

**Robert C. Pantel, P.E.**

**Consulting Engineer**

Licensed in Maine and Vermont  
Life Member, American Society of Civil Engineers  
Charter Member, Structural Engineering Institute  
Member American Institute of Steel Construction

408 Auburn Street  
Portland, Maine 04103  
(207) 797-0303  
robert.pantel@gmail.com

June 12, 2017

Mr. Eric Favreau  
Spindrift Carpentry

RE: 79 Deerfield Road, Portland, Maine  
Structural Issues, Damage at Rear Porch Framing

Dear Mr. Favreau:

This report is in response to my site visit on June 9, 2017. It presents my findings and recommendations based on my observations and office computations.

Background – During renovations at 79 Deerfield Road wood decay was noted in one area of the back porch framing. I was retained to observe this framing, to analyze it, and to make recommendation for repairs.

Observations –

1. The lower third of the corner post at the northeast porch corner was heavily damaged, apparently by insects.
2. The perimeter beam that supports the porch floor was likewise damaged in the area adjacent to and extending westerly from the northeast corner post.
3. Some significant cross-grain crushing of the perimeter beams at the butt joint was observed below a bearing stud over the easternmost interior brick pier.
4. Brick foundation piers were in satisfactory condition and provide adequate support for the posts and beams described above.

Analysis and Recommendations –

1. The corner post size is adequate for the loading. It should be replaced with new pressure treated (PT) lumber, sized not less than the existing members.



2. The perimeter beam, approximately 4" X 6" was "sistered" at some time with an additional 2" X 6" member. The resultant size, i.e. a triple 2" X 6" built up member is adequate for the imposed loading. The damaged members should be replaced with a triple 2" beam, in height matching the original 4" X 6". The resulting member will be 4 ½ wide. The replacement lumber should be PT Southern Yellow Pine, No. 2 or better.
3. Corrosion resistant fasteners, e.g. nails, compatible with PT limber must be used.
4. To relieve the crushing of the butt joint, a bearing plate of steel, minimum 3" wide X 4 ½ " long X 3/16" thick should be used at the stud noted above.
5. No obvious route for insects entering the structure from the soil was observed. The owners should be advised to periodically, not less than once per year, inspect the building, especially the porch for potential infestation by wood destroying insects.

**Important Conditions and Exclusions –**

1. This report was prepared for exclusive use by the addressee, our client, Spindrift Carpentry and by the City of Portland Code Office in support of a building permit application for repair of the porch framing by Eric Favreau, d/b/a Spindrift Carpentry. Any other use is unauthorized.
2. The report is based on visual observation and probing of the exposed timber. It is possible that additional decay is present. If damage is observed in the extension of the framing discussed in this report, then the same solution(s) can be applied. If further 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 porch that contributes to the members under discussion. However, the roof, the existing building and other members in the porch were not evaluated for this report. No representation of the conditions of the roof, the remainder of the porch or the existing building is made in this report.

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

