



CHANDLER FIRE DEPARTMENT

PLAN REVIEW GUIDE FOR FIRE ALARM SYSTEMS



PROJECT NAME: _____ CITY LOG #: _____
PROJECT ADDRESS: _____ CONTRACTOR: _____
CONTACT PERSON: _____ TELEPHONE #: _____

Fire alarm system installation information shall be provided on the appropriate drawings. A copy of this guide shall be attached to submitted drawings. **A review will not be conducted without this guide being submitted with the drawings.** Any modifications to existing systems shall be submitted for plan review to Transportation and Development Department. Plans shall be reviewed, approved, permit issued and on site prior to work beginning. A contractor licensed by the State to do such work SHALL perform all such work and who holds a current valid permit from the Fire Department to work within the City of Chandler.

1. Fire Department "General Notes to the Contractor: are provided on the plans.
2. Pursuant to Board of Technical Registration guidelines adopted March 17, 1989 sprinkler system design criteria has been accomplished by a registrant; and the submittal bears the registrants seal.
3. All Fire Alarm Systems shall be installed in accordance with applicable provisions of NFPA, Fire Code, Building Code and ANSI Standards. All system components are compatible and are listed or approved as such.
4. One set of approved drawings shall be maintained on-site and made available to City Inspectors on demand.
5. A City Inspector shall witness the testing of the Fire Alarm System. Contact your Building Inspector to schedule an inspection at least 48 hours in advance. The contractor shall provide the City Building Inspector two copies of Inspection, Testing and Maintenance form (require by NFPA), prior to the start of any Inspection or Testing of the system. One copy of the completed Inspection, Testing and Maintenance form will then be given to the contractor upon successful completion of the inspection or test of the system.
6. Plans shall be drawn to an indicated scale, on sheets of uniform size, with a plan of each floor, and shall show those items from the following list that pertain to the design of the system:
 - a) Name of owner and occupant.
 - b) Name and address of contractor.
 - c) Location, including correct street address.
 - d) Point of compass.
 - e) Occupancy and Occupant Load
 - f) Square foot
 - g) Scope of work (New install, TI, Modification, Addition, Change with in facility)
 - h) Legend of all Devices
 - i) Sequence of operations for all functions
 - j) Floor Plans
 - k) Zone Maps
 - l) Room Description/Use
 - m) Convention or addressable wiring
 - n) FACP & Annunciator Location (The alarm annunciator shall be positioned in a location approved by the Fire Department).
 - o) Notification Power Supply Location
 - p) Riser Location and Number
 - q) Location of Primary Power Connection (Breaker Panel Location)
 - r) One Line Diagram of initiating and notification circuits
 - s) Monitoring and/or height requirements for equipment
 - t) Detail special device hook up or other unique device configuration
 - u) Cut sheet literature describing devices, controls, appliances and other equipment, to include but not limited to information on:
 - i) Device, appliance and equipment ratings and spacing requirements
 - ii) Device, appliance and equipment compatibility
 - iii) Listings /Approvals
 - iv) Device/Appliance/Equipment features to be utilized in the system

