

Wayne R. Dashfield, PE

421-B South Bright Leaf Blvd. Smithfield, NC 27577

(919) 934-0961

April 28, 2023

To: Harnett County Inspections

Subject: Existing LVL's and Roof Rafters
1242 Cool Springs Road
Lillington, North Carolina

Dear Sir, Madam:

On March 4, 2023 I made an on-site visit to 1242 Cool Springs Road, located in Lillington, North Carolina. The purpose of this visit was to address the Harnett County Inspections comments concerning the LVL sizes. There were six areas of concerns need to be addressed. Listed below I have addressed those concerns.

8' wide Catwalk at rear second floor

The 8' wide catwalk is supported by a (2) 14" 1.75x2.0e LVL spanning 16' on both sides of the catwalk. The existing catwalk requires LVL's with a bending moment greater than 12,500 ft-lbs. The existing (2) PLY 14" LVL has a bending moment of 27,162 ft-lbs. These LVL's are adequate.

2nd 8' wide Catwalk at rear second floor

The 8' cat walk is supported by a (2) 2x10 floor joists with a 9.25" 1.75x2.0E LVL on both sides of the cat walk. Listed below is a summary of the loads and size of the LVL and lumber sizes.

Bending moment required = 7680 ft-lbs

Bending moment for (2) #2 PLY 2x10 = 3433 ft-lb

Bending moment for (1) PLY 9.25 LVL = 6208 ft-lb

Total bending moment = 3433+6208=9641 ft-lb OK

Support of spliced roof rafters

Contractor has use 20' long (2) PLY 2.0E 1.75x16" LVL's to support the spliced roof rafters. A 14" LVL would be adequate.

LVL's in the open basement area

In the open basement area the owner has installed four (2) ply 2.0E x1.75x 16" LVL for the first floor support. This loading condition would require a beam capable of a 19,624 ft-lbs bending moment. A (2) PLY 16" LVL can support a loading condition with a bending moment 34,954 ft-lbs. These (2) PLY 16" LVL' are adequate for this support.

LVL headers installed @ Roof Dormers

The (2) PLY 9.5" LVL headers at the dormers are adequate for the support of the existing roof rafters. In this case a (2) PLY 2x8 #2 SPF lumber could be used.

Issue #1 Notched rafters at top end

As long as the notch is along top of the rafter and is no further than the depth of the supporting member is allowable.

Issue #2 Depths of Notches greater than 4"

I will recommend that the contractor add JA3 Framing angles as shown in Detail 1.

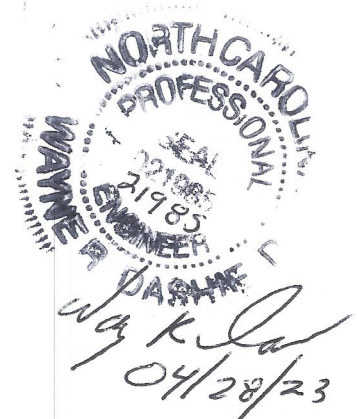
Issue #3 Roof Rafters higher than Ridge board (See Detail# 2)

I will recommend that 2x4 collar ties be added as shown in DETAIL 2.

Based on my inspections, all of the concerns are resolved. If I can be any more assistance, please feel free to contact me.

