The Complete Utility Locating System™

Our core purpose…

We exist to help utilities protect their underground utility assets

Why we care about protecting utilities

$30 billion

Estimated costs associated with underground facility damages from excavation mishaps in the U.S.
(2019 DIRT Report)

532,000
US - Reported damages in 2019

21%
of damages were due to locating issues

28%
of reported damages occurred in the natural gas market

Root Cause of Damage:

31% – Excavating Issue
23% – Notification Not Made
21% -- Locating Issue

10 substantial reporting states used for this analysis along with their # of reported damages 2017 - 2018.

7 out of 10 States showed increases – Kansas was Down .74%

STATE:	YEAR: 2017	2018	% INCREASE/DECREASE
1. TEXAS	45,384	36,543	- 19.4%
2. GEORGIA	**29,655**	**29,844**	**+ .63%**
3. FLORIDA	21,877	26,628	+ 21.7%
4. ILLINOIS	19,256	20,702	+ 7.5%
5. COLORADO	**6,786**	**12,411**	**+ 82.8%**
6. PENNSYLVANIA	8,878	9,706	+ 9.3%
7. KANSAS	5,476	5,435	- .74%
8. VIRGINA	4,877	4,862	- .30%
9. NEW MEXICO	1,479	1,825	+ 23.3%
10. CONNECTICUT	562	711	+ 26.5%

The **MOST IMPORTANT STEP** in damage prevention is for **utilities** and **municipalities** to make sure all their **underground infrastructures** are **LOCATABLE!**

5 Steps

to pinpoint the exact location of underground utilities

Complete Utility Locating System™

1	CONDUCT	
2	CONNECT	
3	GROUNDING	
4	ACCESS POINTS	
5	LOCATING	

Step 1

Conduct

Properly Designed Tracer Wire
HDPE Jacket / Not THHN Wire

APWA – American Public Works Association

Step 2

Connect

Connectors must be designed for Direct Bury be Waterproof and Corrosion Proof

Connectors

Product Name	Connects at up to 3 wires	No need to strip wires	Designed for direct bury	Waterproof connection
SnakeBite Locking Connector 	✓	✓	✓	✓
Mainline-to-Service Connector 	✓		✓	✓
Twist-on Connector 	✓		✓	✓

Step 3

Grounding

By far, the MOST IMPORTANT part of any Tracer Wire System... Grounding!

Ground Rod

Pulls the electrical current emitted by the locate transmitter down the tracer wire for detection.

Ground all tracer wire dead-ends – essential for completing the electrical circuit needed for line detection

Step 4

Access

Access Points – Allow tracer wire and ground rod termination and direct connection points for utility locate transmitters

SnakePit®
Access Points

(at grade)

