March 12, 2025 Project No. 25-1364

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Stonewall Structural Engineering, PLLC
9203 Baileywick Rd. #200
Raleigh, NC 27615
(919)407-8663

Jordan Williams
Tar Heel Basement Systems
8005 Knightdale Blvd.
Knightdale, NC 27545

Re: Review of Proposed Floor Framing Repairs — *18 Pineridge Cove, Sanford, NC 27332*

Ms. Williams,

At your request, Stonewall Structural Engineering (SSE) was consulted to review and provide recommendations for floor framing repairs proposed by Tar Heel Basement Systems at the above referenced address. The purpose of the proposed floor framing repair(s) is to address issues observed by Tar Heel Basement Systems while on-site February 9, 2025.

Conditions Evaluated

Based on the information provided by Tar Heel Basement Systems, we understand the subject structure to be a conventionally framed, detached, single-family residence with raised first-floor framing and perimeter masonry foundation walls. The first-floor framing was noted to consist of nominally sized dimensional lumber. The back of the home appears to have been an addition to the original structure *(see pictures 1-3)*. Indicators such as "left," "right," "front," and "back" are referenced as viewing the front of the home.

Picture 1 – Front of Home (18 Pineridge Cove, Sanford, NC 27332)

Picture 2 – Rear of Home (Addition to original structure)

Picture 3 – Typical Floor Framing in Addition

The following floor framing issues were observed by Tar Heel Basement Systems while on-site:

1. Uneven floors at the sill plate for the addition of up to ⅞".
2. Sill plate out of contact with the foundation wall and not anchored *(see picture 3)*.

In order to address the floor framing issues noted above, Tar Heel Basement Systems has proposed the following floor framing repair(s):

1. Replace the rim band and sill plate.

Engineering Assessment and Recommendations

The uneven floors could be the result of out of level construction. Additionally, the sill plate should be anchored per the requirements of the 2018 edition of the *North Carolina Residential Building Code.*

Based on our review of the information provided, the proposed floor framing repairs are recommended to be installed as follows:

1. Remove the approximate 11' section of rim band at the area of uneven floors and replace with full depth treated 2x #2 Southern Yellow Pine (SYP) tight fit beneath the floor sheathing.
2. Remove the above-noted sections of sill plate at the uneven floors and replace using treated 2x #2 SYP material and fasten with ½"Ø J-bolts at 6' on center max spacing and 12" from sill plate ends and breaks with at least (2) bolts installed per sill plate segment.
    a. Bolts should be embedded at least 7" into the top course of the wall.

General Comments and Limitations

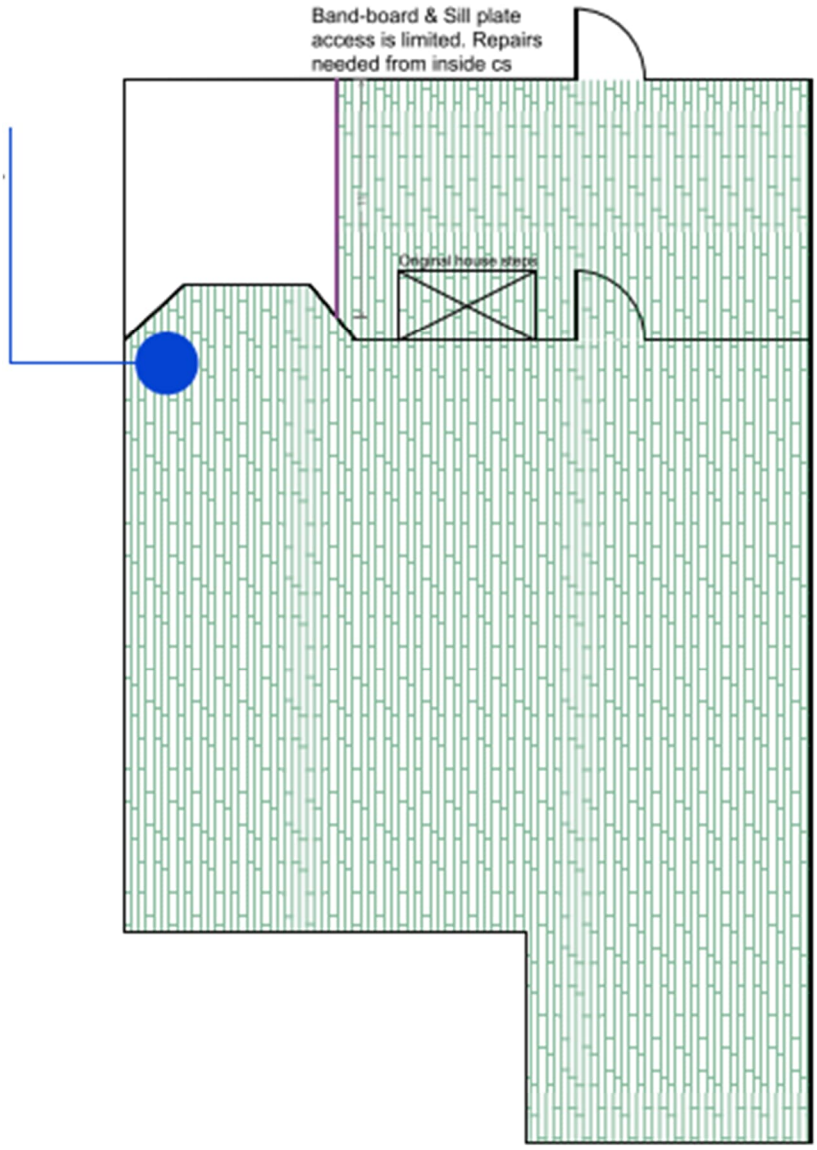
The determinations above were made in accordance with common engineering principles and the intent of the 2018 edition of the *North Carolina Residential Building Code.* Our review and assessment of the proposed floor framing repair(s) was limited to the information provided by Tar Heel Basement Systems, and SSE was not consulted to visit the subject project site. As such, SSE is not liable for any issues arising beyond the scope of information provided to SSE. Should additional information become available, or if site conditions are found to vary from those reported, SSE is to be notified and consulted regarding possible impacts to the structure's integrity and/or the effectiveness of the recommendations presented.

Sequencing, and means and methods of construction are considered to be beyond the scope of this report. A qualified contractor is to provide adequate temporary shoring prior to cutting or removing any structural load-bearing elements. All work is to conform to applicable provisions of current building standards. Please feel free to contact us should you have any questions or concerns regarding this matter.

Sincerely,
W. Harrison Welch, PE
Stonewall Structural Engineering, PLLC
Lic. #P–0951

03/12/2025

DETAIL ADDENDUM



Detail 1 – Repair Plan (Provided by Tar Heel Basement Systems)