Tracer Wire Requirements

For contractors, Before any excavation, crews must always locate buried water and sewer pipes or risk costly repairs, service disruptions, or project delays. Contractors also need to find pipes damaged by corrosion, cold weather, tree roots, or other causes.

In Tonka Bay, burying tracer wire with water pipes is a simple way to locate this assets. Provided, of course, the tracer wire is installed correctly.

The Basics

Tracer wire (also called locating wire or locator wire) is used to locate pipes and other buried utility lines. It is constructed using a solid copper and copper clad steel. Different colored insulators denote specific types of buried utilities — for example, green for sewer lines and blue for potable water.

To lay tracer wire, crews place it length-wise along the buried pipe with an above-ground termination at each end. Once the wire is buried, utility workers and construction teams use a frequency generator (or transmitter) to send a current through the wire and a receiver to pinpoint the pipe's location.

Installation Best Practices

Buried tracer wire is subject to moisture, freezing temperatures, and other environmental challenges. Contractors should follow best practices when installing tracer wire to ensure the system will perform as designed — for years and even decades.

1. Effective Grounding

All electrical circuits require a ground to complete the circuit and work properly. If the installed tracer wire isn't properly grounded, the signal will not leave the transmitter. Therefore, all dead ends or terminations must be grounded. This is typically done by attaching dead ends to grounding rods (usually made of copper, zinc, or magnesium) that are driven into the ground.

2. Tracer Wire Placement

Installers should tape tracer wire to water and sewer pipes every 8 to 10 feet. Taping keeps the wire from shifting away from the pipe during or after burial. Some contractors make the mistake of taping the tracer wire to the top of the pipe. When the line is buried or dug up for repair, it's easy for crews to scrape the pipe's top surface with a backhoe and damage the wire. Therefore, it's best to protect the tracer wire by taping it on the side of the pipe, either in the 3 or 6 o'clock position.

It's also important to be consistent with the wire placement. If one day it's taped on the left side of the pipe and the next day on the right side, locators will have difficulties pinpointing the pipe's center. Engineers should always write wire placement into the job specifications. For example, "tracer wire placed on the east side of the pipe."

3. Making the Right Connections

It is critical to terminate tracer wire properly. It's normally exposed to harsh conditions, and over time, copper wire ends can corrode. Installers should always use purpose-built, waterproof connectors to terminate the wire. That will help maintain its integrity, even after being buried for years.

4. Tracer Wire for Ductile Iron Pipes

Many cities and jurisdictions use ductile iron pipes for sewer and water utilities. A common misconception is that because iron conducts electricity, buried ductile iron pipes are easy to locate and don't require tracer wire.

That's not the case. Often ductile iron pipes are wrapped in polywrap or exposed to earth and grounded. Either condition can distort transmitter signals and make pipes difficult to locate. Installing tracer wire is an inexpensive means to help crews quickly find buried ductile iron pipes.

5. Know the Local Specifications

Virtually every city or municipality has its own published specifications for using tracer wire. Those specs will include wire and jacket types and detail how the wire must be installed.

Contractors need to review and follow those local guidelines carefully. This ensures the installation's long-term viability and helps installers avoid failing an inspection and the need to modify or replace their initial work.

6. Post-Installation Inspection and Testing

Once the tracer wire is installed, the Building Inspector will need to do an inspection to make sure the tracer wire is in place before they sign off on the job. This is done during the framing inspection and before the insulation inspection. If something's not working, there's no better time to address it.

The final step is to contact Todd Schallberg, Public Works Supervisor at 952-474-2947 to schedule the installation/connection of the "blue box" to the outside of the finished home.

Acknowledgement of requirements: _____ Date:_____
Signature of General Contractor

Installer/Plumber: _____ Date: _____

Public Works Supervisor: _____ Date: _____

Building Inspector: _____ Date: _____