

Cody Johnston, PE
Stonewall Structural Engineering, PLLC
4800 Falls of Neuse Rd. #120
Raleigh, NC 27609
(919)407-8663



Michael Hemby
900 Bridlemine Dr.
Fuquay-Varina, NC 27501

Re: Structural Observation—2251 Pearidge Road, Angier, NC 27501

Mr. Hemby,

At your request, we designed a beam to support the roof framing over the garage of the structure that is currently under construction at the Angier residence noted above based on provided architectural plans.

Upon completion of our analysis, our structural calculations indicate the following. Indicators such as "left," "right," "front," and "back" are referenced as viewing the front of the home.

GARAGE BEAM

- The beam should be a (3)1¼"x16" LVL (Boise Cascade VersaLam 3100 or better) with continuous span between the front and back garage walls and built-up with (3) rows of 16d sinkers at 12" o.c. spacing on each side of the beam.
- The underside of the beam should be installed flush with the underside of the ceiling joists and braced with 2x4 kickers (*see detail 1*).
 - Fasten ceiling joists to each side of the beam with Simpson face hangers.
- Install securely fastened 2x4 stubs from the existing ridge board to the new beam at 48" o.c. spacing and at any splices in the existing ridge board (*see detail 1*).
- Support the back end of the beam with (4)2x4 #2 Spruce-Pine-Fir (SPF) studs.
 - Install (4)2x6 studs at the same location in the 1st story wall below.
- Support the front end of the beam with (3)2x6 #2 SPF studs to the window header below.
 - Verify the window header is at least a (3)2x8 with a 2x6 jack stud at each end.
- Verify the garage door header is at least a 3½"x16" Glulam (Southern Pine 24F-V1 or better) supported by (3)2x4 #2 SPF jack studs at each end.
- Verify the existing footing beneath each bearing point is at least 24" wide x 12" thick and is set on adequate bearing soils.

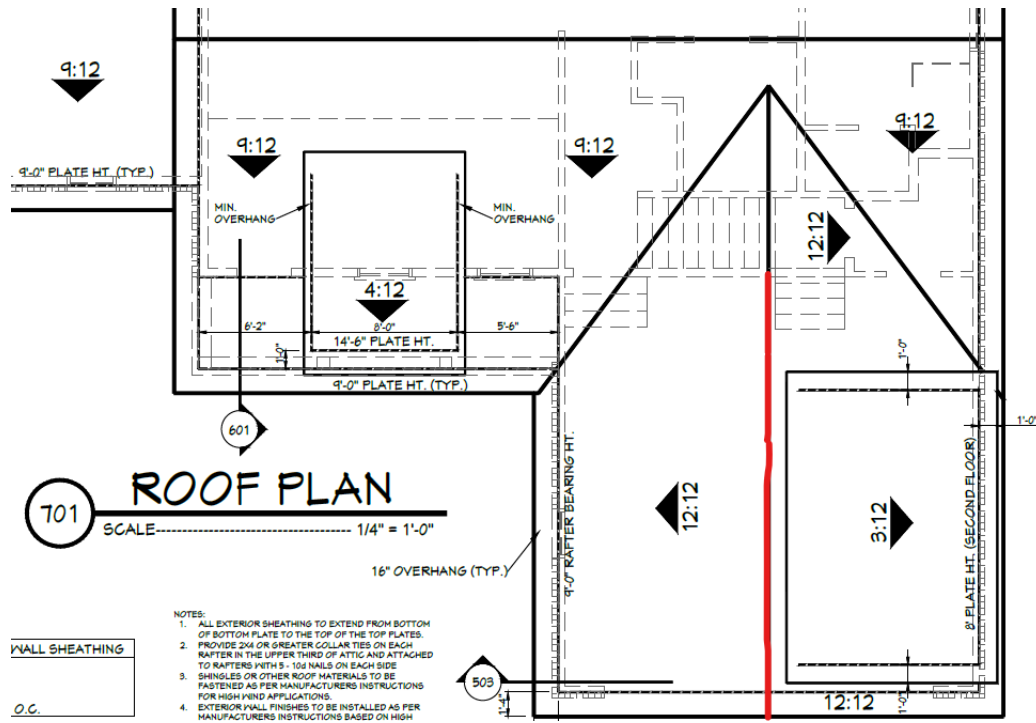
The above-listed determinations were made in accordance with common engineering principles and the intent of the 2018 edition of the *North Carolina Residential Building Code*. Sequencing, and means and methods of construction are considered to be beyond the scope of this report. Contractor is to provide adequate temporary shoring prior to cutting or removing any structural load bearing elements. 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

