



BRIAN TAYLOR
STATE FIRE MARSHAL

September 9, 2026

Mr. Micah Croft
JDS Consulting, PLLC
543 Pylon Drive,
Raleigh, NC 27607

RE: Townhouse Separation Using UL 2-Hour Area Separation Walls at Horizontal and Vertical Offsets – 2018 NCRC Sections R302.2 and R302.2.4

Dear Mr. Croft,

This letter responds to your request for a formal interpretation from the Office of State Fire Marshal (OSFM) dated February 9, 2026, and received by OSFM the same day. Your request is addressed below.

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

“Does the code require structural independence of both individual 2x stud walls in common 2-hour rated area separation wall assemblies such as UL assembly designs U347, U336, U373, etc., particularly at horizontal building offsets and vertical roof offsets? Furthermore, if structural independence of each individual 2x stud wall is required, can an approved method of supporting the exterior of the (2) framed walls be provided?”

The code does not provide methodologies of laterally supporting the exterior of the (2) framed walls at horizontal or vertical offset conditions. Considering that the roof sheathing can't be utilized as a top-of-wall restraint on the exterior side of a vertical roof offset and considering that no floor framing is present on the exterior side of a horizontal building offset, the exterior-facing wall would be laterally unrestrained should the adjacent home burn down. One method that some engineers utilize is to cantilever beams out of the interior of the home to restrain the wall at floor and ceiling heights. However, this method has inherent design limitations and does not address the lack of a top-of-wall lateral restraint at the roof sheathing.”

Remarks:

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

Attachment A, a copy of your request for formal interpretation dated February 9, 2026, is attached to this letter for reference.

Attachment B consists of the schematic drawing submitted with your request illustrating the townhouse separation wall and offset conditions described above.

OFFICE OF STATE FIRE MARSHAL



Code Analysis:

2018 NCRC Section R302.2 – Townhouses states:

R302.2 Townhouses. Each *townhouse* shall be considered a separate building and shall be separated by fire-resistance rated wall assemblies meeting the requirements of Section R302.2.1 or R302.2.2.

R302.2.1 Double walls. Each *townhouse* shall be separated by two 1-hour fire resistance-rated wall assemblies tested in accordance with ASTM E119, UL263 or Section 703.3 of the 2018 NC Building Code.

R302.2.2 Common Walls. Common walls separating *townhouses* shall be assigned a fire-resistance rating in accordance with Item #1 or 2. The common wall shared by two *townhouses* shall be constructed without plumbing or mechanical equipment, *ducts* or *vents* in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be in accordance with Chapters 34 through 43. Penetrations of the membrane of common walls for electrical outlet boxes shall be in accordance with Section R302.4.

1. Where a fire sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.3 of the 2018 NC Building Code.
2. Where a fire sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.3 of the 2018 NC Building Code.

Comment: Sections R302.2, R302.2.1, and R302.2.2 establish prescriptive townhouse-separation requirements using either double walls or common walls. These sections establish the applicable fire-resistance ratings, testing standards, and specified construction requirements. The cited provisions do not prescribe proprietary gypsum area separation wall assemblies, including UL Designs U347, U336, U373, or similar assemblies. The cited provisions also do not provide construction, bracing, support, restraint, or lateral-support details for such assemblies at horizontal building offsets, vertical roof offsets, or similar conditions.

Where a UL area separation wall assembly is used to establish the required fire-resistance rating, the complete assembly shall comply with the applicable tested UL design and the manufacturer's installation requirements. The required framing, gypsum shaftliner panels, H-studs, tracks, clips, fasteners, support, restraint, and other system components are part of the tested assembly. Where the proposed assembly, offset condition, or associated detail is not prescribed by the cited provisions or is not addressed by the applicable tested UL design or the manufacturer's installation requirements, the proposal shall be considered an alternate material, design, or method under the applicable provisions of Section 105 of the North Carolina Administrative Code.



2018 NCRC Section R302.2.4 – Structural independence states:

R302.2.4 Structural independence. Each individual *townhouse* shall be structurally independent.

Exceptions:

1. Foundations supporting *exterior walls* or common walls.
2. Structural roof and wall sheathing from each unit fastened to the common wall framing.
3. Nonstructural wall and roof coverings.
4. Flashing at termination of roof covering over common wall.
5. *Townhouses* separated by a common wall as provided in Section R302.2.

Comment: Section R302.2.4 requires each individual townhouse to be structurally independent, subject to the listed exceptions. A horizontal building offset, vertical roof offset, or similar discontinuity does not create an exception to that requirement. Section R302.2.4 does not prescribe a construction, bracing, support, restraint, or lateral-support detail for a proprietary gypsum area separation wall assembly at those conditions.

The 2x framed protected-wall sections on opposite sides of a UL area separation wall assembly are components of the tested assembly and are associated with the respective adjoining townhouses. The applicable tested UL design and the manufacturer's installation requirements establish the framing, connections, clips, attachments, support, restraint, and fire-response performance to achieve the fire-resistance rating of the assembly. A proposed offset, support, restraint, or other detail that is not addressed by, or deviates from, those requirements shall be separately evaluated as an alternate material, design, or method under the applicable provisions of Section 105 of the North Carolina Administrative Code.

Conclusions:

Section R302.2.4 requires each individual townhouse to be structurally independent, subject to the stated exceptions. A horizontal building offset, vertical roof offset, or similar discontinuity does not create an exception to that requirement. Where townhouse separation is provided by a UL 2-hour gypsum area separation wall assembly, the cited provisions do not prescribe separate structural-independence criteria for each individual 2x framed protected-wall section of the assembly.

