North Carolina Office of the State Fire Marshal
Engineering and Building Codes Division in the Department of Insurance

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RE:	Appeal of the December 16, 2024, Decision by Buncombe County Permits & Inspections to deny the use of sassafras as exterior decking as an alternative material to comply with the naturally durable wood requirements of 2018 North Carolina Residential Code, Section R317.	)	OSFM DECISION

In accordance with N.C.G.S. § 160D-1127, Nate Monroe, of Bluestone Construction, LLC has appealed the Buncombe County Permits & Inspections decision to deny the use of sassafras as exterior decking for a project as an alternative material to comply with the naturally durable wood requirements of 2018 North Carolina Residential Code (NCRC), Section R317.

N.C.G.S. § 160D-1127 allows appeals from any order, decision, or determination by a member of a local inspection department pertaining to the State Building Code or other State building laws to the State Fire Marshal or his designee.

PARTIES

Appellant: Nate Monroe
Bluestone Construction, LLC
135 Rockwood Drive
Greenville, SC 29605.

Appellee: Buncombe County Permits & Inspections
30 Valley Street
Asheville, NC 28801

BACKGROUND

On December 16, 2024, the appellant submitted an appeal to OSFM requesting approval of the use of sassafras as exterior decking for a project as an alternative material to comply with the naturally durable wood requirements of 2018 NCRC, Section R317. Buncombe County Permits & Inspections denied this request earlier the same day.

On February 21, 2025, the North Carolina Office of the State Fire Marshal (OSFM) notified the appellant that the initial appeal submission did not include how the structural strength qualities of the proposed use of sassafras as exterior decking meets or exceeds the intent of the code as an alternative material. Sassafras is not listed as an approved wood species in 2018 NCRC, Section AM107.1

On February 28, 2025, the appellee provided a signed and sealed engineering analysis letter dated 2/28/25 from a licensed engineer in North Carolina under N.C.G.S. Chapter 89C, stating that the proposed use of sassafras by the appellant for decking considered in this appeal meets or exceeds the structural strength requirements of the 2018 NCRC.

ISSUE RAISED IN APPEAL

The appellant is appealing the appellee's decision to deny the use of sassafras as exterior decking as an alternative material to comply with the naturally durable wood requirements of 2018 NCRC, Section R317.

The appellants' appeal reads in most relevant part as follows:

'We are appealing the decision of the Buncombe County Building Department in their disapproval of an alternative material (per Section 105 of the 2018 NC Administrative Code), for the use of Sassafras as exterior decking, based on R317.1 -protection of wood-based products against decay. The NC building code states that wood in this location must be considered "naturally durable", unless it has been treated with an approved preservative. The building code lists four types of accepted species, yet doesn't exclude nor define any criteria for the evaluation of other species. After considerable research, we have found many credible sources(attached) that do classify Sassafras as being decay resistant, and therefore we seek approval of this alternative material for the use of decking.'

FINDINGS

Based on information submitted by the appellant, the undersigned makes the following findings:

Code sections noted in this letter are referring to the 2018 edition of the NC Residential Code (NCRC) unless otherwise noted.

Code Analysis: Section R317.1, #8 notes the minimum code requirements for decay protection of floor decking. The use of "naturally durable wood" or wood that is preservative-treated in accordance with AWPA U1 for the species, product, preservative and end use shall be used for floor decking used on decks. "Naturally Durable Wood" is defined in Chapter 2. Within the definition of "Naturally Durable Wood", the minimum code requirements for the species of heartwood that are decay resistant and termite resistant is listed. The structural minimum requirements of Section AM107.1 notes floor decking shall be No. 2 grade treated Southern Pine or equivalent and the minimum floor decking thickness and spacing shall be in accordance with Table AM107.1. Section 105 of the 2018 NC Administrative Code and Policies (NCACP) describes the process by which alternate materials, design or methods of construction may be approved by the code enforcement official for a specific project.

….