Yours truly,

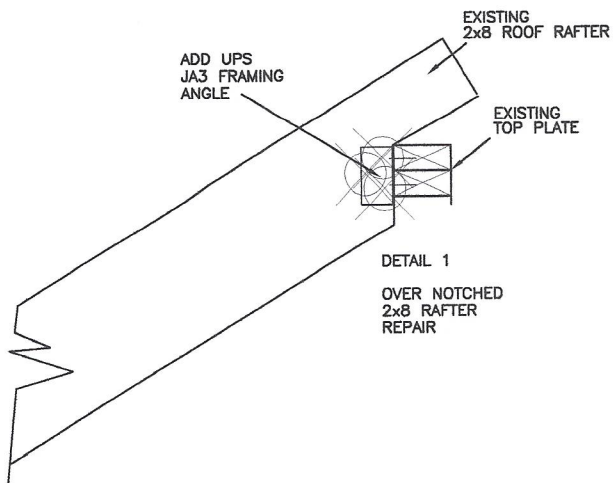
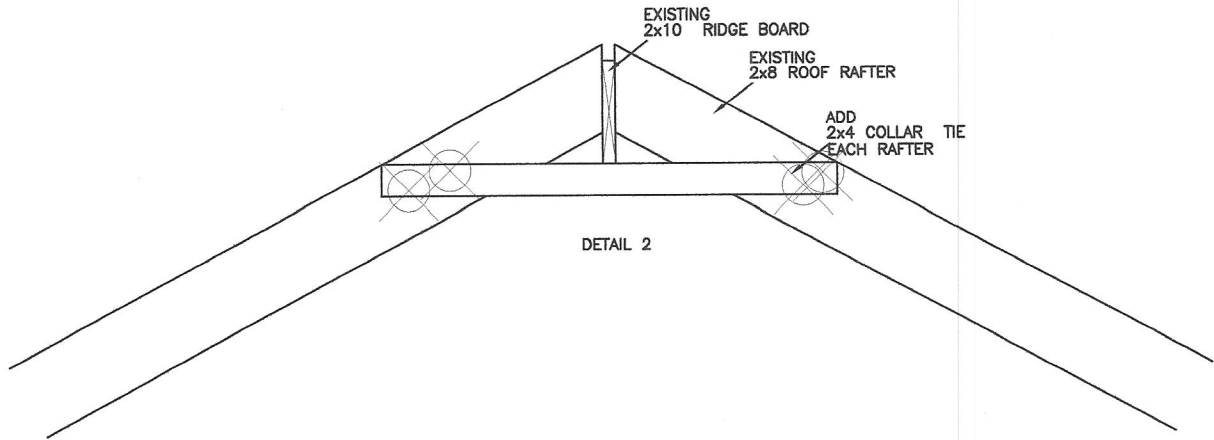
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APPENDIX G

DESIGN PROFESSIONAL INSPECTION FORM

RECORD OF THE INSPECTION OF A COMPONENT OR ELEMENT BY A NC LICENSED ARCHITECT OR ENGINEER

Project Information:

Residential Single-Family Project: <input checked="" type="radio"/> Y <input type="radio"/> N	Commercial Project: <input type="radio"/> Y <input type="radio"/> N
Code Enforcement Project No:	Permit No:
Project Name:	Owner:
Project Address: <u>1242 COOL SPRING</u>	Suite No:
Date Inspected: <u>04/4/23</u>	Contractor Name:
Component Inspected: <u>LVL RAFTER</u>	

Responsible Licensed NC Architect or NC Engineer

Name:	<u>WAYNE R. DASHIELD PE</u>
Firm Name:	<u>WAYNE R. DASHIELD PE</u>
Phone Numbers:	Office: <u>919-934-0961</u> Mobile: _____
Email Address:	<u>WRDASHIELD PE@GMAIL.COM</u>
Mailing Address:	<u>421-B SOUTH BRIGHTLAF SMITHFIELD NC</u>

APPLICABLE CODE:

2018 NCBC = 2018 NC Building Code; 2018 NCRC = 2018 NC Residential Code

Describe Element/Component/Type of Inspection: *

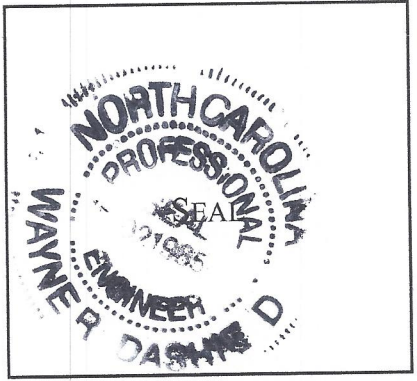
LVL, ROOF RAFTERS

*(subgrade form/letter may also be required)

Attestation/Signature:

By signing below, I certify that the component and/or element of the building as identified on this form has been inspected by me or someone under my direct supervision per G.S. 160D-11-6 and is in compliance with the Code or other proposal of the architect or engineer for the project. This inspection is in compliance with all of the requirements of the above referenced code. Attach any additional documents if needed.

Wayne R. Dashield 04/23/23
 Licensed Architect or Engineer



Inspection Department disclaimer:

Upon the receipt of a signed written document as required by G.S. 160D-11-6, Code Enforcement shall be discharged and released from any liabilities, duties and responsibilities imposed by this article or in