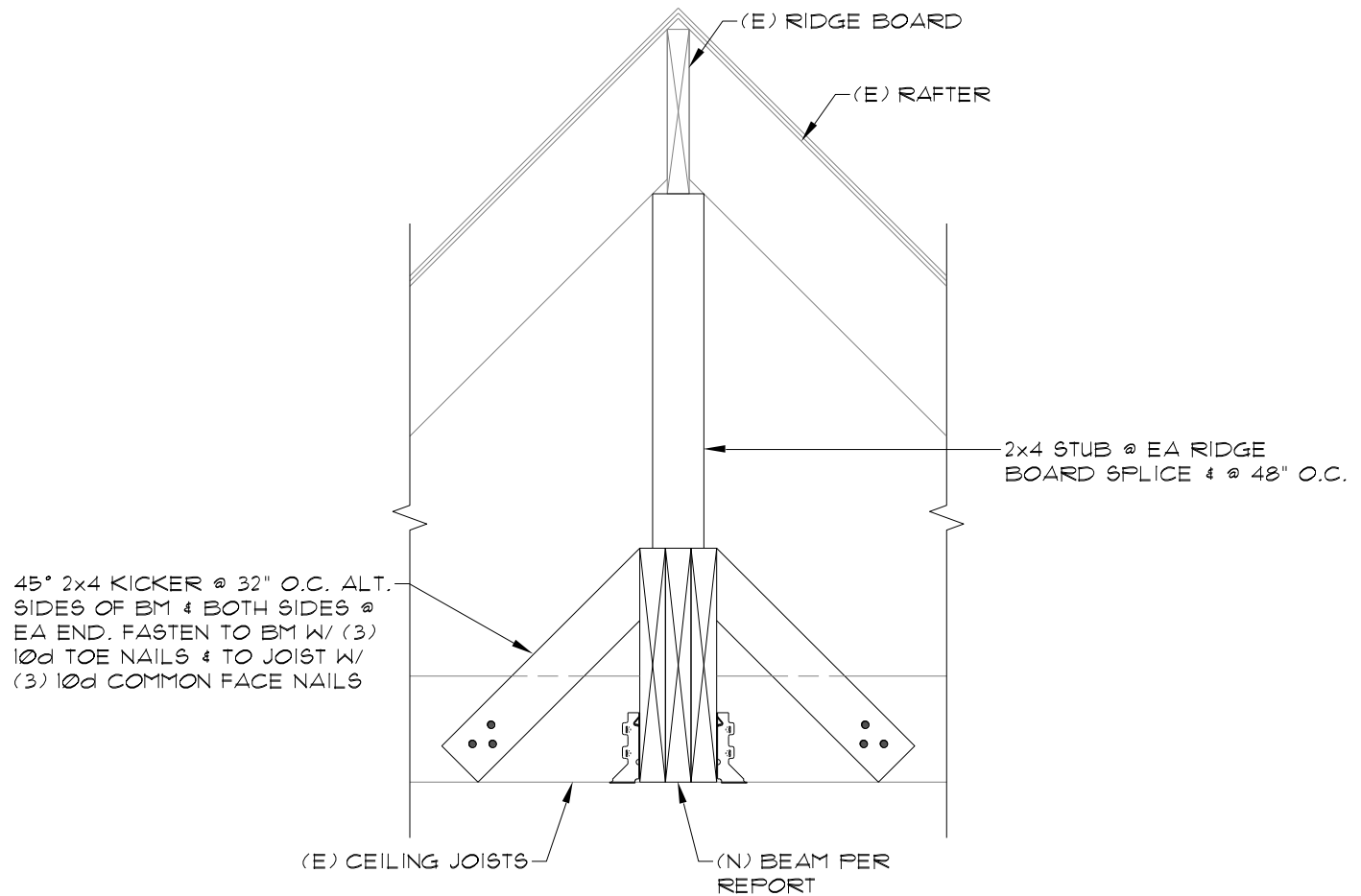


12-15-2023

PICTURE ADDENDUM



Picture 1 – Location of ridge beam to be installed at 2251 Pearidge Rd.
Angier, NC

DETAIL ADDENDUM*Detail 1*