2019 BEST Conference

Prepare For Your Fire Inspection

February 21, 2019
A lawyer from Charlotte, N.C. purchased a case of very rare, very expensive cigars, and then insured them against fire. Within a month, having smoked his entire stockpile of cigars and without having made even his first premium payment on the policy, the man filed a claim against the insurance company. In his claim, the man stated the cigars were lost "in a series of small fires." The insurance company refused to pay, citing the obvious reason, that the man had consumed the cigars in the normal fashion. The man sued...and won. In delivering the ruling, the judge agreed that the claim was frivolous, yet stated nevertheless that the man held a policy from the company in which it had warranted that the cigars were insurable and also guaranteed that it would insure against fire, without defining what it considered to be "unacceptable fire," and was obligated to pay the claim. Rather than endure a lengthy and costly appeal process, the insurance company accepted the ruling and paid the man $15,000 for the rare cigars he lost in "the fires." After the man cashed the check, however, the company had him arrested on 24 counts of arson. With his own insurance claim and testimony from the previous case being used against him, the man was convicted of intentionally burning his insured property and sentenced to 24 months in jail and a $24,000 fine.
Eric Wiseman

- Town of Wake Forest, Fire Inspector 2008-2019
- NC State University, Chief Deputy Fire Marshal 2004-2008
- Asheville Fire Department, Firefighter 1994-2001
- NC Fire Marshal Association, 2013-Present

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Look familiar to anyone?

Charlotte Fire Department’s ‘Ole Sue’
1902 American Lafrance Steamer
Objectives

“Open up the room”

Streamline your next fire inspection.

Ref 2018 NC Fire Code
Why do we have do fire inspections?

- Assure fire & life safety for everyone.
- Comply with N.C.G.S. 153A-352 Counties/160A-412 Cities…. 

(a) The duties and responsibilities of an inspection department and of the inspectors therein shall be to enforce within their territorial jurisdiction State and local laws relating to 
(1) The construction of buildings and other structures; 
(2) The installation of such facilities as plumbing systems, electrical systems, heating systems, refrigeration systems, and air-conditioning systems; 
(3) The maintenance of buildings and other structures in a safe, sanitary, and healthful condition; 
(4) Other matters that may be specified by the city or county council.
The code establishes regulations affecting or relating to structures, processes, premises and safeguards regarding all the following:

1. The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices.
2. Conditions hazardous to life, property or public welfare in the occupancy of structures or premises.
3. Fire hazards in the structure or on the premises from occupancy or operation.
4. Matters related to the construction, extension, repair, alteration, or removal of fire suppression or fire alarm systems.
5. Conditions affecting the safety of fire fighters, emergency responders during emergency operations.
What has to be inspected?

• New and existing commercial construction/buildings
• Special Events
• Changes in use/occupancy

• Essentially most buildings except *(ref 102.13 2018 NC Fire Code)*
  1. Occupancy of 1 and 2 family dwellings.
  2. Farm buildings not used for sleeping purposes or storage of hazardous materials in excess of specific storage limits *(per NC Fire Code T5003.1(1)/T5003.1(2)*)
  3. Design, construction, location, installation or operation of equipment for storing, handling, and transporting liquefied petroleum gases for fuel purposes up to the first stage regulator.
  4. Design, construction, location, installation or operation of equipment or facilities of a public utility, as defined in N.C.G.S. 62-3.
  5. The storage and handling of substances governed by the Hazardous Chemicals Right to Know Act in N.C.G.S. Chapter 95, Article 18.
  6. Open burning pursuant to N.C.G.S. 106-940 through 106-950 under the jurisdiction of the North Carolina Department of Agriculture and Consumer Services.
When you hear fire inspection...what comes to mind?

Thoughts?

• Fire Extinguishers
• Clear Exits
• Exit lights
• Emergency lights
• Extension cords
• Blocked electric panels
• Missing outlet covers
Where to start....

• Know your building(s) and the operation(s) for each building.
• Contact local Fire Marshal office
• Building type/features
• Life Safety Systems
• Operations
• Storage
• Unique features
• Specific Hazards
NC Building Code (Ch. 6) recognizes 5 types of building construction types. Combustible, non-combustible, or combination of each.

