

August 1, 2022

To: Deiondrea Earnest
2605 Clark Lane
Orange, Texas 77632

RE: Job # 22-50073
2605 Clark Lane
Orange, Texas 77632

Subject: Structural Inspection

Authorization and Purpose:

Aran & Franklin Engineering was authorized by Miss Earnest (client) to inspect the current status of newly constructed home at the above referenced address. Specifically, Aran & Franklin was asked to assess the structural framing, and to determine if the framing meets current residential codes and building practices.

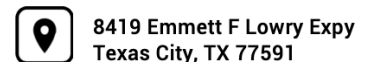
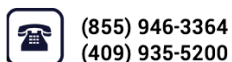
Scope:

Aran & Franklin conducted a visual inspection of the framing on the inside of the home. We visually inspected the framing under the breezeways and porches. We inspected window installation and a few locations of the exterior wall sheathing to check nail pattern and thickness. We inspected the roof shingle install and checked nail pattern on shingles. Our firm could not thoroughly inspect the roof sheathing or underlayment. Our firm could not thoroughly inspect the foundation, other than visual inspections for stress cracking and sloping. Our firm is not including any guidance on addressing the electrical, mechanical or plumbing systems. This is not a complete forensic analysis of the building, and we are just commenting on what is visible at the time of inspection.

Description of the Building: Main House

The subject structure is a one-story wood framed residential home on slab foundation. The roof consists of asphalt shingle roof and currently they are no exterior finishes or exterior trim installed. The owner has provided an engineered stamped design. No structural documentation has been provided.

Observations / recommendations:



Foundation: We were not able to conduct a full inspection of the slab foundation. We did however review the provided design and found the foundation design suitable for windstorm purposes. In our observation of the foundation, we found Simpson MASA Mudsills were installed at 32” to 48” o.c. to anchor the 2x6 sole plate to the foundation.

Framing:

Stud wall/ header framing: The wall framing consisted of 2x6 syp for the sole plate, studs @ 16” o.c., and double top plate. The rafters are 2x6 syp @ 16” o.c. We found that the studs were missing clips and/or strapping, from the top plate to stud and stud to sole plate. We found that the header on the exterior load bearing walls were 2x6 syp boxed in. The 2x6 headers are undersized for supporting the loads from above. The headers are not strapped or clipped to the studs. The ceiling joists are 2x6 syp. The 2x6 rafters are resting on the top plate. The rafters are not strapped properly. Every other rafter had a H2.5A installed from rafter to top plate. This is not typical for a windstorm design. These straps are crucial for creating a continuous load path to the foundation.

It is recommended to add Simpson H2.5A clips from top plate to stud and from stud to sole plate @ every stud location. Replace headers according to the span legend below. Add Simpson LSTA18 straps on each side of the headers. See DT-68 framing and connections for openings detail for guidance. Add Simpson H2.5A clips from every rafter to double top plate.

Window install: Windows were installed using 1-1/4” roofing nails, this installation method is not approved. The approved installation method is to use a minimum #8 pan head screws @ 2” from each corner and @ 12” o.c. along the perimeter, with a minimum 1-1/2” penetration into wall stud.

Wall sheathing: The exterior wall sheathing is 7/16” osb. The sheathing is installed using staples. This is not the proper wall to install sheathing to be in compliance with IRC 2018 code requirements. It is recommended to add 0.120” dia.x 3” deformed nails @ 6” o.c. on the panel edge and 12” o.c. in the field.

Roof: We were not able to do a full inspection of the roof install. We did observe that the starter strip was nailed properly and the shingles had the correct nailing pattern.

In order to obtain a letter of compliance for the roof covering install the client will need to remove a minimum 10 square foot of shingles and underlayment so we can observe the roof decking nailing installation.

Description of the Building: Small House

The subject structure is a one-story wood framed residential home on slab foundation. The roof consists of asphalt shingle roof and currently they are no exterior finishes or exterior trim installed. The owner has provided engineer stamped design. No structural documentation has been provided.



Observations / recommendations:

Foundation: We were not able to conduct a full inspection of the slab foundation. We did however review the provided design and found the foundation design suitable for windstorm purposes. In our observation of the foundation, we found Simpson MASA MudSills were installed at 32" to 48" o.c. to anchor the 2x6 sole plate to the foundation.

Framing:

Stud wall/ header framing: The wall framing consisted of 2x6 syp for the sole plate, studs @ 16" o.c., and double top plate. The rafters are 2x6 syp @ 16" o.c. We found that the studs were missing clips and/or strapping, from the top plate to stud and stud to sole plate. We found that the header on the exterior load bearing walls were 2x6 syp boxed in. The 2x6 headers are undersized for supporting the loads from above. The headers are not strapped or clipped to the studs. The ceiling joists are 2x6 syp. The 2x6 rafters are resting on the top plate. The rafters are not strapped properly. Every other rafter had a H2.5A installed from rafter to top plate. This is not typical for a windstorm design. These straps are crucial for creating a continuous load path to the foundation.

It is recommended to add Simpson H2.5A clips from top plate to stud and from stud to sole plate @ every stud location. Replace headers according to the span legend below. Add Simpson LSTA18 straps on each side of the headers. See DT-68 framing and connections for openings detail for guidance. Add Simpson H2.5A clips from every rafter to double top plate.

Window install: Windows were installed using 1-1/4" roofing nails, this installation method is not approved. The approved installation method is to use a minimum #8 pan head screws @ 2" from each corner and @ 12" o.c. along the perimeter, with a minimum 1-1/2" penetration into wall stud.

