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5 April 2016

Ms. Tilar Mazzeo

34 Hideaway Drive

Hope, ME 04847

RE: 77 Walnut Street, Portland, Maine

Structural Issues, Second level deck

Our Job Number 1065

Dear Ms. Mazzeo:

This report is in response to my site visit this morning. It presents my findings and recommendations based on my observations and office computations.

Background – During reconstruction of the first floor deck and foundations at 77 Walnut Street wood decay was noted in the second level deck. I was retained to observe this deck and its supporting framing, to analyze it, and to make recommendation for corrective action, if required.

Observations – Significant decay was noted in the deck surface, i.e. the decking. Decay was also observed in the outside deck perimeter supporting timbers consisting of built up 2” X 8”members on the street face and the driveway face. The 2” X 8” joists supporting the deck at 1 inches on center as well as the supporting ledgers along the building walls appeared to be free of observable decay, i.e. they appear to be in satisfactory condition. Three 6” X 6” timber posts supporting the outboard timbers were also observed. Although the base conditions of these posts were ‘under construction’ and further work is ongoing at the first level, these posts will be adequate to support the second level deck.

Analysis and Recommendations –

1. The decking requires replacement. Composite decking material was observed on site for this purpose. This decking should be installed over the joists (discussed below) in accordance with the manufacturer’s recommendations. In addition to fastening to the joists, the ends must be fastened to the existing ledger timber along the building face and to the outboard the supports to assure a tie across the deck.
2. The existing 2” X 8” joists were analyzed and found to be overstressed for the required design live load for a residential balcony, i.e. 60 pounds per square foot. Deflection under full live load was marginal. It is recommended that the joists be replaced with higher strength material that is also pressure treated to avoid future, potential decay issues in this exposed, exterior location. 2” X 8” pressure treated southern yellow pine, graded Number 2 and Better, at 16” on center (same spacing as existing), will adequately carry the load and will give improved serviceability re: deflection.
3. Decay observed in the built up 2” X 8” supporting timbers on the outside perimeter is of an extent that these also must be replaced. The long run, parallel to the street, is currently built up from four 2” X 8” members. Replacement with southern yellow pine, pressure treated Number 2 and better requires only three members, joined together to act as a single member. For the short run two members, joined together, would be sufficient. However, solid blocking is required under the corner post to transfer the load from the roof. Therefore, a triple member may be used, at the option of the builder.
4. As noted above, the existing ledgers along the building walls appear to be satisfactory, so that they may remain in place and serve as receiving timber for joist hanger connections from the work that will be replaced. Careful attention to flashing to keep water off of these members and connections is required.
5. Connections of the 6” X 6” posts are sufficient in simple bearing, but these joints should be provided with simple steel timber connectors similar to what was in place and observed today. All timber connections/joist hangers should be installed using the supplied fasteners and as detailed by the manufacturer.

**Important Conditions and Exclusions –**

1. This report was prepared for exclusive use by the addressee, our client, Ms. Tilar Mazzeo and by the City of Portland Code Office in support of a building permit application for reconstruction of the second level deck by Eric Favreau, d/b/a Spindrift Carpentry. Any other use is unauthorized.
2. The report is based on visual observation and thorough and careful probing of the exposed timber ends and faces. It is not likely that additional decay is present. However, if additional areas of decay are noted during disassembly or replacement construction, this engineer is to be promptly notified so that such areas can be evaluated.
3. This report evaluated the load path for the second level deck, its supporting posts and the roof that is supported above this deck. However, the roof, the existing building and the first level deck were not evaluated for this report. No representation of the conditions of the roof, the first level deck or the existing building is made in this report.
4. The railing for this deck is a proprietary system. It was not evaluated for this report and no representation is made as to the adequacy or code compliance of the railing.

I appreciate the opportunity to serve you. Please contact me if there are any questions or concerns related to my field visit and/or the content of this report.

Respectfully,

Robert C. Pantel, P.E. Seal

Cc: Eric Favreau, Spindrift Carpentry