Cobra™
Access Points

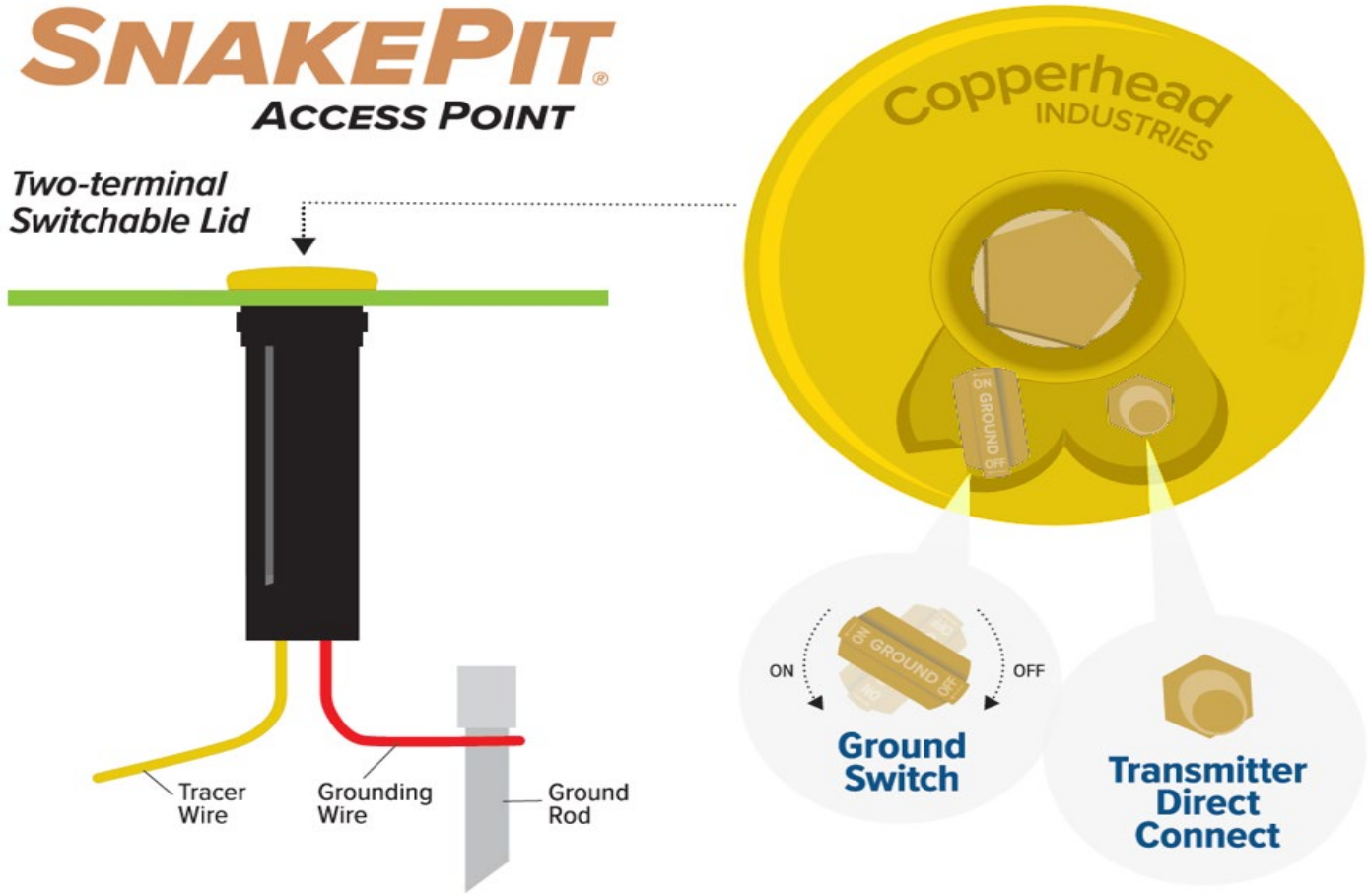
(above-grade)

SnakeSkin™
Access Point

(above-grade)

SnakePit® Access Points

Provides ground-level access to tracer wire systems. Available in a two-terminal switchable lids.



COBRA™ ACCESS POINT

Provides above-ground access to tracer wire systems.

