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August 10, 2026

Teresa Phillips

Re: Limited Structural Inspection
805 Currituck Drive
Raleigh, NC

Dear Teresa Phillips:

At your request, a limited structural inspection of the above property was performed on August 7, 2026. The report that follows has been prepared based on that inspection. The inspection was performed by Brett Overvold, EI and Gunnar Valentine, EI of Giles Flythe Engineers.

The scope of this project was limited to the inspection and evaluation of general structural concerns in the framing/foundation components. The report is intended to cover only those premises that may be examined visually without excavation, removing surface materials, and disassembling components. The intent of this report is to evaluate the structural concerns that are visible and easily accessible. It is outside our expertise as structural engineers to evaluate the foundation adjacent to the creek/stream, as that would likely involve the services of specialty engineers including geotechnical and water resources engineers. We reserve the right to alter our conclusions and recommendations based on additional information provided to us, including reports by other engineering consultants.

No tests, measurements, or calculations have been made except as described in this report. We have not investigated for toxic materials/wastes or examined public records regarding this property. The scope of the inspection does not assure that the property conforms to any regulations, restrictions, or building codes that may be in effect at its location.

DESCRIPTION

The 2-story, wood-framed home (with two crawl spaces) is constructed on perimeter masonry foundation walls with masonry piers supporting floor girders. The house was built in 1978 according to Wake County Real Estate Tax Records. For purposes of this report, all directions (left, right, rear, etc.) are taken from the viewpoint of an observer standing outside and facing the front door of the home.

Upon our arrival, access to the interior was provided by the seller's agent. The items detailed above in the scope were subsequently inspected.

Note that the original builder was not interviewed and no plans for the construction of this home were provided. The information presented in this report is gathered from the conditions visible at the site, as they existed at the time of the inspection. A limited photo log is included with this report.

OBSERVATIONS

Interior:

1. Multiple minor cracks (less than 1/16" wide) and tape delaminations were observed in the wall/ceiling finish materials throughout the home.
2. Floor slope (up to 1/4" vertical over 2'-0" horizontal) was measured sloping rear to front into the rear wall of the kitchen located approximately 15'-0" from the rear perimeter wall and 16'-4" from the left perimeter wall.
3. A crown (high spot) in the floor was noted running from left to right approximately 13'-6" from the front perimeter wall and 6'-0" from the right perimeter wall in the far-right bedroom. Floor slope (up to 3/8" vertical over 2'-0" horizontal) was measured sloping away from the crown.

Attic:

4. Moisture-stained roof sheathing was observed in the attic in multiple locations, visible from the fireplace bump-out in the living room.
    a. Note, the attic was not accessible and minimal inspection of the attic framing could be performed.

Exterior:

5. No apparent stormwater collection system was installed on the home. Grade was noted with a relatively negative slope towards the front and right perimeter walls, and a relatively neutral slope along the rear and left perimeter walls of the home.
    a. The home is constructed over what appears to be an active creek/stream that flows below the home between the left and right crawl spaces. We observed what appears to be previous concrete repairs adjacent to the foundation. Erosion was observed adjacent to the footings with exposed soil with no armoring present.
6. The deck and screened-in-porch at the rear of the home did not appear to have lateral bracing installed. The rear deck was noted to be free-standing while the screened-in-porch was noted to be attached to the rear wall of the home. Note, we cannot determine whether the posts are embedded in concrete such that the footings are adequate to withstand the lateral loads.
7. The floor framing of the section of house bridging over the creek was noted to generally consist of 22" deep floor trusses spanning left to right.
    a. Note, minimal inspection of the framing could be performed due to the presence of exterior finish materials.
8. Compressed bearing was noted at the left bearing end of the rear drop truss bridging across the creek. Moisture-staining was noted on the truss at this location; however, the framing could not be easily probed with an awl. Moisture content (up to 20.1%) was noted in the framing at this location.

