

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

RE: Appeal of the May 26, 2023,)
 Decision to Require Sprinklers)
 by Town of Apex Inspection)
 Department) NCDOI DECISION

In accordance with N.C.G.S. § 160D-1127, Stephanie Baker, representing Imagination Fabrication, has appealed the Town of Apex’s decision regarding the requirement for a sprinkler system for an existing building located at 810 Center Street, Building 3, Apex, North Carolina.

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 Commissioner of Insurance or his designee.

PARTIES

Appellant: Imagination Fabrication
 810 Center Street, Building 3
 Apex, NC 27502

Appellee: Town of Apex
 PO Box 250
 73 Hunter Street
 Apex, NC 27502

BACKGROUND

On August 11, 2021, the appellee sent an email to the appellant noting code violations and providing possible solutions to the violations for the Imagination Fabrication’s building located at 810 Center Street, Building 3, Apex, North Carolina, (“the Building”). The email indicates that the building is required either to install sprinklers due to the presence of commercial vehicles or to add a fire wall within the building to reduce the fire area limits to those allowed by the State Building Code for an unsprinklered building.

On November 17, 2021, the appellee sent an email to the appellant explaining that the Town of Apex would not allow continued occupancy of the Building since the appellant had been notified two months prior that the Building was not code-compliant.

On November 18, 2021, the appellant sent an email to the appellee explaining that they did not work on commercial motor vehicles in the Building.

On December 6, 2021, the appellant and appellee exchanged numerous emails regarding requirements for sprinklers. The appellee, in those exchanges, provided an explanation for why they considered sprinklers to be required. The appellant, in those exchanges, requested guidance on how to avoid providing sprinklers in the Building.

On December 7, 2021, emails were exchanged between the appellant and the appellee to set up a meeting to discuss the Building. No minutes or summary of the meeting was included with the request for appeal.

On March 8, 2023, Tony Johnson, an architect hired by the appellant, sent an email to the appellee explaining the Code path he followed to determine the Building did not require sprinklers.

On April 11, 2023, the appellee agreed with the architects March 8, 2023, assessment of the Building with regards to change of use. However, the appellee communicated to the appellant that the Building had changed to a motor-vehicle-related occupancy that is not applicable to the 2018 edition of North Carolina Existing Buildings Code and that, accordingly, the change of use allowances of the North Carolina Existing Buildings Code do not apply to the building.

On April 12, 2023, the architect, Tony Johnson, sent an email to the appellee stating that the owner had confirmed to him that vehicles were not worked on in the Building.

On April 12, 2023, the appellant issued a letter to the appellee indicating that work on trailers and other metal work were performed in the Building and that automobiles were not worked on in the building.

On May 26, 2023, the appellee sent an email to the appellant's architect stating that the Town of Apex continued to believe that sprinklers are required in this building because the 2018 edition of the North Carolina Existing Building Code Section 1002.1 requires motor-vehicle-related occupancies to comply with the requirements of the North Carolina Building Code, and that section supersedes the allowance of Section 1012.2.1.2.

On June 26, 2023, the undersigned sent email to the appellant asking if motor vehicles were being stored, parked, modified, serviced, or were otherwise present inside the Building.

On June 30, 2023, the undersigned sent an email to the appellee asking if the Building is located in the primary fire district of the Town of Apex. The appellee responded that the Building was not located in the primary fire district.

On July 5, 2023, the undersigned visited the Building and met with the appellant.

ISSUE RAISED IN APPEAL

The appellant is appealing the appellee's requirement for either the installation of sprinklers in the Building or construction of a fire wall to reduce the fire area within the Building to limits of the current State Building Codes for unsprinklered buildings.

The appellants' appeal reads as follows:

'The new tenant is a welding company. This use would require a change of Occupancy from Storage (S-1) to Factory-Industrial (F-1). Per the 2018 NC Existing Building Code 101.2, "The provisions of the International Existing Building Code shall apply to ...change of occupancy... of existing buildings."

Change in Occupancy is governed by NC Existing Building Code Section 1012. Specifically, Section 1012.2 governs Fire Protection Systems and 1022.5 governs Heights and Areas. Tables 1012.2.1 and 1012.5 both show that S-1 and F-1 Occupancy Classifications are the same relative hazard. Per 1012.2.1.2, "When a change of use is made to an equal or lessor hazard category as shown in Table 1012.2.1, there is no requirement to install an automatic fire suppression system." Per 1012.5.2. "When a change of occupancy classification is made to an equal or lessor hazard category as shown in Table 1012.5, the height and area of the existing building shall be deemed acceptable."

By my code findings, I cannot find a requirement to install a firewall or a sprinkler system.'

FINDINGS

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

1. The appellant's architect indicated in a March 8, 2023, email to the appellant that the building has the following code-related characteristics:
 - a. It was originally constructed under the 1978 North Carolina State Building Codes as a Group S-1 storage occupancy.
 - b. The occupancy classification has changed from the original Group S-1 occupancy classification to Group F-1 because of the current welding shop located in the Building.
 - c. The Building's total floor area is 15,120 square feet which includes 10,800 square feet of enclosed building and two attached roof projections (sheds).