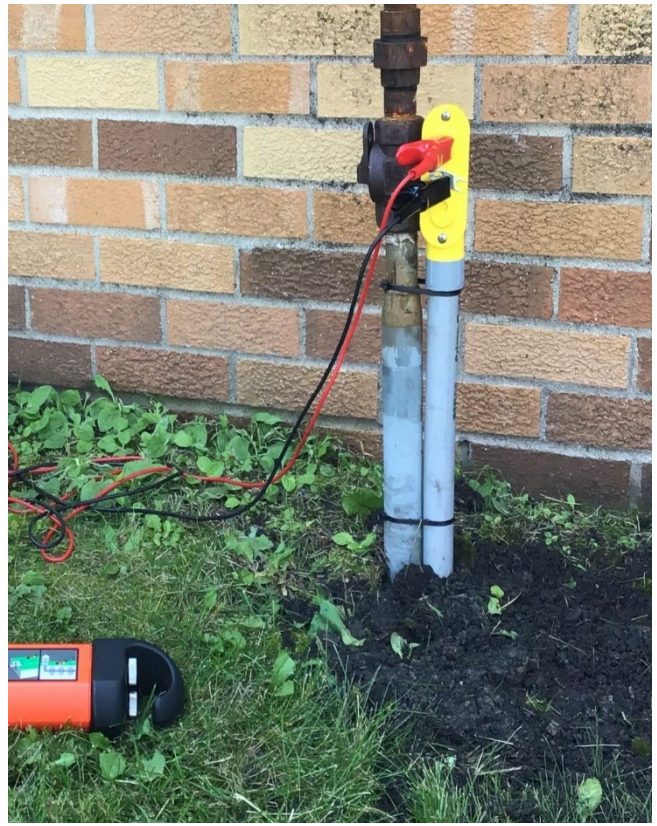
- Multiple mounting options: post, hydrant, stake
- Can be used with rigid or flexible PVC conduit
- Color-coded to meet APWA standards for utility detection

1-terminal

2-terminal

3-terminal

BEFORE



AFTER

SnakeSkin™ Access Point

Provides above-ground access to tracer wire systems when no ground is needed.

- Direct connection point (only) for utility locate transmitter