Left Crawl Space:

9. The floor framing was noted to consist of 2x10 floor joists spaced at 16" on-center generally spanning front to rear supported by 3-ply 2x10 flush girders bearing on a masonry pier and the foundation walls.
10. Previous joist repairs were noted above the rear-right section of the crawlspace beginning approximately 2'-9" from the right foundation wall and extending approximately 2'-6" to the left.
11. Cracks/separations were noted in the perimeter foundation walls in the following locations:
    a. A vertical/stairstep crack (up to 1/16" wide) was observed in the right foundation wall located approximately 7'-9" from the front foundation wall at an HVAC penetration.

b. A vertical/stairstep crack (up to 1/16” wide) was observed in the right foundation wall located approximately 7’-0” from the rear foundation wall.
c. A vertical/stairstep crack (up to 1/16” wide) was observed in the left foundation wall located approximately 11’-6” from the rear foundation wall.
d. Multiple additional minor cracks/separations (less than 1/16” wide) were observed in the perimeter foundation walls.

12. Limited girder bearing was observed at the central pier located approximately 11’-6” from the rear foundation wall and 7’-0” from the right foundation wall. The girder was noted to be bearing on vertical 2x4 blocking with multiple unsupported splices.
13. An unsupported splice was noted in the central girder located above the bump-out in the left foundation wall.
14. No vapor barrier was installed in the crawlspace, resulting in exposed soil. Evidence of moisture intrusion in the form of efflorescence and water staining was noted on the perimeter foundation walls. Water staining and what appeared to be organic substances were also noted on the wood framing. Multiple moisture content readings (up to 16.5%) were taken in the floor framing with a pin-type moisture meter.

Right Crawl Space:

15. The floor framing was noted to consist of 2x10 floor joists spaced at 16” on-center generally spanning front to rear supported by 3-ply 2x10 flush girders bearing on a steel pipe column and the perimeter foundation walls.
16. Previous framing repairs were noted above the front-right section of the crawl space beginning at the right foundation wall and extending approximately 4’-0” to the left.
17. A section of damaged perimeter band was noted above the rear foundation wall beginning at the left foundation wall and extending approximately 2’-0” to the right.
18. Cracks/separations were noted in the perimeter foundation walls in the following locations:
    a. A vertical/stairstep crack (up to 1/16” wide) was observed in the right foundation wall located approximately 10’-0” from the front foundation wall.
    b. A vertical/stairstep crack (up to 1/16” wide) was observed in the left foundation wall located approximately 6’-0” from the front foundation wall.
    c. A vertical/stairstep crack (up to 1/16” wide) was observed in the left foundation wall located approximately 9’-9” from the rear foundation wall.
    d. Multiple additional minor cracks/separations (less than 1/16” wide) were observed in the perimeter foundation walls.
19. The central pipe column could be moved with minimal force. The girder appeared to have limited bearing on the pipe column and the column did not appear to be attached to the concrete slab.

DISCUSSION

The construction of a home over an active creek/stream is atypical. We cannot evaluate the foundation of the structure in relation to the creek/stream as that would require a far more extensive scope of work and require input by other engineering consultants, including geotechnical and water resources engineers. Foundations and supports built in close proximity to moving water have an increased potential for settlement and erosion of the supporting soils due to scour. We observed erosion on portions of the slope near the foundation as well as previous unknown concrete installation adjacent to the foundation. Any evaluation and repairs in this area should be performed under the guidance of qualified engineers, since certain repairs could result in unanticipated consequences. For instance, armoring the soil to prevent

erosion could reduce the cross-section of the stream, increase the velocity, or cause a rise in elevation of the stream. We recommend engaging the proper consultants for this evaluation, as needed.

The minor interior wall finish material cracks and tape delaminations noted above (Observation #1) are likely the result of a combination of the supporting members contracting/deflecting. Minor drywall cracking and finish carpentry separations are typically associated with changes in weather, temperature and humidity causing wood to shrink and swell with the seasons. Repeated seasonal cycles can also cause drywall tape to lose its adhesive properties. When moisture is taken away from wood it has a tendency to contract thus resulting in deflection (or sagging). Any walls, windows or doors bearing on the deflected members will also move. We do not consider the interior wall finish material cracks and tape delaminations to be structural concerns at this time.

