



GILES & FLYTHE
ENGINEERS

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August 29, 2019

George Patrick

Re: Rear Deck Inspection Letter
8116 Brookwood Court
Raleigh, NC

Dear Mr. Patrick:

We have inspected the existing rear deck structure of the home at the subject address during a site inspection on August 23, 2019. It is our understanding that the deck was constructed without a permit and you have concerns with the structural adequacy of the deck. We have provided the following recommendations with regards to inadequate components discovered at the rear deck. We also understand that to have the deck permitted (due to the septic tank location), the second and third post from the left along the rear of the deck will need to be spread further apart with a clear span of approximately 14'-0". We have provided a recommendation below for relocating the existing posts.

The report is intended to cover only those premises that may be examined visually without excavation, removing surface materials and disassembling components. The scope of the inspection does not assure that the property conforms to any regulations, restrictions, or building codes that may be in effect at its location other than what is explicitly described. The following provides our evaluation of these improvements with respect to current 2018 North Carolina Residential Codes:

Conclusion/Recommendations:

If there are any questions or concerns regarding location or method of repair contact the engineer prior to construction. All repairs to be conducted in accordance with the 2018 North Carolina Residential Code.

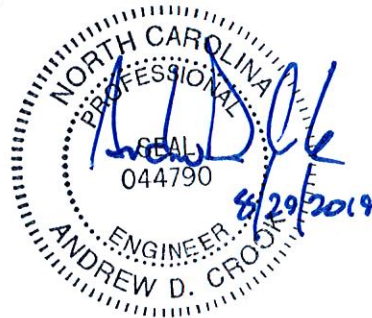
1. At the existing approximately 10'-2" girder span (between the second and third posts from the left), we recommend installing a new pressure treated 4-2x10 girder. Note, (2) members should be installed onto each side of the post. Attach the new girder to the posts with (2) 5/8" hot-dipped galvanized through bolts.
 - a. To extend spacing between the posts (due to the septic tank location) with a maximum clear span of 14'-0", we recommend installing a new pressure treated 5-2x12 girder. Note, (2) members should be installed on one side of the posts and (3) members should be installed on the other side. Attach the new girder to new pressure treated 4x6 posts with (2) 3/4" hot-dipped galvanized through bolts. The new posts are to be supported by a minimum 16"x16"x8"-thick concrete footings installed below grade (minimum 8" to the bottom of the footing) on firm, dry soils.
2. We recommend fully sistering all of the floor joists for the full length (bearing point to bearing

point) with new pressure treated 2x8 members. Attach the new members to the existing with (3) 16d nails at 16" on-center. Attach the floor joists to the deck band at the front bearing location with Simpson LUS Hangers (or equivalent). Alternatively to fully sistering the floor joists, we recommend installing a new drop girder below the mid-span of the floor joists, the drop girder should be constructed identical to the rear girder once the changes noted in this report have been made to the rear girder.

3. We recommend removing the existing bracing and installing new 4x4 pressure treated bracing. The new bracing is to be attached to the 4x6 posts a minimum 1/3 of the post length from the top of the post. The new braces should be installed at an angle between 45 and 60 degrees and attached to the girder and post with 5/8" hot-dipped galvanized through bolts.
4. At the existing deck band below the bay window, we recommend installing additional 5" ledger LOK screws (or equivalent) at 6" on-center.
5. We recommend adjusting the existing dry stacked solid CMU block footings so that the 4x6 posts are centered on the footings.

We trust that this letter provides the information you require. Please contact us (919) 465-3801 if you have any questions. Thank you for the opportunity to be of assistance to you.

Sincerely,



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