- No ground connection
- Color-coded to meet APWA standards for utility detection

How easy would it be to cut this wire with a Shovel???

BEFORE

AFTER

Step 5

Locate

Pipe and Cable Locator

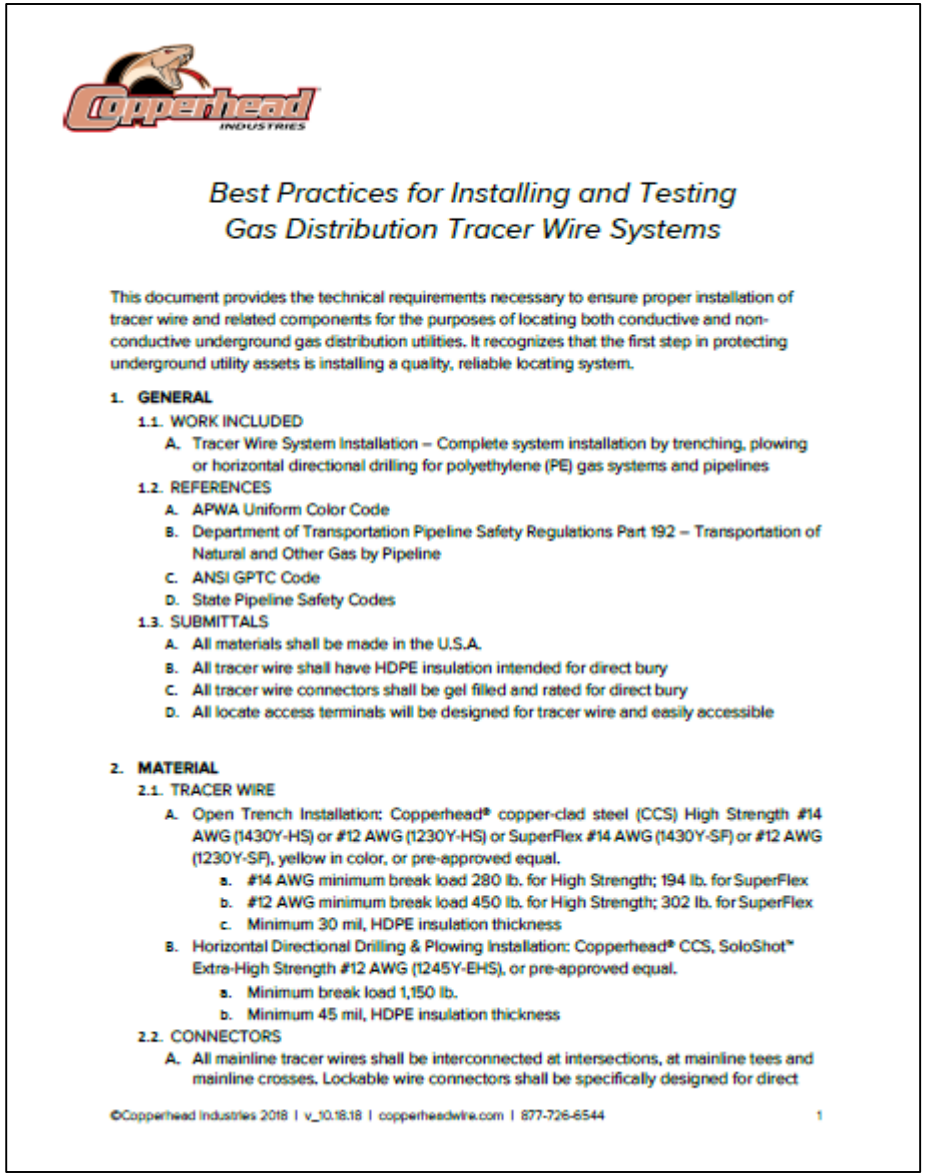
A general-purpose locator designed to locate pipes and cables, as well as Copperhead's Complete Utility Locating System™.

