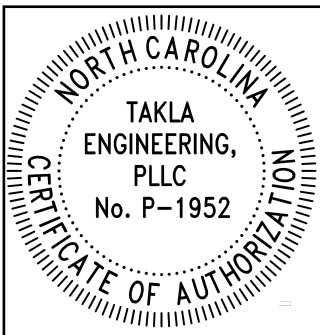




Takla Engineering, PLLC

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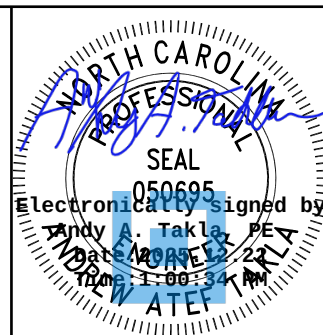
PO Box 71298 Durham, NC 27722

Office@TaklaEngr.com | 919-258-2648

Alfred A. Takla, PE
NC PE License # 047507
Fred@TaklaEngr.com

Andy A. Takla, PE
NC PE License # 050695
Andy@TaklaEngr.com

Macon J. Hubert, EI
NC EI # A-31279
Macon@TaklaEngr.com



Project: 8201 Rhodes Rd Renovation

Job #: 2-7773-25

Address: 8201 Rhodes Rd

Page #: 1 of 1

Care Of: Bret Beaman

City: Apex, NC

Company: Triangle Homes Inc.

Report Date: 12/22/2025

Engineer: Andy A. Takla, PE

Date on Site: 12/22/2025

Subject: Structural Evaluation

As requested, Takla Engineering prepared this report to provide formal documentation of our review and recommendations regarding the levelness of the floor framing at the master suite, with specific focus on the master bathroom and corresponding conditions observed at the hallway bathroom.

We visited the site and evaluated conditions from within the habitable areas as well as from the crawlspace. A noticeable floor deflection was observed, sloping downward from the rear foundation wall toward the front wall of the master bathroom. This condition is less pronounced within the hallway bathroom.

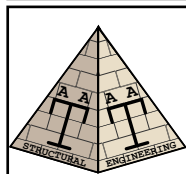
Within the crawlspace, the floor framing was observed to consist of 2x8 floor joists spaced uniformly at 16 inches on center, spanning front-to-back from the rear band (supported by a pier-and-curtain foundation wall) to a centrally located (3)2x10 girder. At this location, the girder spans approximately 10 feet between piers. No supplemental floor joists were observed beneath the two adjacent bathrooms.

Based on our review, the observed unlevelness is attributed to long-term deflection of the floor joists under sustained dead loads associated with the bathroom assemblies, including showers, tubs, vanities, toilets, and the partition wall separating the master and hallway bathrooms. The 2x8 floor joists span slightly in excess of 12 feet, which would be considered over-spanned by current code standards, though this configuration was acceptable under codes in effect at the time of construction.

In conclusion, the observed condition should be considered primarily cosmetic in nature, as the framing does not present a safety concern. While not ideal, this condition is not uncommon in homes of similar age and construction. Should remediation be desired, the following measures may be implemented. We recommend performing the items in the order listed below, proceeding to the second item only if the condition remains intolerable following implementation of the first.

1. Install a dropped girder consisting of (3)2x10 members within the crawlspace, spanning left-to-right from the master bedroom/master bathroom closet wall at the right end to the hallway bathroom left wall. The girder should be installed as close as practical to the partition wall separating the master and hallway bathrooms, and at a minimum within the center third of the floor joist span. Support the girder with three evenly spaced 8x16 CMU piers founded on 24"x24"x10" concrete footings.

2. If additional correction is required, install one additional 8x16 CMU pier founded on a 24"x24"x10" concrete footing at midspan of the (3)2x10 girder at the span in question (second span from the right). This pier may be utilized to fine-tune leveling of the girder as needed.



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