

**D. ALLEN HUGHES**  
**ENGINEERING, Inc.**

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336-516-8634, Firm No. C-2951

November 4, 2024

Clayton Homes  
1921 Keller Andrews Rd.  
Sanford, NC 27330

Attention: Mr. Stephen Wheeler

Reference: Evaluation of Connections of Home to Foundation Walls  
30 Corner Ln., Cameron, NC 28326  
Project No. D24mh189, Harnett County Permit No. BRES2406-0046

Dear Mr. Wheeler:

The site was visited November 2, 2024 to observe, measure and evaluate the connections of the approximate 32 ft. by 76 ft. modular home to the foundation walls. At the time of our visit, the footings, foundation walls and masonry piers including sill plates and pier caps had been constructed and the home set and anchored. The home has a double 2x8 sill plate with anchors spaced on average less than 5 ft. on center along the foundation walls. The sill plate anchors were installed at counter sunk holes. A representative number of countersunk holes were measured and it was determined that the average countersink depth is about  $\frac{3}{4}$  in. or about half of the top sill plate.

The design drawing titled "Double Mud Sill Foundation Wall Detail – D34", Page 23 of 29 dated 06/04/07 shows options of anchoring the home with nails or "H" plates. The nailing details specifies nails at a 30-degree angle downward through outer bans (at 1 in. above the bottom of the band) into the top sill plate.

Based on our evaluation, the uplift capacity of the top sill plate has been reduced by about half by countersinking the anchor holes halfway through the top sill plate. The bottom sill plate would have the full uplift capacity. Since there are more anchors than required on each side of the home, it is safe to assume that the total anchorage capacity of the top sill plate has more than half of the design uplift capacity.

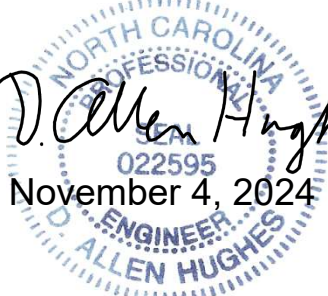
At the time of our visit, the home had been attached to the upper sill plate in accordance with the nailing detail with the exception of the bump-outs which had no fastening. Our evaluation indicates that the connection between the (2) sill plates has about half the capacities of the connections between the masonry foundation wall and the bottom sill plate and the connection between the bottom of the home and the top sill plate.

It is our recommendation that the top sill plate be nailed to the bottom sill plate throughout the home in a similar manner as the nailing detail shown on Page 23 of 29 as referenced above except that the nails may be spaced at 6 in. max. along the connections.

Due to an approximate  $\frac{1}{2}$  in. overhang at the front, it is our recommendation that connections along the bump-outs of the home to the top sill plate and the top sill plate to the bottom sill plate be nailed according to the design nailed connection detail. In the case of the bump-out areas, it will be necessary to drive the nails in the upward direction. When driving upward, the nails should start at 1 in. below the joint through which the nail passes at 30 degrees from vertical. The home to top sill plate nailing should be spaced no further than 3 in. along the bump-outs. Harnett County or D. Allen Hughes Engineering should observe the modified nailed connects prior covering the connections.

Based on measuring, observation, evaluation and implementation of the recommendations, the above referenced sill plate connections at 30 Corner Ln., Cameron, NC 28326 will be adequate to provide the design anchorage of the home to the foundation walls. If you have any, please call.

Sincerely,



*D. Allen Hughes*  
November 4, 2024

The image shows a circular professional seal for D. Allen Hughes, a Professional Engineer in North Carolina. The seal contains the text: "NORTH CAROLINA PROFESSIONAL ENGINEER", "D. ALLEN HUGHES", and the license number "022595". The signature "D. Allen Hughes" is written in cursive over the seal, and the date "November 4, 2024" is printed below it.

D. Allen Hughes, P.E., President  
D. Allen Hughes Engineering, Inc.