- Three Active locating frequencies
  512 Hz / 8KHz / 83KHz
- Passive power locating (60 Hz)
- Conductive or inductive locating
- Ferrous metal detection – magnetic north/south indicator
- Simple four-button control keypad

Standard Equipment:
receive, transmitter, direct connection cables, ground rod, alkaline batteries, soft-sided case, user guide

Best Practices

We help write best practices and specifications for your specific application.



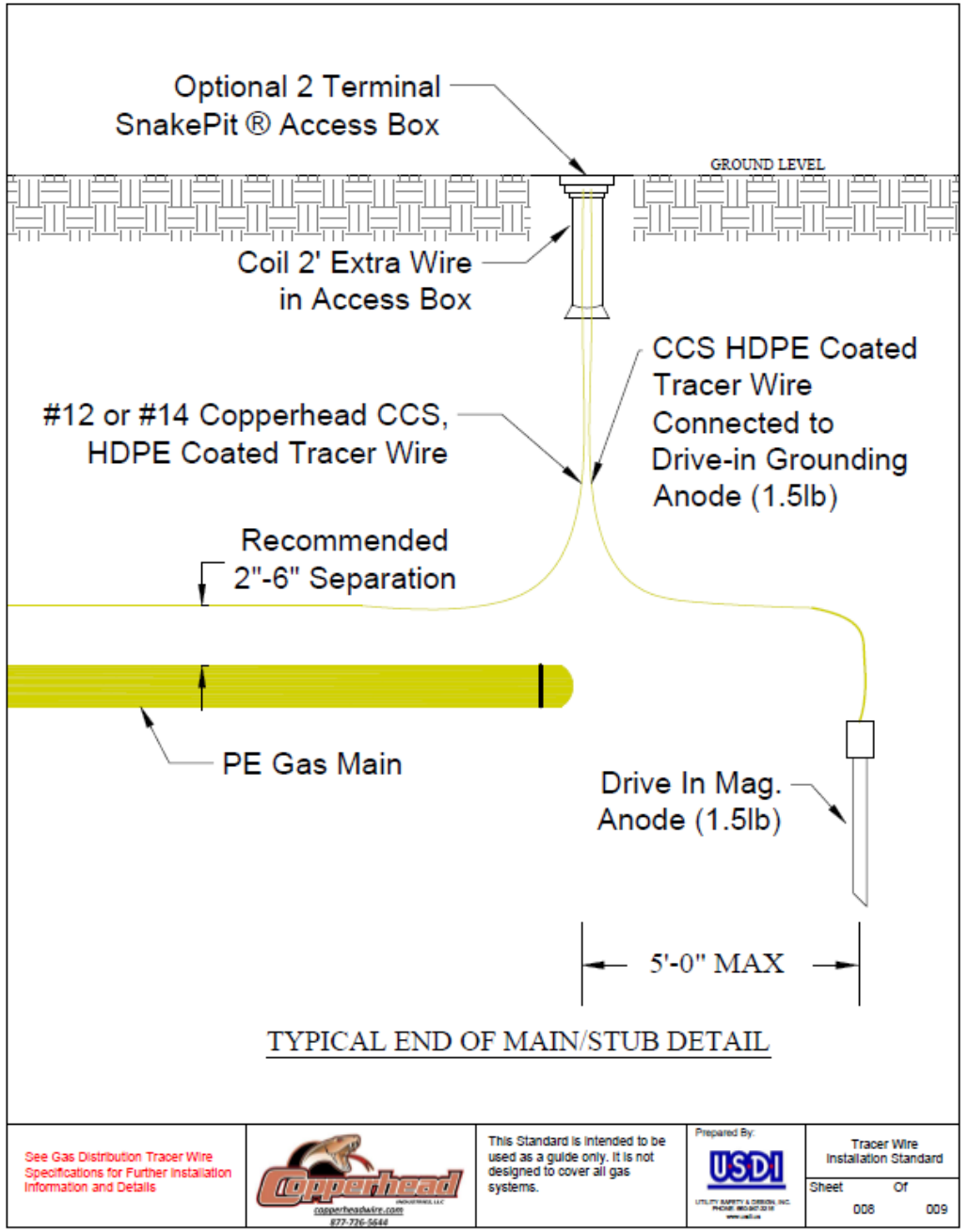
Best Practices for Installing and Testing Gas Distribution Tracer Wire Systems