Appendix B (Building Code Summary) on the plans will provide detailed list of building information.
### 2018 APPENDIX B

**BUILDING CODE SUMMARY**

(Except 1 and 2-family dwellings and townhouses)

Reproduce the following data on the building plans sheet 1 or 2

#### CONTACT:
- **DESIGNER**
  - Architectural
  - Civil
  - Electrical
  - Fire Alarm
  - Plumbing
  - Mechanical
  - Sprinkler-Standpipe
  - Structural
  - Other

#### 2018 NC BUILDING CODE:
- New Building
- Shell/Co.
- 1st Time Interior Completions
- Addition
- Phased Construction - Shell Core

#### 2018 NC EXISTING BUILDING CODE:
- Prescriptive
- Alteration Level I
- Historic Property
- Chapter 14
- Alteration Level II
- Change of Use

#### CONSTRUCTED:
- (date)

#### CURRENT OCCUPANCY:
- (Ch. 3)

#### PROPOSED OCCUPANCY:
- (Ch. 3)

#### OCCUPANCY CATEGORY:
- (Table 1404.5)

#### BASIC BUILDING DATA:
- Construction Type (check all that apply):
  - I-A
  - II-A
  - III-A
  - I-B
  - II-B
  - III-B
  - IV-A
  - V-A
  - V-B

#### Sprinklers:
- No
- Partial
- NFPA 13
- NFPA 13R
- NFPA 13D

#### Stairways:
- No
- Class I
- Class II
- Class III
- Wet
- Dry

#### Primary Fire District:
- Yes
- No
- Flood Hazard Area:
- Yes
- No

#### Special Inspections Required:
- No
- Yes

#### GROSS BUILDING AREA TABLE:

<table>
<thead>
<tr>
<th>FLOOR</th>
<th>EXISTING (SQRFT)</th>
<th>NEW (SQRFT)</th>
<th>SUB-TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mezzanine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basement</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL**
ALLOWABLE AREA

Primary Occupancy Classification(s):
- Business [ ]
- Educational [ ]
- Factory [ ] E-1 Moderate [ ] E-2 Low [ ] E-3 Detergent [ ] E-4 Combat [ ] E-5 HPMD
- Institutional [ ] I-1 Condition [ ] I-2 Condition [ ] I-3
- Mercantile [ ] R-1 [ ] R-2 [ ] R-3 [ ] R-4 [ ] R-5
- Residential [ ] R-1 [ ] R-2 [ ] R-3 [ ] R-4 [ ] R-5
- Storage [ ] S-1 [ ] S-2 Low [ ] S-3 High-Piled [ ] Repair Garage
- Utility and Miscellaneous [ ]

Accessory Occupancy Classification(s):
- Incidental Use (Table 509)
- Special Use (Chapter 4 - Title Code Section)
- Special Provisions (Chapter 5 - Title Code Sections)
- Mixed Occupancy: Select one
- Exception:

<table>
<thead>
<tr>
<th>NO.</th>
<th>DESCRIPTION AND USE</th>
<th>AREA PER STOREFRONT (Ft²)</th>
<th>ALLOWABLE AREA PER STOREFRONT (Ft²)</th>
<th>AREA FOR FRONTAGE CALCULATION</th>
<th>AREA FOR FRONTAGE CALCULATION</th>
</tr>
</thead>
</table>

1. Frontage area increases from Section 506.2 are computed as follows:
   a. Perimeter which from a public way or open space having 20 feet minimum width = ______ (F)
   b. Total Building Perimeter = ______ (F)
   c. Ratio (F/F) = ______ (F/F)
   d. W = Minimum width of public way = ______ (W)

2. The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 402.3.1.

ALLOWABLE HEIGHT

<table>
<thead>
<tr>
<th>BUILDING ELEMENT</th>
<th>FIRE PROTECTION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height in Feet</td>
<td>Rating</td>
</tr>
</tbody>
</table>

- Corridor Separation
- Occupancy Fire Rated Separation
- Party Fire Wall Separation
- Smoke Barrier Separation
- Smoke Partition
- Special Dwelling Unit
- Special Use Separation

* Indicates such number permitting reduction.
A current appendix B will provide....