Sections R302.2 through R302.2.4 do not prescribe the construction and detailing of proprietary gypsum area separation wall assemblies, including UL Designs U347, U336, U373, or similar assemblies, as a separate townhouse-separation-wall construction method. The cited provisions do not provide a prescriptive construction, bracing, support, restraint, or lateral-support method for a UL area separation wall assembly at the horizontal building offsets, vertical roof offsets, or similar conditions described in the request. Accordingly, the 2018 NCRC does not provide a prescriptive method for supporting the exterior side of the two 2x framed protected-wall sections, including the referenced cantilevered-beam detail.



Where a UL area separation wall assembly is used to establish the required fire-resistance rating, the complete assembly shall be constructed in accordance with the applicable tested UL design and the manufacturer's installation requirements. The 2x framed protected-wall sections, gypsum shaftliner panels, H-studs, tracks, clips, fasteners, connections, support, restraint, and other required components shall comply with those requirements. The tested UL design and manufacturer's installation requirements determine the support and fire-response performance required for the assembly.

If the applicable tested UL design and the manufacturer's installation requirements address the proposed horizontal building offset, vertical roof offset, or support condition, the assembly shall be constructed in accordance with those requirements. If the proposed offset, support, restraint, or other detail is not addressed by, or deviates from, those requirements, the UL design does not by itself establish compliance for the modified assembly. The proposed detail shall be supported by an appropriate engineering judgment or by separate testing and evaluation applicable to the manufacturer's system and considered an alternate material, design, or method under the applicable provisions of Section 105 of the North Carolina Administrative Code.

Sincerely,

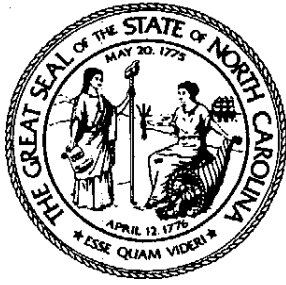
Pak Keung Yip, PE
Chief Code Consultant
North Carolina Office of State Fire Marshal

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

GS 143-140, GS 143-141

Formal Interpretation by NCDOI _____

Appeal of Local Decision to NCBCC _____

Appeal of Local Decision to NCDOI _____

Appeal of NCDOI Decision to NCBCC _____

APPELLANT Micah Croft PHONE (704) 796 - 9808 x ____

REPRESENTING JDS Consulting, PLLC

ADDRESS 543 Pylon Dr.

CITY Raleigh STATE NC ZIP 27607

E-MAIL mcroft@jdsconsulting.net FAX (____) ____ - ____

North Carolina State Building Code: Residential Code, Volume 2018 - Section R302.2, R302.2.2, & R302.2.6

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.

Does the code require structural independence of both individual 2x stud walls in common 2-hour rated area separation wall assemblies such as UL assembly designs U347, U336, U373, etc., particularly at horizontal building offsets and vertical roof offsets? Furthermore, if structural independence of each individual 2x stud wall is required, can an approved method of supporting the exterior of the (2) framed walls be provided?

REASON:

The code does not provide methodologies of laterally supporting the exterior of the (2) framed walls at horizontal or vertical offset conditions. Considering that the roof sheathing can't be utilized as a top-of-wall restraint on the exterior side of a vertical roof offset and considering that no floor framing is present on the exterior side of a horizontal building offset, the exterior-facing wall would be laterally unrestrained should the adjacent home burn down. One method that some engineers utilize is to cantilever beams out of the interior of the home to restrain the wall at floor and ceiling heights. However, this method has inherent design limitations and does not address the lack of a top-of-wall lateral restraint at the roof sheathing.

APPEAL TO NCDOI/NCBCC

Signature

Micah Croft

DATE: 02/09/2026

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.

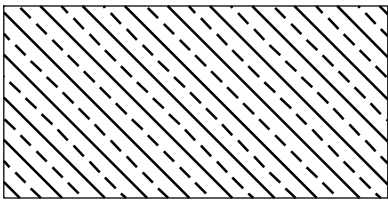
202.9.2.7 The Building Code Council shall provide a written decision setting forth the findings of fact and the Building Code Council's conclusions to each party or parties filing the appeal and to the State enforcement agency from which the appeal was taken.

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))



Attachment B



 = Laterally Unrestrained Wall

REAR

ONE METHOD WE HAVE SEEN TO RESTRAIN THE WALL IS TO CANTILEVER BEAMS OUT OF THE FURTHER FORWARD HOME; HOWEVER, THIS DOES NOT ADDRESS THE LACK OF A TOP-OF-WALL RESTRAINT AT THE ROOF, AND IT DOES NOT WORK FOR LARGE HORIZONTAL OFFSETS AS THE BEAMS FAIL. BEAMS ARE DRAWN TO SHOW THIS CONDITION

GABLE WALL OR TRUSS ATOP WALL ON FURTHER FORWARD HOME SIDE OF RATED ASSEMBLY

ROOF TRUSSES AT FURTHER FORWARD HOME

EXTERIOR WALL AT FURTHER BACK HOME BEYOND

GABLE WALL OR TRUSS ATOP WALL ON FURTHER FORWARD HOME SIDE OF RATED ASSEMBLY

EDGE OF COVERED PORCH AT FURTHER BACK HOME BEYOND

FRONT

EXTERIOR WALL AT FURTHER FORWARD HOME

PORCH BEAM AND POST AT FURTHER FORWARD HOME

REAR

PORCH BEAM/
EDGE OF
PORCH

2-HR RATED
AREA
SEPARATION
WALL

1-STORY

****STRUCTURAL
INDEPENDENCE OF
HATCHED WALL IS
IN QUESTION****

EXTERIOR
WALL

PORCH BEAM/
EDGE OF
PORCH

RIGHT

**2-STORY OR
3-STORY**

1-STORY

EXTERIOR
WALL

**2-STORY OR
3-STORY**

FRONT

LEFT

