



BRIAN TAYLOR
STATE FIRE MARSHAL

June 3, 2026

Mr. Kelly Henry
New Hanover County
230 Government Center Drive, Suite 170
Wilmington, NC 28403

RE: Use of 4x4 Posts for Single-Story Covered Porches per 2018 North Carolina Residential Code (NCRC)

Dear Mr. Henry,

This letter responds to your request for a formal interpretation from the Office of State Fire Marshal (OSFM) dated January 23, 2026, and received by OSFM the same day. Your request is addressed below.

Stated in relevant parts of the documentation received in the request:

“A question has been raised by the local building community regarding the allowable use of 4x4 wood posts for single-story covered porch construction.

The 2018 North Carolina Residential Code (NCRC) does not specifically prescribe sizing criteria for porch roof support posts. The only directly related prescriptive guidance appears in Appendix M, which addresses wood deck construction. Specifically, Table AM108.1 provides limitations for deck post height and indicates that the maximum height for a 4x4 post is 8 feet; however, this table is intended for deck gravity and deck live load conditions and does not explicitly address roof loads associated with covered porch structures.

Because Table AM108.1 applies to deck construction only, clarification is requested on the following:

1. May a 4x4 post be used prescriptively under the 2018 NCRC to support a single-story covered porch roof, or
2. Must porch posts intended to support roof loads be sized through engineered design (registered design professional) due to the absence of prescriptive porch post sizing criteria in the base code?

Additionally, clarification is requested whether the same engineered design requirement would also apply to 6x6 posts, if the code does not provide explicit prescriptive sizing for porch roof-support posts.”

Remarks:

Code sections cited in this letter refer to the 2018 edition of the North Carolina Residential Code (NCRC).

OFFICE OF STATE FIRE MARSHAL

Attachment A, a copy of your request for formal interpretation dated January 23, 2026, is attached to this letter for reference.

Code Analysis:

2018 NCRC Appendix M Section 101.1 – General states:

AM101.1 General. A deck is an exposed exterior wood floor structure that is permitted to be attached to the structure or freestanding. Roofed porches (open or screened-in) are permitted to be constructed using these provisions.

Comment: Section AM101.1 allows roofed porches to be constructed using the provisions of Appendix M where those provisions apply, but it does not expand any section beyond its stated scope. It does not transform deck-specific requirements into a complete prescriptive design method for all porch roof-support elements, including posts carrying roof loads. Appendix M contains no prescriptive roof dead load, roof live load, or wind uplift design criteria for porch roof-support posts.

2018 NCRC Appendix M Section AM108 – Post Height states:

AM108.1 Post height. Maximum height of deck support posts shall be in accordance with Table AM108.1.

**TABLE AM108.1
DECK SUPPORT POST HEIGHT**

POST SIZE ^a	MAXIMUM POST HEIGHT ^{b, c}
4" × 4"	8'-0"
6" × 6"	20'-0"

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

- a. This table is based on No. 2 Southern Pine posts.
- b. From top of footing to bottom of girder.
- c. Decks with post heights exceeding these requirements shall be designed by a registered design professional.

Comment: Section AM108.1 and Table AM108.1 establish maximum heights for deck support posts between the footing or foundation and the underside of the deck beam or girder. These provisions apply only to posts supporting deck floor framing under deck dead and live loads and do not address posts whose primary function is to support roof construction, including porch roof-support posts carrying roof dead, live, and uplift loads. Appendix M provides no prescriptive tables for the height, tributary area, spacing, or axial capacity of primary porch roof-support posts.

2018 NCRC Section R407.3 – Columns states:

R407.3 Structural requirements. The columns shall be restrained to prevent lateral displacement at the top and bottom end. Wood columns shall be not less in nominal size than 4 inches by 4 inches (102 mm by 102 mm). Steel columns shall be not less than 3-inch-diameter (76 mm) Schedule 40 pipe manufactured in accordance with ASTM A53 Grade B or *approved* equivalent.



Exception: In Seismic Design Categories A, B and C, columns not more than 48 inches (1219 mm) in height on a pier or footing are exempt from the bottom end lateral displacement requirement within under-floor areas enclosed by a continuous foundation.

Comment: Section R407.3 applies to columns used as part of the foundation support system and establishes minimum dimensional requirements and lateral restraint for those columns. It sets a minimum nominal size of 4 inches by 4 inches for wood columns but does not establish maximum heights, tributary roof areas, spacing, or axial load capacities for porch roof-support posts. Accordingly, Section R407.3 cannot be used as a prescriptive sizing method for determining the adequacy of porch roof-support posts; it only ensures that columns within its scope are not smaller than nominal 4x4 and are properly restrained against lateral displacement.

