

February 12, 2020



Mr. Jaime Mayo, AIA
HNM Architecture, LLC
3705 North Federal Highway
Delray Beach, FL 33483

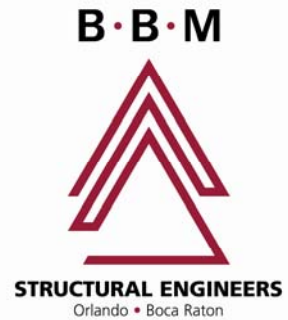
RE: Structural Evaluation of Proposed new H&M Architectural Office
143 S. Swinton Ave., Delray Beach, FL

Dear Mr. Mayo:

As directed by your firm we have performed a structural evaluation of the existing one-story structure featuring about 1570 sf for the planned renovation and expansion. The existing structure is a wood framed structure dating back to the early 1930's that has been significantly adapted and expanded on at least two occasions. The original cracker style home consisted of a gable framed roof with porch and fire place as notable amenities. A first addition enclosed the front porch facing west followed by the second addition along the north side enclosing new bedroom off the original family room.

Building floor plan is an irregular shaped rectangle having a combined hip/gable framed roof area that accomplished a low sloped roof over the original shape and adjoining prior expansions. Construction consisted of hardwood subflooring on raised wood floor framing supported on low concrete piers. Exterior walls used Dade pine 2x4 studs ballooned framed from perimeter rim joist to top plate. Roof framing also used hand framed Dade pine roof rafters spaced irregularly with random 1x bracing between roof and ceiling joist. Roof sheathing consist of 1x tongue and groove slat framing with a composite shingle exterior wall finish. To achieve positive roof drainage and ceiling height, prior additions added approximately 16" in height over existing porch framing using a hand framed cripple walled attached atop the existing porch perimeter roof framing. The addition of new wall framing without properly splicing wall members to existing members created a pinned condition that lacks any substantial flexural strength at this point. As shown in the photographs, the pinned condition lacks any flexural continuity from base of wall to the upper top plate. Additionally, the subsequent additions did not use the naturally decay and insect resistant Dade pine but instead used common Yellow Pine that is not decay resistant. We observed many areas within the structure where water intrusion or termite infestation has caused localized decay and loss of strength of the members. Hand framed members were typically nail used common steel nails without any hurricane straps or clips on any framing member. Toe nailing was

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observed in several locations as the typical joining method in the framed roof and wall framing areas.

It is our opinion that since the structure is planned for significant renovations including revised wall opening locations and repositioning interior load bearing walls in such a manner that the structure will need to be brought up to the existing standards of the Florida Building Code. This requirement, along with strengthening all of the existing walls, roof and floor framing will essentially require the structure to be rebuilt as existing member framing does not meet existing Florida Building Code provisions for strength or connection detailing. Existing foundations may be reused where applicable or removed to allow for a conventional floor slab on grade to replace the elevated wood framed floor.

If we can be of further assistance please do not hesitate to contact our office.

Sincerely,
BBM Structural Engineers, Inc.

Joel Middlebrooks, P.E.

Joel R. Middlebrooks, P.E.
Vice President
PE 35422



Hand framed roof framing without hurricane clips.

Significant decay observed at sill

Inadequate roof joist supports

Cripple wall framing above header without vertical continuity creates hinge condition

Lack of hurricane clips on wall studs



Hand framed roof framing without hurricane clips.

Significant decay observed at sill

Inadequate continuous jamb reinforcement

Cripple wall framing above header without vertical continuity creates hinge condition

Lack of hurricane clips on wall studs



Hand framed roof framing without hurricane clips.

Significant decay observed at sill

Inadequate continuous jamb reinforcement

Lack of gable end wall bracing

Lack of hurricane clips on wall studs