



MIKE CAUSEY, INSURANCE COMMISSIONER & STATE FIRE MARSHAL
BRIAN TAYLOR, CHIEF STATE FIRE MARSHAL

September 25, 2020

John Hyman, Deputy Director of Inspections & Field Training
Brunswick County Code Administration
Building I, County Complex
PO Box 249
Bolivia, NC 28422

**RE: Exterior Stairway and Doorway Landings
2018 NCRC Sections R311.3, R311.7.5 and R311.7.6**

Mr. Hyman:

This letter is in response to your request for formal interpretation dated September 16, 2020 that was received in NCDOI by email on September 18, 2020 and modified in an email received on September 24, 2020 from Jeff McIntosh on your behalf. Your request for formal interpretation states in the email received on September 24th:

We are seeking clarification for the following code issues.

1. The stair risers from grade are a consistent 7" except for the last one at the door which is 4". Do the stair risers comply with R311.7.5.1 and the code interpretation dated April 9, 2019 for Stair Riser Height Measurement at Thresholds?
2. The stair treads are a consistent 1'1" depth from grade. The last one at the door is 1'11". Do the stair treads comply with R311.7.5.2?
3. We agree that the top tread is not a landing based on R311.3.2 and its exception.

Remarks:

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

Attachment A is a copy of the request for formal interpretation and all information provided with that request and is attached as a matter of record.

Code Analysis:

Section R311.7.6 requires a landing at the top and bottom of all stairways. The exception in R311.7.6 only applies to interior stairs. The situation shown in the photographs provided with the request for formal interpretation does not comply with R311.7.6 because the required 36" running length is not provided and is not exempt by the exception in R311.7.6 because the stair is an exterior stair.

Section R311.3.2 Allows the deletion of a landing for an exterior stairway leading to an exterior door where the door does not swing over the stairway. Use of this exception supersedes Section R311.7.6 because it addresses a more specific situation (ref. R102.1). The exception in R311.3.2 could be applied to the situation shown in the attached photographs, but the top tread exceeds the 3/8" depth differential allowed by Section R311.7.5.2 and 3/8" riser height differential allowed by R311.7.5.1.

The stairway, shown in the photographs of "Attachment A", does not comply with the requirements of the NC Residential Code for either; consistent riser height and tread depth, or for minimum landing size.

Conclusions:

The following numbered responses correspond with the question numbers given in the request for formal interpretation as stated in the attached September 24th email.

1. No. Stair risers are allowed a maximum difference in riser height in Section R311.7.5.1 of 3/8".
2. No. Stair treads are allowed a maximum difference in riser height in Section R311.7.5.2 of 3/8".
3. There was no question stated; so, no response is provided.

Please call if you have comments or questions.

Sincerely,

A handwritten signature in blue ink that reads "Carl Martin".

Carl Martin, RA
Chief Code Consultant

cc: File
Robbie Davis, Chairman – BCC
David Smith, Chairman Residential Standing Committee – BCC

ATTACHMENT A

BRUNSWICK COUNTY BUILDING INSPECTIONS

BRUNSWICK COUNTY GOVERNMENT CENTER
BUILDING I
75 COURTHOUSE DRIVE, N.E.
BOLIVIA, NORTH CAROLINA 28422

MAILING ADDRESS:

POST OFFICE BOX 249
BOLIVIA, NORTH CAROLINA 28422

TELEPHONE
(910) 253-2050

FAX
(910) 253-2416

September 16, 2020

Mr. Carl Martin
Code Interpretations Supervisor
NC OSFM
325 N. Salisbury St.
Raleigh, NC 27603

Ref: Request for Formal Interpretation for Exterior Stairs

Dear Mr. Martin,

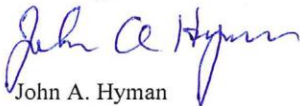
Please except this letter as a request for a Formal Interpretation, for the opinion given by Mr. Pak Yip on Sept. 1, 2020 for a set of exterior steps at 3249 Moss Hammock Wynd. 28461.