R317.1 Location required. Protection of wood and wood-based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA U1 for the species, product, preservative and end use. Preservatives shall be listed in Section 4 of AWPA U1.

1. Wood joists or the bottom of a wood structural floor when closer than 18 inches (457 mm) or wood girders when closer than 12 inches (305 mm) to the exposed ground in crawl spaces or unexcavated area located within the periphery of the building foundation.
2. Wood framing members that rest on concrete or masonry exterior foundation walls.
3. Sills and sleepers on a concrete or masonry unless the slab that is in direct contact with the ground is separated from the ground by an impervious moisture barrier.
4. The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 1/2 inch (12.7 mm) on tops, sides and ends.
5. Wood siding and sheathing on the exterior of a building having a clearance of less than 6 inches (152 mm) from the ground.
6. Wood structural members supporting moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier.
7. Wood furring strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below *grade* except where an *approved* vapor retarder is applied between the wall and the furring strips or framing members.
8. All portions of a porch, screen porch or deck from the bottom of the header down, including posts, guardrails, pickets, steps, and floor structure. Coverings that would prevent moisture or water accumulation on the surface or at joints between members are allowed.

   Exception: Columns complying with Section R317.1.4, Exception 3.

….

[RB] NATURALLY DURABLE WOOD. The heartwood of the following species with the exception that an occasional piece with corner sapwood is permitted if 90 percent or more of the width of each side on which it occurs is heartwood.

Decay resistant. Redwood, cedar, black locust and black walnut.

Termite resistant. Alaska yellow cedar, redwood, Eastern red cedar and Western red cedar including all sapwood of Western red cedar.

….

AM107.1 Floor Decking. Floor decking shall be No. 2 grade treated Southern Pine or equivalent. The minimum floor decking thickness shall be in accordance with Table AM107.1.

TABLE AM107.1
FLOOR DECKING THICKNESS

SPACING	DECKING (nominal)
12" o.c.	1" S4S
16" o.c.	1" T&G
19.2" o.c.	$1^1/_4$" S4S
24"-36" o.c.	2" S4S

For SI: 1 inch = 25.4, 1 foot = 304.8 mm.

….

SECTION 105

ALTERNATE MATERIAL, DESIGN OR METHODS

105.1 Approval. The provisions of this code are intended to allow the use of any alternate material, design or method of construction, provided that the alternate has been approved by the code enforcement official. An alternative material, design or method of construction shall be approved where the code enforcement official finds that the proposed alternative material, design or method of construction complies with the intent and provisions of the technical codes.

Commentary: The technical codes are not intended to inhibit innovative ideas or technological advances. A comprehensive regulatory document, such as the North Carolina Building Codes, cannot envision and then address all future innovations in the industry. As a result, a performance code must be applicable to and provide a basis for the approval of an increasing number of newly developed, innovative materials, systems and methods for which no code text or referenced standards yet exist. The fact that a material, product or method of construction is not addressed in the technical codes is not an indication that such material, product or method is intended to be prohibited. The code enforcement official is expected to apply sound technical judgment in accepting materials, systems or methods that, while not anticipated by the drafters of the current code text, can be demonstrated to offer equivalent performance. By virtue of its text, the code regulates new and innovative construction practices while addressing the relative safety of building occupants. The code enforcement official is responsible for determining if a requested alternative provides the equivalent level of protection of public health, safety and welfare as required by the code.

105.2 Tests or analysis. Whenever there is insufficient evidence of compliance with the provisions of the technical codes, or evidence that a material, design or method does not conform to the requirements of the technical codes, or in order to substantiate claims for an alternative material, design or method, the code enforcement official shall have the authority to require tests as evidence of compliance to be made at no expense to the authority having jurisdiction. Test methods shall be as specified in the technical codes or by other recognized test standards. In the absence of recognized and accepted test methods, the code enforcement official shall approve the testing procedures.

….

