

**NC Department of Insurance  
Office of State Fire Marshal, Engineering Division**

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RE:     August 1, 2022 Appeal Decision     )  
       by Mecklenburg County             )  
       Code Enforcement                 )                     NCDOI DECISION  
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In accordance with GS 160D-1127, David Harrison, representing Truist / JLL / Perkins & Will has appealed the Mecklenburg County Code Enforcement decision regarding the placement of security gates within existing egress stairways for purposes of controlling ingress for a project located at 214 North Tryon, Charlotte, NC.

GS 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 Commissioner of Insurance or his designee.

**PARTIES**

Appellant:     David Harrison, RA  
                  Representing, Truist / JLL / Perkins & Will  
                  128 S. Tryon Street, Suite 500  
                  Charlotte, NC 28202

Appellee:     Mecklenburg County Code Enforcement  
                  2145 Suttle Avenue  
                  Charlotte, NC 28208

**BACKGROUND**

On August 1, 2022 appellee determined that the placement of security gates in egress stairways for a building located at 214 North Tryon, Charlotte, NC is in violation of the 2018 edition of the North Carolina Building Code, Section 1003.6 “Means of egress continuity” and 1005.4 “Continuity”.

Henceforth the 2018 edition of the North Carolina Building Code will be referred to as NCBC in this document.

On August 10, 2022 the appellant appealed the appellee's decision to North Carolina Department of Insurance as allowed by 2018 edition of the North Carolina Administrative Code and Polices, Section 203.2.2 and North Carolina General Statute GS 160D-1127.

### **ISSUE RAISED IN APPEAL**

The following issue is raised in Appellants' appeal (sections referenced in the appellant's appeal are from the NCBC):

#### **"Section 403.5.3**

1. Based on Section 403.5.3, a concern was raised as to the nature of the locking mechanism on the new doors. It was perceived that these were manually locked. It was also unclear to the reviewer if it was possible for the door to be chained locked, causing an issue of first responders using the stairs for access, or occupants using the stairs to exit.
  - a. These doors will be locked electronically by card readers and are also designed with closures. They are not operated by key.
    - Card reader will be tied to fire command center, so lock can be disabled remotely in the event of an emergency
    - Card reader/doors will be fail-safe, not fail-secure. Upon loss of power, door will unlock, and will remain unlocked.
  - b. A continuous bracket is placed along the latch-side of door
    - For security reasons, special care was given to the gaps around the door, particularly the latch side. The continuous bracket along the latch side of the door, along with the closed mesh of the door panels, prevents the ability to secure the door with a chain and padlock
  - c. They will also be monitored by security cameras.
    - Security personnel will monitor each location to ensure doors are not improperly tampered with, or made unsafe."

#### **Section 1003.6 and 1005.4**

1. Based on the above sections, a concern was raised as to the new doors being an obstruction to the egress path (1003.6) and impede on the required egress widths of the stairs (1005.4).
  - a. While the existing width of each stair varies, the egress capacity getting into each stair does not. Each stair is entered by means of a standard 36" door, set in a standard hollow metal frame. This gives the egress width of 34" which equates to an egress capacity of 170 persons.
    - i. Impediment – Section 1003.6 states that obstructions shall not be placed in the minimum width or required capacity of a means of egress. In looking at the Code Commentary for this section, it specifically states the required width ("the **Date:** 7.28.2022 **To:** Code Enforcement Manager / Code Administrator / Director of Code Enforcement **From:** David Harrison **Re:** Stairway Security Gates Appeal minimum width" cannot be reduced, giving the example that if the required width of a corridor is 52", but the provided corridor is 96", an obstruction placed in this corridor would be allowed to reduce this corridor to 52", since that width is the actual required width (not 96"). As designed, these new doors do not reduce the required capacity of the egress path, as their clear width is designed to be 1" wider than the existing doors leading into, and out of, these stairs. Therefore, these new doors meet Section 1003.6

- ii. Egress width – Section 1005.4 states the minimum width or required capacity shall not be reduced along the path of egress travel. As stated above, the minimum egress width is the width of the doors leading into the stairwells, which gives a minimum egress capacity of 170 persons. The new doors are designed to have a clear width of 35 inches, which gives an egress capacity of 175 persons – more than what is required.