There are two items that our Department takes exception to given in Mr. Yip opinion, and they are:

- 1) How the top riser for exterior stairs can vary in height by 3" when the code reads that the variance between the rise of all tread should not exceed 3/8" (section R311.7.5.1).
- 2) How the tread depth can vary by 11" in depth, when code section R311.7.5.2 states the greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8".

Your usual prompt attention to this request would be greatly appreciated, if we can provide any further information, other than the dates for Mr. Yip email and the attached photos to this email, please let me know.

Sincerely,



John A. Hyman
Deputy Director

C: Mr. Michael Slate
Plan Review Unit



From: Jeff McIntosh <jeff.mcintosh@brunswickcountync.gov>
Sent: Thursday, September 24, 2020 9:16 AM
To: Martin, Carl <Carl.Martin@ncdoi.gov>
Cc: Michael Slate <michael.slate@brunswickcountync.gov>; John Hyman <john.hyman@brunswickcountync.gov>
Subject: [External] Code Interpretation

Carl, John Hyman asked me to submit the code interpretation request for him. I have attached the email chain and five photographs of the project. Thank you in advance for your help. Jeff

Jeff McIntosh
Commercial Plans Examiner
Brunswick County Code Administration
Building I
PO BOX 249
Bolivia, NC 28422
910-253-5738

<http://www.brunswickcountync.gov/code-administration/permits/> [Commercial & Residential Application]

<http://apps.brunasco.net/bcms/dashboard/#/permitSearch> [Check Building permit or Inspection Status]

<https://codes.iccsafe.org/public/collections/north%20carolina> [NC State Building Codes Online]

<https://codes.iccsafe.org/public/document/toc/559/> [NC State Accessibility Code]

Any revisions or addendums to a building permit application can be submitted directly to eplans@brunswickcountync.gov please reference either your project number or physical address within the email.

BRUNSWICK COUNTY BUILDING INSPECTIONS

BRUNSWICK COUNTY GOVERNMENT CENTER
BUILDING I

75 COURTHOUSE DRIVE, N.E.
BOLIVIA, NORTH CAROLINA 28422

MAILING ADDRESS:

POST OFFICE BOX 249
BOLIVIA, NORTH CAROLINA 28422

TELEPHONE
(910) 253-2050

FAX
(910) 253-2416

Carl,

John Hyman has asked me to write the department's response for the formal interpretation request.

We are seeking clarification for the following code issues.

1. The stair risers from grade are a consistent 7" except for the last one at the door which is 4 ". Do the stair risers comply with R311.7.5.1 and the code interpretation dated April 9, 2019 for Stair Riser Height Measurement at Thresholds?
2. The stair treads are a consistent 1'1" depth from grade. The last one at the door is 1'11". Do the stair treads comply with R311.7.5.2?
3. We agree that the top tread is not a landing based on R311.3.2 and its exception.

The purpose of requesting the formal interpretation is to help with consistency across the state and if DOI is going to take the position that the treads and risers can vary by more than 3/8" in this case. Our department feels it should be written as a formal interpretation so that every jurisdiction throughout the state can be informed officially of your decision.

Thank you for your assistance,

Jeff McIntosh

Commercial Plans Examiner













FT & IN
INCHES

Lufkin

16FT

P.R. APP D
254Tc



String

From: Yip, Pak <pak.yip@ncdoi.gov>
Sent: Thursday, September 3, 2020 10:15 AM
To: John Hyman <john.hyman@brunswickcountync.gov>
Cc: Martin, Carl <Carl.Martin@ncdoi.gov>
Subject: RE: [External] RE: Exterior Stair Landing Requirements

CAUTION: This email originated from outside of Brunswick County Government. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mr. Hyman,

Our interpretation is that, code does not required that floor area to be constructed as a landing or a stair tread.

Therefore, the code requirements for landing or stair tread (max riser height and uniform tread depth) does not apply on that floor area.

I hope this information will help. Please contact us if you have any questions.

