



## TEXAS TECH UNIVERSITY™

### Operating Policy and Procedure

#### **OP 61.11: Underground Trenching of Utilities**

**DATE:** May 1, 2020

**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 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 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

2. Temporary color-coded surface markings, e.g., chalk (see Attachment A for suggested manufacturer) 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.
- 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

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| j. Electrical secondary voltage<br>(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 grade in ditch lines: 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 (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  
3417-73<sup>rd</sup> 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](#)