#### **Section 1023.4**

1. Based on Section 1023.4, the reviewer stated the new doors do not align with the Code language of this section.
  - a. In reading the commentary associated with this section, the stated intent of this section is to limit the types of openings allowed to penetrate the fire-rated barrier of an interior stairwell. These new doors are not openings in the fire-rated perimeter of the stair enclosure. We therefore do not see how this section applies.

#### **Accessible maneuvering clearance (no code section cited – assumed Section 1009)**

1. While a code reference was not provided, we believe this comment assumes these existing stairwells were originally designed to be accessible means of egress. Based on our review of the existing drawings we were able to obtain, these stairs were not labeled as such, or designated in any way to be part of an accessible means of egress (Section 1009).
  - a. As part of the commentary on Section 1009.1 (page 10-41 of the Code Commentary), “existing buildings are not required to be provided with accessible means of egress as part of that alteration” 2. Since these stairs are not accessible means of egress, we do not see where in the code it requires these new doors at the landing to be provided with maneuvering clearances as stated in the reviewer’s comments.

#### **Code Administrator Comments ( see appeal form for full comment)**

1. .... the minimum width that Code will not allow to be reduced is the width of the stairway, not the exit access doors into the stairway. Since stairways are typically required to be 44" minimum width, a 35" opening would be a reduction in the width of the MOE.
  - a. The comment above conflicts with the requirement of Section 1023.8 (added to appeal for reference). This section requires a gate to be placed to “prevent persons from unintentionally continuing into levels below.” By the above logic, this gate should not be allowed, as it reduces the stair egress width from those exiting from the lower levels. This section does not require this door to be a minimum of 44" in order to meet Code.
  - b. It is not the intent of this appeal response to state we are designing this door to meet 1023.8, but rather to show that the code does allow for such doors inside a stairwell, and that these doors are not stated as needing to match the minimum width of the stair.
  - c. The exit capacity of each stair is being maintained, as shown in other portions of this appeal.
2. ....NCEBC says an accessible means of egress is not required in an existing building.....It does not mean to preclude any alterations that would help facilitate accessibility and it certainly does not mean that an existing building that already has an accessible means of egress can eliminate it during an alteration.
  - a. Based on our review of the existing drawings we were able to obtain, none of the existing stairs were labeled as an accessible means of egress, nor were they designed to be. Therefore, we are not eliminating it due to the alteration.

## FINDINGS

Based on information submitted by the appellant, the following findings are made:

1. A copy of the July 28, 2022 plan review appeal by the appellee was provided with the appeal. The plan review appeal states in part: 'Please see attached memo "Stairway Security Appeal\_07\_25\_2022 for comments related to this appeal.' The referenced memo was not provided with the request for appeal.

2. The Building Code Summary attached to the appellant's appeal indicates the project is a level II alteration.

3. The 2018 edition of the North Carolina Existing Building Code, Section 801.3 "Compliance" for level II alteration work states in part:

"All new construction elements, components, systems, and spaces shall comply with the requirements of the International Building Code."

4. NCBC, Section 403.5.3 "Stairway door operation" (for high-rise buildings) states:

"Stairway doors other than the exit discharge doors shall be permitted to be locked from the stairway side. Stairway doors that are locked from the stairway side shall be capable of being unlocked simultaneously without unlatching upon a signal from the fire command center."

5. The appellant did not provide supporting information in the appeal that the affected building is a high-rise building.

6. The appellant indicates in the appeal that the egress doors into the shafts containing the stairways has a maximum occupant load of 170.

7. NCBC, Section 1003.6 "Means of egress continuity" states:

"The path of egress travel along a means of egress shall not be interrupted by a building element other than a means of egress component as specified in this chapter.

Obstructions shall not be placed in the minimum width or required capacity of a means of egress component except projections permitted by this chapter. The minimum width or required capacity of a means of egress system shall not be diminished along the path of egress travel."

8. NCBC, Section 1011.2 "Width and capacity" (of stairways) states in part:

"The required capacity of stairways shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches. See Section 1009.3 for accessible means of egress stairways."

9. NCBC, Section 1009.3 “Stairways” (handicap accessible means of egress stairways) states in part:

“In order to be considered part of an accessible means of egress, a stairway between stories shall have a clear width of 48 inches minimum between handrails...”

