



PLAN REVIEW GUIDE FOR FIRE ALARM

Fire alarm system installation information **shall** be provided on the appropriate architectural and electrical drawings.

Fire alarm systems shall be installed by a contractor licensed by the State of Arizona and who holds a current City of Tolleson business license to perform such work.

The Fire Inspector shall witness the final acceptance test of the alarm system. Call 623-476-4624 to schedule an appointment at least 48 hours in advance.

The following items **shall** be included on the drawings:

- Fire Department “General Notes to the Contractor” is provided on the plans.
- Equipment location and floor plan drawing showing:
- Location dimensioning of devices (pull stations, tamper switches, detectors, etc.)
- Location, dimensioning of appliances (bells, horns, etc.)
- Type of devices and appliances
- Control Location(s) (FACP, Annunciators, Transmitters, transponders, etc.)
- Type of control.
- Ceiling shape and surface cross sections or note at detector locations (level, shape, smooth surface, etc.)
- Symbol List (With equipment identification) Showing:
 1. Symbols used on drawings
 2. Symbol description
 3. Device manufacturers, make and model number
- An Elementary Wiring (Riser) Diagram Showing:
- Arrangement of all devices and appliances with respect to control units’ fire alarm control panel (FACP).



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- Typical Data On:
 1. Control Panel
 2. Power Supply Circuit
 3. Alarm Initiating Circuits
 4. Alarm Indicating Circuits
 5. Ancillary Functions (HVAC shutdown, elevator recall, door closure, etc.)
- Zone Configuration and Identification (as it will appear on FACP and/or annunciator) for each zone.
- System Primary and Secondary/Stand-By Electrical:
 1. Power Source and Voltage
 2. Connection to System
 3. Electrical Power to System
- Alarm Circuit Load consumption of all circuits to include:
 1. Voltage Drop
 2. Acceptable Limits
 3. Quantity of Signaling Appliances on furthest circuit and current consumption
 4. Length of Furthest Circuit and Resistance of Wire or a note specifying maximum circuit length
- A Point to Point System Wiring Diagram Showing:
 1. Interconnection of all devices and appliances
 2. External connection of modules in control panel
 3. Conduit connection and size
 4. Type, size, manufacturer's name, and approved list of wire or Cable

Any of the following items required by code or standards, or which is otherwise part of the design, **shall** be included on the drawings.

- Detector Protection in Air/Heat Ducts
- Detector Activation of Magnetic Door-Releasing Hardware
- Detector/Fire Alarm System Activation of HVAC Shutdown
- Fire Sprinkler Supervisory/Tamper Switch connection to fire alarm system
- 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, bells, or sprinkler flow alarm.



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- An information plate reading **LOCAL ALARM ONLY – THIS ALARM DOES NOT SUMMON THE FIRE DEPARTMENT – IN CASE OF EMERGENCY OR FIRE CALL 911** is installed at each manual pull station for a local alarm.
- Manual fire alarm boxes (pull stations) **shall** be at every exit on every floor.
- Fire alarm system voice speakers/audible devices are being used for purposes other than evacuation only when allowed by code.
- Emergency telephones with individual cabinets for use by the fire department (or other emergency responders) are installed.
- The alarm annunciator **shall** be positioned in a location approved by the fire department.

Check appropriate box

Yes ___ No ___ Will there be any storage, use, handling, dispensing or mixing of any hazardous materials or flammable or combustible liquids inside the building?

- 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.
- Activation of the manual pull station or device **shall** sound a local alarm.
- 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.
- 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.
- 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.
- An approved automatic smoke – detection system shall be provided when the amount of hazardous materials stored, dispensed, handled or used in one control area exceeds exempt amounts specified in the fire code.



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- When hazardous materials rated 3 or 4 in accordance with the fire code are transported through exit corridors or exit enclosures, there **shall** be an emergency telephone system, a local manual fire alarm or an approved signaling device located at not more than 150 foot intervals and at each exit doorway throughout the transportation 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.

The following information shall be submitted as an attachment to each set of drawings submitted. Place your initials beside each item to indicate that the information has been attached.

- Functions to take place upon operation of devices.
- A battery calculation sheet (with all values used) showing that battery power is adequate for 24 hours of standby power and 5 minutes of alarm power.
- A separate written and signed report advising that the following system requirements have been met.
 - A. The system has been designed to meet all applicable Fire Code and NFPA requirements.
 - B. All system components are compatible and are listed or approved as such.
 - C. All calculations for the following items are complete, accurate, and adequate:
 1. Voltage Drop of Circuits
 2. Current Protection
 3. Standby and Alarm Battery Calculations
 - D. The system has alarm verification features are in accordance with NFPA 72.



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- Cut sheet literature describing devices, controls, appliances and other equipment, to include but not limited to information on:
 - A. Device, appliance and equipment ratings and spacing requirements
 - B. Device, appliance and equipment compatibility
 - C. Listings /Approvals
 - D. Device/Appliance/Equipment features to be utilized in the system
- A Certificate of Completion and an Inspection/Testing Form shall be completed and provided to the Tolleson Fire Department prior to acceptance.
- The contractor shall place a key to the fire alarm panel in the Key Box.



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