J.S. THOMPSON
ENGINEERING, INC

August 26, 2024

Rogelio Ramirez
1668 Chalybeate Springs Road
Angier, NC 27501

Dear Mr. Ramirez:

Per your request, a site visit was made to your home at 1668 Chalybeate Springs Road in Angier, North Carolina to determine the structural requirements to allow removing the existing roof trusses, raising the wall height to 10'- 1 1/2" and reinstalling the trusses.

The trusses may be removed to allow removing the top plates and replacing the existing studs with new 2 x 4 x 10' studs installed 16" on center (o.c.) or adding new studs beside the existing studs attached using one row of 12d nails 12" o.c. Where single windows and doors are located, (2) 2 x 4 x 10' studs are to be installed on each side of them and 2 x 4 @ 16" o.c. cripples are to be installed over the headers. (2) 2 x 4 plates are required to be installed on top of the new studs.

The existing sheathing was inspected and found to be flooring underlayment, inadequate to provide the required wall bracing. The interior of the exterior bearing walls is to be sheathed using 7/16" OSB sheathing from the bottom plate, pieced at 2 x 4 blocking installed between the studs lapping over the new top plates. Hurricane clips are to be installed on each end of the roof trusses.

The sill plate is to be anchored using ½" diameter threaded rods spaced per code embedded 3" into the slab using epoxy. The interior walls may be raised by adding kneewalls on the existing walls and strapping the walls on each side 48" o.c. with 20" long 18 gauge straps using (5) 8d nails per end of each strap.

The front porch roof is to be raised also and reframed using 2 x 6 @ 24" o.c. with (2) 2 x 10 #2 SPF beams on 4x4 treated post located where the existing posts are and secured with Simpson UAB44 post bases.

The rear wall of the living room may be removed by installing (3) 1 3/4" x 24" LVL fastened together using (4) rows of 12dnails 16" o.c. from each side. The ends of the beam are to be supported on (4) 2 x 4 studs bearing on added 30" x 30" x 12" concrete footings.

The rear of the trusses over the kitchen (where exposed after demo and discovered that there was not support for the trusses) is to be supported using (2) 1 3/4" x 14" LVL on (3) 2 x 4 studs at the right end and on a (2) 1 3/4" x 14" LVL header with (2) jacks over the door at the left end. The existing slab is to be cut out to install a 24" x 24" x 8" footing at the right side an a 12" x 54" x 8" footing under the existing door. The footings are to be inspected prior to concrete placement.

Please contact me if you have any questions.

Sincerely,

J.S. Thompson Engineering, Inc.
N.C. License No. C-1733

J. Scott Thompson, P.E.
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