Job Number: 0123-21


# A. A. Takla Engineering, PLLC

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**Consulting. Design. Efficiency.**

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**Project:** 57 Inlet View

**Location:** Sanford, NC

**Company:** Freys Building and Remodeling

**Care Of:** Jeff Greer

**Subject:** Structural Review

NORTH CAROLINA PROFESSIONAL SEAL 050695 ENGINEER ANDREW ATEF TAKLA
2-26-2021

**REVISED 2-26-21**

As requested, Andy Takla, PE visited the above referenced site on January 27th, 2021 to evaluate the following structural items presented to engineer by project manager; Based on observations, evaluations and calculations, we find and recommend the following:

1) Left (newly added) portion of the slab at the rear kitchen bump out was evaluated. We understand the slab was not inspected prior to placement of concrete but the lug footings were inspected and verified. The primarily issue observed is the lack of embedment of the left bump out slab turndown (essentially sitting on grade).
   a) To remedy, we recommend undermining left turndown such that bottom of newly added footings are no less than 12" below grade and at least 16" wide. Ideally, the concrete used to enlarge the turndown would be monolithically poured with / to patch the slab (cut to rework underslab services).
   **b) 2" foam insulation normal placed around slab on grade foundations is not required in this application.**

2) New I-joist spanning over the living room/ kitchen area (replaced due to a break over a since removed wall) is suitable to carry the loads. Note, some minor sheet rock cracking in the right wall of the mater bedroom ***may*** occur as the joists deflect under a new effective span. Such cracks would be considered primarily cosmetic in nature and need not be cause for alarm; However, if intolerable, reinforce the I-joists by packing out at least one side of each I-joist under the wall (per plans).

3) The hanger connecting the intersecting beams (2)20" LVL and (2) 9 ¼" LVL in the master bedroom was evaluated. In-place hanger (HUGS412) is adequate to carry the loads despite 1.5" long nails being used (instead of 3" long nails). No change is required.

4) Footing placement (configuration and orientation) supporting the right end of the steel beam and the left end of the (2) 16" LVL header in rear wall of first story was evaluated and found suitable as-is to carry and transfer loads. No change required.

5) In-place bolting pattern connecting the web packing to the web steel beam (½" dia at 24" on center) is adequate to transfer loads to the steel beam. No change required.

6) Rear porch of rear covered patio slab was also poured prior to inspection. However, given the evidence of reinforcing dowels and the lack of any inducing loading (essentially only dead load of rear wall), we feel comfortable accepting conditions as-is.