Pak Keung Yip, P.E.
Chief Residential Code Consultant



N.C. Department of Insurance
Office of State Fire Marshal
1202 Mail Service Center
Raleigh, NC 27699-1202
919.647.0007

2

From: John Hyman <john.hyman@brunswickcountync.gov>
Sent: Thursday, September 3, 2020 10:06 AM
To: Yip, Pak <pak.yip@ncdoi.gov>
Cc: Martin, Carl <Carl.Martin@ncdoi.gov>
Subject: RE: [External] RE: Exterior Stair Landing Requirements

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Mr. Yip,

You did not address the following from my last email:

R311.7.5.2 states that a tread depth cannot vary more than 3/8" in depth. With the top tread being at 1'-11" and all the others are at a depth of 1'-1", just need a little bit more clarification how you are of the opinion that this is meeting code, with stairs that have no landing .

Thanks,

John A. Hyman

Deputy Director of Inspections & Field Training

Brunswick County Code Administration

Building I, County Complex

PO Box 249

Bolivia, NC 28422

910.253.2021 (main)

910.253.2049 (O)

<http://www.brunswickcountync.gov/code-administration/permits/> [Commercial & Residential Application]

<http://apps.brunsko.net/bcms/dashboard/#/permitSearch> [Check on Building permit or Inspection Status]



From: Yip, Pak <pak.yip@ncdoi.gov>
Sent: Thursday, September 3, 2020 9:58 AM
To: John Hyman <john.hyman@brunswickcountync.gov>
Cc: Martin, Carl <Carl.Martin@ncdoi.gov>
Subject: FW: [External] RE: Exterior Stair Landing Requirements

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Mr. Hyman,

I agree that the code does not address clear about the "outside floor surface" if the landing is not required.

Since the landing is not required per R311.3.2, the "outside floor surface" does not required to meet the minimum 36 inches dimension. The "outside floor surface" could be constructed as a stair tread but code does not required that floor area to be one of the stair tread.

My interpretation is that, if the code does not required a stair tread, then stair tread requirements does not apply. Any dimension more than the typical tread depth will provide a safer floor area for the occupant to open the door.

The 4" step down from the top of door threshold at the "outside floor surface" should meet the floor elevation requirement per R311.3.2. (not more than 8-1/4" below the top of the threshold.)

I hope this information will help. Please contact us if you have any questions.

Pak Keung Yip, P.E.
Chief Residential Code Consultant



N.C. Department of Insurance
Office of State Fire Marshal
1202 Mail Service Center
Raleigh, NC 27699-1202
919.647.0007

From: John Hyman <john.hyman@brunswickcountync.gov>
Sent: Wednesday, September 2, 2020 1:55 PM
To: Yip, Pak <pak.yip@ncdoi.gov>
Subject: [External] RE: Exterior Stair Landing Requirements

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Mr. Yip,

I am in receipt of your email dated 9/1/2020 Ref "Exterior Stair Landing Requirements" for 3249 Moss Hammock Wynd. The purpose of this email is to have a clear understanding of your position when it comes to stairs Not having a continuous rise or tread deep within 3/8" tolerance. I believe you and I are in agreement when it comes to landings that there are none existing are required in this scenario. I have attached a few pic. for your review.

All of the risers or within tolerance of being 7" excluding the top step, which is 4" to the top of the threshold. With this being a exterior set of steps shouldn't the riser with the 4" rise be at the bottom at the sidewalk per section R311.7.5.1.

R311.7.5.1 Risers. The riser height shall be not more than $8\frac{1}{4}$ inches (210 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than $\frac{3}{8}$ inch (9.5 mm). The top and bottom riser of interior stairs shall not exceed the smallest riser within that stair run by more than $\frac{3}{4}$ inch (19 mm). The height of the top and bottom riser of the interior stairs shall be measured from the permanent finished surface (carpet excluded). Where the bottom riser of an exterior stair adjoins an exterior walk, porch, driveway, patio, garage floor, or finish grade, the height of the riser may be less than the height of the adjacent risers.