• Building Construction type.
• Original Occupancy type.
• Designer information.
• Specific building features-rated assemblies, life safety systems.
• Which code the building was constructed under.
• Occupant load
• Life Safety plan requirements
• Accessibility data
• Plumbing fixture information
• Energy efficiency Information
• Mechanical systems specs
## Sample Fire Inspection Checklist

### Exterior

- Building FD Access Roads
- Fire lane ID/markings
- Exterior building lighting
- Utility access
- Address present/visible
- Ready access to fire suppression systems
- Haz-Mat, Knox Boxes, Emergency Plan docs
- Building Access/security
- Exterior signage
- Exterior waste accumulation
- Emergency contact information
- Storage outside-Tanks or other

### Interior

- Means of egress components
- Emergency/Exit lighting
- Other detection safety systems
- Commercial cooking equip.
- Interior signage (Utility rooms/controls and roofs)
- Fire suppression systems
- Fire alarm systems
- Fire rated assemblies
- Storage inside
- People Items
- Special Operations and Equipment
- Documentation*
- Portable Extinguishers
- Specific hazards
Access Roads....public safety has to get to the building!

What other specific features of the building site that would prevent free emergency vehicle access??
Fire Lanes

Very simple rule.....if it’s marked as a fire lane, please don’t park there.

ANY VEHICLE NOT ATTENDED BY DRIVER IS PARKED.
Exterior Building Lighting

All three portions of the means of egress in each building require illumination.
Utilities....what and where?
Address Number-
Visible from access side of the building.
Old code 4” tall numbers
Now...6” tall numbers
Fire Suppression Systems-
Key Boxes

“where immediate access is necessary for life-saving or fire-fighting purposes, the fire code official is authorized to require a key box to be installed in an approved location.”

(Section 506, 2018 NC Fire Code)

If you have a key box, review the contents periodically.
Signage

- DANGER: Unsafe building
- KEEP OUT
- DO NOT ENTER
- CAUTION: Radiation area. Authorized personnel only.
- HIGH EXPLOSIVES STORED HERE DO NOT FIGHT EXPLOSIVE FIRES
- WARNING: Biohazard. Authorized personnel only.
- Danger. Confined space. No unauthorised persons beyond this point.
- NOTICE: Roof access.
Emergency Contacts

NOTICE

FOR ANY BUILDING ISSUES, PLEASE CONTACT: ____________________________

TEL: ____________________________

IN CASE OF EMERGENCY, PLEASE CONTACT: ____________________________
Exterior Storage
Means of Egress Components

Can anyone define means of egress? A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way. A means of egress consists of three separate and distinct parts: the exit access, the exit and the exit discharge.
Means of Egress Components

- All posted/required items to be maintained for “FULL INSTANT USE”
- Keep hallways clear
- Don’t block exit doors
- Stairways are not storage areas-in or underneath
- If any item in this system breaks.... fix it.
- Contact code official for ANY modifications.

WHAT?!
EXIT signs and Emergency Lighting
Other Detection Systems
Commercial Cooking Equipment
Interior signage-Utility Rooms/Controls, Roofs
Fire Suppression Systems
Fire Alarm Systems
Fire Rated Assemblies
Storage in buildings
People Items....Try as we may, there are some things we just can’t fix.
Special Equipment/Operations

Specific industry equipment and systems will require maintenance that is per the manufacturer specifications.

Regarding operations, an industry liaison shall be identified and available for additional information and guidance.

Many regulatory guidelines factor into this area.
Documentation

Routine training, maintenance, and service items as required by the fire code shall be documented and presented to the fire code official upon request.

Examples of documentation:

• Emergency, Fire and Life Safety Plan documents
• Fire Alarm service reports
• Fire Suppression system and equipment service reports
• Equipment maintenance reports
• Inventory Statements, Tier 2 reports, (HMIS)
• HMMP

Documentation is best when maintained (requirement) in a readily accessible location or medium.
Portable Fire Extinguishers

Most commonly neglected item found during the fire inspection process.
Specific Hazards
Final thoughts

A great method to prepare for a fire inspection is to know the facility, facility maintenance, and the facility use/operation in depth. Extensive knowledge of these things will allow you to build a site specific inspection plan/checklist.

Once developed, maintain this plan to account for any modifications. The constant in this process is change so develop preparations that are dynamic to your industry or business need and growth.