



TEXAS TECH UNIVERSITY™

Operating Policy and Procedure

OP 61.11: Underground Trenching of Utilities

DATE: July 7, 2022

PURPOSE: The purpose of this Operating Policy/Procedure (OP) is to establish the depth of installation of all types of utilities by trenching, ditching, or boring to maximize the protection of existing utilities, and to protect new installations from being disturbed or causing disruption of service of that utility because of improper installation.

REVIEW: This OP will be reviewed in November of each year by the Senior Managing Director of Grounds Maintenance and the Managing Director of Engineering Services with substantive revisions forwarded through the Associate Vice President for Operations to the Senior Vice President for Administration & Finance and Chief Financial Officer.

POLICY/PROCEDURE

1. Trenching and/or Excavating Notification:

The contractor shall call the following offices at least 48 hours prior to start of work:

- a. Non Texas Tech University-owned utilities (commercial or city-owned utilities such as water, gas, sewer, telephone, TV, cable, and electric):

Texas 811 Call Center: Dial 811

- b. Texas Tech University-owned utilities (water, gas, sewer, electric, irrigation):

Texas 811 Call Center: Dial 811

Texas Tech University requests a site walk-through prior to digging; call 806.742.4OPS (4677).

2. Temporary color-coded surface markings, e.g., inverted marking paint, shall be used to indicate the location or route of active and out-of-service buried lines. Paint shall not be used for temporary markings. To increase visibility, color-coded markers indicate the name, initials, or logo of the company or organization that owns or operates the line. Marks placed by anyone other than line owner/operator or its agent indicate the identity of the designating firm. Multiple lines in a joint trench are marked in tandem. If the surface over the buried line is to be removed, supplementary offset markings shall be used. Offset markings are on a uniform alignment and clearly indicate that the actual facility is a specific distance away.
3. The Uniform Color Code of the American Public Works Association, using the ANSI Z535.1 “Safety Colors for Temporary Marking and Facility Identification” standard, shall be the official color scheme of Texas Tech University. The code designates the colors as follows:

- a. White – proposed excavation
- b. Pink – temporary surveying marks
- c. Red – electrical power and lighting
- d. Yellow – gas, steam, and gaseous materials
- e. Orange – communication, alarm, and traffic signals
- f. Blue – potable water
- g. Purple – reclaimed water, irrigation, and slurry lines
- h. Green – sewer and drain lines
- i. Silver – underground structure/utility tunnel

See Attachment A, *Utility Marking Guide for Texas Tech University*, for additional information.

4. Proposed excavation shall be marked using white marks to clearly indicate the location, route, or boundary. Surface marks on roadways should not exceed 1.5 inches by 18 inches (40 mm by 450 mm).
5. The excavator shall observe a tolerance zone of 24 inches. Tolerances shall be measured horizontally from the temporary surface marking. Any excavation within the tolerance zone shall be performed with non-powered hand tools and/or non-invasive method(s) until the facility is exposed.
6. Update tickets must be called in by the excavator to the 811 call center every 10 business days for the duration of the excavation, installation, or site work. Update and remark tickets must be called in by the excavator to the 811 call center when previous utility locate marks are damaged or removed by excavation.
7. Minimum cover requirements to top of pipe or insulation for utilities:

a. Low pressure gas ounces	36 inches
b. High pressure gas pounds	46 inches
c. Alarm systems	42 inches
d. Security systems	42 inches
e. Domestic water	36 inches
f. Irrigation mains	24 inches
g. Irrigation laterals	18 inches
h. Communication	42 inches

- | | | |
|----|---|----------------------------------|
| i. | Electrical primary voltage | 42 inches including concrete cap |
| j. | Electrical secondary voltage
(less than 600 volts) | 36 inches |
| k. | Direct bury steam/condensate return | 36 inches |
| l. | Air | 36 inches |
| m. | Chilled water | 36 inches |
| n. | Reverse osmosis (R-O) water | 36 inches |
8. Warning tape for the following utilities should be 12 to 16 inches below finished grade in ditch lines and a minimum of 12 inches above utility: gas, alarm systems, security systems, communication, and all electric, direct bury steam, air, chilled water, and reverse osmosis water.
 9. Piping that is non-metallic must have a continuous, coated (protected from ground) wire (i.e., AWG 12) installed for locating purposes and accessible at ground level (e.g., natural gas, R-O water, domestic water). Metallic warning tape shall not be considered equivalent.
 10. Modifications or changes of utility installation depths from the indicated depths of installation due to other utilities and/or underground obstacles should be approved through Operations Division Grounds Maintenance and Engineering Services.
 11. Damage done to any TTU-owned utility without a current locate ticket will be repaired at the expense of the contractor or other responsible party who caused the damage and may be billed for partial utility loss.
 12. Grounds Maintenance shall be contacted prior to excavation any time pavement or concrete is to be removed.
 13. Open trenching thru paved areas shall follow Attachment B for asphalt and Attachment C for concrete paved areas.
 14. A copy of this OP shall be placed into all TTU bid documents where excavation is necessary.
 15. A copy of this OP shall be provided to the following upon revision. Operations Division will be responsible for this distribution.
 - a. City of Lubbock Water Utilities
Meter and Customer Supervisor
PO Box 2000
Lubbock, TX 79457
 - b. City of Lubbock Traffic
Operations Manager
PO Box 2000
Lubbock, TX 79457

- c. Lubbock Power & Light
Engineering Project Coordinator
PO Box 2000
Lubbock, TX 79457

- d. Atmos Energy
Services Operations Manager
4001 MLK Blvd.
Lubbock, TX 79404

- e. PowerTex Pipeline
Operations Supervisor
3417-73rd Street
Lubbock, TX 79423

- f. AT&T Telephone
Attn: Clay Henderson
5319 Memphis Ave.
Lubbock, TX 79413

[Attachment A: Utility Marking Guide for Texas Tech University](#)

[Attachment B: Section Thru Utility Ditch in Asphalt Paved Area](#)

[Attachment C: Section Thru Utility Ditch in Concrete Paved Area](#)