CONCLUSIONS

Based on the forgoing findings of fact, the following conclusions are made:

1. The proposed use of sassafras for decking by the appellant does not meet the prescriptive requirements of the 2018 NCRC for structural strength and appearance and decay protection as sassafras is not listed as an approved wood species. Approval of the proposed use of sassafras for decking considered in this appeal requires the appellant to use the alternate materials approval procedures outlined in Section 105 of the 2018 NCACP to demonstrate to the appellee that the intent of the code is met or exceeded.

2. OSFM has interpreted previously to the public via a web interpretation titled '2018 Residential Code – R602.1.1' and dated 5/2/19, that ungraded lumber may be used as an alternate material if the timber is cut from the owner's land, the structure is occupied by the owner or a member of the owner's immediate family for a period of at least one year after the Certificate of Occupancy is issued, the lumber moisture content is 19 percent or less at the time of construction, the lumber is air-dried for 90 days or is kiln dried, and the owner contacts the code enforcement official before the timber is cut to verify the source and use of the timber. The referenced web interpretation may be applied in the proposed use of ungraded lumber for floor decking as an alternate material if the criteria outlined in the referenced web interpretation is followed and the structural strength and appearance and decay protection qualities of the proposed material meet or exceed the intent of the 2018 NCRC code sections referenced in this letter. A copy of the referenced web interpretation is included as an attachment to this letter. Since the criteria outlined in the referenced web interpretation has not been followed by the appellant, the use of the referenced web interpretation as an alternative material path is not applicable in this appeal to demonstrate to the appellee that the intent of the code is met or exceeded.

3. OSFM has also interpreted previously to the public via informal interpretations that a wood species not prescriptively included in the 2018 NCRC may be used as an alternate material if a stamp from an accredited lumber grading bureau is obtained and material information from the American Wood Council is provided or a signed and sealed engineering analysis from a registered design professional licensed under N.C.G.S. Chapter 83A or 89C is provided to demonstrate that the proposed use of a wood species not prescriptively included in the 2018 NCRC meets or exceeds the intent of the 2018 NCRC. This approach may be applied in the proposed use of a wood species not prescriptively included in the 2018 NCRC for floor decking as an alternate material if the information provided demonstrates that the structural strength and appearance and decay protection qualities of the proposed material meet or exceed the intent of the 2018 NCRC code sections referenced in this letter.

   According to the Wood Handbook published by the USDA and in information provided by the appellant in this appeal, sassafras is used in local applications for fence posts and rails and for general millwork. Sassafras is listed as a hardwood species and has similar shrinkage (%) from green to over dry moisture content parameters to other prescriptively acceptable naturally durable woods. Sassafras has much lower strength properties compared to other prescriptively acceptable naturally durable woods. Sassafras is suitable for use in grade stamped oriented

strandboard (OSB). Sassafras has comparable heartwood decay resistance to prescriptively acceptable naturally durable wood such as redwood, cedar, and black walnut. A copy of the referenced information is included as an attachment to this letter.

According to a signed and sealed engineering analysis letter dated 2/28/25 from a licensed engineer in North Carolina under N.C.G.S. Chapter 89C, the proposed use of sassafras by the appellant for decking considered in this appeal meets or exceeds the structural strength requirements of the 2018 NCRC. A copy of the referenced signed and sealed engineering analysis letter is included as an attachment to this letter.

APPEAL DECISION

Based on the above findings and conclusions for the information provided by the appellant at the filing of this appeal, the appellee's initial decision to deny the use of sassafras as exterior decking for the referenced project as an alternative material to comply with the naturally durable wood requirements of 2018 NCRC, Section R317 is UPHELD. However, based on a careful review of additional information provided by the appellant and appellee during the ensuing investigation by OSFM after the initial filing of this appeal by the appellant, it is the opinion of OSFM that the use of sassafras as exterior decking for a project as an alternative material to comply with the naturally durable wood requirements of 2018 NCRC, Section R317 and the structural strength requirements of 2018 NCRC, Section AM107.1 may be approved at the discretion of the appellee under 2018 NCACP, Section 105.

