

Mark E. Jones, PE  
Structural Engineering and Design

March 10, 2020

Gregory, Inc.  
62 E. McIver St.  
Angier, NC 27501

Ref: Site Observations and Analysis  
3562 NC 27 E  
Coats, NC  
Project No. 20-018

To Whom it may concern;

The above referenced site was observed on March 9, 2020 for the following items:

1. Engineer to evaluate rafter spread.

Based on analysis, the conclusions regarding the condition(s) are:

1. The referenced project has a conventionally framed roof system with 2x8 rafters spaced at 12" on center with the rafters resting on a 2x4 plate placed directly on the ceiling joists below. Collar spaced at 24" on center are installed as well as 2x4 rafter ties. The ceiling joists are overlapped at an interior wall and nailed at the overlap. The construction meets the minimum requirements of the NC Residential Building Code. However, the exterior rim board and attached 2x4 plate have rotated slightly indicating some rafter spread. It was reported that during construction, roofing materials were stacked in concentrated areas and not distributed evenly. This may have created an unusual but temporary heavy load on the roof system. It was observed that the 2x4 plate that the rafters were resting on were not attached to the ceiling joists (solely on the exterior band). The builder was instructed to provide at least (2) 12d nails through the 2x4 plate into each ceiling joists to stabilize the connection at that point. With the roof complete and the additional fasteners, the roof should remain stable with no further spreading.

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, PE

