Pride in Service with Integrity

Department of Fire Rescue & Emergency Services
Fire Marshal's Office
Dania Beach District
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FIRE ALARM SHOP DRAWING SUBMITTAL REQUIREMENTS

A **Fire Alarm System Shop Drawing** is required for review by the Fire Prevention Bureau for any modification(s) or change(s) to existing fire alarm systems and any new installations. The Fire Alarm System Shop Drawing(s) must include all of the information listed below. ***If any portion does not apply, a note must be provided on the plan stating that it is not applicable.*** If any portion of the requested information is not provided or clarified, the plan will be returned for that provision or clarification to be made and a re-examination fee may apply. Should you have any questions, please contact the Fire Prevention Bureau with the information provided in the letterhead.

THE FIRE ALARM SYSTEM SHOP DRAWINGS MUST INCLUDE ALL OF THE FOLLOWING:

1. A detailed Scope of Work
2. A Scaled plan with the scale indicated
3. North Directional Indicator
4. A total square footage of the work area or tenant space
5. A complete legend in accordance with the Fire Safety Symbols of N.F.P.A. 170, 2006 Edition (to include all symbols related to plan).
6. The plans must be signed and sealed by the architect and/or engineer. If the job value is less than $5,000.00 and the plan is not signed and sealed by the architect or engineer, provide a copy of the signed contract with the plan submittal.
7. A note on the plans that the Fire Alarm System shall be installed in accordance with N.F.P.A. 72, 2002 Edition.
8. Identify the Occupancy Classification for which the alarm systems is being installed (If the occupancy is mixed provide the percentage and square footage of each occupancy by way of a note).
9. A Sequence of Operation for the Fire Alarm System
10. A sequence of operation for the elevator recall for Fire Fighters' service in accordance with ANSI/ASME A17.1-2000 (**where applicable**)
11. Battery Calculations to include voltage drops
12. Product Spec Sheets for all devices and appliances (to also include water gongs/alarms, tamper switches and flow switches for sprinkler systems) associated with the fire alarm system.
13. Identify the locations of any water gongs/alarms, tamper switches and flow switches if included in the fire alarm system.

14. Hi-light all stand-by & alarm currents, decibel levels and light type/source/candela applicable to each device and appliance on each of the product spec sheets. If this information is not provided on the product spec sheets, provide other documentation from the manufacturer which indicates current draws, decibel levels and light types as requested.
15. Indicate the maximum spacing requirement between smoke detectors as stipulated by the manufacturer. Hi-Lite this information on product spec sheets. If this information is not provided on the product spec sheets, provide other documentation from the manufacturer which indicates the maximum spacing.
16. Indicate the maximum spacing requirement between visible notification appliances (wall mounted and ceiling mounted) as stipulated by the manufacturer. Hi-Lite this information on product spec sheets. If this information is not provided on the product spec sheets, provide other documentation from the manufacturer which indicates the maximum spacing.
17. Indicate the maximum spacing requirement between audible notification appliances as stipulated by the manufacturer. Hi-Lite this information on product spec sheets. If this information is not provided on the product spec sheets, provide other documentation from the manufacturer which indicates the maximum spacing.
18. A complete wiring diagram/schematic
19. Indicate the Class and Style of the initiating device circuits, notification appliance circuits, and signaling line circuits. See N.F.P.A. 72:6.4.2.1 &6.4.2.2
20. A note or demonstrate on the plan the communication method intended for use in transmitting an alarm signal to the supervising station (DACT/DACS, DARR/DART, Two-Way Radio Frequency, One-Way Private Radio Alarm, etc.). N.F.P.A. 72:8.5.3
21. If this system is utilizing a DACT, provide information on the intended transmission channels to be utilized for this fire alarm system in accordance with N.F.P.A. 72:8.5.3.2.1.4. (ie. Two telephone lines one of which is a dedicated line)
22. Identify Smoke or Heat Detector at the FACP
23. A PDF or TIF format copy of the entire plan on disc to include battery calculations, product spec sheets and all other associated information. (For Fire Department Use in Pre-Fire Planning Only)
24. If any item(s) is overlooked in the plan review process and discovered during the field inspection it MUST be corrected to meet the actual code requirements.