This document provides the technical requirements necessary to ensure proper installation of tracer wire and related components for the purposes of locating both conductive and non-conductive underground gas distribution utilities. It recognizes that the first step in protecting underground utility assets is installing a quality, reliable locating system.

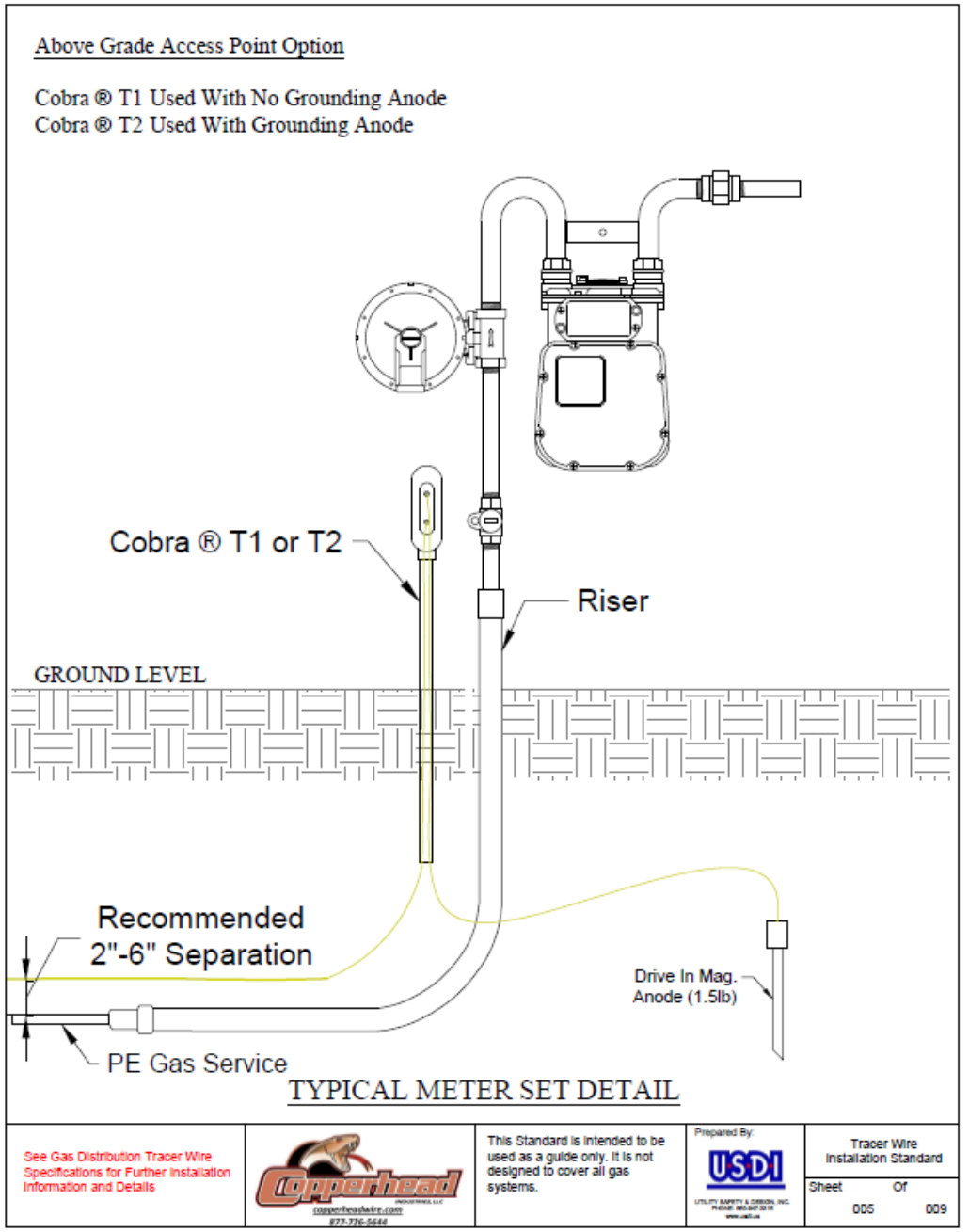
1. **GENERAL**
   - 1.1. WORK INCLUDED
     - A. Tracer Wire System Installation – Complete system installation by trenching, plowing or horizontal directional drilling for polyethylene (PE) gas systems and pipelines
   - 1.2. REFERENCES
     - A. APWA Uniform Color Code
     - B. Department of Transportation Pipeline Safety Regulations Part 192 – Transportation of Natural and Other Gas by Pipeline
     - C. ANSI GPTC Code
     - D. State Pipeline Safety Codes
   - 1.3. SUBMITTALS
     - A. All materials shall be made in the U.S.A.
     - B. All tracer wire shall have HDPE insulation intended for direct bury
     - C. All tracer wire connectors shall be gel filled and rated for direct bury
     - D. All locate access terminals will be designed for tracer wire and easily accessible

2. **MATERIAL**
   - 2.1. TRACER WIRE
     - A. Open Trench Installation: Copperhead® copper-clad steel (CCS) High Strength #14 AWG (1430Y-HS) or #12 AWG (1230Y-HS) or SuperFlex #14 AWG (1430Y-SF) or #12 AWG (1230Y-SF), yellow in color, or pre-approved equal.
       - a. #14 AWG minimum break load 280 lb. for High Strength; 194 lb. for SuperFlex
       - b. #12 AWG minimum break load 450 lb. for High Strength; 302 lb. for SuperFlex
       - c. Minimum 30 mil, HDPE insulation thickness
     - B. Horizontal Directional Drilling & Plowing Installation: Copperhead® CCS, SoloShot™ Extra-High Strength #12 AWG (1245Y-EHS), or pre-approved equal.
       - a. Minimum break load 1,150 lb.
       - b. Minimum 45 mil, HDPE insulation thickness
   - 2.2. CONNECTORS
     - A. All mainline tracer wires shall be interconnected at intersections, at mainline tees and mainline crosses. Lockable wire connectors shall be specifically designed for direct