This 4th day of April 2025.

David Rittlinger, PE, LEED AP
Division Chief – Codes & Interpretations
North Carolina Office of State Fire Marshal

FURTHER APPEAL RIGHTS

The appellant and appellee have the right to appeal this decision to the NC Building Code Council. Please refer to N.C.G.S. § 160D-1114 and the NC Administrative Code and Policies, Section 202.9.2 for further appeal rights. In accordance with N.C.G.S. § 143-141, you have 30 days in which to appeal this decision to the NC Building Code Council. The appellant and appellee also have a right in this case to submit an alternative design construction and methods appeal within 10 business days to the Engineering and Building Codes Division of the Department of Insurance in accordance with N.C.G.S. § 143-140.1 and include all information provided in the initial appeal and during the investigation of this appeal filed in accordance with N.C.G.S. § 160D-1127.

Cc:
Keynan R. Phillips, Building Codes Inspector Supervisor, Buncombe County Permits & Inspections, Keynan.Phillips@buncombecountync.gov
Nathan Childs, NCDOJ, counsel for NC Building Code Council, nchilds@ncdoj.gov
Nicki Shaffer, NCDOJ, counsel for NC Residential Code Council, wshaffer@ncdoj.gov

APPENDIX E
APPEALS
NORTH CAROLINA
BUILDING CODE COUNCIL

1429 Rock Quarry Road, Suite 105
Raleigh, North Carolina 27610
(919) 647-0008
david.rittlinger@ncdoi.gov

APPEAL TO NCDOI/NCBCC **Hearing Date** _____ / _____ / _____

GS 153A-374, GS 160A-434
Formal Interpretation by NCDOI_____
Appeal of Local Decision to NCDOI_____

GS 143-140, GS 143-141
Appeal of Local Decision to NCBCC_____
Appeal of NCDOI Decision to NCBCC_____

APPELLANT Nate Monroe **PHONE (** 814 **)** 434 **-** 2390 **x** _____
REPRESENTING Bluestone Construction, LLC
ADDRESS 135 Rockwood Dr
CITY Greenville **STATE** SC **ZIP** 29605
E-MAIL nate@bluestoneconstruction.com **FAX (** _____ **)** _____ **-** _____

North Carolina State Building Code, Volume 2018 Residential **- Section** R317.1

REQUEST ONE:
[ ] Formal Interpretation by NCDOI
[X] Appeal of Local Decision to NCDOI
[ ] Appeal of Local Decision to NCBCC
[ ] Appeal of NCDOI Decision to NCBCC

Type or print. Include all background information as required by the referenced General Statutes and the attached policies. Attach additional supporting information.

We are appealing the decision of the Buncombe County Building Department in their disapproval of an alternative material (per Section 105 of the 2018 NC Administrative Code), for the use of Sassafras as exterior decking, based on R317.1 - protection of wood-based products against decay. The NC building code states that wood in this location must be considered "naturally durable", unless it has been treated with an approved preservative. The building code lists four types of accepted species, yet doesn't exclude nor define any criteria for the evaluation of other species. After considerable research, we have found many credible sources(attached) that do classify Sassafras as being decay resistant, and therefore we seek approval of this alternative material for the use of decking.

REASON:

Signature Nate Monroe **DATE:** 12.16.24 **FORM 3/14/17**

Outlook

Re: [External] sassafras decking

From Keynan R. Phillips <Keynan.Phillips@buncombecounty.org>
Date Mon 2024-12-16 2:23 PM
To Nate Monroe <Nate@bluestoneconstruction.com>

No alternative method allowed as it doesn't meet code

Get Outlook for iOS

From: Nate Monroe <Nate@bluestoneconstruction.com>
Sent: Monday, December 16, 2024 2:11:14 PM
To: Keynan R. Phillips <Keynan.Phillips@buncombecounty.org>
Subject: Re: [External] sassafras decking

