

HOOKSETT FIRE RESCUE DEPARTMENT

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FIRE ALARM SYSTEMS

1. Administration

1. Intent – The intent of these regulations is to ensure all fire alarm systems installed in the Town of Hooksett are designed, installed, and maintained to achieve the following:
 - a. High Reliability
 - b. Conformity of system design with national standards and Hooksett Fire-Rescue standard operating guidelines.
 - c. Ease of operation and understanding
 - d. Protection of life and property within the Town of Hooksett with regard to system quality
 - e. Reduction of needless alarms
2. Scope – These regulations shall apply to all fire alarm systems installed in the Town of Hooksett.
3. Authority – The Fire Chief and/or his/her designee shall approve the design and installation of all fire alarm systems, key box locations, and connection of fire alarm systems to the receiving station.
4. Tests – All fire alarms systems shall be fully tested in the presence of the code official and approved before the system is placed in service.
5. Variances
 - a. The fire chief and/or designee may grant a variance to the provisions of these regulations when circumstances arise that makes strict adherence to portions of these regulations impractical.
 - b. Requests for variance to these regulations shall be made by the property owner, the owners agent in writing to the fire chief. This request shall specify the section of these regulations to which variance is sought and a complete explanation of the conditions that make strict adherence impractical. This request shall be submitted prior to review or approval of plans.
6. Approval – The issuance of a permit shall mean acceptance to the Town of Hooksett Fire Regulations.

2. Permits and Regulations

1. Fire alarm systems shall meet the requirements of NFPA 1, 2000 edition; NFPA 101, 2000 edition; NFPA 72, 1999 edition; NFPA 70, 1999 edition; and all applicable ADA standards. Systems shall also comply withal Town of Hooksett Ordinances and Hooksett Fire Department (HFD) requirements.
2. Prior to installation, the fire alarm contractor shall complete an Application for Installation of Fire Protection Systems.

3. All fire alarm systems installed in the Town of Hooksett shall have an electrical permit issued by the Code Enforcement Officer.
4. No work may start until plans have been approved by HFD.
5. Additions and modifications to existing systems will require a new application and submittal.
6. Installation of equipment shall be in accordance with modern standards of practice.
7. All fire alarm systems shall be monitored for alarm, trouble and secure by a UL listed Central Station Monitoring Company. A copy of the monitoring stations UL certificate shall be provided at the time of plans submittal.

3. Plan Submittal Requirements

1. A complete set of plans must be submitted for approval to HFD prior to installation. Submittals must include a minimum of:
 - a. Two (2) sets of working plans drawn to scale in accordance with applicable NFPA code requirements. A licensed designer or engineer shall stamp plans.
 - b. A floor plan showing panel location, all initiating devices, notification devices, tamper/troubles and enunciator location.
 - c. A wiring riser diagram and panel programming details shall also be included on working plans.
 - d. One set of battery calculations, demonstrating minimum power requirements are met.
 - e. A detail of the annunciator panel detail and drawing. Only backlit enunciators or graphic panels are acceptable.
 - f. A list of all codes/addresses addressable systems shall have each device clearly labeled with a code that corresponds with the code/address on the control panel LCD. Each address shown in the LCD must be approved by HFD.
 - g. A detailed technical data sheet for each component, including equipment listings and descriptions. ***All equipment must be UL listed or FM approved.***
2. All buildings with fire alarms must utilize the “Knox Box” key depository system. Applications are available through the Hooksett Fire Department and should be processed at the time of plan submittal.

4. System Requirements

1. All new fire alarm wiring shall be of Class A type.
2. Any system protecting an occupancy of 4000 square feet or greater shall be addressable.
3. Specific requirements for smoke detection shall be determined according to occupancy use.
4. All systems shall allow the visual indicators (strobes) of the evacuation signals to continue to signal after the alarm silence switch is operated, and the alarm zone shall remain illuminated until the system is reset.

5. All Systems shall be DC, supervised, battery stand-by fire alarm system. A separate AC circuit disconnect will be provided for the fire alarm system. Stand-by batteries and the charging system shall be supervised.
6. All fire alarm control panels shall be stand-alone units. No other functions shall be allowed in the panel. (i.e. security systems etc.)
7. The batteries used with the fire alarm control panel shall be capable of operating the panel for sixty (60) hours with a five (5) minute ring-down at the end of a sixty (60) hour period.

