

Mark E. Jones, PE
Structural Engineering and Design

February 25, 2019

Lyon Builders, Inc.
2139 Barbeque Church Rd.
Sanford, NC 27332

Ref: Plan Review and Analysis

Design No. 1069, Donald A. Gardner, Inc.
Benson, NC
Project No: 19-033

To Whom it may concern;

The above referenced plan was reviewed on February 25, 2019 to address the following plan items:

1. Need engineer to verify structural conformance to the 2018 NC Residential Building Code.

Based on observations and analysis, the conclusions regarding the structure are:

1. In general the structural information conforms to the 2018 NC Residential building Code with exceptions. The specific exceptions are as follows;
 - All roof rafters may be 2x6 as the plan specifies, however, for any rafters spanning more than 13'-6" horizontally the shall be doubled.
 - The header above the opening between the foyer and dining room shall be a (2) 9-1/4" LVL.
 - The (2) 2x12 beam above the kitchen shall be a (3) 2x12 beam.
 - The header between the kitchen and great room shall be a (2) 9 1/4" LVL.
 - The ceiling joists above the garage shall be 14" deep I-joists (TJI Series 210 or equivalent) spaced at 12" on center and spanning left to right. Note the steel beam specified in the center of the garage will not be required.
 - The exterior walls shall be continuously sheathed with minimum 7/16" OSB.
 - The garage door wall shall be portal framed per figure 602.10.1 Method PF of the 2018 NC Residential Building Code.
 - Continuous footings for 8" foundation walls shall be 16" wide x 8" deep with no rebar.
 - Interior pier and footing sizes are adequate as specified with the exception that the thickness of the footings shall be a minimum 10" and no rebar is required.

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Based on these requirements, the plan will be adequate to support all imposed design loads and will meet the requirements of the 2018 NC Residential Building Code. (Plan specifically meets the requirements including 120 MPH wind loads.)

Thank you for this opportunity to assist you. If you have any questions or need any further assistance, please do not hesitate to call.

Respectfully,

Mark E. Jones

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