Wall sheathing: The exterior wall sheathing is 7/16" osb. The sheathing is installed using staples. This is not the proper wall to install sheathing to be in compliance with IRC 2018 code requirements. It is recommended to add 0.120" dia.x 3" deformed nails @ 6" o.c. on the panel edge and 12" o.c. in the field.

Roof: We were not able to do a full inspection of the roof install. We did observe that the starter strip was nailed properly and the shingles.

In order to obtain a letter of compliance for the roof covering install the client will need to remove a minimum 10 square foot of shingles and underlayment so we can observe the roof decking.



Description of the Building: Breezeway

Observations / recommendations:

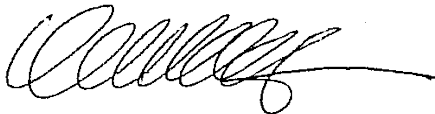
Breezeway framing: the breezeway framing consisted of 2x6 syp ceiling joists and 2x6 rafters @ 16" o.c.. The ceiling joists are supported by a 3-1/2"x12" glulam beam headers. The rafters are intermittently clipped with Simpson H2.5A clips. The post supporting the headers are 8x8 treated wood post connected to concrete footing using a Simpson ABU88 post base. The headers are toe-nailed into the post. These post will need to be bolted using 5/8" through bolts (1) 3" from top and (1) 3" from bottom a minimum of 2 bolts per each header beam to post. It is recommended to strap all rafters to the headers beams using a Simpson H2.5A clip.

Conclusion:

Our firm's inspection did not reveal any significant structural defects in the residence, however re-nailing of sheathing and adding clips and straps as noted is important prior to cover up of the items.

If you have any questions or require any further clarification on this recommendation, please let me know.

Regards,



Chandra Franklin Womack, P.E.
President



F-4632

The seal appearing on this document was authorized by Chandra Franklin Womack, P.E. #105994 on August 1, 2022 for review.



HEADER SPAN TABLE

GRADE #2 LUMBER

(ALL HEADERS ARE DROP BEAMS, U.N.O.)

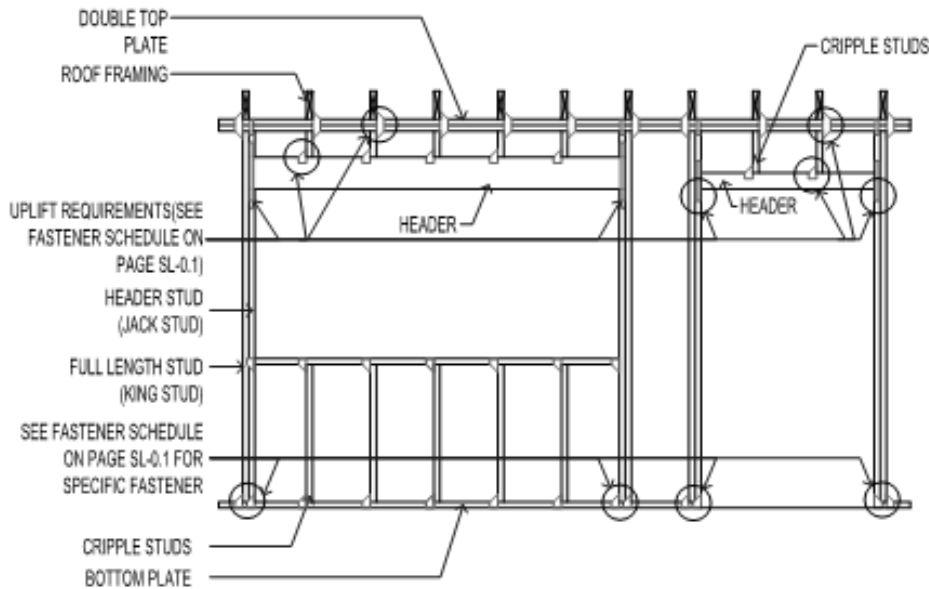
(HDRT) = TYPE 1 HEADER

TYPE	OPENING SPAN	ONE STORY THICKNESS	WALL THICKNESS	TWO STORY	HEADER REQ'D
7	</= 3'-9"	2	3.5"	2	TWO 2"x8" #2 SYP w/ 1/2" PLYWD FLITCH
8	</= 4'-3"	2	5.5"	3	THREE 2"x8" #2 SYP w/ 1/2" PLYWD FLITCHS
9	3'-9" TO </=4'-6"	2	3.5"	3	TWO 2"x10" #2 SYP w/ 1/2" PLYWD FLITCH
10	4'-0" TO </=4'-10"	2	5.5"	3	THREE 2"x10" #2 SYP w/ 1/2" PLYWD FLITCHS
11	4'-6" TO </=5'-3"	2	3.5"	3	TWO 2"x12" #2 SYP w/ 1/2" PLYWD FLITCH
12	5'-1" TO </=5'-11"	2	5.5"	3	THREE 2"x12" #2 SYP w/ 1/2" PLYWD FLITCHS

OPENINGS GREATER THAN 5'-11" SHALL REQUIRE ENGINEERED MEMBERS

NOTES:

1. THIS TABLE USES EITHER 0.25" DEFLECTION OR L/240 WHICHEVER IS LESS
2. THIS TABLE ACCOUNTS FOR ONLY ROOF AND CEILING LOADING
3. FOR GENERIC 1 & 2 STORY FRAMING, U.N.O IN PLANS.
4. ONE STORY LOADING IS FOR UPPER MOST LEVEL OF STRUCTURE, TWO STORY IS BELOW UPPER LEVEL.



DT-68 FRAMING AND CONNECTIONS FOR OPENINGS