

Ground Disturbance Protocol for Contractors

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1.0 Purpose

This protocol defines Discovery Natural Resources' (Discovery's) minimum standards and expectations for ground disturbance at all Discovery field worksites.

2.0 Scope

Ground disturbance is defined as any mechanized work, operation, or activity, **regardless of depth**, that results in a disturbance of the earth. **Note that Discovery's requirements are more stringent than what is legally required by the Texas One-Call Law.** Ground disturbance activities can include, but are not limited to excavating, digging, trenching, rig anchor installation, drilling, boring/tunneling, auguring, blasting, topsoil stripping, land leveling, clearing, driving a ground rod, and installing fencing. Hydraulic vacuum excavation (hydrovac) and use of hand tools are not considered ground disturbance for the purposes of this protocol. The scope of this procedure is limited to ground disturbance conducted on Discovery locations or on behalf of Discovery.

3.0 Requirements

The relationship between the terms search area, verification zone, and tolerance zone is graphically depicted below. These terms are used throughout this document.

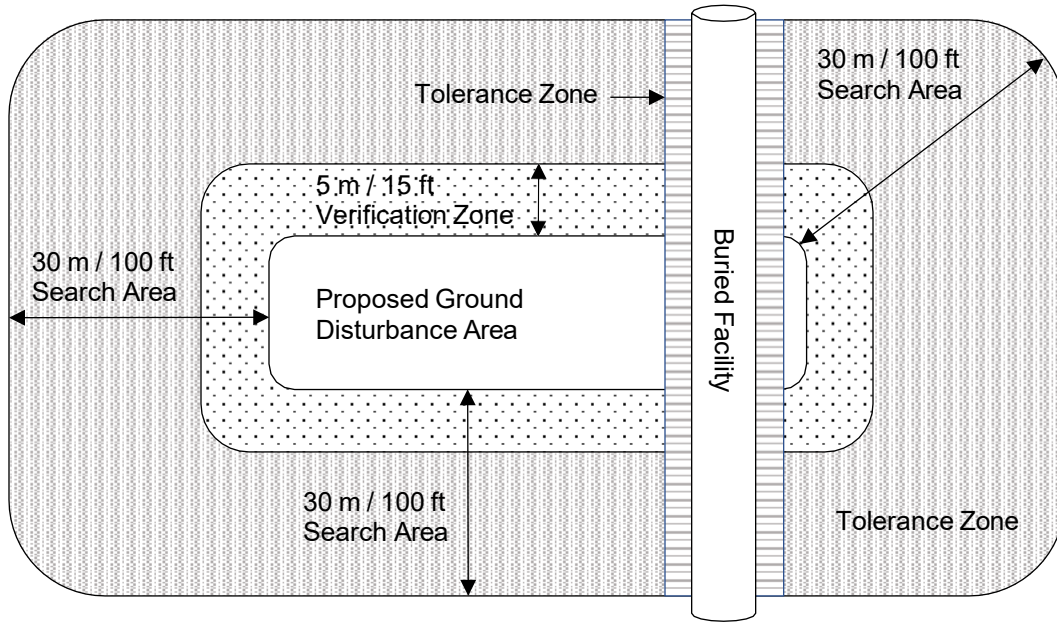


Figure 1: Search Area, Verification Zone, and Tolerance Zone

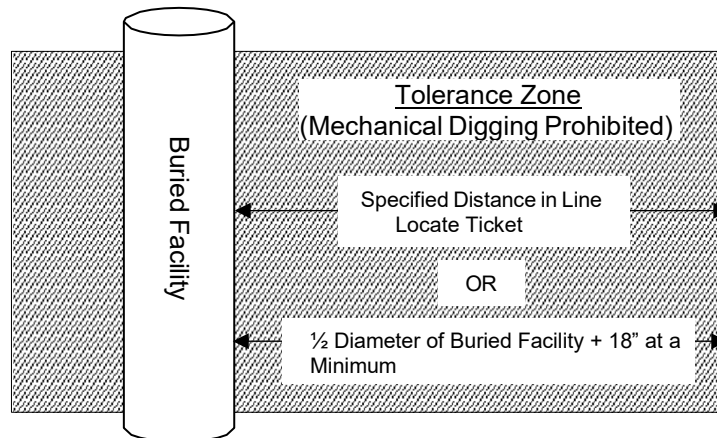


Figure 2: Tolerance Zone

3.1 Roles and Responsibilities

3.1.1 Contractors

The Discovery contractor performing ground disturbance activities shall:

- Submit a One-Call locate request for the proposed ground disturbance activity.
- Seek clarification concerning any Discovery policy or procedure through its Discovery representative.
- Ensure internal training requirements are established and followed for equipment operators and spotters.

3.1.2 Equipment Operators

The equipment operator performing ground disturbance activities shall:

- Adhere to the specified requirements and limitations of the established tolerance zone.
- Use a competent spotter when performing ground disturbance in the verification zone and maintain continuous communication with the spotter.
- Perform hand digging or hydrovacating prior to mechanical excavation in any verification zone and perform hand digging or hydrovacating **ONLY** within a tolerance zone.
- **STOP WORK** and immediately contact the Discovery site representative upon any buried facility being contacted, or if an unidentified buried facility is encountered.
- Understand and comply with the locate ticket information provided.
- Ensure exposed buried facilities are properly supported.