**Exceptions:**

2. The clear width of 48 inches between handrails is not required in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.1.1. or 903.2.1.”

10. The Building Code Summary that was provided by the appellant indicates the building is NFPA 13 sprinklered.

11. NCBC, Section 1005.4 “Continuity” (for means of egress) states:

“The minimum width or required capacity of the means of egress required from any story of a building shall not be reduced along the path of egress travel until arrival at the public way.”

12. NCBC, Section 1023.4 “Openings” (for interior exit stairways and ramps”) states in part:

“Openings in interior exit stairways and ramps other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure.”

13. NCBC, Section 1010.2 “Gates” states in part:

“Gates used as a component of a means of egress shall conform to the applicable requirements for doors.”

14. NCBC, Section 202 “Definitions” states as the definition for “stairway” as:

“One or more flights of stairs, either exterior or interior” with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

### **CONCLUSIONS**

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

2018 edition of the North Carolina Existing Building Code, Section 801.3 requires that, if new gates or doors are installed in an existing building, they comply with the NCBC.

Without information regarding the height of the affected building it is not possible for the Department to determine if NCBC Section 403.5.3 is applicable. Moreover, for the reasons below, it is not necessary for the Department to address whether NCBC, Section 403.5.3 is

applicable because other NCBC provisions dictate the outcome of this appeal. Nonetheless, the Department notes that the NCBC allows doors used to enter the stair shaft, except for the exit discharge door, to be locked so that occupants in the stair shaft can not enter a floor unless the occupant has a key or access card, but occupants have unimpeded access into the shaft and out of the shaft at the exit discharge level. Emergency responders have the ability to simultaneously unlock all such doors from a location approved by the local fire official which provides them with unobstructed access to all floors.

NCBC Section 1023.4 only addresses openings through the stairway enclosure as a means of controlling exposure of the fire-resistant rated egress stairway enclosure to smoke and fire. The requirement is not relevant to gates or doors located within the stairway enclosure.

NCBC, Section 1010.2 requires gates or doors used as an egress component in a building to comply with the requirements for doors. This means that NCBC Section 1010 for doors applies to the building at issue in this appeal, as well as the accessibility requirements of NCBC, Section 1009 "Accessible Means of Egress".

The Building Code Summary of the project that was provided by the appellant indicates the building is NFPA 13 sprinklered, which will allow the stairway to have a clear width of 44" per NCBC Sections 1011.2 and 1009.3 unless the occupant load of a stair requires a greater width.

The definition of "stairway" indicates that all elements within the stair shafts in question are part of the stairways. NCBC Sections 1011.2 then requires a minimum required stairway width of 44 inches or as required by NCBC Section 1005.1. NCBC Section 1005.1 requires compliance with NCBC Section 1005.4. NCBC Section 1005.4 requires the means of egress maintain the required minimum width or egress capacity (whichever is larger) to the public way.

A 44-inch-wide stair is sufficient for an occupant load of 170. Under NCBC Section 1011.2 the 44inch minimum width must be maintained from the entrance into the stairway to the door exiting the stairway. This requirement effectively prohibits a gate or door within the stairway that reduces the stairway width. The 44inch minimum is required to allow two columns of occupants to either egress the stair or pass by each other as might be required for emergency responders entering the building. The NCBC does not allow an obstruction within the stairway that might disrupt the flow of occupants egressing the building or emergency personnel entering the building.

#### **APPEAL DECISION**

Based on the above findings and conclusions:

The decision by the appellee to not allow the proposed gates or doors within stairway enclosures is upheld.

This 17<sup>th</sup> day of August 2022.



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Carl Martin, RA  
Deputy Commissioner  
Division Chief of Engineering  
North Carolina Department of Insurance

**FURTHER APPEAL RIGHTS**

The appellant and appellee have the right to appeal this decision to the NC Building Code Council. Please refer to GS 160D-1114 and the NC Administrative Code and Policies, Section 202.9.2 for further appeal rights. In accordance with GS 143-141 you have 30 days in which to appeal this decision to the NC Building Code Council.

Cc:

Patrick Granson, Director of Code Enforcement, Mecklenburg County

Nathan Childs, Special Deputy Attorney General – NCBCC

Dan Johnson, Special Deputy Attorney General, NCDOI