



Fire & Life Safety Department

FIRE ALARM SYSTEMS

These submittal requirements are to be followed when a business, facility or organization proposes to install or modify a fire alarm system into a property owned and/or operated by UTD.

SUBMITTAL REQUIREMENTS

1. An original (Wet) APS signature and stamp, as required by TIC Chapter 6002, Section 34.619, or signed and sealed by a registered Fire Protection Engineer (PE), is required on all plan drawings and calculations.
2. Plans shall be designed and will be reviewed based on the requirements in the 2018 International Fire Code, and 2016 NFPA 72, or most recent edition, and shall be indicated on the plan drawings as the code and standard of record.
3. Plans shall be clear, legible and in a common and appropriate scale.
4. Indicate all walls and rooms. Ceiling tiles shall not be shown unless needed for clarity.
5. Scope of Work.
6. Sequence of Operations.
7. Equipment List.
8. A minimum of two (2) sets of plans shall be submitted. Plans shall contain sufficient detail to enable the
 - a. Reviewer to accomplish a complete review. The following information shall be provided on the plans;
 - b. Project Name & Address
 - c. Title Block
 - d. North arrow
 - e. Floor plan
 - f. Device location
 - g. Site map
 - h. Type of device
 - i. Provide a "point-to-point" wiring configuration
 - j. Fire alarm control panel
 - k. Annunciators
 - l. Location of doors
 - m. Intended use of each room
 - n. Location of all air handling units
 - o. Show location of all fire sprinkler risers, flow switches, tamper switches and fire pumps (if equipped)
 - p. Notification devices shall indicate candela rating
 - q. Heat detectors shall indicate temperature rating
9. Point ID/Addressable device list shall indicate how the devices will report to the Central Station (CSM).
10. Specification booklet shall contain the following;
 - a. A minimum of one (1) set of data specifications sheets for all devices and equipment
 - b. Listing of the system design, operation and reset functions
 - c. Specific devices or materials used are to be identified by an arrow or highlighter
 - d. Battery discharge curves

- e. Wire specifications
 - f. Type of primary power and secondary power (i.e. size and number of batteries to be provided)
11. Device mounting height diagrams.
 12. Voltage drop calculations.
 13. Battery calculations to include Standby and Alarm.
 14. The notes shall clearly indicate that the initiating circuit wiring shall be Class A.
 15. Indicate source of primary and secondary power.
 16. Identification of the type of conduit used, if any.
 17. Identification on the gauge and type of wire used.
 18. Device address numbers provided for addressable/analog intelligent systems.
 19. The title block shall contain the following;
 - a. Location of the installation
 - b. Name and complete address of the business
 - c. Name and complete address of the installing company
 - d. Licensing information
 - e. "Wet" signature of the APS
 - f. Date issued and any revisions
 - g. Drawn by
 - h. Authority Having Jurisdiction
 20. Provide a Riser diagram to include the following;
 - a. All devices as they are shown on the plans, as wired
 - b. 120 VAC
 - c. Surge suppressor
 - d. Communications method to the CSM
 21. A legend shall be provided to include;
 - a. Total number and type of all devices shown on plans
 - b. Symbol, device description, manufacturer, model number, and quantity for each device
 - c. All symbols shall comply with NFPA 170

OPERATIONAL REQUIREMENTS

1. All fire alarm systems shall meet all current NFPA 72 guidelines.

PERMIT REQUIREMENTS

1. Fire & Life Safety Department approval for submitted design drawings and spec sheets.
2. A full equipment listing.
3. Manufacturer documentation for all parts and materials used in the project.
4. Drawings shall be submitted for review and approved, PRIOR to installation.
5. Plans approved by the Fire & Life Safety Department give authorization for installation. Final approvals are subject to field verification. Any approval issued by the Fire & Life Safety Department does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances.
6. All installations shall comply with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire & Life Safety Department.

No equipment shall be installed on the site until a Permit has been issued. Any work performed prior to the issuance of the correct permit may result in a notice of violation being reported to the licensing division of the Texas State Fire Marshal's Office.

Fire Alarm System Acceptance Test

1. Fire alarm system shall be installed according to the approved plans.
2. Texas licensed FAL shall be present for the testing.
3. Random devices should be checked. Tested devices are to be chosen by the inspector, not the technician. If problems are found, then all devices will be tested individually.
4. Approximately 80% of the system will be tested under normal power. The remaining 20% will be tested under battery backup. If the building is also equipped with generator backup, the system must also be tested under generator power.
5. At the completion of testing, alarm signals shall be verified with fire alarm monitoring.
6. Once the system is approved, the FAL may hang the tag on the fire alarm panel. The panel must be tagged before the technician leaves.

Duct Detector Acceptance Test

1. Duct detectors shall be installed according to the approved plans.
2. Texas licensed FAL shall be present for the testing.
3. Random devices should be checked. Tested devices are to be chosen by the inspector, not the technician. If problems are found, then all devices will be tested individually.
4. Inspector should verify proper sample tube length and placement.
5. Acceptance testing shall be performed via smoke bombs.
6. When the smoke bomb starts emitting smoke, the detector has 90 seconds to activate.
7. Upon activation, the HVAC unit shall shut down.
8. Activation of the device shall send a supervisory signal to the fire alarm panel. Signal should be verified by monitoring.

Fire Sprinkler Tamper Monitoring

1. Tamper switch(es) shall be installed according to the approved plans.
2. Texas licensed FAL and RME-I or RME-G (project appropriate) shall be present for the testing.
3. Quarter turn of a valve should activate the tamper switch.
4. Device should send a supervisory signal to the fire alarm panel upon activation.
5. Supervisory signal should be verified by fire alarm monitoring.

Fire Sprinkler Waterflow Monitoring

1. Flow switch shall be installed according to the approved plans.
2. Texas licensed FAL and RME-I or RME-G (project appropriate) shall be present for the testing.
3. Test should be performed at the most remote Inspector's Test Valve.
4. Upon full opening of the valve and flow of water, the flow switch will have 90 seconds to activate.
5. Sprinkler bell , Water Motor Gong, or exterior fire alarm device shall ring/sound upon switch activation or flow of water.
6. Activation of the device shall send an alarm signal to the fire alarm panel.
7. Alarm signal shall be verified by fire alarm monitoring.