



November 9, 2022

Curtis Currie
805 Broadmore Drive
Fayetteville, NC 28314
Email: ctwice32@yahoo.com

Reference: Engineering Services
204 Harris Lane
Bunnlevel, NC 28323
TE&D Project No.: 2201-020983

To Whom It May Concern;

As requested, a representative of Tyndall Engineering & Design, PA (TE&D) was on-site to observe the following item(s):

- 1) Structural assessment of existing metal building.

The following conclusions and recommendations were noted:

- 1) We observed the structure consisted of a pre-fabricated metal building measuring approximately 40'-0" x 30'-0". The pre-fabricated metal building was supported by metal stud walls and metal roof trusses at 5'-0" o.c.

The pre-fabricated metal building was further supported by a 6" slab at existing grade. We did not observe a continuous concrete footing; however, we did observe an approximately 8" deep concrete footing at the rear left corner of the structure. The building was fastened to the slab with 3/8" expansion anchor bolts at the front and rear exterior walls; however, it was observed that several anchor bolts were missing nuts and washers. At the left and right exterior walls, anchor bolts were not installed; however, the pre-drilled holes were filled with #4 rebar where applicable.

Based on our observations and analysis, the existing pre-fabricated metal building is inadequate to support the anticipated loading conditions. TE&D recommends the following enhancements:

- a. Per 2018 North Carolina Residential Building Code Section R101.2.1, accessory buildings are to be supported by a concrete foundation if the accessory building exceeds 400ft². TE&D recommends installing new 12" wide concrete footings so that the depth meets the minimum 12" frost depth as laid out in R403.1.4 and Table R301.2(1) in the 2018 NC Residential Building Code. The reader is referred to the detail on page 4 of this report for footing installment.
- b. The existing anchoring configuration is inadequate to support the anticipated loading conditions. Based on our observations and analysis, the exterior wall framing is to be fastened to the foundation with 1/2" x 8" Simpson Titen HD concrete screws (or equivalent). Screws are to be installed at the center of the sill plates, with a maximum spacing of 6'-0" o.c. and within 12" of plate splices. Due to the proximity of the slab edges, expansion anchor bolts may not be used.



Upon completion of the above-mentioned recommendations, the pre-fabricated metal building will be adequate to support the anticipated loading conditions. We appreciate being able to assist you during this phase of the project. If you need further assistance or require additional information, please do not hesitate to contact us.

Sincerely,
Tyndall Engineering & Design

Tripp Amos
PT III | 2201-020983

Alan W. Lewis, P.E.

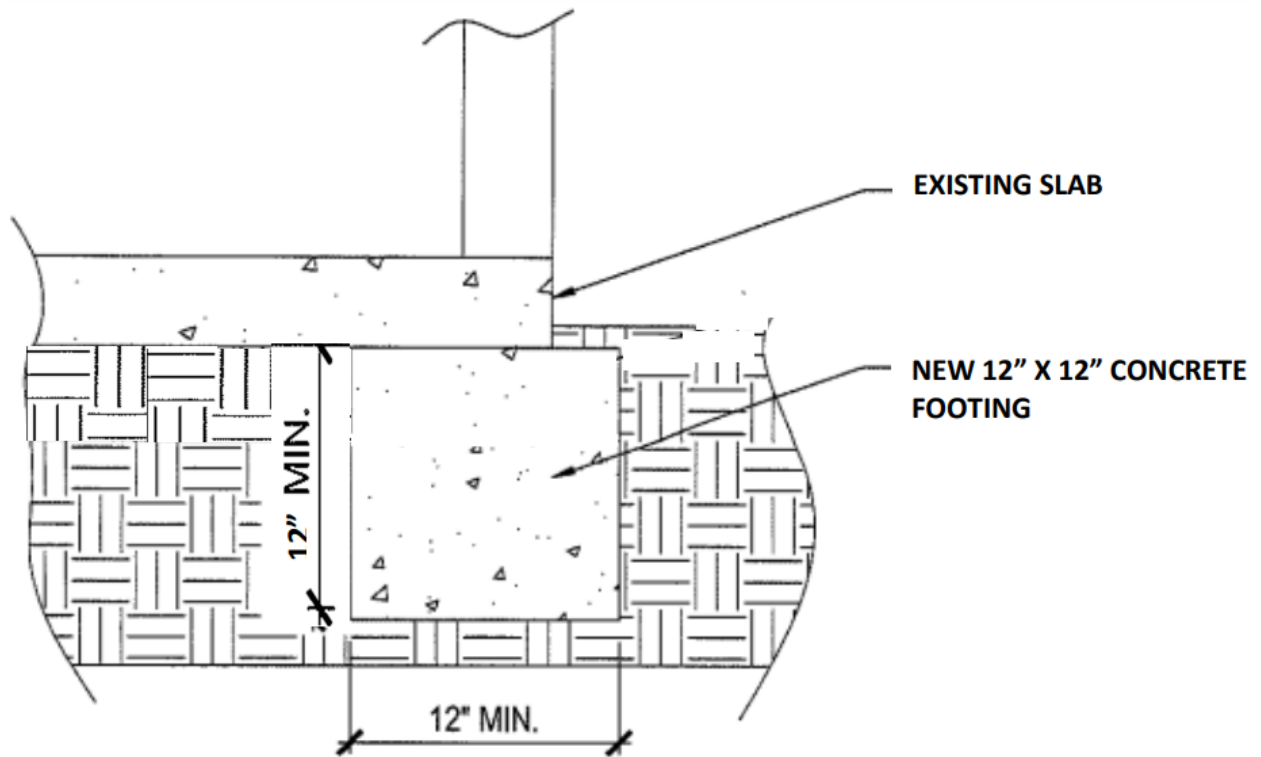




Building Assessed



Example of missing/inadequate footings



DEEPER FOOTING DETAIL (NOT TO SCALE)



Example of inadequate anchoring configuration/rebar used



Additional examples of inadequate anchoring configuration/rebar used



Examples of inadequate anchoring configuration/missing anchors



Examples of inadequate anchoring configuration/missing nuts and washers