STRUCTURAL ENGINEERS

1945 J N Pease Place #204
Charlotte, NC 28262
704-335-7200
www.IDEcharlotte.com

Via Email:

May 4th, 2026

[redacted]

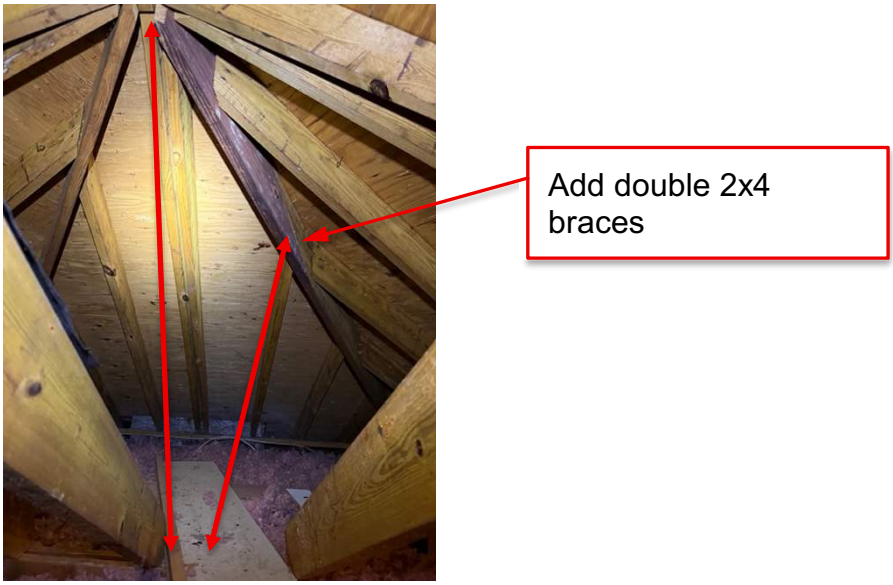
RE:

At your request a visit was made to the referenced address on May 4th, 2026 to inspect the structure, with particular attention to items recently noted in a prior home inspection report. Public property records indicate this house was built in 1977. With homes of this age, one can expect there to be some framing conditions that do not meet today's Code requirements. With that in mind, the repairs recommended in this report are intended to prevent further deterioration and address damaged areas or areas of insufficient support that may influence the safety and performance of the structure under normal use. The following items were noted at the time of the inspection with any photos relevant to that item immediately following:

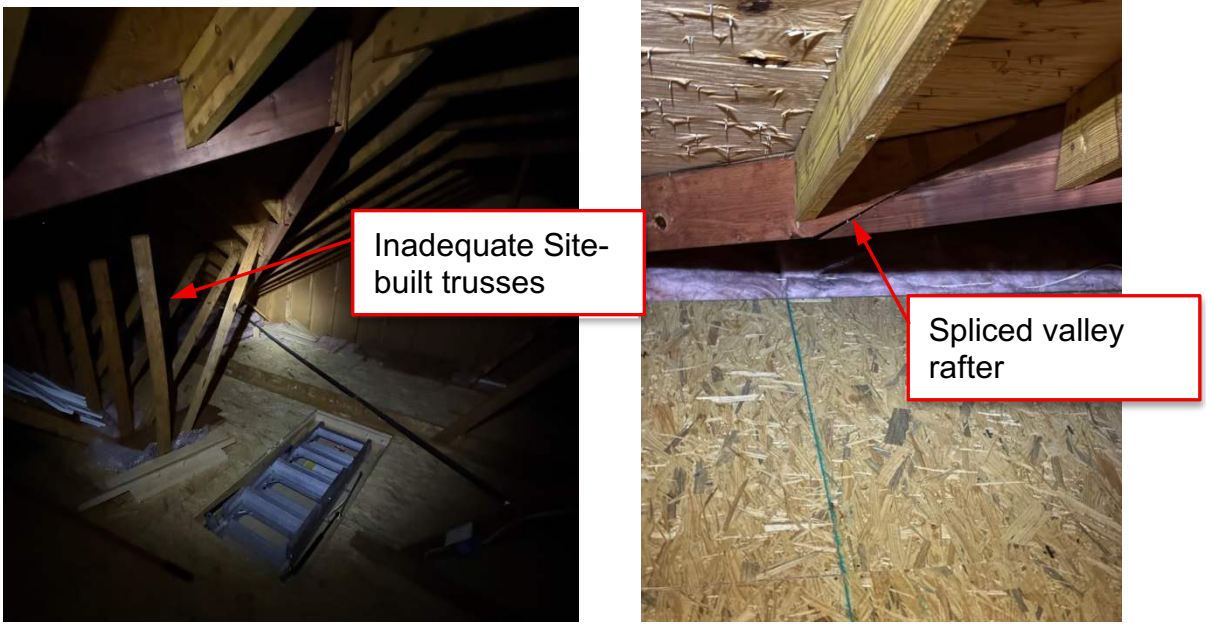
All directions are in reference to a person facing the front of the house form the street.