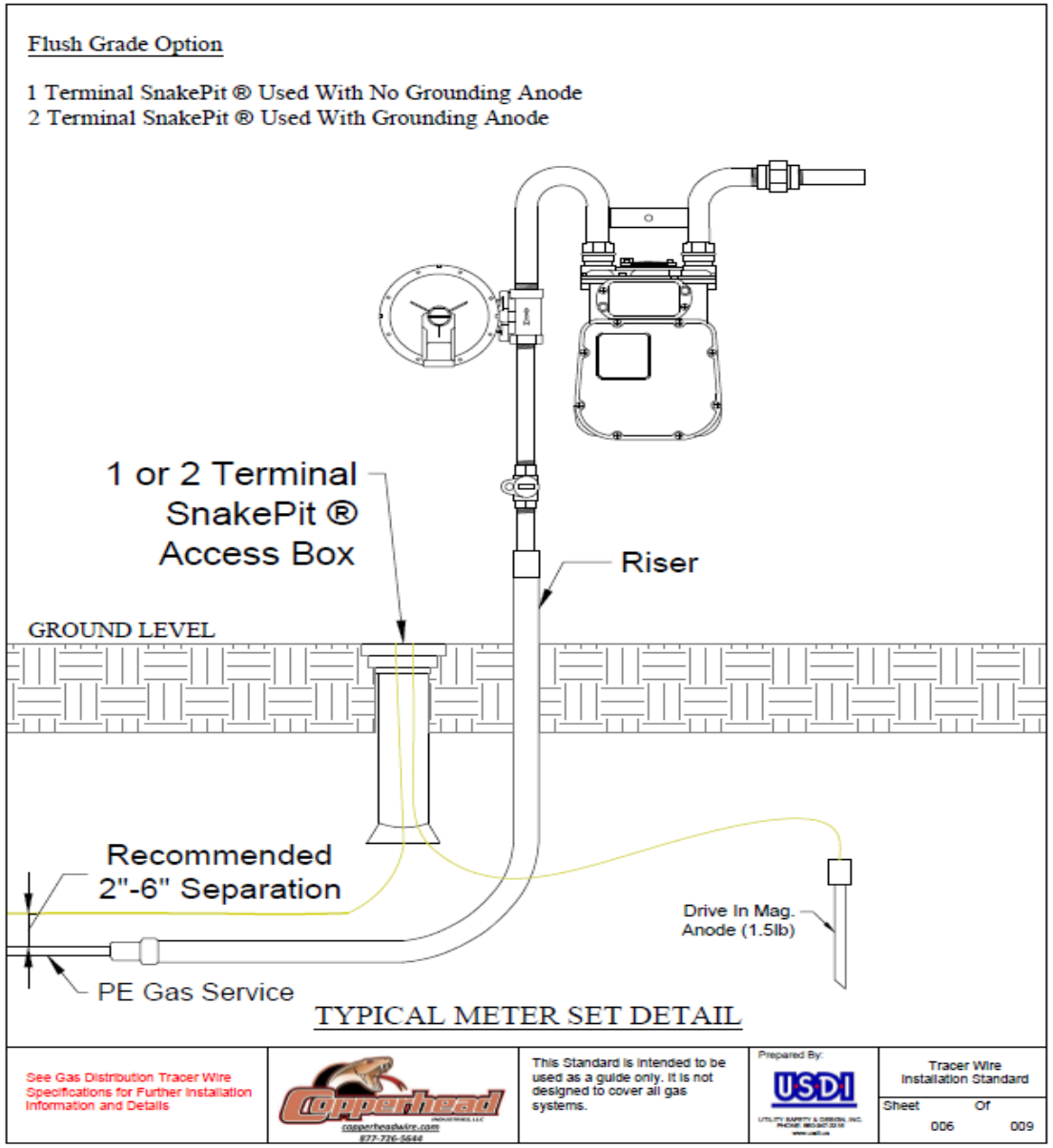
End of Main / Stub Detail



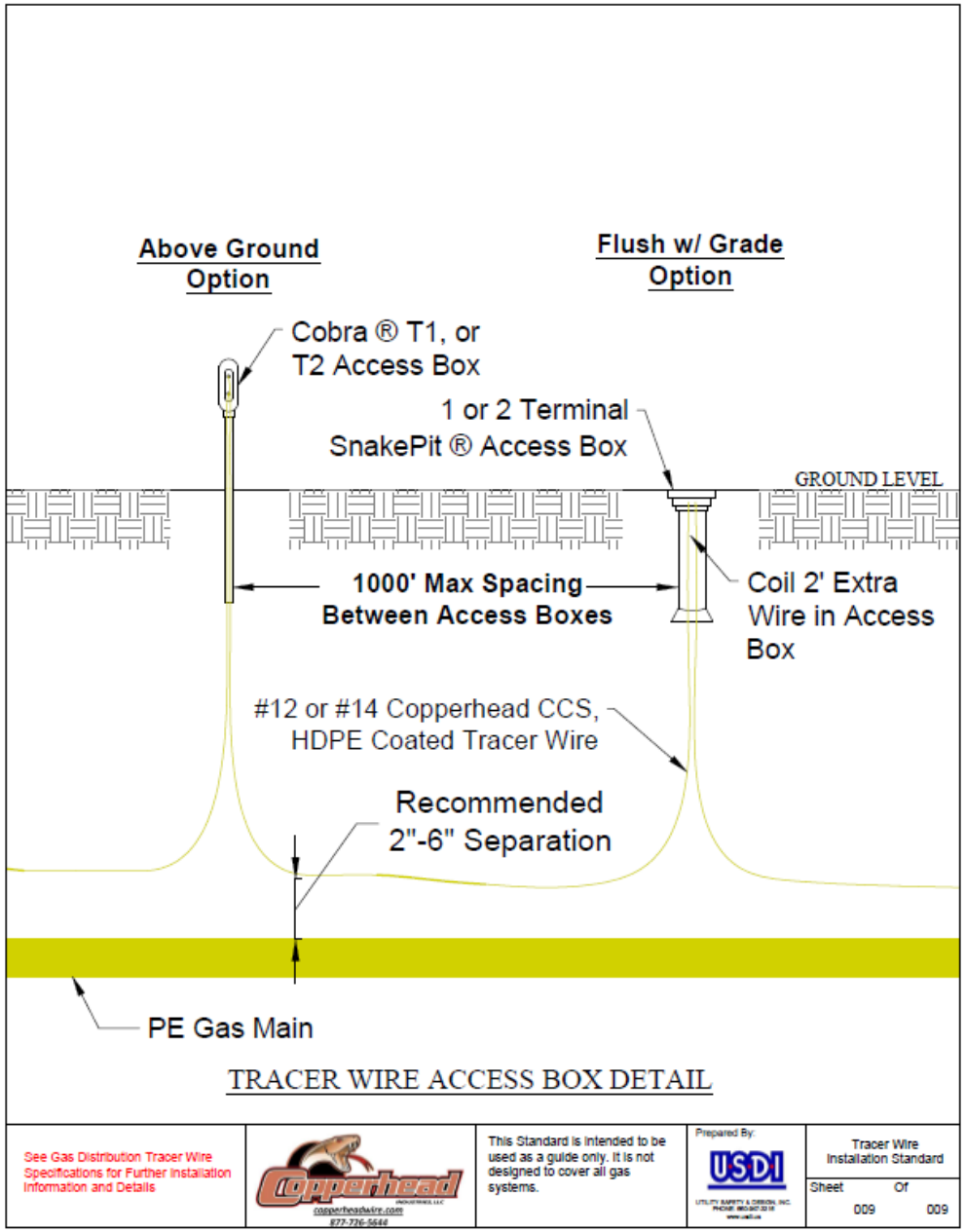
Meter Set with Ground Rod with Above-Grade Access Point



Meter Set with Ground Rod and At-Grade Access Point



Tracer Wire Access Point Detail



Questions?

Print and digital versions of “Best Practices for Installing Gas Distribution Tracer Wire Systems” are available.

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