



Terrell Fire Department
Fire Marshal's Office
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Requirements for Underground Fire Lines

All Underground Fire Lines must be designed, located, and maintained in accordance with the 2021 IFC, NFPA, & adopted NCTCOG amendments. All work shall be permitted.

General Requirements

1. All underground lines shall begin at the point of connection to the underground circulating public/private water main. A valve shall be provided at the point of connection such that the fire sprinkler underground service line can be isolated from the public/private water distribution system.
2. All ductile iron, retaining rods, and other non-corrosive resistant components shall be externally coated for corrosion or poly wrapped.
3. All underground piping shall be a minimum of a DR14.
4. The backflow preventer must be installed at the tap and tested by a certified person.
5. Water supply shall be provided in conformance with the requirements of the respective standards; however, every fire protection system shall be designed with a minimum 10 psi safety factor at 20 psi residual on City mains
6. All underground lines shall terminate at the top of the spigot no more than 5-feet inside the building and 1-foot above the finished floor.

Inspection Requirements

1. Visual: All underground piping, joints, and thrust blocks must be uncovered and exposed, with labeling of the pipe legible from grade. All ductile iron, retaining rods, and other non plastic components shall be externally coated for corrosion and poly wrapped.
2. Hydrostatic Test: Visual inspection must be approved prior to hydrostatic test. The test will be at 200 psi or at 50-psi pressure in excess of the maximum static pressure when the maximum static pressure exceeds 150 psi, for a minimum of two hours. Testing to be from the gate valve to the top of the spigot, no pressure drop or gain allowed.

3. Flush: Upon completion of the underground hydrostatic test, the underground piping will be flushed, witnessed by the Fire Department. All piping used to flush must be properly secured or restrained. The flushing must be completed prior to stacking the riser to the overhead piping.

4. Fire Sprinkler Underground Final: Final sign-off of completion of all inspections and the receipt of all State required paperwork.

Submittal Requirements

1. Plans and specifications/cut sheets shall be submitted digitally. Plans shall contain sufficient detail to enable the plan reviewer to accomplish a complete review.

2. A copy of State of Texas Fire Sprinkler RME-Underground license is required for the installing contractor, unless the contractor has an RME-General license.

3. If System is designed by a RME-G: A copy of State of Texas Fire Sprinklers General- RME license is required for the designing contractor.

4. If the system is designed by a PE: A State of Texas Engineers stamp is required on all pages.

5. A copy of the State of Texas Fire Sprinkler SCR license is required for the installation company.

6. Plans shall be clear and legible, and all sheets shall be a minimum 1/8" scale with the North direction on all pages

7. The following items shall be provided on the plans:

- a) Both "Wet" RME-U and RME-G or PE signatures.
- b) Project name and address.
- c) A scaled site plan that indicates the location of all fire hydrants and fire lanes servicing the building site.
- d) Flow test data.
- e) Size and type of all piping.
- f) Standard Details. (IFC 2021, etc.)
- g) Location and size of all thrust blocks.
- h) Thrust block details.
- i) Detail of the spigot piece and/or in-building riser turn
- j) Embedment detail.
- k) Type of fittings/joints, methods of connection and rod size.
- l) Remote Fire Department Connection details if applicable.

Additional Information

1. Plans approved by the City of Terrell Fire Marshal give authorization for construction and/or operation.

Final approvals are subject to field verification. Any approval issued by the Fire Marshal does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.

2. Installation, fabrication, or otherwise construction of the system is prohibited without approved plans and permits.

3. Any deviation from the approved plans requires a re-submittal to the City of Terrell.

4. All fire department inspection forms, approved/stamped plans, and permits shall be posted or kept in a permit packet on the job site until final inspection.

5. Submittals that do not conform to the minimum requirements will not be approved.