3.1.3 Spotter

A spotter must be used any time mechanical excavation is taking place within 5 meters or 15 feet of a verified buried facility. The spotter shall:

- Establish a mutually understood method of communication with the equipment operator and maintain continuous communication with the equipment operator.
- Prevent mechanical excavation equipment from coming within the tolerance zone.
- Signal the equipment operator to immediately stop excavation activities in the event a buried facility is spotted or suspected.
- Signal the equipment operator to immediately stop excavation activities and shut down all equipment in the event contact with a buried facility occurs or is suspected.

3.2 Procedural Requirements

3.2.1 One-Call Buried Facility Locates: Call Before You Dig!

Before initiating ground disturbance activities, a facility locate shall be requested from Texas

811. Facility locates shall be in accordance with Texas 811 advance notice requirements. See [Appendix A](#) for the American Public Works Association's uniform color code for marking buried facilities.

- If multiple contractors are supervising ground disturbance work at a single Discovery location, each contractor shall be responsible for ensuring locates are performed for its specific ground disturbance work.
- When a known Texas811 program participant has not responded to the locate request, the Discovery ground disturbance supervisor shall ensure notification of Texas811 and that a second locate is requested. If no response is received after a second locate request, the contractor or Discovery ground disturbance supervisor must request escalated Texas811 assistance.
- There are some buried facility owners that do not receive notification (i.e., a locate ticket) of planned ground disturbance from Texas811. Contact information for some of these owners is maintained by Texas811. Notification shall be made to these owners and any other owners where information is available, of the planned ground disturbance.

3.2.2 Site Inspection

A site inspection shall be completed by the ground disturbance supervisor (Discovery worker or contractor) prior to commencement of ground disturbance activities. At a minimum, the site walkover must include:

- Assessment of:
 - Buried facility markers.
 - Disturbed or settling soils.
 - Patched asphalt or concrete.
 - Service risers (e.g., gas and electric).
 - Changes in vegetation.
 - Locations where facility service lines enter buildings.
 - Any other visual indications of a potential unmarked buried facility.

3.2.3 Exposing and Verifying Buried Facilities

If an identified buried facility crosses or passes within a verification zone (i.e. within 15' of the planned ground disturbance area), the depth and direction of the buried facility must be identified through hand digging or hydrovacating prior to initiating any mechanical ground disturbance work.

The location, depth, and direction of the facility must be verified by the following methods:

- The location of hand digging or hydrovac excavation utilized to expose the buried facility within a verification zone should be where the suspected or marked buried facility converges with or passes closest to the area of ground to be disturbed. Mechanical digging must not be used to expose a marked or suspected buried facility within its tolerance zone. Hydrovacating is the preferred means of exposing buried facilities.

- For ground disturbance that parallels an existing buried facility, the required exposure intervals should be included in the buried facility owner's approval or on the locate ticket. If the exposure intervals are not specified by the buried facility owner, the buried facility must be exposed at sufficient intervals within the verification zone to verify the location, depth, and direction of the buried facility.
- Hand digging should not include aggressive use or forcible hammering of tools in a manner that could damage a buried facility.

The minimum size of Discovery's verification zone is 5 meters or 15 feet.

4.0 Training

4.1 Contractors

- Ensure internal training requirements are established and followed for equipment operators and spotters.

4.2 Line Locator

Contractors providing line locator services for Discovery shall complete third-party buried facility locator training incorporating the following objectives:

- Proficiency in interpreting measurement data.
- Proficiency in calibration and operation of locating equipment.
- Proficiency in properly marking located lines.
- Knowledge of operating principles and troubleshooting techniques for locating equipment

5.0 References

OSHA

- [Trenching and Excavation Safety](#)
- [29 CFR 1926 Subpart P, Excavations](#)

Railroad Commission of Texas

- [Title 16, Part 1, Chapter 18 Underground Pipeline Damage Prevention](#)

Others

- [Texas811](#)
- [2025 Excavation Safety Guide & Directory](#)
- [ANSI Z535.1 – Safety Color Code for Marking Physical Hazards](#)
- [PHMSA NPMS Operator Standards Manual \(Oct. 2017\)](#)
- [Common Ground Alliance \(CGA\):](#)
 - [Best Practices, version 19.0](#)
 - [Damage Information Reporting Tool \(DIRT\)](#)

Appendix A: Uniform Color Code for Marking Buried Facilities

Uniform Color Code for Marking Buried Facilities, American Public Works Association (APWA)

Limits of proposed excavation*	White
Temporary survey markings	Pink
Electrical power lines, cables, conduits, and ducts or lighting wires and cables	Red
Gas, oil, petroleum, steam, or gaseous material	Yellow
Telephone, communications, cable TV, alarm or signal lines, wires, cable conduits or ducts	Orange
Water lines or pipes (potable water)	Blue
Sanitary sewer, storm sewer, culvert or drain lines	Green
Irrigation, reclaimed water, slurry lines or pipes	Purple

*The person proposing the ground disturbance is encouraged to mark the limits of the search area on the ground with white stakes, flags or paint. In winter conditions, black may be used rather than white.