Just to clarify, the sassafras does not meet building code, nor are you allowing it as an alternative method? Just want to make sure I have the facts straight. Thanks

Get Outlook for Android

From: Keynan R. Phillips <Keynan.Phillips@buncombecounty.org>
Sent: Monday, December 16, 2024 12:30:24 PM
To: Nate Monroe <Nate@bluestoneconstruction.com>
Subject: RE: [External] sassafras decking

Nate

If it specifically stated that sassafras is acceptable as code not as an alternative method I think it would be ok. They haven't done this so far in 3 or 4 cases.

Keynan

From: Nate Monroe <Nate@bluestoneconstruction.com>
Sent: Monday, December 16, 2024 10:41 AM
To: Keynan R. Phillips <Keynan.Phillips@buncombecounty.org>
Subject: Re: [External] sassafras decking

Hi Keynan, would a formal interpretation from DOI be acceptable to you? Sounds like they are willing to do it but they want me to confirm it would be accepted.

Nate Monroe

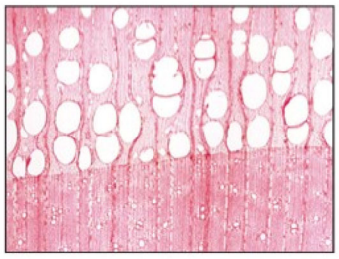
Project Manager

Table 3–10. Grouping of some domestic and imported woods according to average heartwood decay resistance

Resistant or very resistant	Moderately resistant	Slightly or nonresistant
Domestic		
Baldcypress, old growth	Baldcypress, young growth	Alder, red
Catalpa	Douglas-fir	Ashes
Cedar	Larch, western	Aspens
Atlantic white	Pine, longleaf, old growth	Beech
Eastern redcedar	Pine, slash, old growth	Birches
Incense	Redwood, young growth	Buckeye
Northern white	Tamarack	Butternut
Port-Orford		Cottonwood
Western redcedar		Elms
Yellow	Pine, eastern white, old growth	Basswood
Cherry, black		Firs, true
Chestnut		Hackberry
Cypress, Arizona		Hemlocks
Junipers		Hickories
Locust,		Magnolia
Black[a]		Maples
Honeylocust		Pines (other than those listed)[b]
Mesquite		Spruces
Mulberry, red[a]		Sweetgum
Oaks, white[b]		Sycamore
Osage orange[a]		Tanoak
Redwood, old growth		Willows
Sassafras		Yellow-poplar
Walnut, black		
Yew, Pacific[a]		
Imported		
Aftotmosia (Kokrodua)	Andiroba	Balsa
Angelique[a]	Avodire	Banak
Apamate (Roble)	Benge	Cativo
Azobe[a]	Bubinga	Ceiba
Balata[a]	Ehie	Hura
Balau[b]	Ekop	Jelutong
Courbaril	Keruing[b]	Limba
Determa	Mahogany, African	Meranti, light red[b]
Goncalo alves[a]	Meranti, dark red[b]	Meranti, yellow[b]
Greenheart[a]	Mersawa[b]	Meranti, white[b]
Ipe (lapacho)[a]	Sapele	Obeche
Iroko	Teak , young growth	Okoume
Jarrah[a]	Tornillo	Parana pine
Kapur		Ramin
Karri		Sande
Kempas		Sepitir
Lignumvitae[a]		Seraya, white
Mahogany, American		
Manni		
Purpleheart[a]		
Spanish-cedar		
Sucupira		
Teak, old growth[a]		
Wallaba		

[a]Exceptionally high decay resistance.
[b]More than one species included, some of which may vary in resistance from that indicated.

Sassafras



Sassafras (*Sassafras albidum*) ranges from southeastern Iowa and eastern Texas eastward. Sassafras is easily confused with black ash, which it resembles in color, grain, and texture. Sapwood is light yellow, and heartwood varies from dull grayish brown to dark brown, sometimes with a reddish tinge. Freshly cut surfaces have a characteristic odor. The wood is moderately heavy, moderately hard, moderately weak in bending and endwise compression, quite high in shock resistance, and resistant to decay.