25. A PDF format copy of the **complete set of approved plans**. They can be sent via email to kennethsean_brown@sheriff.org (For Fire Department Pre-Fire Planning Use Only).

NOTENOTE***NOTE***NOTE***NOTE***

A letter-format response is required for all corrections made to any portion(s) of the plan indicating the page or sheet numbers where the corrections can be found. Failure to provide this letter format response will result in the plan being rejected without review. Additional plan review fees shall be applied.

If any item(s) is overlooked in the plan review process and discovered during the field inspection it MUST be corrected to meet the actual code requirements.

FIRE ALARM NOTES TO BE PROVIDED ON THE PLAN

26. The Fire Alarm System shall be installed in accordance with N.F.P.A. 72, 2002 Edition.
27. All of the following items and records shall be provided at the time of final inspection (N.F.P.A. 101:9.6.1.9 & 9.6.1.10; N.F.P.A. 72:10.2; SFM):
    a. A log book (notebook) – With the address of the property protected on the cover.
    b. A record of all contact numbers (Building & Business Owners, Monitoring Company, Company that provided the system install, Contracted Service Company, etc.)
    c. Fire Alarm System Record of Completion
    d. A copy of the approved "As-Built" plans for the Fire Alarm System to include locations of each device and a number corresponding to each device
    e. The procedures for maintenance, inspection, and testing of fire detection, alarm, and communications systems.
    f. A copy of the original equipment product spec sheet submittals
    g. Operational Manuals
    h. Required testing and maintenance log.
28. The Fire Alarm System shall be monitored by an approved supervising station. Apartment Occupancy Types shall be permitted to be local alarms only in accordance with Broward County Amendments to F.F.P.C., 2005 Ed, Section F-32.
29. All devices mounted outdoors shall have tamper-resistant screws. N.F.P.A. 72:4.4.4.3
30. The Fire Alarm System shall have its own dedicated branch circuit in accordance with N.F.P.A. 72:4.4.1.4.1
31. The dedicated branch circuit(s) and connections shall be mechanically protected. N.F.P.A. 72:4.4.1.4.2.1
32. The circuit disconnecting means shall have a red marking, shall be accessible only to authorized personnel, and shall be identified as "FIRE ALARM CIRCUIT." N.F.P.A. 72:4.4.1.4.2.2
33. The location of the circuit disconnecting means shall be permanently identified at the fire alarm control unit. N.F.P.A. 72:4.4.1.4.2.3
34. The installation of all wiring, cable, and equipment shall be in accordance with NFPA 70, *National Electrical Code*, and specifically with Articles 760, 770, and 800, where applicable. Optical fiber cables shall be protected against mechanical injury in accordance with Article 760. N.F.P.A. 72:4.4.4.4
35. The secondary power supply shall be capable of providing a quiescent load (non-alarm condition) for 24 hours and at the end of 24 hours shall be capable of full operation of all appliances at full load for 5 minutes (and 15 minutes for Voice Alarm Communications (N.F.P.A. 72:4.4.1.5.3.1) **THIS SHALL BE TESTED FOR FINAL APPROVAL.**
36. The secondary power supply for emergency voice/alarm communications service shall be capable of operating the system under quiescent load for a minimum of 24 hours and then shall be capable of operating the system during a fire or other emergency condition for a period of 15 minutes at maximum connected load (N.F.P.A. 72:4.4.1.5.3.1 (A)). **THIS SHALL BE TESTED FOR FINAL APPROVAL.**
37. The secondary power supply capacity for supervising station facilities and equipment shall be capable of supporting operations for a minimum of 24 hours (N.F.P.A. 72:4.4.1.5.3.1 (B)). **THIS SHALL BE TESTED FOR FINAL APPROVAL.**

FIRE ALARM NOTES TO BE PROVIDED ON THE PLAN – cont'd.

