



CITY OF LEWISBURG FIRE DEPARTMENT

118 Water St. Lewisburg TN, 37091
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Construction Permits

105.6.1 Automatic Fire-Extinguishing Systems

Permit Fee- (See Fee Schedule)

Permit Period- 180 Days from date of issuance.

Where Required

In accordance with the City of Lewisburg’s enacted permitting requirements. A construction permit is required for the installation of or modification to an automatic fire-extinguishing system. An automatic fire-extinguishing system is defined as an approved system of devices and equipment which automatically detects a fire and discharges an approved fire-extinguishing agent onto or in the area of a fire.

Systems Covered

Automatic Sprinkler Systems	Dry-Chemical Systems	Halon Systems	Automatic Water Mist Systems
Foam Systems	Clean Agent Systems	Wet-Chemical Systems	Carbon Dioxide Systems

Exception: A permit is not required for normal required maintenance and testing of systems.

Permit Application

- Application must be submitted to LFD Station 1 118 Water St. Lewisburg TN 37091.
- No work may be performed until plans have been reviewed and approved.
- Inspections are required for all permits.

Plan Review Submittal Requirements

1. Completed permit application signed by licensed sprinkler contractor.
2. Scope of work to be performed.
3. Type of system to be installed.
4. Detailed system plans to be submitted in person or electronically. (2 copies required for paper version)
 - a. Certification that pre-engineered automatic dry- or wet-chemical extinguishing system will be tested in accordance with UL 300 and listed and labeled for intended application.
 - b. Certification that the automatic fire-extinguishing systems of the following types will be installed in accordance with the referenced standard indicated:
 - i. Carbon dioxide extinguishing systems, NFPA 12
 - ii. Automatic sprinkler systems, NFPA 13
 - iii. Foam-water sprinkler systems, NFPA 13
 - iv. Dry-chemical systems, NFPA 17
 - v. Wet-chemical systems, NFPA 17A
5. Plans shall also contain the following:
 - a. The location and type of portable fire extinguishers
 - b. Hydraulic calculations for each area of sprinkler design
 - c. Component cut sheets to include sprinkler heads, valves, piping, hose connections, check valves, and pressure reducers.
 - d. Sprinkler service area for each riser.
 - e. Letter of design certification indicating that the system design as submitted meets all local requirements and standards set forth by NFPA.

Required Inspections

1. Underground fire line inspection
 - a. Valve closed at the connection to water main.
 - b. Pipe located in ditch.
 - c. Pipe can/should be covered except for three feet either side of the joints/ change in direction.
 - d. Pipe pressurized to 200 psi (no compressor attached)
 - e. Thrust blocks/ restrains exposed.
2. Underground fire line flush
 - a. Flush until water clear.
3. Fire Sprinkler Rough-in Inspection
 - a. Proper type of piping
 - b. Backflow device (if installed inside building) for size, type, and direction orientation.
 - c. Confirm the installation of piping does not have excess change of directions that are not indicated on the submitted plans (may affect hydraulic calculations).
 - d. Proper size of piping.
 - e. Proper hangers and supports with correct spacing as indicated on plans.
 - f. Sway bracing installed per NFPA 13. Sway bracing is required at top of fire riser, turn of directions, and every forty feet on main piping only.
 - g. Proper type and temperature of sprinkler heads.
 - h. Proper clearance of sprinkler heads from obstructions.
 - i. Check for correct distances between sprinkler heads, off of walls, maximum coverage per sprinkler head, suspended ceilings and distance below the roof deck.
 - j. Check for installation of orifice inspector's test. (Shall be the same size as the smallest orifice installed in the system.
 - k. Check to ensure that fire sprinklers are not painted. Painted fire sprinklers must be replaced, they may not be cleaned.
 - l. All control, auxiliary, and inspector's test valves shall not be located more than seven feet above finish floor ore grade.
 - m. Verify signage.

- n. Sprinkler cabinet is properly located and stocked.
4. Sprinkler piping hydrostatic test.
- a. 200 psi for 2 hours or 50 psi more than system working pressure, whichever is greater.
 - b. Relieve and ensure return to zero.
5. Final sprinkler inspection and acceptance
- a. Verify that the following components are installed and functioning:
 - i. Tamper switch.
 - ii. Water-flow switch.
 - b. Observe main drain test and verify the residual pressure at the base of the riser meets or exceeds the required system demand pressure listed in the approved hydraulic calculations.
 - i. Test must flow for at least two minutes.
 - c. Document static and residual pressures listed on the “calc” plate.
 - d. Verify proper signage on riser components.
 - i. Main drain.
 - ii. Access panels shall be provided for all valves located inside walls or concealed spaces. Signage shall be provided on the outside of the panel indicating type of valve that is concealed within.
 - iii. Control valve.
 - iv. Inspector’s test.
 - v. Hydraulic “calc” plate
 - e. Verify that the spare sprinkler head cabinet is installed in an area that will not exceed 100 degrees Fahrenheit and has inside the correct number of spare heads and sprinkler wrench.
 - f. Walk through building and observe:
 - i. Proper placement, type, and temperature of sprinkler heads.
 - ii. Sprinkler heads are free of obstructions by building elements (light fixtures, ceiling fans, exit signs, decorations, etc.)
 - iii. Check to ensure fire sprinklers are not painted. Painted sprinkler heads must be replaced, they cannot be cleaned.
 - iv. Check to ensure fire sprinkler heads escutcheons are installed properly.

- g. Observe activation test of the fire alarm notification appliances, including:
 - i. Electric waterflow bell on exterior of building (by waterflow through inspector's test valve).
 - ii. Alarm should operate within 90 seconds of waterflow.
 - iii. General fire alarm- waterflow through inspector's test valve.
 - iv. Supervisory Alarm at panel for:
 - 1) Tamper switches on valves (indicating a valve is closed or partially closed)
 - 2) Air pressure on dry or pre-action systems.
 - 3) Fire pump power supplies or running conditions.
 - 4) Water tank levels and temperatures.