1. In the front attic, the valley rafter at the center bears on a single 2 x 4 plate. Although this condition raised concern in the home inspection report, the member is relatively lightly loaded and the existing bearing condition is sufficient to support the imposed loads.

2. At the rear center attic area forward of the chimney, the overbuild roof framing includes a hip rafter with a birdsmouth splice that lacks adequate bracing. This condition should be corrected by installing a roof brace at this splice. Additionally, the peaks of the hip rafters where they meet the ridge board should be braced. These braces should bear over the beam spanning across the living room to ensure proper load transfer. See the photo on the following page.



3. The ceiling over the garage exhibits a significant sag, which is attributable to overspanned ceiling joists running laterally across the garage. The original construction attempted to create a site-built truss system; however, the geometry of the roof prevents this system from functioning as intended. As a result, the roof and ceiling framing over the garage has sagged, is deficient, and requires reinforcement. Installation of properly designed beams within the garage ceiling is necessary to adequately support the roof structure, consistent with the referenced repair approach. See the attached repair plan for further information.



Crawlspace

4. Within the crawlspace at the front of the home, particularly beneath the dining room and living room areas, prior decay necessitated replacement of the front band board. During this process, the original joists were cut short to facilitate removal. These joists were

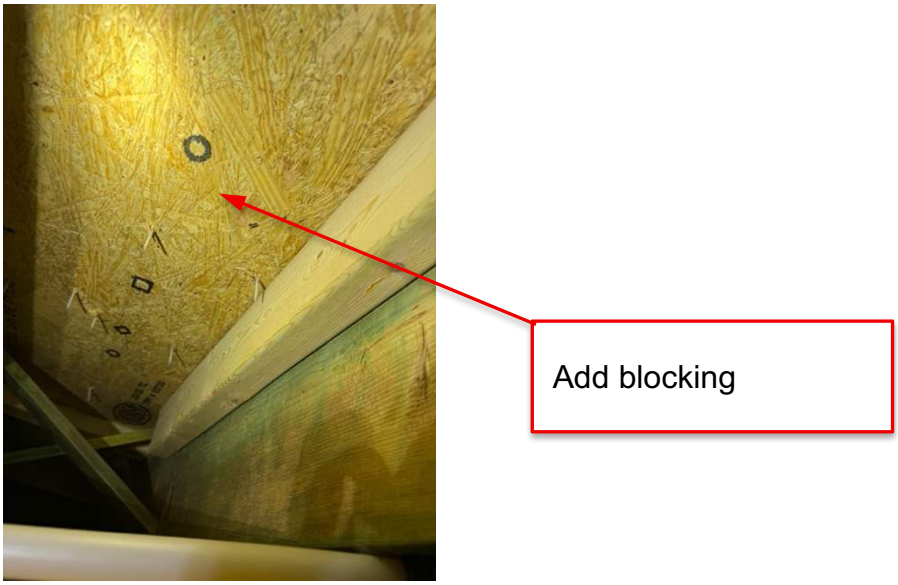
subsequently reinforced with 2 x 10 scab members approximately 6 feet in length and connected to the new band using metal hangers. While this approach can be effective if properly executed, improved performance would be achieved by replacing the joists entirely with full-length members. As installed, the scab members require additional fastening consisting of a minimum of three rows of 0.131-inch diameter by 3-inch-long nails spaced at 8 inches on center to ensure composite action. The joist hangers also require correction, including proper seating beneath the joists and reattachment using appropriate fasteners such as No. 9 by 2 1/2-inch Simpson SD screws.

5. A couple of joists beneath the kitchen area have been notched beyond prescriptive code limits. However, based on their location and extent, these notches are not considered structurally significant and do not require reinforcement.

