JDS Consulting
ENGINEERING • DESIGN • ENERGY

543 Pylon Dr
Raleigh, NC 27606
(919) 480-1075
info@jdsconsulting.net
jdsconsulting.net

Date: **04/14/2025**

To: **Josh Sain**
DR Horton - Raleigh Field - East Region
2000 Aerial Center Pkwy
Morrisville, NC 27560
jcsain@drhorton.com
984-327-5439

Re: **Over Penetrated I-Joists**
Location: Lot 23 McKay Place (Lillington, NC)
JDS Project No.: RDU2503716
Date of Inspection: 04/09/25

A representative of JDS Consulting arrived on site to observe the issues reported to us by the client, which are presented, along with our recommendations, in this report.

Observations
The client requests an evaluation of the following items:

1. The 1st I-joist from the crawlspace door at the rear bearing end has a top flange penetration due to electrical wires on the left face.
2. The 8th I-joist from the right exterior wall has minor top flange damage due to electrical penetration at the rear bearing end above the 2nd girder beam from the front.
3. The 1st I-joist from the right exterior wall has top flange penetration from electrical wires above the 1st girder beam from the front.
4. The 15th I-joist (double I-joist) from the right exterior wall has top flange damage on both sides from electrical penetration between the 2nd and 3rd girder beams from the front.
5. The 11th I-joist from the left exterior wall behind the garage has top flange damage from plumbing penetration on the left face.
6. The I-joist blocking material between the 12th and 13th front to back I-joists at the rear has a web/bottom flange penetration due to a drainage pipe.

JDS Consulting
ENGINEERING • DESIGN • ENERGY

543 Pylon Dr
Raleigh, NC 27606
(919) 480-1075
info@jdsconsulting.net
jdsconsulting.net

Recommendations

Based on our on-site observations and review:

1. Install a 4' x3/4" OSB strip tight against the damaged top flange on the opposite side of the damage starting at the rear bearing end of the web. Attach with construction adhesive and (1) row of 6D nails at 4" o.c. Then, install a 4' 2x4 scab over the OSB and attach with (2) rows of 10D nails spaced at 4" o.c. with (1) row in the web and (1) row in the flange.
2. The penetration does not compromise the structural integrity of the member; no further action is required.
3. Install a 4' x3/4" OSB strip tight against the damaged top flange on the opposite side of the damage, centered on the damaged location. Attach with construction adhesive and (1) row of 6D nails spaced at 4" o.c. Then, install a 4' 2x4 scab flush with the top flange over the OSB and attach with (2) rows of 10D nails spaced at 4" o.c. with (1) row in the web and (1) row in the flange.
4. Install a 4' x3/4" OSB strip tight against the damaged top flange on the opposite side of the damage, centered on the damaged location. Attach with construction adhesive and (1) row of 6D nails spaced at 4" o.c. Then, install a 4' 2x4 scab over the OSB and attach with (2) rows of 10D nails spaced at 4" o.c. with (1) row in the web and (1) row in the flange. The client may tightly notch around the penetrations as needed.
5. Install a 4' x3/4" OSB strip tight against the damaged top flange on the opposite side of the damage, centered on the damaged location. Attach with construction adhesive and (1) row of 6D nails spaced at 4" o.c. Then, install a 4' 2x4 scab over the OSB and attach with (2) rows of 10D nails spaced at 4" o.c. with (1) row in the web and (1) row in the flange.
6. The member is adequate for blocking purposes. No further action is required.

If you have any questions or if I can be of further assistance to you on this project, please contact me at 984-344-4691.

Respectfully Submitted,
Patrick Ruff

Reviewing Engineer:
Kyle Edwards, PE, CWI