2. The 2018 edition of the North Carolina Existing Building Code (“NCEBC”) Section 1002.1 states:

1002.1 Compliance with the building code. Where the character or use of an *existing building* or part of an *existing building* is changed to one of the following special use or occupancy categories as defined in the *International Building Code*, the building shall comply with all of the applicable requirements of the *International Building Code*:

1. Covered and open mall buildings.
2. Atriums.
3. Motor vehicle-related occupancies.
4. Aircraft-related occupancies.
5. Motion picture projection rooms.
6. Stages and platforms.
7. Special amusement buildings.
8. Incidental use areas.
9. Hazardous materials.
10. Ambulatory care facilities.
11. Group I-2 occupancies.

3. NCEBC Section 1012.2 and its subsections state as follows:

“1012.2 Fire protection systems. Fire protection systems shall be provided in accordance with Sections 1012.2.1 and 1012.2.2.

1012.2.1 Fire sprinkler system. Hazard categories in regard to fire sprinkler requirements shall be in accordance with Table 1012.2.1.

**TABLE 1012.2.1
SPRINKLER HAZARD CATEGORIES**

RELATIVE HAZARD	OCCUPANCY USE CLASSIFICATIONS
1 (Highest Hazard)	H, I, <i>Nightclub</i>
2	A-2, R-1, R-2
3	A-1, A-3
4	F-1, M, S-1
5	A-4, E
6 (Lowest Hazard)	B, F-2, R-3, R-4, S-2, U

1012.2.1.1 Change to higher hazard category. When a change of use is made to a higher hazard category as shown in Table 1012.2.1, the building shall be provided with an automatic fire suppression system as required by Section 903 of the *North Carolina Building Code*.

Exception: When an area of a building is changed to a higher hazard category and the proposed use is separated from the existing use(s) by assemblies that meet the applicable fire rating in Table 508.4 of the *North Carolina Building Code*, an automatic fire suppression system as required above shall be installed only in the area changed.

1012.2.1.2 Change to equal or lesser hazard category. When a change of use is made to an equal or lesser hazard category as shown in Table 1012.2.1, there is no requirement to install an automatic fire suppression system.

Exceptions:

1. In areas where work being performed in connection with the change of use triggers a requirement for suppression.

2. In windowless stories an automatic fire suppression system shall be installed as required by Section 903 of the *North Carolina Building Code*.

1012.2.1.3 Change in NFPA 13 hazard level. Notwithstanding the relative hazard as determined by Table 1012.2.1, when a change in the character of the use is made to a higher degree of hazard as defined by NFPA 13 (Light Hazard, Ordinary Hazard Group 1, Ordinary Hazard Group 2, Extra Hazard Group 1, Extra Hazard Group 2 and Special Occupancy Hazards), the sprinkler system shall be evaluated and, where required by NFPA 13, altered to conform to the required density and maximum sprinkler protection area per head for the proposed occupancy.”

4. The 1978 edition of the North Carolina Building Code Section 605 – Type IV Construction states in part that, “Type IV Construction is construction in which the structural members including exterior walls, interior bearing walls, columns, floors and roofs are of noncombustible materials. Type IV Construction may be protected or unprotected.”

5. The 2018 edition of the North Carolina Building Code (or “NCBC”) Section 602.2 “Types I and II states, “Types I and II construction are those types of construction in which the building elements listed in Table 601 are of noncombustible materials, except as permitted in Section 603.”

6. NCBC Table 601 states in part that the load bearing structure of Type II-B construction has a fire-resistance rating of 0-hours.

7. The 1978 edition of the North Carolina Building Code Table 400 limits the size of a building constructed as Type IV construction classified as Group S occupancy to 12,000 square feet before any area increases are applied. Section 402.3 allows an area increase of 12,000 square feet when there is a separation area of 30 feet or more around 100 percent of the building perimeter. The appellant indicates in the appeal that the Building has 30 feet of clearance around 100 percent of the Building. Table 901.7(1) also states that a one-story building of unprotected Type IV construction with an unsprinklered Group S occupancy may be a maximum of 24,000 square feet. The allowed building area when the Building was constructed under the 1978 edition of the North Carolina Building Code would have allowed the Building to be a maximum of 24,000 square feet.

8. NCBC Table 506.2 limits the size of a building of Type II construction with an occupancy classification of F-1 to 15,000 square feet. Section 506.3.3 allows the area to be increased to 26,250 square feet based on the clearances indicated in Item 7 above.

9. The appellant and its architect indicate the actual building area is 15,120 square feet.

10. Merriam-Webster Dictionary defines “motor vehicle” as “an automotive vehicle not operated on rails.”

11. Although “automotive vehicle” is not defined by Merriam-Webster Dictionary, “automotive” is defined as “Self-propelled.”

