US Army Corps of Engineers
Engineering and Support Center, Huntsville

Safety Office

Mishap Lessons Learned

Subject: Underground utility strikes are a dangerous and costly event

Event: Utility Strike

Root Cause(s): Contractor came in contact with a service line during excavation and damaged a water main. The water line was abandoned; however the line attached to the water main and broke when utility line was struck. Utility line was not marked by utility service company.

Lessons Learned:

Having a proactive well-thought out approach prior to digging is important in order to avoid underground utility strikes. Procedures need to be in place for when issues arise during excavation or a utility line is damaged. Lack of training provides an added high risk to excavation teams. A high number of utility strikes are caused by operators who have not received adequate training.

Best Practices

1) Properly marked two to three days prior to digging
2) Do not dig with machinery or pointed tools within the “tolerance zone” around marked utilities
3) If utilities are known in the area, use “soft digging techniques” such as hand digging with blunt edged tools or vacuum excavation
3) Stop excavation if unmarked utilities are discovered or utilities are not found where they are marked
4) Use other methods such as ground penetrating radar, as-built drawings, and individuals with experience with the facility to locate potential lines before excavating

Recommendations:

There are many hazards to be considered when excavating, underground utilities being one of the major hazards. When undertaking an excavation, buried utilities may pass along or through the working site. When a utility is located within the excavation area, trial holes could be dug, carefully exposing and clearly making its position.