6. At the right side of the crawlspace beneath the hallway, fungal decay has compromised portions of the supporting girder and adjacent joists, including the 2 x 2 ledger supporting the joists. The lower portion of these members has deteriorated. Each joist framing into this girder should be reinforced using Simpson A35 brackets (or equivalent) to secure the joists to the upper, more structurally sound portion of the girder.
7. A similar condition exists along the girder supporting the left side primary bedroom wall. The same reinforcement method should be applied along this span to improve joist-to-girder connections.
8. At this same girder, additional reinforcement is recommended by sistering a 2 x 10 member along the left side over the approximately 6-foot span located just to the rear of the hallway girder intersection. See the photo below.

9. At the girder supporting the front hallway wall on the right side of the home, a section near midspan exhibits structurally significant fungal decay. This condition should be addressed either by replacing the affected girder section between piers with a comparable treated double 2 x 10 member or by installing an intermediate masonry pier to reduce the effective span. If a new pier is installed, the deteriorated lower 2 inch portion of the girder should be removed to expose sound wood, and the new support should consist of 8 x 16 CMU bearing on a 22-inch by 22-inch by 7-inch concrete footing. Joists should then be securely connected using Simpson A35 brackets as previously described. See the photo on the following page.

10. Beneath the bathroom, the OSB subflooring has been installed with improper orientation. To address this, install 2 x 4 ladder blocking at 24 inches on center perpendicular to the joists. Blocking should be secured with toenails or Simpson LU24 hangers to provide adequate support to the subfloor panels.



11. At the front foyer, a floor joist has been excessively notched to accommodate a supply duct. Reinforcement is recommended by sistering a 2 x 6 member along the upper portion of the joist to restore structural capacity. See the photo on the next page.

12. The crawlspace has been partially encapsulated with a vapor barrier; however, no active moisture control system such as a dehumidifier was observed. Building standards require a method of air movement or conditioning to control humidity. Given the history of mild to moderate fungal decay, a moisture mitigation specialist should evaluate the system. This may involve integrating the crawlspace with the HVAC system or installing a dedicated dehumidifier to maintain appropriate environmental conditions. Coordination with an HVAC contractor is recommended if conditioning through ductwork is pursued.

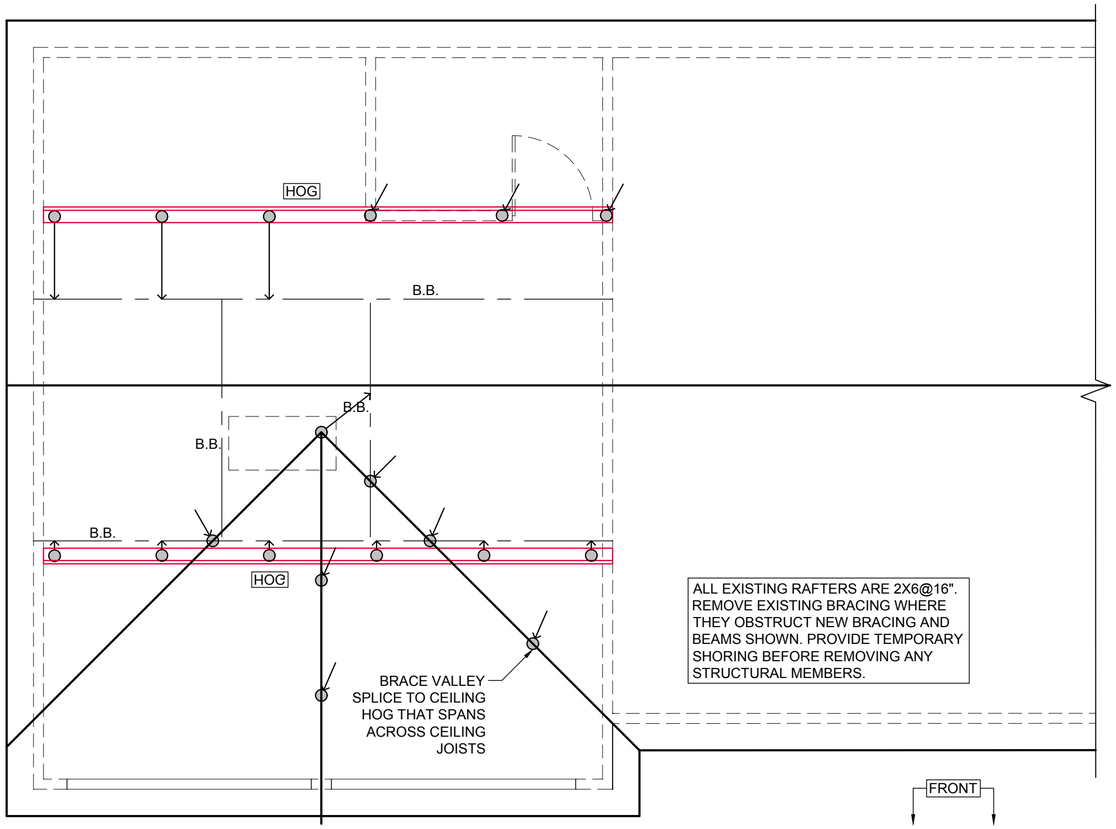
While we do our best to find all structurally significant defects, we cannot anticipate the subjective opinions of other inspectors and what others may consider to be significant. Because of limited visibility and maneuverability in crawlspaces and attics due to ductwork and insulation, we cannot guarantee that all defects were discovered.