- v) All calculations for the following items are complete, accurate, and adequate:
 - i) Battery calculations and voltage drop estimates
 - ii) Voltage Drop of Circuits
 - iii) Current Protection
 - iv) Standby and Alarm Battery Calculations
 - v) A battery calculation sheet (with all values used) showing that battery power is adequate for 24 hours of stand-by power and 5 minutes of alarm power.
 - vi) Allowable Voltage drop shall not exceed 10%
7. Equipment location and floor plan drawing showing:
- a) Location of Devices (Pull Stations, Tamper Switches, Smoke Detector, interface with elevator, door release or unlock, smoke control, HVAC shut down, Dampers, Fire Pump, Water Flow, Heat detectors, Duct Detectors, Etc.).
 - b) Location of Appliances (Bells, Horns, Horn/strobe, speaker, chimes, Etc.).
 - c) Type of Devices and Appliances (Pull Stations, Tamper Switches, Smoke Detector, interface with elevator, door release or unlock, smoke control, HVAC shut down, Dampers, Fire Pump, Water Flow, Heat detectors, Duct Detectors, Etc.).
 - d) Control Location(s) (FACP, Annunciators, Transmitters, Transponders, Etc.).
 - e) Type of Control (Bells, Horns, Horn/strobe, speaker, chimes, Etc.).
 - f) Ceiling Shape and Surface Cross Sections or Note at Detector Locations (Level Shape, Smooth Surface, Etc.).
 - g) A Symbol List (With Equipment Identification) Showing:
 - i) Symbols Used On Drawings
 - ii) Symbol Description
 - iii) Device Manufacturers, Make and Model Number
 - iv) Linear Footage Detector Rating for Spacing in "High Air Movement Areas" If Applicable
8. An Elementary Wiring (Riser) Diagram Showing:
- a) Arrangement of ALL Devices and Appliances with Respect to Control Units and FACP
 - b) Typical Data On:
 - i) Control Panel
 - ii) Power Supply Circuit
 - iii) Alarm Initiating Circuits
 - iv) Alarm Indicating Circuits
 - v) Ancillary Functions (HVAC Shutdown, Elevator Recall, Door Closures, Etc.)
 - c) Zone Configuration and Addressing (As It Will Appear on FACP and/or Annunciator) for Each Zone
 - d) System Primary and Secondary/Stand-By Electrical:
 - i) Power Source and Voltage
 - ii) Connection to System
 - iii) Electrical Power to System
 - e) Alarm Circuit Load Consumption of All Circuits to Include:
 - i) Voltage Drop
 - ii) Acceptable Limits
 - iii) Quantity of Signaling Appliances on Furthest Circuit and Current Consumption
 - iv) Length of Furthest Circuit and Resistance of Wire or a Note Specifying Maximum Circuit Length
9. A point to Point System Wiring Diagram Showing:
- a) Interconnection of ALL Devices and Appliances
 - b) External Connection of Modules in Control Panel
 - c) Conduit Connection and Size
 - d) Type, Size, Manufacturer's Name, and Approved List of Wire or Cable
 - e) Electrically operated water flow alarm devices attached to sprinkler systems to provide required supervision shall be interconnected to the fire alarm system in accordance with the appropriate NFPA standard.
10. Show Detector Protection in Air/Heat Ducts, Detector Activation of Magnetic Door-Releasing Hardware and Detector/Fire Alarm System Activation of HVAC Shutdown.
11. Fire Sprinkler Supervisory/Tamper Switch Connection to Fire Alarm System, Alarm system supervision of sprinkler system trouble and water flow indications in buildings more than one story high, shall be provided by the fire alarm system in accordance with NFPA 13.
12. Sprinkler tamper switch is to cause light and buzzer indication at annunciator panel and at the remote supervision site when such is required. Activation of tamper alarm shall not cause operation of door, chimes, bells, or sprinkler flow alarm.
13. An information plate reading "LOCAL ALARM ONLY - THIS ALARM DOES NOT SUMMON THE FIRE DEPARTMENT - IN CASE OF FIRE CALL FIRE DEPARTMENT AT 9-1-1" is installed on the exterior of each building where the local alarm sounds or is visible for water flow.

14. Activation of the manual pull station or device shall sound a local alarm.
15. An information plate reading "LOCAL ALARM ONLY - THIS ALARM DOES NOT SUMMON THE FIRE DEPARTMENT - IN CASE OF FIRE CALL FIRE DEPARTMENT AT 9-1-1" is installed at each manual pull station for a local alarm system.
16. Manual fire alarm boxes (pull stations) shall be at every exit on every floor for multiple story buildings
17. Fire alarm system voice speakers/audible devices are being used for purposes other than evacuation only when allowed by the code.
18. Emergency telephones with individual cabinets for use by the Fire Department (Or other emergency responders) are installed.
19. Will there be any storage, use, handling, dispensing or mixing of any chemicals or flammable/combustible liquids inside the building?
20. When hazardous materials rated 3 or 4 in accordance with Fire Code are transported through exit corridors or exit enclosures, there shall be an emergency telephone system, a local manual alarm or an approved signaling device at not more than 150 feet intervals and at each exit doorway throughout the transport route. The system shall initiate a local audible alarm and the signal shall be relayed to an approved central, proprietary or remote station service or a constantly attended location.
21. A manual pull station or approved emergency signal device is shown outside of each interior exit door of hazardous material storage buildings, rooms, or areas.
22. Manual alarm, emergency signal, detection or automatic fire extinguishing systems (including fire sprinklers) shall be supervised by an approved central, proprietary or remote station service; or shall initiate an audible and visual signal at a constantly attended location.
23. A smoke detection system shall be provided in rooms or areas where highly toxic compressed gases are stored indoors, and activation shall sound a local alarm.
24. A smoke detection system shall be installed in all liquid and solid oxidizer storage areas (except when stored in detached storage buildings with an automatic fire extinguishing system) and shall sound a local alarm.
25. An approved automatic smoke-detection system shall be provided when the amount of hazardous materials stored, dispensed, handled or used in one control area exceeding exempt amounts specified in Fire Code.
26. The contractor is to place a floor plan of the building inside the Fire Alarm Panel. The floor plan shall show the location of all devices and provide room numbers and/or description of room that is compatible with the Fire Alarm System notification (example: 1st floor smoke detector room 103 or break room). Zone Maps are to be placed in the Fire Alarm Panel.
27. The contractor shall place a key to the fire alarm panel in the Key Box.
28. All Fire Alarm Rooms shall be signed in accordance with Fire Department detail FD106.