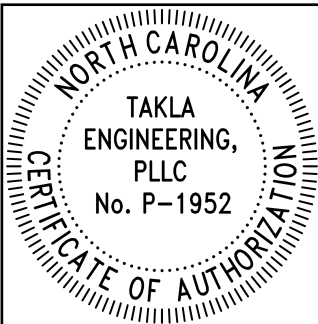




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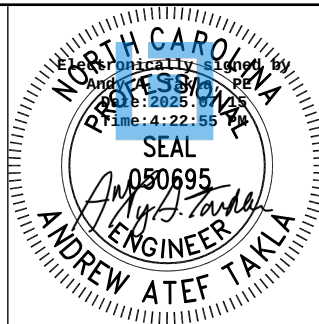
PO Box 71298 Durham, NC 27722

Office@TaklaEngr.com | 919-258-2648

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

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

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



Project:	Maple St Renovation
Address:	309 Maple St
City:	Cary, NC
Subject:	Structural Evaluations and Wall Removal
Care Of:	Bret Beaman
Company:	Triangle Homes Inc.
Job Number:	2-4686-25
Page Number:	1 of 1

As requested, Andy Takla, PE visited the above referenced site on July 15th, 2025 to evaluate the structure in order to diagnose the following issues requested for review, and to evaluate the framing and loading associated with removing an interior load bearing wall. Based on our review we find and recommend the following:

To remove the central load bearing separating the kitchen from the living room (~ 12') we recommend:

- A) Install a (2)1.75"x11 7/8" LVL header spanning from the right exterior wall, inward. B) Support each end of the header with at least (3) 2x4 jack studs.
C) At right end stud column, provide solid blocking to the foundation wall; No foundational reinforcements are required to support the exterior end point load.
D) At the left end stud column, install a new 8x16 CMU pier (or 6x6 P.T. post) on a 24"x16"x10" footing directly below the point; If post is selected, secure at base with ABA/U66 base and to framing with (2) L30 clips or (2) H2.5a clips (depending on geometry. Block there-to with solid blocking. It should be noted this wall is off-set from the existing girder, so the new pier will not align with the existing piers.

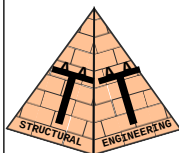
The following issues were requested for review:

1- Several cracks of varying widths and orientations were observed at the exterior brick veneer at the foundation wall and at upper window corners.

Based on review, the cracks are considered relatively minor and do not pose a risk to the overall stability of the structure to-date. The cracks appear to be most consistent with those resulting from fluctuating soil moisture content (swelling and shrinking). Given the apparent age of the structure, differential settlement resulting from poor in-situ soils or poor construction methods is not evident. Moving forward, all gutters should be serviced to ensure functionality, and all downspouts should be upfit with leader piping of adequate length to discharge flow at least 6' away from the foundation wall, and drain by gravity. Thereafter, we recommend re-pointing the cracks with a 2 part epoxy to restore visual continuity and reduce potential for future degradation and improve crawlspace enclosure. It should be noted the large tree located a ~5' from the left foundation wall may also be causing some amount of heave on the foundation wall although this is not apparent. The tree's removal should be considered with the understanding that withering of the root system by result in some degree of differential settlement. Continue to monitor the area to determine if removing the tree is appropriate; and, if required, seek further engineering consult to stabilize conditions thereafter.

2- The floor in the interior of the, particularly at the entry to the hallway from the living room, is notably unlevel.

Based on review it appears the floor is unlevel and a ridging effect (or "hump") is noted at varying degrees along the entire width of the home due to the offset nature of the central girder (in the crawlspace) to the bearing and non-bearing walls of the hallway, bedrooms and kitchen walls. The floors are most unlevel at the entry of the hallway because the front end of the floor joists supporting the dead loads of the bathroom, the kitchen, and the boxing out of floor joists about the HVAC return all occur in close proximity to the girder (which is located ~4" rear of the front hallway wall). While an offset girder is not uncommon in homes of this age, this, combined with a relatively light floor layout (2x8 joists spaced at 16" on center spanning ~ 14') creates a riding at the girder. We believe the most appropriate and effective means to correct the issue is to install a new dropped girder spanning from approximately 12' left of the right foundation wall, to the left wall of the rear hallway bathroom. The girder should be at least a (3)2x8 and should be supported by equally spaced supports (either 8x16 CMU pier or 6x6 P.T. post) on a 24"x16"x10" footing spaced no further than 8' apart. Girder should be set as close to midspan as possible. If post is selected, secure at base with ABA/U66 base and to framing with (2) H2.5a clips to girder. Utilize girder to remove deflection at the location installed. Note, some deflection may remain but should be significantly less.



Limitations of Inspection and Liability: Engineering services in this report follow standard structural engineering practice and the North Carolina Residential Code (2024 Edition). Conclusions and recommendations are based solely on site conditions observed at the time of evaluation and are limited by the agreed scope, schedule, and budget. This report excludes any responsibility for construction sequencing, shoring, or means and methods. Evaluations are limited to visible and accessible elements; no destructive testing or inspection of concealed components was performed. No guarantees or warranties, express or implied, are provided in connection with these services. Takla Engineering relies on the accuracy of information provided by others and assumes no liability for conclusions based on incomplete, inaccurate, or misleading input. Reasonable efforts were made to ensure accuracy. However, the potential for human error and the limitations of non-invasive inspection must be acknowledged. Takla Engineering's maximum liability—whether from contract, tort, or otherwise—is limited to the total fees paid for services under this agreement, barring gross negligence. By accepting, referencing, or using this report, the recipient agrees to all terms, limitations, and conditions set forth herein, barring gross negligence by Takla Engineering.