The crowns in the floor and associated floor slopes noted above (Observations #2 & #3) are likely the result of limited deflection in the framing below. Deflection of supporting members can occur with sustained loads. The crowns occur at the locations of girders or foundation walls, which are more rigid with less deflection than typical floor framing members. Alternatively, deflection of the adjacent floor framing will be greater due to the longer spans and reduced cross-sectional area. This framing configuration naturally creates crowns (high spots) in the floor system. This is not considered a structural concern and no repairs are required.

The limited girder bearing noted above (Observations #12 & #19) are considered structural concerns. Blocking is a necessary component of framing to allow for full-width, uniform bearing for the above floor framing onto the piers/columns below. If left in the existing condition, additional vertical displacement resulting in interior floor slope and interior finish material damages may occur. We have provided recommendations below to address the issues.

The unsupported splice noted above (Observation #13) is considered a structural concern. If left in the existing condition, additional vertical displacement resulting in interior floor slope and interior finish material damages may occur. We have provided a recommendation below to address the issue.

A lack of apparent lateral bracing was noted in the deck and screened-in-porch structures at the rear of the home. These structures may have been constructed in compliance with governing code at the time of original construction; however, these applicable sections of code have likely changed significantly since original construction for improvement of safety standards. We also cannot determine whether the posts are sufficiently embedded in concrete footings such that the footings are deep enough to adequately resists the lateral loads. A full analysis of the auxiliary structures is beyond the scope of this limited inspection and has not been completed; however, we have provided recommendations below, prescriptive to the current governing code, to help improve the integrity of the structures.

The damaged perimeter band noted above (Observation #17) is likely the result of prolonged elevated moisture exposure in the crawl space. Excess water intrusion in the building envelope over time can deteriorate the integrity of the wood framing members and cause rot. In addition, the moisture intrusion can further penetrate other components causing significant damage to neighboring framing members. The damaged floor framing noted above is considered a structural concern. We have provided a recommendation below to address the issue.

The cracks in the foundation walls noted above (Observations #11 & #18) are likely due to limited differential foundation settlement. The clay soils in this area are considered “expansive” type soils and

will typically expand and contract with fluctuations in the moisture content. This expansion and contraction of load bearing soil materials below foundations can lead to soil consolidation and foundation cracking. If conditions around the foundation remain relatively dry, the likelihood of future significant settlement will be reduced, but we cannot predict the extent of future settlement. Improving exterior drainage and monitoring cracks for additional settlement is an acceptable approach at this time. The condition of the foundation walls does not appear to be a significant structural deficiency at this time.

Positive grade away from the foundation should be created to reduce moisture infiltration under the foundation. Additional soil consolidation and foundation movement or settlement can occur due to water infiltration into soils and subsequent drought conditions which dry out the soils below foundations. Maintaining positive drainage away from the perimeter foundation walls is vital to the long-term structural integrity of the foundation.

The moisture-stained roof sheathing noted above (Observation #4) may have been caused by leaks in the roof system. Inspection of the attic framing was limited due to lack of access; therefore, the extents of the moisture staining could not be observed completely. We could not confidently determine if any damage has occurred in the roof sheathing or trusses. We have provided a recommendation to address the moisture intrusion below.

The moisture content of the floor framing noted in the crawl space at the time of the inspection is considered elevated (greater than 15.0%) Note, it is preferred to maintain moisture content of the wood framing to between 9% - 14%. Moisture levels of the framing can fluctuate based on weather conditions and seasonal changes in humidity. Prolonged elevated moisture content of the framing can lead to excessive deflection and structural damage. We have provided a recommendation to further dry out the framing within the crawlspaces.

The compressed bearing of the floor truss noted above (Observation #8) is likely attributed to prolonged periods of high moisture levels over time. Given the unique topography of the site and the exposed nature of the truss, the truss has likely been exposed to high moisture contents causing the bearing end of the truss ends to compress/crush. No signs of significant structural distress were observed in the floor truss at the time of this inspection. If further damage or bearing compression occurs, additional framing repairs may be required.

