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November 12, 2025

(Lic. #P-0207)

To: Eric Locklear

Subject: 206 West North Street  
Erwin, NC

To Whom It May Concern,

The following observations have been made on subject project after a site inspection has been conducted to evaluate the structure of the house. A complete renovation project is taking place to the house.

Roof Framing:

1. Collar ties consisting of 2x6's on every rafter is needed in this case.
2. H2.5 hurricane clips on every rafter is required per NC Residential Building Code.
3. In the new addition section, the rafters are 2x6 rafters at 24" on center. I recommend installing 2x6 rafter in between each one to make it 12" on center.

Ceiling Framing:

1. An existing (2)2x10 is insufficient to support loads to create a 10'-6" opening. I recommend replacing the beam with a bottom flush (2)9.25" LVL beam with (3) stud columns on either end. If the point load on the interior end created by the new stud column does not land on an existing masonry pier then I recommend installing a 6x6 post with 18"x18"x8" concrete footing directly under the stud column above. Solid blocking is required in the crawl space under the point load loads created by the new stud columns.
2. All ceiling joists need to be 2x6's at 16" on center throughout the house. In the front section by the front door a (2)2x8 bottom flush beam with (2)stud columns on either end be installed to break up the long continuous span from exterior side walls.
3. The laundry room opening needs a (2)2x10 beam with (2) stud columns on the addition and another (2)2x10 beam with (2) stud columns on the interior side.
4. The laundry room exterior door does not have room for a regular timber header so I recommend 4x4x 1/4" steel tube over the door with a stud column and king on either side.
5. All exterior windows and doors need at least a (2)2x8 header with a stud column and king on either end.
6. In the vaulted ceiling section, install 2x6 collar ties on every rafter to vault the ceiling. Furr down the vaulted rafters to install the required R38 insulation or install closed cell foam insulation without the furr down.

First Floor Framing:

1. The existing masonry piers are too far apart to support the live floor loads supporting the existing floor joists running right to left. So, I recommend installing 6x6 posts with 18"x18"x8" concrete footing in the middle third span of the over span between piers.
2. The back addition floor joists that run front to back are supported with dry stacked CMU block. This is unacceptable and the 40 pounds live loads are not being supported. I recommend installing 8"x16" solid masonry piers with 16"x30"x8" concrete footings at 5'-0" on center to support the existing girder beam.
3. Storm water runoff is running back toward the house foundation walls, because the ground is flat by foundation walls. The subsurface soils are getting over saturated with storm water runoff. I recommend installing ABC stone (Aggregate Base Coarse – "Crush & Run" base material) at the surface around the perimeter of the house at the exterior foundation wall of the house. Create a slope with the ABC stone (6"-8" from the ground up the brick wall) that causes the storm water

to run away from the foundation wall then re-install mulch or grass. Install ½ round wells at the existing vents to achieve the proper slope for drainage around any air vents if they are too close to the ground. Fill the ½ round with drainage stone and weep hole to discharge any storm water collected. I recommend installing gutters and downspouts to properly disperse storm water off the roof system. The downspouts at each location needs minimum 36" solid corrugated pipes on the ends or extend to the edge of the natural area.

The above-listed determinations and recommendations are made in compliance with common engineering principles and the intent of the 2018 edition of the *North Carolina Residential Building Code*. The conclusions are based on limited visual observations made at the subject project site. Destructive testing or monitoring was not performed or requested. All work is to conform to applicable provisions of current building standards. All conclusions are considered accurate to the extent of evidence available and conditions at the time of evaluation. All opinions and conclusions are subject to revision based on receipt of new or additional information. If you have any questions or additional issues arise, please feel free to call me at (919)247-2572.

Sincerely,



Patrick E. Teague, P.E.



11/12/25