

SAFETY MATTERS



Safety Matters is intended to promote discussions of safety issues among underground construction professionals. You should always read and understand the operator's manual before operating any equipment. For additional information, please e-mail safety@ditchwitch.com.

TOPIC:

Buried Hazards—PART 1: PREVENTION

POTENTIAL HAZARDS

- Electrocution
- Explosion
- Property damage
- Emergency communication hindered
- Burns
- Blindness

PRECAUTIONS

- ALWAYS locate underground utilities prior to digging. (In the U.S., call 811 One-Call before excavating. See state regulations for notification time required prior to digging.)
- After utilities have been located, verify by looking for additional signs of underground utilities such as:
 - signs of previous excavation (low spots in ground, etc.)
 - meters/cabinets
 - utility poles
 - outbuildings with utilities running to them
 - tank batteries
 - buried utility sign post along fence line
- If possible, verify using an electronic locator.
- Observe the tolerance zone around marked utility lines. If excavation must be done within the tolerance zone on either side of the line, use hand digging or vacuum excavation.
- Preserve locate marks. For example, don't pile spoils on top of marks or drive over them repeatedly. If marks are damaged, the lines should be re-located.
- Use white marking paint or flags to mark proposed excavation prior to utility locates.
- If using horizontal directional drilling or other boring method:
 - Be sure to locate sewer along with other utility lines.
 - Expose any utility that must be crossed and watch crossing while drilling and backreaming.
 - Consider the diameter of the backreamer when planning the bore.
- Be prepared and learn ahead of time what to do in case of a strike. Waiting until a strike occurs is too late.

INFORMATION/FACTS

- Some utility providers do not subscribe to One-Call systems, so those providers will need to be contacted separately.
- Many utility providers only locate to the meter. Private utilities between the meter and the house/building may not be located. Utilities on government property, such as schools, military bases, etc. will need to be located by a private locator.
- Depths of utilities may change as ground erodes/changes. What was at 3 feet depth 10 years ago may now only be 2 feet deep.
- Locate tickets expire usually after 10 days to 2 weeks. Check state regulations. If work is not completed prior to the expiration, the locate ticket must be renewed.
- Utility lines can change depth. For example, they may be 4' on each end of a block and rise to 3 feet in the middle of the block.
- Marked lines are approximate locations. States require an 18- to 36-inch tolerance zone from the outside edge of the utility on EACH side of the marked utility.
- When using horizontal directional drills, sewer lines can be hit and drilled through without any indication. This situation is known as "cross-boring." When a sewer line has been cross-bored by another utility, it can lead to a clogged drain. When a plumber runs an auger to clear a sewer line that has been cross-bored by a gas line, it can lead to an explosion.
- Prior to excavation, take photos of site after utilities have been located. This may be useful if marks are erased/ covered or if a line is struck.

TALES FROM THE TRENCH

- A man was trenching to install an electric line to a new shed in his backyard. He struck a gas line and the machine was engulfed in flames. His arms, hands, face, and neck were burned.
- A plumber was in a basement running a snake into a clogged sewer line and smelled natural gas. He started to run from the home when the gas was ignited by the water heater pilot light. The home was destroyed and the plumber and the home owner both suffered burns. The two neighboring homes were also damaged. The sewer line had become clogged after a gas line had been drilled through it.

**DON'T LEARN SAFETY
BY ACCIDENT**

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