The previous framing repairs noted above (Observations #10 & #16) appear to be functioning as intended. We could not determine the extents or purpose of the repairs in the right crawlspace; however, we did not observe any immediate structural concerns related to the repairs. The intent of this inspection is to address immediate structural deficiencies and should in no way be interpreted to imply that the existing repairs are up to current building code standards.

The recommendations presented in this report are based on our experience and understanding of the concerns to provide a reasonable solution based on the conditions that were visible and/or known to us on the date of inspection. As this report is based on the circumstances at one point in time, conditions may change which may alter our opinions or result in additional repair recommendations. Further, the recommendations are the opinion of the Engineer to address structural-related concerns and may not rectify cosmetic issues.

RECOMMENDATIONS

The contractor should verify all dimensions prior to ordering materials. If there are any questions or concerns regarding location or method of repair contact the engineer prior to construction.

1. Regarding the limited bearing and unsupported splices noted above (Observations #12 & #13), we recommend building an additional fully grouted CMU course onto the pier and installing flat pressure-treated blocking (min. 3/4" thick) and/or flat metal shims as required to provide full-width, uniform bearing for the floor framing onto the piers. Care should be taken to not excessively jack the framing should it be required during the re-shimming process. Attention should be given to the framing bearing conditions at the nearby bearing points; adjust as necessary to provide full-width, uniform bearing for the floor framing onto the foundation walls.
    a) Ensure the splices above this pier are adequately supported. The splice at the right of the central pier may not land directly above the pier. In this case, install a 6x6 pressure treated post and support the unsupported splice. The 6x6 post may fully bear on the existing footing, or a new 12"x12"x12"-thick footing may be installed if necessary. Positively attach at the top and bottom. A similar repair method may be used for the splice above the left foundation wall.
2. Regarding the limited bearing noted above (Observation #19), we recommend adjusting and re-fastening the pipe column as required to provide full-width, uniform bearing for the floor framing. Install flat metal shims in accordance with Recommendation #1 as needed. Care should be taken to not excessively jack the framing should it be required during this process. Attention should be given to the framing bearing conditions at the nearby bearing points; adjust as necessary to provide full-width, uniform bearing for the floor framing onto the foundation walls/supports.
    a) Ensure all splices in the girder are supported and provide positive attachment of the pipe column to the slab below with (2) 4" Simpson Titen HD anchor bolts (or approved equivalent) and attach the cap plate to the girder with (2) 4" Simpson SDWS screws.
3. We recommend replacing the damaged perimeter band section noted above (Observation #17) with a new equivalently sized and pressure treated perimeter band. The new perimeter band should be fastened to the above wall bottom plate and the below sill plate with 16d toenails spaced at 6" on-center.
    a) If additional damage is discovered to the adjacent perimeter band at the time of repairs, the member shall be replaced with a new equivalent depth member in a similar fashion discussed above.
    b) Prior to completion of this repair, a waterproofing contractor should be contacted in order to prevent further moisture intrusion at these locations.
    c) If proper waterproofing measures can be completed without removal of existing perimeter band, the contractor may install 2x blocking between the joists. Attach the blocking to the adjacent floor joists with (2) 10d toenails and to the existing damaged perimeter band with (2) rows of (2) 10d nails equally spaced.
4. We recommend hiring a contractor to determine and address the source of the moisture intrusion in the attic noted above (Observation #4). If damaged roof sheathing is discovered, we recommend replacing the damaged sections of sheathing from above with plywood/OSB sheathing (size to match existing) a minimum of 48" wide and across a minimum of (3) trusses; use full 4x8 sheets where possible. Attach the new sheathing to the roof framing below using a 3/8" bead of quality construction adhesive (Advantech or equivalent) as well as minimum 8d

ring-shank nails spaced at 6” on-center at the edges and 6” on-center in the field. Install 2x blocking in the attic below as required to support the new roof sheathing panel edges, fastened to the adjacent roof framing with minimum (3) 16d toenails. Note that this will require the removal of the roofing materials at this location. Contact the engineer for additional evaluation if damage to the truss members is observed. Note, adequate access will need to be provided for further evaluation.