12. Neither the appellant nor the appellee indicated that the Building had hazardous material quantities that exceeded the amounts allowed by NCBC Section 307; so, the Building is not a Group H occupancy classification and will be addressed in this decision as a change of use from Group S-1 to Group F-1 as indicated by the appellant and the appellee.

13. During the July 5, 2023, meeting between the undersigned and the appellant, the appellant communicated to the undersigned that commercial vehicles would be removed from the Building on Friday July 7, 2023, and will only be present after that date as needed to pull in and remove trailers that are being repaired or modified. These are trailers used to transport products. The undersigned observed one commercial motor vehicle inside the Building during the visit. Said commercial motor vehicle was having a custom fabricated steel bed welded onto it. A noncommercial motor vehicle was also located in the Building on July 5, 2023. The noncommercial motor vehicle was having a custom fabricated steel front bumper mounted to it. Multiple child-sized motorized bikes were also observed as present in the Building on July 5, 2023, and it appeared that they were being stored in the Building. All equipment and materials appeared to be related to Group F-1 Factory-Industrial use. The appellant stated that motor vehicles are not serviced in the Building and that fuel and oil systems are not opened within the Building.

CONCLUSIONS

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

1. “Motor vehicle” is a self-propelled vehicle.
2. The description of Type IV unprotected construction in the 1978 edition of the North Carolina Building Code Section 605 is most similar with the description of Type II-B construction in the NCBC.
3. The Building was compliant for its allowed building area when constructed under the 1978 edition of the North Carolina Building Code without requiring an automatic fire sprinkler system.

4. The Building meets the allowed building area for S-1 when constructed under the requirements of the 1978 edition of the North Carolina Building Code and allowed building area for F-1 under the requirements of the 2018 edition of the NCBC.

5. The appellee did not question the original occupancy classification of the Building as Group S-1. Accordingly, this conclusion is based on the appellants submission that the Building was Group S-1 prior to becoming the current Group F-1 occupancy.

6. The Building was constructed under the 1978 edition of the North Carolina Building Code as a Group S occupancy. At some point in time after the construction, the use was changed to Group F-1.

7. NCEBC Table 1012.2.1 indicates that Group S-1 and Group F-1 are of equal hazard with regards to fire sprinkler requirements, and Section 1012.2.1.2 indicates that sprinklers are not required if the hazard for the new occupancy classification listed in Table 1012.2.1 is equal or less than the previous occupancy classification. Just based on a change of occupancy the NCEBC does not require an automatic fire sprinkler system in the building. The NCEBC does not require an automatic fire sprinkler system in the Building solely on the basis of a change of occupancy.

8. Because motor vehicles were observed parked within the Building, NCBC Section 406 "Motor-Vehicle-Related Occupancies applies. NCEBC Section 1002.1 does not allow the application of the NCEBC to the Building when its occupancy is related to motor vehicles. The Building must, therefore, comply with the NCBC.

9. Motor vehicles may be allowed to enter the Building to deliver materials, supplies, equipment, or trailers that are to be worked on without constituting "motor-vehicle-related occupancy." If motor vehicles were not parked or stored in the Building, the Building could be evaluated as a change of occupancy from Group S-1 Storage to Group F-1 Factory-Industrial using NCEBC Chapter 10, which would allow the Building to be occupied as it exists without requiring the addition of sprinklers based on NCEBC Table 1012.2.1 and Section 1012.2.1.2.

10. Commercial motor vehicles were present in the Building during the undersigned's visit on July 5, 2023. The presence of those vehicles requires compliance with NCEBC Section 1002.1. NEBC Section 1002.1, which indicates that motor vehicle-related occupancies shall comply with the requirements of the North Carolina Building Code. Accordingly the Building as it exists requires either the installation of a sprinkler system or the addition of a fire barrier to reduce the fire area to less than 12,000 square feet.

11. A single noncommercial motor vehicle was present and sitting on a motor vehicle lift at the time of the undersigned's July 5, 2023, visit to the Building. The vehicle was on the lift for the purpose of fitting a fabricated steel front bumper onto the vehicle. Having a motor vehicle on the lift in the Building for this type of purpose does not constitute a "motor-vehicle-related occupancy" provided the motor vehicle is not stored in the building overnight, is not serviced in the building, and welding or other hot work is not performed on the motor vehicle or a fabricated part of the motor vehicle while the part is attached to the motor vehicle.

APPEAL DECISION

Based on the above findings and conclusions, the decision by the appellee to require an automatic fire sprinkler system or construct a fire-resistance-rated wall (fire barrier) to reduce the fire area size to the limits required by the North Carolina Building Code and North Carolina Fire Code for an unsprinklered Group F-1 occupancy in the Building is UPHELD.

This 11th day of July 2023.



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 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.

Cc:

Rudy Baker, Inspections and Permit Director, Town of Apex
Nathan Childs, Special Deputy Attorney General – NCBC
Dan Johnson, Special Deputy Attorney General, NCDOI