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July 21, 2023

Mike Sayre
1623 Harrington Road, Broadway, NC 27505
Cell (910) 369-5452, msayre6@gmail.com

RE: Engineering - Plan Review and Structural Recommendations
MIKE SAYRE PLAN
Project No.: 23PT-0620A

Dear Mike Sayre;

Thank you for using PE Teague. The plans named Mike Sayre, dated Preliminary 3-30-23, Final 4-17-23 and Revision 5-26-23 by Advanced House Plans and the Roof truss layouts prepared by Longleaf Truss Co. Project SAYRE ; order # P23-05036 with truss data dated Jun 15 2023 were provided by Mr Sayre. The wind speed for the plans was for 115 MPH and the North Carolina State Residential Building Code (NCSRBC) requires 130 MPR. The walls were analyzed for 130 MPH wind loading and will require the following:

Brace walls for continuously structurally sheathed conditions are adequate with the following exceptions. The front garage wall and the rear wall for the main structure as shown on sheets 2 and 3 of 8 29955. These walls require portal framing in accordance with R602 of the NCSRBC. The headers across the walls should be (2)1.75X11-7/8 LVL's running across the entire walls in accordance with R602 of the NCSRBC. The walls will be required to have a Simpson H2.5 attached to the roof trusses to the top plate for the main structure as well as the rafters (use of conventional framing for the garage - changed from the roof trusses). The porch framing on the exterior require the beams to be treated SYP (4)2X12's spanning no greater than 7ft 2in in the clear and should be posted to a treated SYP 6X6 to be attached to the beams by a Simpson EPC6Z post cap and to the concrete footing by a Simpson ABA66Z post base. The posts should run from the bottom of the beam to the footing. This may require the floor bands to be through bolted to the posts with two 5/8" diameter bolts. The porch post footings will require a 18"x18"x18" concrete for each post. The foundation walls should have 8 inch CMU foundation walls on a 10" thick by 18" wide concrete footing with two # 4 reinforcing steel bars continuously. The walls should have 5/8" diameter foundation bolts 1 ft from each corner and every 6 ft c/c with the exception of the two portal frame walls outlined previously. The exterior porch bands and floor joists appear to be adequate for treated SYP framing members as shown on the plans as shown on sheets 4 and 5 of 8 22915.

The garage roof and ceiling joists are planned on being conventionally framed by using 2x8 rafters at 16" c/c with a 2X6 collar tie every rafter at 1/3 the ridge height and a 2X10 ridge board. The ceiling joist will require an I-joist every 16" c/c. The I joist spanning 24 feet left to right (BCI 60s 2.0 or equivalent) would need to be a 11-7/8 inch deep joist for ceiling load only or a 14 inch deep joist for floor (40 PSF LL).

Sincerely,



Pat Teague
23PT-0615B