The inspection covers only those systems and components expressly and specifically identified in this report. Any area of view concealed or inaccessible is excluded from this inspection. The inspection does not include any destructive testing or dismantling. It is agreed that the Inspection Report does not constitute a guarantee or warranty of adequacy, performance or condition of any structure, item, or system. The inspection and the Inspection Report are prepared for the sole, confidential and exclusive use of the Client. Should you have any questions regarding this report, please feel free to call.

Sincerely,

Michael P. Gervais, P.E.
NC License #27399
Corporate License #: C3118
Enclosure: Repair plan ‘S1’-18x24

NORTH CAROLINA PROFESSIONAL [redacted] 5/5/26 ENGINEER MICHAEL P. GERVAIS



ALL EXISTING RAFTERS ARE 2X6@16". REMOVE EXISTING BRACING WHERE THEY OBSTRUCT NEW BRACING AND BEAMS SHOWN. PROVIDE TEMPORARY SHORING BEFORE REMOVING ANY STRUCTURAL MEMBERS.

2 S1 GARAGE ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"

FRAMING NOTES:

1. ROOF BRACING SCHEDULE UNO.
   - UNDER 7'-0" = 2-2X4 NAILED WITH 0.131"X3" NAILS @ 6" O.C. VERT.
   - OVER 7'-0" = 2-2X6 T-BRACE (SAME NAILING)
   - OVER 12'-0" = 3-2X6 T-BRACE (SAME NAILING)

   FASTEN BRACES AT BOTTOM & TOP WITH (4)-0.131"X3" TOENAILS.

FRAMING LEGEND:

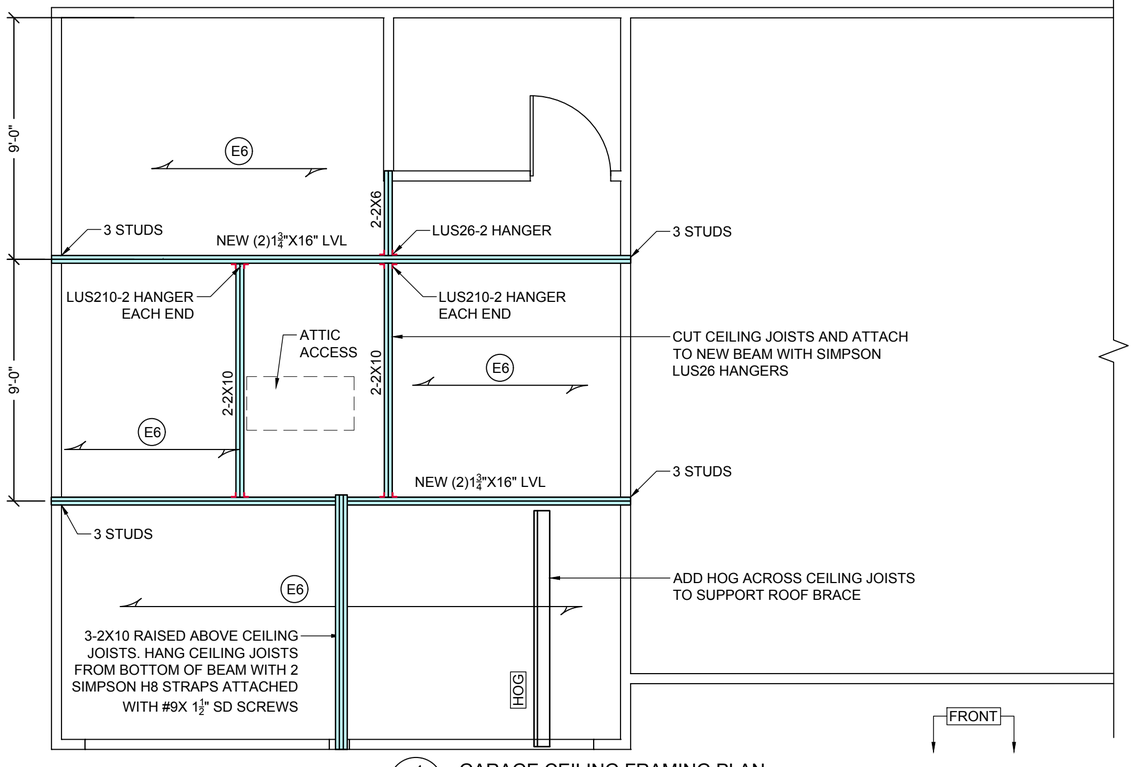
BB :NEW BEAM BELOW

:INDICATES DIRECTION OF NEW ROOF BRACE TO WALL/BEAM BELOW.

:INDICATES NEW VERTICAL ROOF BRACE TO WALL/BEAM BELOW.

(E6) **:EXISTING 2X6 @ 16" O.C.**

HOG 2-2X6 FORMED INTO "L" SHAPE AND FASTENED ALONG ITS LENGTH WITH 0.148"X3" NAILS @ 4" O.C.
- RAFTERS MAY SPLICE & LAP OVER HOGS.
- SPLICE HOGS ONLY AT A RAFTER BRACE
- FASTEN TO EACH RAFTER WITH (2)-0.148"X3" NAILS.

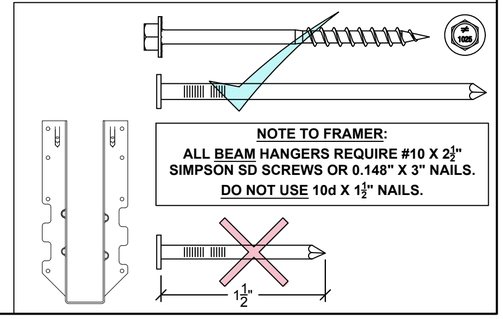


1 S1 GARAGE CEILING FRAMING PLAN

SCALE: 1/4" = 1'-0"

NOTES:

1. CONTRACTOR TO PROVIDE TEMPORARY SHORING OF STRUCTURE AS NEEDED WHILE PERFORMING WORK.
2. THESE PLANS REPRESENT AN APPROXIMATION OF THE AS-BUILT CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND FRAMING ASSUMPTIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES THAT COULD IMPACT THE DESIGN. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR THESE DISCREPANCIES OR ANY COSTS ASSOCIATED WITH REQUIRED DESIGN OR CONSTRUCTION CHANGES.
3. SQUASH BLOCKS (SOLID BLOCKING) EQUAL TO THE NUMBER OF STUDS ABOVE SHOULD BE ADDED TO TRANSFER ALL NEW POINT LOADS TO SUPPORTS BELOW.
4. INFORMATION IS FOR STRUCTURAL INFORMATION AND MEMBER SIZES ONLY. NON-STRUCTURAL DETAILS AND ITEMS AND INFORMATION SHOWN SHALL NOT BE CONSTRUED AS BEING UNDER THE SCOPE OF THE DESIGN OR UNDER THE RESPONSIBILITY OF THE DESIGN ENGINEER.



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NORTH CAROLINA PROFESSIONAL [redacted] 5/5/26 ENGINEER MICHAEL P. GERVAIS

SEAL FOR STRUCTURAL ONLY

For structural questions:
Mike Gervais, P.E.
(704) 999-3869

Garage Ceiling Repair Plan

Structural Drawings

SCALE: ¼"=1'-0"

Drawn: 5/5/2026

S1