



HAYES STRUCTURAL

Consulting & Design, PLLC

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NC FIRM LICENSE NO.: P-2854

Date: April 23, 2025

To: Tyler Appel
Drees Homes
8521 Six Forks Road, Suite 500
Raleigh, NC 27615

Re: 25-FND-019
Lot 96 Tobacco Road
144 Barning Way
Angier, NC 27501
Permit No.: SFD2503-0119

Mr. Appel:

At your request, a site visit was made to the above referenced single family residence under construction to inspect the front porch foundation to determine the suitability for backfill.

Observations:

The foundation walls common to the front porch and crawl space and front porch and garage were constructed from 12" CMU to a height of 80". The front and left front porch foundation walls were constructed from 8" CMU and brick to a height of 88".

Analysis and Recommendations:

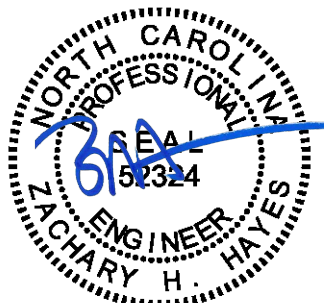
The front porch is to be backfilled with #57/#67 washed stone. Analysis revealed the 12" foundation walls are suitable for unbalanced fill up to 6'-0". Place fill at the exterior sides of the front porch foundation as needed so that unbalanced fill does not exceed 6'-0". Place a 5" thick concrete slab on top of the washed stone backfill reinforced with #4 rebar spaced 24" o.c. in both directions at the mid-depth. Tie the slab to the porch foundation walls with #4x30" long rebar dowels spaced 24" o.c. embedded 4" into solid or solid-grouted masonry with structural epoxy adhesive.

Concrete slab construction is to conform to section R506 of the 2018 North Carolina Residential Code. Concrete is to have a minimum compressive strength of 3,000 psi at 28 days. The minimum lap splice length for #4 rebar is 24" and the minimum concrete cover is 2". Slab preparation and reinforcement are to be verified by a municipal inspector or qualified design professional prior to concrete placement.

Please call me if you have any questions.

Respectfully submitted,

Zachary H. Hayes, PE
President & Principal Engineer



Digitally signed
by Zachary H.
Hayes, PE
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