



January 10, 2024

High Grade Construction
c/o Louis Marcial

Re: Limited Structural Inspection
617 29th Street
Butner, NC

Dear Mr. Marcial,

At your request, we performed an inspection of the subject property limited to the items explicitly described below on January 9, 2024. The scope of this inspection is to investigate and evaluate replaced floor framing throughout the crawl space.

Below, we have provided commentary regarding the items described within the scope. Note that a full analysis of the existing structure was not completed as a part of this inspection. All directions (left, right, rear, etc.) are taken from the viewpoint of an observer standing and facing the front door of the home. If the contractor has any questions or concerns regarding the method of construction or if conditions vary from what is described above, the engineer should be consulted. Likewise, if any changes to sizes or modifications to the structure are desired other than what is explicitly described below, the engineer should be consulted. Note we have not reviewed any drawings for this structure.

Please note that this inspection was visual only and did not include other forms of testing such as destructive, environmental, etc. As such, there were likely aspects of the structure that may not have been visibly available for inspection. Measurements were taken and observations were made by the engineer based on what was readily visible for inspection and within the aforementioned scope as directed by the client and described above. Beyond the time of the inspection, conditions can change which could result in additional structural modifications or repairs being required. The opinions and recommendations below are that of the engineer based on experience, existing site conditions, constructability, etc. which are intended to address specific concerns.

Framing Conditions

The main structure of the home is wood framed (trusses) supported by perimeter and central masonry piers (pier and curtain wall).

Throughout the crawl space, new framing had been installed consisting of 2x10 floor joists spanning front to rear up to 12'-6". Floor joist(s) were attached at ends to the flush girders with Simpson LUS Hangers (or equivalent). The girders primarily consisted of 3-ply and 4-ply 2x10 girders spanning up to 7'-6" and bearing on existing masonry piers. Isolated sections of sistered girders consisted of 2-2x10 girders at the front left corner of the crawl space. Additionally, the central most girder was observed to be bearing such that the rear 2-ply was off center and not bearing on the masonry pier. Further, the subfloor had been replaced throughout the home.

The replaced framing conditions noted throughout the home are structurally adequate with the exception of the off-center bearing masonry pier. We recommend the installation of 4" CMU (or equivalent ground contact rated 2-2x8) along the rear edge of the off-center bearing condition to allow for the girder to transfer bearing to the concrete footing below. Contractor to verify footing projection is a minimum of 6" from edge of pier at this location.

A vapor barrier had been partially installed and moisture levels were below 15% within lumber as measured in multiple locations within the crawl space. Note that given the recently replaced condition and described condition of previous framing, high moisture likely resulted in damages to previous framing.

To help further reduce and regulate moisture levels in the crawl space, we recommend a full vapor barrier be installed covering exposed soils. Once installed, moisture levels should be monitored. If moisture levels become elevated (above 15%), a dehumidification system may be required.

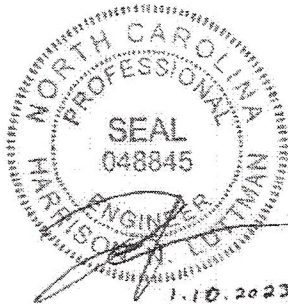
Notes

- All new lumber should be SPF/SYP No.2 or equivalent. All lumber exposed to concrete/masonry or weather must be pressure treated. All metal components exposed to weather or pressure-treated lumber shall be galvanized.
- All new metal hangers/ties/clips to be installed per manufacturer specifications.
- All fastening shall conform to R602.3(1) in the 2018 NC Building Code: Residential Code.
- Install pressure-treated blocking to provide full uniform bearing of the above floor framing onto the new block piers. This includes additional blocking within floor cavities and below stud packs to maintain a continuous load to the foundations.
- With any structural modifications or repairs, movement of and or damage to finish materials within the affected structure are typical and expected. The movements are generally the result of installation methods, movement of previously repaired/remodeled structure, and/or limited settlement of new structural components.

This letter has been intended to address the scope of concerns described above. Should any questions regarding this report arise, please contact the engineer for additional information. We thank you for the opportunity to assist you with this matter.

Sincerely,

Harrison N. Luttman, PE
Principal Engineer
Bare Engineering, PLLC
NC License No. P-2679



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