Clark County Fire Prevention

Mission Statement: "To provide the highest level of fire protection and related services"

TITLE: **FIRE ALARM SYSTEMS, TENANT IMPROVEMENT**
2005 CLARK COUNTY FIRE CODE

SCOPE: This guideline applies to Fire Department requirements for the design of fire alarm systems extensions of existing systems to accommodate tenant improvement projects.

PURPOSE: Standardize Fire Department requirements relating to the design of fire alarm systems. Emphasize critical plan items required by the Clark County Fire Department in accordance with the 2005 Clark County Fire Code and the 2002 edition of NFPA 72.

At the time of permit application, three (3) sets of plans, drawn to an indicated scale, must be submitted for review and approval. Minimum permit and expedite fees (if required) must be paid at this time. The minimum permit fee for this submittal is $75. Plans that have 10 or fewer devices may be considered for review over the counter. A device constitutes a separate initiating device (smoke detector, heat detector, flow switch, manual pull station) and a separate notification appliance (horn only, strobe only, horn/strobe combo, speaker only, speaker/strobe combo). Systems with special detection devices, such as beam detectors, air-sampling detectors, flame detectors, and line heat detectors, are not acceptable for review over the counter. Plans that have more than 10 devices, or any plan submitted for regular review, may be expedited at an additional fee of $85 per hour, or one times the permit fee, whichever is greater. Plans with more than 25 devices will be charged an additional permit fee of $0.75 per device for each device over 25. Any changes to the approved plans/permit will require revised plans to be submitted and approved (all revisions require a new permit and additional permit fees). This approval must be obtained prior to testing and final acceptance of the installation.

REQUIREMENTS: The following items must be addressed within submittals for fire alarm system installation permits:

1. Project name, street address, and owner's name.
2. Contractor's name, address, phone number, license numbers, license classification, and license limit.
3. Wet signature of licensee, ie the contractor's Master or Qualified Employee
4. Wet signature of NICET Level II in fire alarms designer (or equivalent certification) who prepared submittal.
5. Occupancy classification as defined by Section 216 of the Clark County Fire Code. For assembly occupancies, indicate the occupant load within the occupancy.
6. Provide a symbol legend.
7. Floor plan shown to 1/8" scale. Floor plans must include:
    a. North arrow
    b. Walls and doors throughout the protected premise
    c. Room use identification labels that clearly specify the purpose of the room protected.
    d. Device type and locations. Devices must be provided with adjacent labels indicating the circuit number, number of device on the circuit, and system address, if applicable.
    e. Conduit routing, with labels to indicate type and number of conductors contained within the conduit
    f. End-of-line resistor, if provided
    g. Ceiling height for all areas covered by detection systems and where ceiling mounted notification

appliances are provided.
    h. Beam/joist/soffit and any other obstruction to fire alarm and detection design.
8. Detail on section view showing mounting height for all wall-mounted devices with respect to the floor and the ceiling. See NFPA 72, Sections 5.6.3.1, 5.7.3.2.1, 5.12.4, 7.4.6.1, 7.4.6.3, and 7.5.4.
9. Notes pertinent to the Authority Having Jurisdiction, to include, at a minimum, the following:
    a. This installation conforms with all applicable Nevada State Statutes and Clark County Codes and Ordinances which are in effect at the time of installation
    b. The contractor (or his designee) must provide testing equipment and perform all testing required by the Clark County Fire and Building Departments
    c. The contractor shall conduct a "pretest" of the entire system before scheduling an acceptance test.
    d. Areas protected by an audible alarm will achieve a minimum of 80dB sound level at any place within the protected property.
    e. An acceptable performance test will be scheduled prior to final acceptance with a minimum of two (2) working days advance notice.
10. Battery Calculations for all the power supplies/panels whose circuits are being extended.
11. Circuit load calculation, indicating the total load, in amperes, for each circuit that has been extended.
12. Product data submittal, including manufacturer information sheets for all initiating devices, all notification appliances, and all control relays.
13. Notification appliances must be spaced in accordance with NFPA 72 requirements (see Table 7.5.4.1.1 (a) and Table 7.5.4.1.1 (b))
14. Smoke Detectors must be a minimum of 4 inches from the wall, between 4-12 inches from ceiling when located on the wall (Section 5.7.3.2.1), and a minimum of 3 feet from any supply or return diffuser (Sections 5.7.4.1 and A.5.7.4.1)
15. Smoke detectors on smooth, level or sloped, ceilings are to be spaced as follows
    a. Detector spacing typically 30 feet maximum on center
    b. All areas of the ceiling must be within 21 feet of a smoke detector; for narrow spaces such as corridors, this allows the spacing of detectors to be extended to a maximum of 41 feet.
    c. For peaked and shed sloped ceilings, a detector is required within 3 feet, measured horizontally, from the highest ceiling point. Additional smoke detectors must be provided, with spacing based on the horizontal protection from the floor below to the ceiling.
16. Smoke detectors on level ceilings with Joist/Beam pockets shall be installed in accordance with Section 5.7.3.2.4.
17. Heat detectors must be a minimum of 4 inches from the wall and between 4-12 inches from ceiling when located on the wall (Section 5.6.3.1).
18. Heat detectors on smooth ceilings must be spaced as follows (please note that for heat detectors, when the room has exposed beams, and the beams are less than 4 inches deep, then the ceiling is to be considered a smooth ceiling):
    a. In accordance with manufacturer literature, spacing up to 50 feet on center is common.
    b. All portions of the ceiling must be within 0.7 times the listed spacing for the device.
19. Where heat detectors are provided in exposed joist construction (exposed solid members spaced 3 feet or less on center) the location and spacing of heat detectors shall comply with Sections 5.6.3.1.1 and 5.6.5.2.
20. Where heat detectors are provided in exposed beam construction (exposed solid members spaced more than 3 feet on center), the location and spacing of heat detectors shall comply with Section 5.6.3.1.2 and 5.6.5.3.
21. Indicate temporal sounds for horns, if horns are used.
22. Indicate speakers are synchronized, if speakers are used.
23. Indicate strobes are synchronized.
24. Indicate strobe coverage in all public accessible areas.