   a) Alternatively, if the moisture intrusion repairs do not require removal of the roofing materials, 3/4” plywood/OSB sheathing may be installed between each of the roof trusses where the existing sheathing is damaged. The new sheathing should be pushed tight to the underside of the in-place roof sheathing and should extend minimum 6” beyond the limits of the damaged/deteriorated area. The sheathing is to be supported on all four sides with continuous 2x4 blocking. The new blocking is to be fastened to the face of each in-place truss with minimum (2) rows of 10d nails spaced 6” on center (parallel orientation), or each end of the new blocking is to be toenailed into the face of the in-place trusses with minimum (2) 10d nails (perpendicular orientation). Note that this repair should only be installed after the existing sheathing has adequately dried out and the moisture intrusion concern has been addressed.

5. In regards to the lateral bracing for the rear deck and screened-in-porch noted above (Observation #6) we recommend installing 2x6 vertical cross bracing on the deck posts. The 2x6 bracing shall be attached to the existing deck posts with (1) 5/8” hot-dip galvanized bolt with nut and washer at each end of each bracing member. Additionally, where span between posts is greater than 7‘-0”, install blocking and a 5/8” hot-dip galvanized bolt with nut and washer at the center of the cross bracing.
   a) Note, lateral bracing should be installed on all four sides for the free-standing deck and at the rear of the structure parallel to the home for the attached screened-in-porch.
6. To help further reduce and regulate moisture levels in the crawl space, we recommend extending the vapor barrier throughout the crawl space to cover 100% of the exposed soil. We recommend adjusting the foundation vents as needed (open during humid months, closed during dry months). We recommend ensuring the foundation vents are clear of debris to allow air circulation. If moisture levels remain high (greater than 15%), an appropriately sized dehumidification system may be required. Note, additional deflection or movement of the framing may occur as moisture is removed from the wood resulting in finish material cracks above.
7. We recommend ensuring that stormwater drains positively away from the home to minimize the risk of future water infiltration. This can be accomplished by installing gutters, downspout elbows with pipe boots, and leaders on downspouts. Discharge the leaders a minimum of 10-feet away from the footings/foundation and ensure gutters, downspouts, and leaders remain clear of debris and properly functioning. Also, creating a positive grade, where possible, away from the perimeter of the home will aid in the stormwater evacuation.

General Notes:

- Flat blocking supporting girder or joists at a foundation wall or pier should be pressure treated wood or metal. Wood blocking should be no less than 3/4" thick or utilize flat metal shims instead. Angled shims are not acceptable.
- All new lumber should be SPF No.2 or equivalent. All lumber exposed to concrete/masonry or weather must be pressure treated.
- All repairs should be installed in accordance with the 2024 NC Building Code: Residential Code.
- With any structural changes, finish material cracks and minor movements are typical and expected. These are associated with settlement and allowable deflection generally observed after construction of an addition or significant remodel/repair.

CONCLUSION

We trust that this report provides the information you require. Please contact us at 919-465-3801 if you have any questions. Thank you for the opportunity to be of assistance to you.

Sincerely,





Digitally signed by Christopher A Flythe
Date: 2026.08.10 14:48:03-04'00'

