



November 5, 2020

Washam Homes

Re: 1824 SW River Run Dr
Lot 11, Whispering Woods
Lee's Summit, MO

Apex Engineers Inc. observed the house under construction at the above referenced address. Our firm has been retained to address comments from the city rough-in inspection. For the purposes of this report the house will be referred to as facing east.

1. *Beam/post connection per code, through bolts*
 - As an alternative to thru bolts, each end of the 6x6 post may be fastened to the deck beams with (4) 1/2" diameter x 5" long lag screws, spaced as shown on the attached figures.
2. *Provide engineered solution for joist/ledger connection to house at corners*
 - Install a #2-2x10 treated ledger, extending all the way to the edge of the deck framing, as shown on the attached figure (Fig. 3).
 - Fasten the ledger to the rimboard with (2) LedgerLOK screws.
 - Fasten the cantilevered end of the ledger to the deck joist with a joist hanger.

Contingent upon the repairs outline above, our firm recommends approval of these items.


Please call if our firm can of further assistance.

LIMITATIONS

The scope of our services includes only those items specifically addressed herein. All other items are outside the scope of this inspection; including any environmental assessment (such as, but not limited to mold, mildew, or presence of any other toxic substance or environmental risks).

In addition, the scope our services does not include any evaluation of the building or site for job-site safety and/or hazardous conditions. All construction shall be performed in compliance with IRC and OSHA standards at all times. Our firm has not been retained to examine the site or building for any of these conditions. In addition, the contractor shall retain sole responsibility for the quality of work, for adhering to plans, specifications, appropriate codes, and, for repairing defects, deficiencies or omission, regardless of when they are found. By the use of this report it is understood the above conditions are agreed to.

Best Regards,
Apex Engineers, Inc.


Joshua M. Jensen, P.E.
Project Engineer

Clayton J. Hess, P.E.
Principal





Fig. 1 – Middle Deck Post Connection with Lag Screws

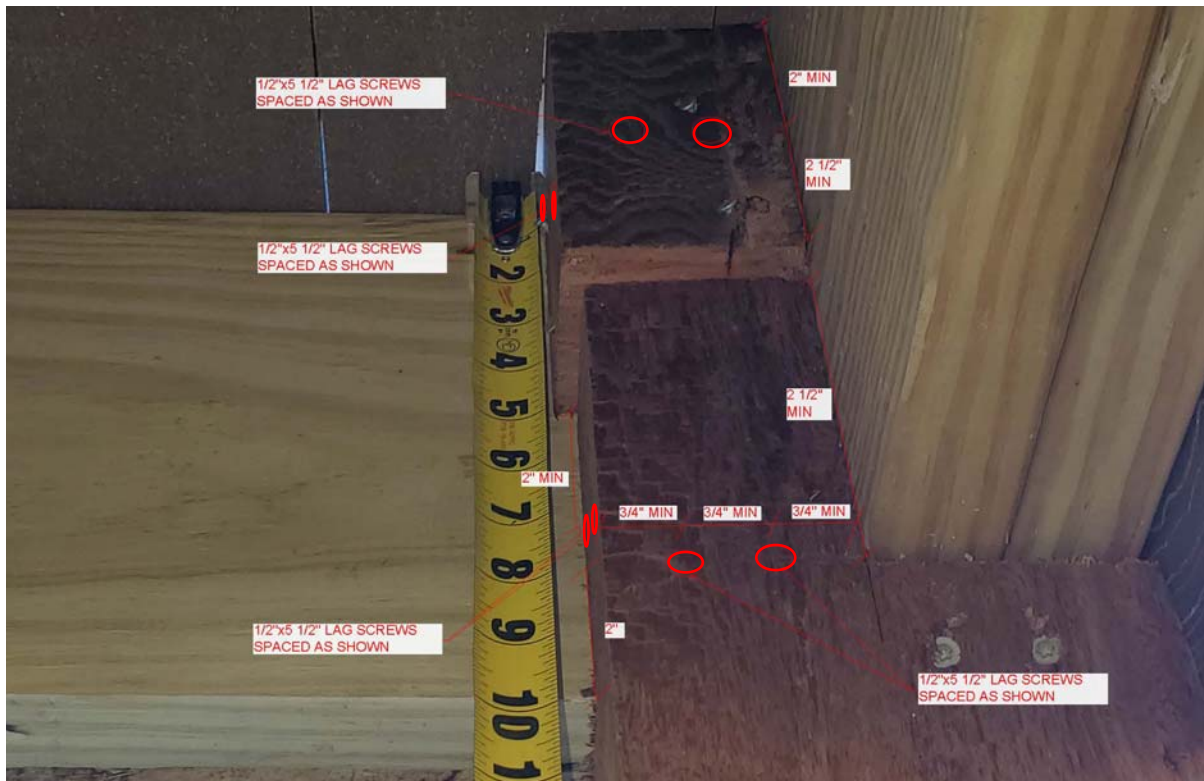


Fig. 2 – Outside Deck Post Connection With Lag Screws



Fig. 3 – Deck Ledger Connection with LedgerLOK screws.

Check Uplift on Non-Continuous Deck Posts

$$\text{Area} = 18' \times 6' = 108 \text{ ft}^2$$

$$P_w = 20 \text{ psf (net uplift, ASD)}$$

$$P_w \times A = 2160 \text{ lbs}$$

$$3 \text{ Posts} , \frac{P_w \times A}{3 \text{ Posts}} = 720 \text{ lbs/post}$$

From NDS, the capacity of a single $\frac{1}{2}"$ dia. lag screw is 200 lbs (ASD).

Use (4) $\frac{1}{2}"$ Dia. lag screws per post.

$$(4 \text{ screws}) \left(\frac{200 \text{ lbs}}{\text{screw}} \right) = 800 \text{ lbs} \geq 720 \text{ lbs, OK}$$