R311.7.5.2 states that a tread depth cannot vary more than 3/8" in depth. With the top tread being at 1'-11" and all the others are at a depth of 1'-1", just need a little bit more clarification how you are of the opinion that this is meeting code, with stairs that have no landing .

Thanks in advance for any return reply and consideration.

John A. Hyman
Deputy Director of Inspections & Field Training
Brunswick County Code Administration
Building I, County Complex
PO Box 249
Bolivia, NC 28422
910.253.2021 (main)
910.253.2049 (O)

<http://www.brunswickcountync.gov/code-administration/permits/> [Commercial & Residential Application]
<http://apps.brunscoco.net/bcms/dashboard/#/permitSearch> [Check on Building permit or Inspection Status]



From: Yip, Pak <pak.yip@ncdoi.gov>
Sent: Tuesday, September 1, 2020 7:56 AM
To: Al Yuhasz QRI CORP <al@gricorp.com>
Cc: John Hyman <john.hyman@brunswickcountync.gov>; Clay McEntyre <clay@gricorp.com>; Martin, Carl <Carl.Martin@ncdoi.gov>; Murchison, Bill <bill.murchison@ncdoi.gov>; Rodgers, Jim <jim.rodgers@ncdoi.gov>
Subject: Exterior Stair Landing Requirements

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Mr. Yuhasz,

This email is to follow up from our phone conversation regarding the landing requirements that was built on the exterior side of a patio door.

R311.3.2 Floor elevations for other exterior doors.

Doors other than the required egress door shall be provided with landings or floors not more than 8 1/4 inches (210 mm) below the top of the threshold.

Exception: A landing is not required where a stairway is located on the exterior side of the door, provided that the door does not swing over the stairway.

Per your drawing, the stair was located at the exterior side of a patio door. The "top step" was approximately 2'-0" in depth per your drawing provided; which does not meet neither the landing requirement (not less than 36" measured in the direction of travel) nor the stair tread requirement (The greatest tread depth shall not exceed the smallest by more than 3/8").

Under Section 311.3.2, if the exterior door does not swing over the stairway, exception applies, and no landing is required provided that the exterior door is the door other than the required egress door. Code does not address the required dimension other than the landing and the stair tread. It is our interpretation that, the space provided is adequate to allow occupant to open the door from a level surface.

I hope this information will help. Please contact us if you have any questions.

Pak Keung Yip, P.E.
Chief Residential Code Consultant



N.C. Department of Insurance
Office of State Fire Marshal
1202 Mail Service Center
Raleigh, NC 27699-1202
919.647.0007

From: Al Yuhasz QRI CORP <al@qricorp.com>
Sent: Thursday, August 27, 2020 1:34 PM
To: Yip, Pak <pak.yip@ncdoi.gov>
Cc: John Hyman <john.hyman@brunswickcountync.gov>; Clay McEntyre <clay@qricorp.com>
Subject: [External] FW: Failed inspection

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Mr. Pak Yip,

I just spoke to you on the phone regarding an inspection I am failing for a C.O. in Brunswick County, because of the attached set of stairs and landing shown in the photos. I would like to appeal the decision of the County. The landing and stairs are built to plan, however, the County is treating the top landing as an extended stair tread, not a landing since it is 2ft. deep not 3ft. deep. They said they would not be offended if I reached out to you too for advice. I hope that I will not have to tear out the stairs and rebuild them. This is a stamped concrete landing, poured concrete treads with aluminum rails. This will be a mess at this time to rebuild. I would also have to saw cut the patio walkway at the bottom of the stairs as well, to extend the stairs. If you can approve this, it would sure save a lot of time, money and put the C.O back on schedule. Please note the door to the interior is an inswing door, so it does not pose a hazard regarding a potential fall when entering the room from the exterior. Your prompt response to this matter would be greatly appreciated.

Regards,

Al Yuhasz
President



Office 910.443.2416
Fax 910.755.5433