Brett T. Overvold, EI
Project Engineer
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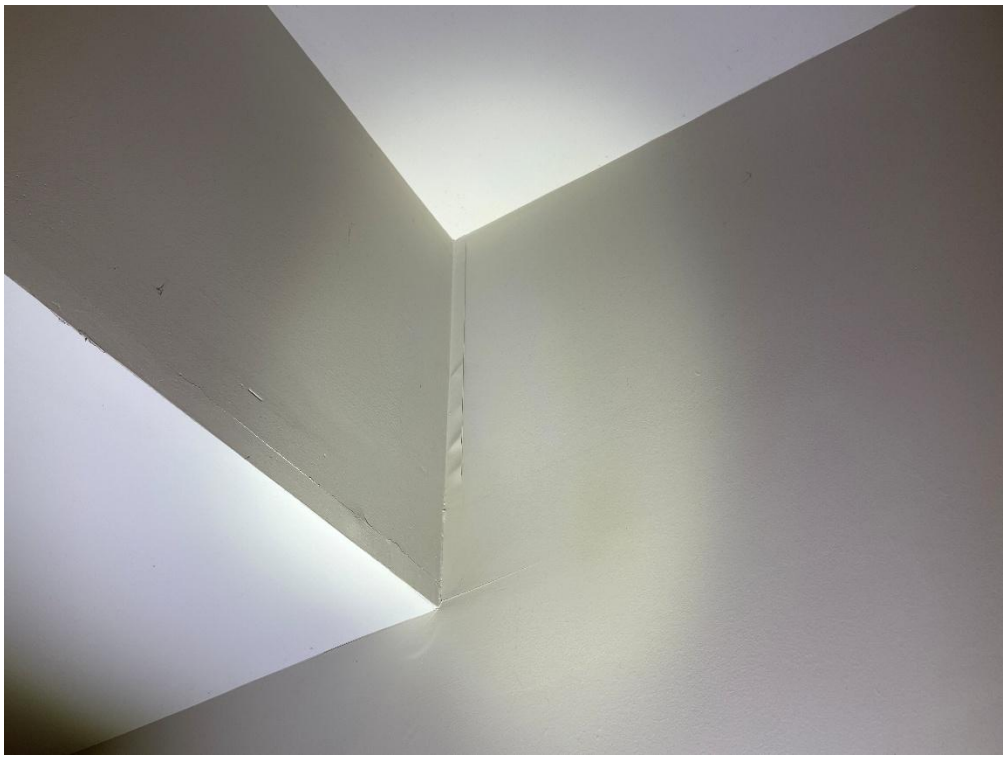
Christopher A. Flythe, PE
Principal Engineer
Giles Flythe Engineers Inc.
NC Lic. No. C-2871

Enclosed: Limited Photo Log

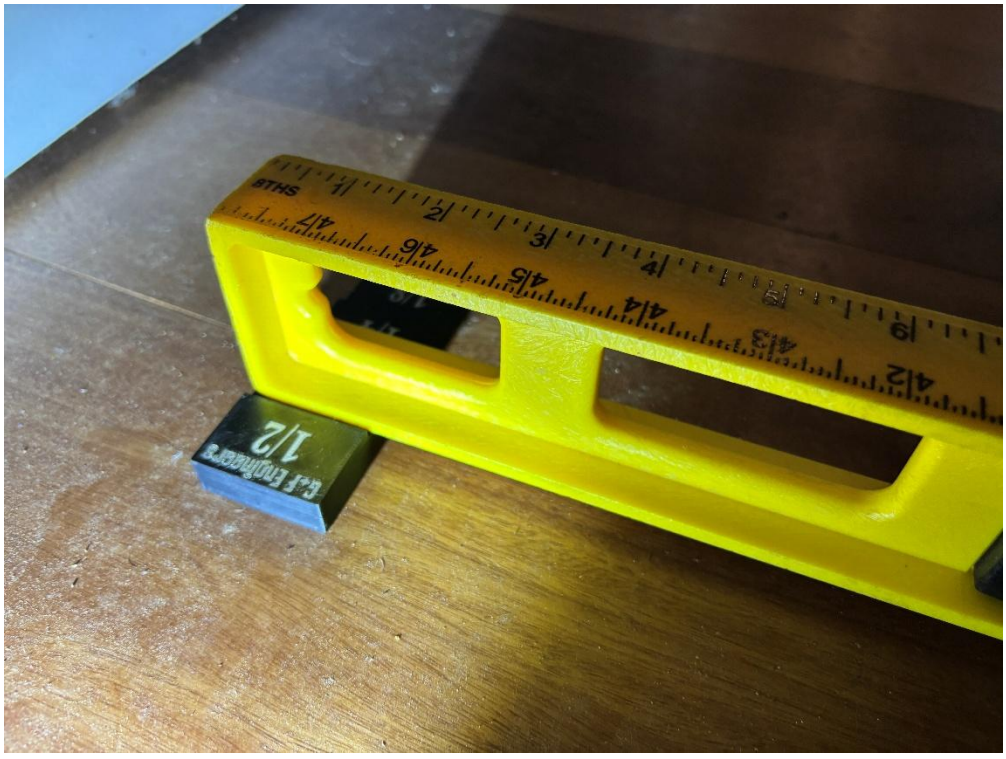
Description General view of the front of the home (for reference).	
Photo No. 1	