Sassafras was highly prized by the native Americans for dugout canoes, and some sassafras lumber is still used for small boats. Locally, sassafras is used for fence posts and rails and for general millwork.

SASSAFRAS

Sassafras (Sassafras albidum)

Common Name(s): Sassafras, common sassafras

Scientific Name: *Sassafras albidum*

Distribution: Eastern United States

Tree Size: 50-65 ft (15-20 m) tall,
2-3 ft (.6-1 m) trunk diameter

Average Dried Weight: 31.0 lbs/ft^3 (495 kg/m^3)

Specific Gravity (Basic, 12% MC): 0.42, 0.5

Janka Hardness: 630 lb$_f$ (2,800 N)

Modulus of Rupture: 9,000 lb$_f$/in^2 (62.1 MPa)

Elastic Modulus: 1,120,000 lb$_f$/in^2 (7.72 GPa)

Crushing Strength: 6,600 lb$_f$/in^2 (45.5 MPa)

Shrinkage: Radial: 4%, Tangential: 6.2%,
Volumetric: 10.3%, T/R Ratio: 1.6

More images | Identification

Color/Appearance: Heartwood is a medium to light brown, sometimes with an orange or olive hue. Color tends to darken with age. Sapwood is a paler yellowish brown, though it isn't always clearly demarcated from the heartwood. Overall, sassafras bears a strong resemblance to other domestic ring-porous woods like black ash and chestnut.

Grain/Texture: Grain is straight, with a coarse uneven texture.

Rot Resistance: Rated as durable to very durable.

PURDUE UNIVERSITY

PURDUE EXTENSION

Hardwood Lumber and Veneer Series

Sassafras

FNR-289-W

EXPERT REVIEWED

Daniel L. Cassens, Professor and Extension Wood Products Specialist
Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN 47907

Sassafras *(Sassafras albidum* (nutt.) Nees.*)* ranges throughout the eastern United States. The tree is intolerant to shade and is frequently found colonizing abandon fields, road sides, dry slopes, and old fence rows. On these sites the species develops as a small usually poorly formed tree. It is also found as an occasional tree on rich woodland soils. On these sites, sassafras develops into small to medium sized trees that are harvested.

The largest reported tree is about 7 feet in diameter at 4½ feet above the ground.

Wood Color and Texture

The sapwood is light yellow and narrow; the heartwood is orange to dark brown, occasionally with orange swirls about ¼ to ½ inch in diameter. The wood is ring porous, making the growth rings very distinct. The earlywood pores are easily seen with the naked eye. The wood, when freshly cut, has the distinctive odor of sassafras. The wood tends to darken with exposure to light.

Workability

The wood has excellent machining characteristics and is a favorite for home woodworking projects.

Strength

At 12 percent moisture content, the wood weighs 32.2 pounds per cubic foot making it an intermediate to light weight wood. The mechanical properties are relatively low.

Steam Bending

No information is available on how well the wood bends using steam. Given the low mechanical properties and "brashness" of the species experienced by the author, it would probably not be a good wood for bending.

Chip Morrison

Sassafras tree and Dan Cassens

Drying

The wood can be dried with a moderate kiln schedule.

Shrinkage

The total volumetric shrinkage from green to oven-dry conditions is 10.3 percent or the lowest of any of the hardwoods considered here. Once dried to the appropriate moisture content, the wood will move very little.

Decay Resistance

Sassafras lumber is reported to be resistant to wood decay, but standing trees often contain pockets of rot.