5. Panel

1. The main fire alarm control panel shall be located at the front/main entrance to the building.
2. All conventional fire alarm control panels must have switches to allow individual zones to be disconnected without disabling the entire panel. When these switches are in disconnect position, the trouble circuit must be activated.
3. All conventional fire alarm control panels must be controlled by single action switches, with simple commands. (i.e. silence, reset, etc.)
4. All fire alarm control panels shall have standard “Cat - 30” key locks.
5. All fire alarm control panels shall be predominately red in color and have a white label: **Fire Alarm Control** on the front of the panel with minimum one-inch letters.
6. All control panels shall have drill switch to permit fire drills without summoning the fire department.
7. City disconnect switches are not allowed on fire alarm control panels.
8. All zones of conventional control panels shall have red alarm indicating lamps, yellow trouble lamps and green power lamps.
9. A trouble silence switch shall silence the trouble audible signal while the trouble visual signal remains illuminated. The trouble silence and drill switches shall have a ring back feature to supervise correct switch position. Trouble signals shall have a resound provision. When a system is silenced any subsequent alarms from another device shall resound the evacuation signals. All control panels shall have a system silence switch and a system reset switch.
10. Control panels having zone labeling on an outside door with zone lamps mounted on an inside panel shall have zone labeling inside the panel also to indicate zones when door is opened.
11. Upon activation of any alarm device, the control panel shall sound the evacuation signals, flash the evacuation lights, indicate the zone of activation, and send the signal to the approved central station.
12. Activation of any alarm device will return elevators to the nearest ground level floor where smoke is not present in the elevator lobby.
13. Elevator recall systems shall reset automatically when the fire alarm control panel is reset.
14. Fire alarm zones shall protect a maximum of ten thousand (10,000) square feet.
15. All systems must conduct a “Handshake” with the monitoring station daily. It must register as a test and not a trouble alarm.

6. Devices

1. End of line devices must be installed electrically last beyond any detection device in an alarm circuit. The location of the end of line device shall be clearly marked.
2. Detection devices located in concealed areas shall have remote indicators in an occupied area within the immediate area of the device.
3. All electrical boxes used for fire alarm wiring shall have a red cover.
4. All wiring shall be run in metallic conduit. No wire shall run exposed. *Exception: 105-degree centigrade wire may be run without conduit provided it is not exposed, is above seven (7) feet from the floor level and is secured to structural members every eighteen (18) inches.*
5. Any alarm initiation device, which is not connected to the main fire alarm system, shall have a permanent sign indicating this condition. (e.g. pull station for grease fire, deluge systems etc.)
6. All exterior exits and each exit from every floor shall have a pull station within four (4) feet of the exit way.
7. All pull stations and horn strobe units shall be predominantly red and be labeled “**FIRE**”. Any alarm or signal devices located in the building, which are not part of the fire alarm system, shall be painted a color other than red.
8. All firefighters telephones, manual pull stations and remote resets shall have standard “Cat-30” key locks or A135 keys.
9. All buildings shall have an outside red strobe over the enunciator or entrance to fire alarm panel. The strobe shall be placed between 8’-12’ high or visible on the building from the entranceway to the complex. Multi occupied units shall have a separate red strobe outside each occupancy that will activate with the affected section.
10. Any building that has a sprinkler system shall have a green strobe mounted next to the strobe in 5.9 that is connected to the main flow switch on the sprinkler system.
11. All heat detectors shall be “rate of rise” detectors.

7. Annunciator

1. No LED lamps are allowed. Acceptable annunciator labeling will include backlit painted window letters or engraved plastic white on red. **Note** “Dymo” labels will not be allowed.
2. All remote annunciator shall have a trouble indication, which will show any system trouble and will remain illuminated when the trouble silence switch is engaged.
3. A remote annunciator shall be located at the main entrance of the building. The color shall be predominantly red. All zone labeling shall be in plain English indicating the location of the alarm. No zone numbers will be allowed on the annunciator. Units located on the outside of the building shall be backlit type with sufficient brilliance to be seen in normal direct sunlight
4. Annunciator will have a system silence.
5. All annunciator shall have standard “Cat-30” or A135 key locks.

8. Inspection Standards

1. The fire alarm, sprinkler and standpipe systems must be completed before the inspection is scheduled. No work shall be on going at the time of inspection.
2. The 100% inspection certificate shall be available to the fire inspector before starting the inspection.
3. A minimum of two (2) persons from the installing company shall be present to perform equipment test. At least one (1) of the persons shall have been directly involved with the installation.
4. Movable ceiling panels shall be opened to allow visual inspection of the fire alarm wiring and/or equipment above the ceiling level.
5. A copy of the electrical and/or plumbing permit(s) must be on file with the Hooksett Fire Department.
6. A fully completed "Application for Installation of Sprinklers or Fire Alarms" must be on file at the Hooksett Fire Department.
7. If the building is occupied at the time of the inspection, all occupants shall be notified of the inspection before arrival of the fire inspector. All occupants must be notified hen testing is complete.
8. The installer shall complete a certificate certifying that the system has been 100% tested and functions in complete compliance with the system specifications and manufactures recommendations. The certificate shall be signed by the installer, general contractor and the owner. After receipt of the certification, the Hooksett Fire Department will conduct an inspection in the company of the installer and a representative of the owner. It shall be the responsibility of the owner to inspect 25% of all alarm devices quarterly. The intent is a 100% inspection of the system annually.

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