Description View of the right-rear screened-in-porch, with no apparent lateral bracing installed.	
Photo No. 2	

Description View of the left-rear deck, with no apparent lateral bracing installed.	
Photo No. 3	

Description Typical view of minor drywall cracking and tape delamination.	
Photo No. 4	

Description View of floor slope into the rear kitchen wall.	
Photo No. **5**	

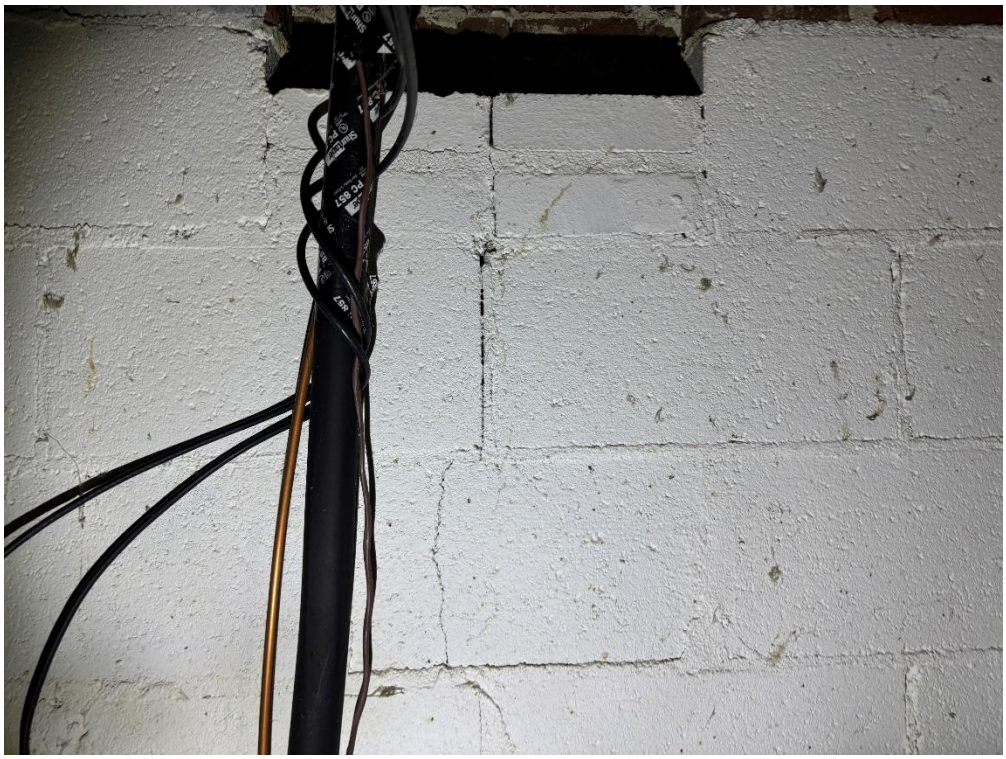
Description View of floor slope in master bedroom.	
Photo No. **6**	

Description Typical view of moisture-stained roof sheathing.	
Photo No. **7**	

Description Typical view of floor framing underneath the section of home bridging across the creek.	
Photo No. **8**	

Description View of limited bearing in crawlspace.	
Photo No. **9**	

Description Typical view of previous framing repairs in left crawlspace.	
Photo No. **10**	

Description Typical view of a crack in the crawlspace foundation walls.	
Photo No. 11	

Description Typical view of the framing repairs in the right crawlspace.	
Photo No. 12	

Description View of the damaged perimeter band in the right crawlspace.	
Photo No. 13	

Description View of the compression of the truss bearing on the foundation wall.	
Photo No. 14	