38. Batteries shall be permanently marked with the month and year of manufacture. N.F.P.A. 72:4.4.1.8.1
39. The operation of the automatic fire suppression system installed within the protected premises shall cause an alarm signal at the protected premises fire alarm control unit. N.F.P.A. 72:6.8.5.6.1 (where applicable)
40. Smoke or Heat Detectors shall be installed at the FACP.
41. All operable parts of each manual fire alarm box shall be not less than 3 ½ ft. and not more than 4 ½ ft. above floor level. N.F.P.A. 72:5.12.4
42. Manual fire alarm boxes shall be located within 5 ft. of the exit doorway opening at each exit on each floor. N.F.P.A. 72:5.12.6
43. Audible public mode signals shall have a sound level at least 15 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater, measured 5 ft. above the floor in the occupiable area, using the A-weighted scale (dBA). N.F.P.A. 72:7.4.2 **THIS SHALL BE TESTED FOR FINAL APPROVAL.**
44. Audible notification appliances intended for operation in the private mode shall have a sound level of not less than 45 dBA at 10 ft or more than 120 dBA at the minimum hearing distance from the audible appliance. N.F.P.A. 72:7.4.3.1 **THIS SHALL BE TESTED FOR FINAL APPROVAL.**
45. Audible private mode signals shall have a sound level at least 10 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater, measured 5 ft above the floor in the occupiable area, using the A-weighted scale (dBA). N.F.P.A. 72:7.4.3.2 (**where applicable**) **THIS SHALL BE TESTED FOR FINAL APPROVAL.**
46. Where audible appliances are installed to provide signals for sleeping areas, they shall have a sound level of at least 15 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds or a sound level of at least 75 dB, whichever is greater, measured at the pillow level in the occupiable area, using the A-weighted scale (dBA). N.F.P.A. 72:7.4.4.1 (**where applicable**) **THIS SHALL BE TESTED FOR FINAL APPROVAL.**
47. Wall-mounted appliances shall have their entire lens not less than 80 inches and not greater than 96 inches above the finished floor. N.F.P.A. 72:7.4.6.1 & 7.5.4
48. The light source color must be clear or nominal white and shall not exceed 1,000 cd (effective intensity). N.F.P.A. 72:7.5.2.4
49. The light output shall comply with the polar dispersion requirements of ANSI/UL 1971, *Standard for Safety Signaling Devices for Hearing Impaired,* or equivalent.
50. If ceiling heights exceed 30 ft., ceiling-mounted visible notification appliances shall be suspended at or below 30 ft. or wall-mounted visible notification appliance shall be installed in accordance with Table 7.5.4.1.1(a). (N.F.P.A. 72:7.5.4.1.6)
51. All Visual Notification Appliances must be synchronized in accordance with N.F.P.A. 72:7.5.4.1.2(3).
52. All initiating devices, where subject to mechanical damage, shall be protected. A mechanical guard used to protect a smoke or heat detector shall be listed for use with a detector. N.F.P.A. 72:5.4.2

FIRE ALARM NOTES TO BE PROVIDED ON THE PLAN – cont'd.

53. Spot-type heat-sensing fire detectors and spot-type smoke detectors shall be located on the ceiling not less than 4 inches from the sidewall or on the sidewalls between 4 inches and 12 inches from the ceiling. N.F.P.A. 72:5.6.3.1
54. Smoke Detectors shall not to be located in a direct airflow or closer than 3 ft. from an air supply diffuser or return air opening. N.F.P.A. 72:A.5.7.4.1
55. Upon silencing the fire alarm system, all visual appliances are to remain active per AHJ. (N.F.P. A. 72:4.4.3.7 (D) of Handbook).
56. Fire alarm systems shall be permitted to be either integrated systems combining all detection, notification, and auxiliary functions in a single system or a combination of component subsystems. Fire alarm system components shall be permitted to share control equipment or shall be able to operate as stand-alone subsystems, but, in any case, they shall be arranged to function as a single system. N.F.P. A. 72:6.8.2.1