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Beth Hernandez
2604 Holly Springs Church Rd.
Broadway, NC 27505

Re: Structural Observation — 2604 Holly Springs Church Road, Broadway, NC 27505

Ms. Hernandez,

At your request, on September 19, 2022 we performed a visual structural observation of back addition at the Broadway residence noted above. The structure is a conventionally framed, detached, single family residence with raised first floor framing over a pier/girder foundation system with perimeter masonry foundation walls (*see picture 1*).

Our observations and recommendations are listed below. Indicators such as “left,” “right,” “front,” and “back” are referenced as viewing the front of the home.

BACK ADDITION

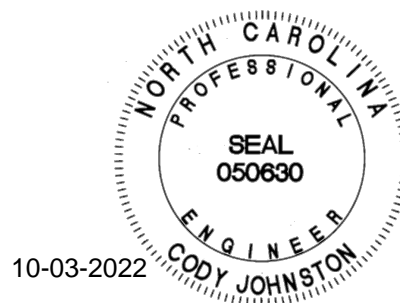
- The roof system of the back addition and carport was constructed with manufactured roof trusses with a profile matching that of the original home with 2' o.c. spacing (*see picture 2 for example*).
 - The front and back ends of the trusses were noted to be fastened using “H2.5A” hurricane ties (*see picture 3 for example*).
 - *No medication is required for this item.*
 - The front ends of the trusses were supported by dropped beams. The sizes / material of the beams could not be determined due to the presence of finishes (*see picture 4 for example*).
 - *Verify/provide that the front of the new roof trusses are supported by at least built-up (2)1¾”x11⅞” LVL (Boise Cascade VersaLam 3100 or equivalent) with continuous span between end supports.*
 - *Verify/provide at least 4”x4” #2 SYP posts to support each of the ends of the beams.*
 - *The middle post should be centered over and conventionally fastened to a 26”x26”x10” thick poured concrete footing that is set at least 12” into suitable bearing soils.*
 - *The left and right posts should be centered over and conventionally fastened to an 18”x18”x10” thick poured concrete footing that is set at least 12” into suitable bearing soils.*

- The wall framing and the headers over the window opening could not be observed due to the presence of finishes (*see picture 5 for example*).
 - *Verify/provide a (2)2x10 #2 Southern Yellow pine (SYP) header over the window in the back wall of the addition.*
 - *The header should be supported at each end using (1)2x4 #2 Spruce-Pine-Fir (SPF) jack and (1)2x4 king stud.*
- The first floor was conventionally framed with 2x10 joists at 16" o.c. spacing spanning approximately 11' from the front to back foundation walls.
 - *No modification is required for this item.*
- Sill plates around the perimeter of the addition were noted to be anchored to the foundation using ½" anchor bolts with nuts and washers. However, at various locations the anchor bolts were noted to be spaced greater than 6' o.c. and at sill plate splices along the front and back foundation walls of the addition anchor bolts were not installed within 12" of breaks in the plates.
 - *Sill plates around the perimeter foundation wall should be adequately fastened to the tops of the walls with Simpson "Universal Retrofit Foundation Plates" or other approved alternate at 6' on center and 12" max / 5" min from sill plate ends and breaks, with (2) anchors minimum per segment of sill plate.*
- The perimeter foundation was noted to have been constructed from 8" CMU and 4" brick veneer. Probing for the footing indicated that the foundation wall was set over an approximately 16" wide footings.
 - *No modification is required for this item.*
- Crawlspace soils were covered by a ground vapor barrier, perimeter vents were sealed, and a dehumidifier had been installed in the crawlspace
 - *No modification is required for this item.*

After the verification/addition of the above-noted items, we would consider the visible portions of the addition to have been constructed in a good and workmanlike manner in accordance with common construction principles and the intent of the 2018 edition of the *North Carolina Residential Building Code*.

The above-listed determinations were made in accordance with common engineering principles and the intent of the 2018 edition of the *North Carolina Residential Building Code*. Sequencing, and means and methods of construction are considered to be beyond the scope of this report. 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,
Cody Johnston, PE
Stonewall Structural Engineering, PLLC
Lic. #P-0951



PICTURE ADDENDUM



*Picture 1 – 2604 Holly Springs Church Road
Broadway, NC*



Picture 2 – Example of roof trusses over the addition and carport



Picture 3 –Example of “H2.5A” hurricane tie



Picture 4 – Example of dropped beam supporting the front ends of the roof trusses



Picture 5 – Example of window opening



Picture 6 – Example of dehumidifier



Picture 7 – Example of sealed crawlspace vents