Conclusions:

1. May a 4x4 post be used prescriptively under the 2018 NCRC to support a single-story covered porch roof?

No. The 2018 NCRC does not contain prescriptive tables establishing maximum heights, tributary areas, post spacing, or allowable loading capacities specifically for porch roof-support posts. Section AM101.1 of Appendix M permits roofed porches to use deck construction provisions where applicable but does not provide a complete prescriptive design path for covered porch roof construction. Table AM108.1 governs deck support posts under deck dead and live load conditions and does not apply to posts whose primary function is to support roof construction, including roof dead load, roof live load, and wind uplift. Section R407.3 establishes only a minimum nominal 4-inch-by-4-inch dimension and lateral restraint requirements for certain structural support columns and provides no prescriptive limits on height, spacing, or loading for porch roof posts. In the absence of dedicated prescriptive design provisions for porch roof-support posts, compliance may be demonstrated either through design prepared by a registered design professional or through acceptance by the authority having jurisdiction of designs that are clearly based on the applicable structural design loads and detailing requirements elsewhere in the 2018 NCRC.

2. Must porch posts intended to support roof loads be sized through engineered design (registered design professional) due to the absence of prescriptive porch post sizing criteria in the base code? Additionally, clarification is requested whether the same engineered design requirement would also apply to 6x6 posts, if the code does not provide explicit prescriptive sizing for porch roof-support posts.

No. The absence of prescriptive porch post sizing criteria in the 2018 NCRC does not, by itself, require that porch roof-support posts be sized by a registered design professional, whether the posts are 4x4 or 6x6. For typical single-story, light-frame covered porches attached to one- and two-family dwellings, it is acceptable, at the discretion of the authority having jurisdiction, to approve porch roof-support posts without engineered design where the porch is designed for the same basic wind speed and exposure category as the dwelling and the submitted drawings clearly indicate a continuous load path for gravity



and uplift from the roof framing through the supporting members and posts to the foundation. A registered design professional should be required where the proposed porch design falls outside these conditions or where structural adequacy cannot be reasonably verified from the submitted documents.

Sincerely,

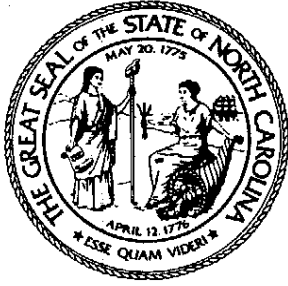
Pak Keung Yip, PE
Chief Code Consultant
North Carolina Office of State Fire Marshal

cc: File
Nathan Childs, NCDOJ, counsel for NC Building Code Council, nchilds@ncdoj.gov
Nicki Shaffer, NCDOJ, counsel for NC Residential Code Council, wshaffer@ncdoj.gov
David Rittlinger, NCOSFM, Division Chief - Code and Interpretations, david.rittlinger@ncdoi.gov



Attachment A





**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 Kelly Henry **PHONE** (910) 660 - 1423 x _____
REPRESENTING New Hanover County
ADDRESS 230 Government Center Drive, Suite 170
CITY Wilmington **STATE** NC **ZIP** 28403
E-MAIL khenry@nhcgov.com **FAX** (910) 798 - 7811

North Carolina State Building Code, Volume 2018 - Section Appendix M

REQUEST ONE: Formal Interpretation by NCDOI Appeal of Local Decision to NCBCC
 Appeal of Local Decision to NCDOI 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.

REASON:

APPEAL TO NCDOI/NCBCC

Signature _____ DATE: _____ **FORM 3/14/17**

202.9 Appeals

202.9.1 Engineering Division. A written technical interpretation shall be provided as specified in Section 203.2.1.2. Any person may appeal in writing an order, decision, or determination pertaining to the code or any state building law by filing written notice with the Commissioner of Insurance or his designee within ten (10) days after the order, decision, or determination. A copy of the appeal shall be furnished to each party.

(General Statutes 143-140, 153A-374 and 160A-434)

203.2.1 Interpretations

203.2.1.1 Informal Interpretations. The Engineering Division shall provide informal interpretations on code related matters either by e-mail, letter or telephone. These informal interpretations may be accepted by the local code enforcement official or party requesting the interpretation. Either party may request a formal interpretation of the code.