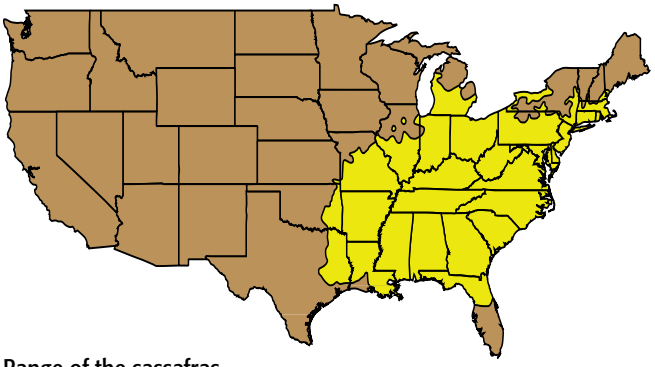
Commercial Use, Grading, and Value

Sassafras is an attractive, light weight, easily worked, durable wood. Where it is available locally, it is often used for small woodworking projects. It is used in the millwork industry and for paneling. In the past, it was preferred for split rails and even posts. If larger quantities were available, it undoubtedly would be in demand for large scale commercial applications.

The wood is graded standard by the NHLA rules.

At one time, the wood was priced the same as red oak in the southern market region by the *Hardwood Market Report*. It is no longer listed, but some semi-load purchases are possible.

As a member of the Lauraceae family, the wood has a distinctive odor due to the presence of oil cells in the wood rays.



Range of the sassafras

Small pile of sassafras logs showing cinnamon red color

Log end showing a light brown heartwood, very narrow sapwood, and cinnamon red bark

Chip Morrison

NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
1202 Mail Service Center, Raleigh, NC 27699-1202
919-647-0000

Ungraded Lumber

Code: 2018 Residential Code **Date:** February 13, 2019
Section: R602.1

Question:
Can ungraded lumber be used if the lumber is cut from the homeowner's site?

Answer:
Yes, as an alternate material and method according to Section 105 of the 2018 Administrative Code. Ungraded, unstamped lumber may be used for the construction of a house or accessory building on the owner's land if:

1. The timber is cut from the owner's land.
2. The structure shall be occupied by the owner or a member of his immediate family for a period of at least one year after the Certificate of Occupancy is issued.
3. The lumber shall meet the 19 percent moisture content requirement at the time of construction. The lumber must be air dried for 90 days or kiln dried.
4. The homeowner contacts the local building inspection department before the timber is cut to verify the source and use of the timber.

MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING

3655 Brookside Parkway, Suite 250 ▸ Alpharetta, GA 30022
p 770-777-0074 ▸ *mulhernkulp.com*

February 28, 2025

Nate Monroe
Project Manager
BLUESTONE CONSTRUCTION, LLC
25 Pheasant Drive
Asheville, NC 28803

LUREY RESIDENCE

Custom Home

SASSAFRAS DECKING STRENGTH EVALUATION

M+K Project #: 281-21003

Reference
Structural Plans & Details, prepared by Mulhern + Kulp
Sassafras decking cut sheet, prepared by Robi Decking

Nate:

Pursuant to your request, we have prepared this letter to address concerns reported by the Buncombe County Permits & Inspections Department with regard to the structural adequacy of exterior decking installed at the above-referenced single-family home. It has been relayed to our office that Sassafras wood decking has been utilized at all exterior deck areas. The decking provided has been reported to be the 5/4x4 (1"x3½" actual) sassafras decking sourced by Robi Decking and installed per their recommendations. All joists are assumed to have been installed with a maximum spacing of 16" o.c.

It is our professional opinion that the Sassafras Wood decking, as described above, is structurally adequate to transfer all code required design loads. Please note, though Sassafras wood is known to have decay resistant properties, it's effectiveness in resisting decay is not considered in this evaluation.

Please feel free to call if you have any questions.

Respectfully,

MULHERN & KULP STRUCTURAL ENGINEERING, INC.

Firm License #: NC C-3825

Michael E. Mihal — *Project Engineer II*

Shaun M. Kreidel, P.E. — *Project Manager + Atlanta Office Director*

Signature + Seal 02/28/2025