
4. A floor joist at the west side of the elevator was not connected with a joist hanger which will need to be added.
5. The center stringer leading to the 3rd floor needs to have a ledger underneath at the connection near the top of the stair.

3rd Floor walls and Roof Framing

1. The beam to column connection at grid B/5 and B/6 is not adequate. These connections should conform to Details G1/S5.1 and G2/S5.1.

Corrective action taken:

1. Steel beam pocket at grid 11/A.9 filled in with concrete below steel beam
2. Replacement of missing anchor bolts is acceptable
3. Missing joist hangers and fasteners have been installed except where noted above.
4. Missing beam hangers and fasteners have been installed except where noted above.
5. Missing beam to column connectors have been installed except where noted above.
6. Built-up beams with multiple LVL's fastened together.
7. Spliced column on 1st floor has been replaced with 5.25"x9.25" VLAM as discussed at jobsite.

General:

The purpose of this site visit is to observe the project and generally become familiar with the progress and quality of the Contractor's work and to assess whether the work is proceeding in general conformance with the construction documents regarding the specific items listed within this report. The client has not retained Price Structural Engineers Inc. to make detailed inspections of every structural component, perform structural design or to provide exhaustive or continuous project review.

4/7/11

Portland, ME

Price Structural Engineers Inc. shall not, during such visits or as a result of any observations of construction, supervise, direct or have control over Contractor's work nor shall Price Structural Engineers Inc. have authority over or responsibility for the equipment, means, methods, techniques or procedures by the Contractor or health and safety precautions in programs incident to the work of the Contractor. Price Structural Engineers Inc. does not assume responsibility for Contractor's failure to comply with laws, rules, regulations or codes or the Contractor's failure to furnish and perform their work in accordance with the construction documents and does not guarantee the performance of the construction contract by the Contractor.

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Photo # 1 – North elevation



Photo #2 – East elevation



Photo # 3 – South elevation



Photo #4 – North entrance – note post base anchor



Photo # 5 – Steel beam pocket filled in with concrete



Photo #6 – Expansion bolt replaces missing anchor



Photo # 7 –Joist needs hanger; double 2x beam needs post



Photo #8 – Jack studs must be pressure treated



Photo # 9 – 1st Flr: Spliced column replaced correctly



Photo #10 – 1st Flr: Inadequate wall support



Photo # 11 – 1st Flr: Inadequate stringer connection



Photo #12 – 1st Flr: Guardrail @ reduced beam



Photo # 13 – 1st Flr: LVL 6’ Stringer sisters required



Photo #14 – 2nd Flr: Porch hangers needed



Photo # 15 – 2nd Flr: Blocking needed @ guardrail post



Photo #16 – 2nd Flr: Center stringer needs ledger



Photo # 17 – 2nd Flr: Elevator shaft framing



Photo #18 – 2nd Flr: Beam to column connection



Photo # 29 – 2nd Flr: Missing beam and joist hangers



Photo #20 – 2nd Flr: View looking north



Photo # 21 – 3rd Flr: Missing beam/column connector



Photo #22 – 3rd Flr: Missing beam/column connector



Photo # 23 – 3rd Flr: Top loaded multi-ply beam



Photo #24 – 3rd Flr: View looking at Back Cove