203.2.1.2 Formal Interpretations. Any person may request in writing a formal interpretation of the code. The request shall be addressed to the Chief Code Consultant for the Department of Insurance. The request shall be specific and shall reference the code sections in question. All formal interpretations shall be in writing. A formal interpretation shall be binding on all parties unless appealed to the Building Code Council as specified in Section 201.9.2. Formal interpretations determined to be of a general nature may be posted on the Department website. (General Statute 143-140)

203.2.2 Appeals. Any person may appeal in writing an order, decision, or determination of a code enforcement official pertaining to the code or any state building law. The appeal shall be addressed to the Chief Engineer for the Department of Insurance by filing written notice within ten (10) days after the order, decision, or determination. The appeal shall contain the type and size of the building in question, the location of the building, and shall reference the code sections in question. The decision shall be in writing and shall set forth the facts found. The decision rendered shall be based on the technical provisions of the code, public health and safety and shall be construed liberally to those ends. A decision shall be binding on all parties unless appealed to the Building Code Council as specified in Section 201.9.2. A copy of the appeal and written decision shall be furnished to each party. (General Statutes 153A-374 and 160A-434)

202.9.2 Building Code Council. The Building Code Council shall hear appeals from the decisions of State enforcement agencies relating to any matter related to the code. Any person wishing to appeal a decision of a State enforcement agency to the Building Code Council shall give written notice of appeal as follows:

202.9.2.1 Twenty one (21) copies including an original of the Notice of Appeal shall be filed with the Building Code Council c/o NC Department of Insurance, Engineering Division, 325 North Salisbury Street, Room 5_44, Raleigh, NC 27603 and one (1) copy shall be filed with the State enforcement agency from which the appeal is taken.

202.9.2.2 The Notice of Appeal shall be received no later than thirty (30) days from the date of the decision of the State enforcement agency.

202.9.2.3 The Notice of Appeal shall be legibly printed, typewritten or copied and shall contain the following:

- (1) Name, address of the party or parties requesting the appeal.
- (2) The name of the State enforcement agency, the date of the decision from which the appeal is taken, and a copy of the written decision received from the enforcement agency.
- (3) The decision from which the appeal is taken shall be set forth in full in the Notice of Appeal or a copy of the decision shall be attached to all copies of the Notice of Appeal.
- (4) The contentions and allegations of fact must be set forth in full in a clear and concise manner with reference to the sections of the code in controversy.
- (5) The original Notice of Appeal shall be signed by the party or parties filing appeal.
- (6) The Notice of Appeal shall be received by the first day of the month prior to the Building Code Council's quarterly scheduled meeting in order to be placed on the agenda for that meeting. The Chairman may schedule a special meeting to hear an appeal.

202.9.2.4 Upon the proper filing of the Notice of Appeal, the Building Code Council Secretary shall forward one (1) copy of the Notice of Appeal to each member of the Building Code Council. The Chairman may appoint a Hearing Committee to hear appeals. The Secretary shall send notice in writing to the party or parties requesting an appeal and to the Building Code Council Hearing Committee members at least fifteen (15) days prior to the Hearing Committee meeting. A written decision of the Hearing Committee meeting shall be provided to all Building Code Council Members. The actions of the Hearing Committee shall be final, unless appealed to the full Building Code Council in writing within 30 days of the Hearing Committee's action. If a Hearing Committee consists of at least seven Council members, it will constitute a quorum of the full Council. Further appeals shall be as specified in Section 202.9.3.

202.9.2.5 The Building Code Council shall, upon a motion of the State enforcement agency or on its own motion, dismiss appeals for the following reasons:

- (1) Not pursued by the appellant or withdrawn;
- (2) Appeal not filed in accordance with these rules; or
- (3) Lack of jurisdiction.

202.9.2.6 When the Building Code Council finds that a State enforcement agency was in error in its interpretation of the code, the Building Code Council shall remand the case to the agency with instructions to take such actions as the Building Code Council directs. When the Building Code Council finds on appeal that materials or methods of construction proposed are equivalent to those required by the code, the Building Code Council shall remand the case to the State enforcement agency with instructions to permit the use of such materials or methods of construction. The Building Code Council shall immediately initiate procedures for amending the code to permit the use of such materials or methods of construction.

202.9.2.7 The Building Code Council shall provide a written decision setting forth the findings of fact and the Building Code Council's conclusions to each party or parties filing the appeal and to the State enforcement agency from which the appeal was taken.

202.9.3 Superior Court. Whenever any person desires to appeal a decision of the Building Code Council or a decision of a State or local enforcement agency, he may appeal either to the Wake County Superior Court or the Superior Court of the county in which the proposed building is to be situated in accordance with the provisions of Chapter 150B of the General Statutes.
(General Statute 143-141(d))