

[Home](#)[World Markets](#)[Contact Us](#)[Site Map](#)[Home](#) | [The SUE Process](#) | [Media / Press](#) | [World Markets](#)**Subsurface Utility Engineering**[Home](#)  
[Search](#)  
[Our Mission](#)  
[News / Events](#)  
[The SUE Process](#)[Sample 'Scope of Work'](#)  
[SUE Services](#)[3D Underground Imaging](#)  
[Utility Coordination](#)  
[Utility Design](#)  
[Ground Penetrating Radar](#)  
[Surveying & Mapping](#)  
[Global Positioning Systems](#)  
[Geo. Information Systems](#)  
[CADD](#)[SUE Projects](#)[SUE FAQ](#)[Media / Press](#)[World Markets](#)[USA](#)  
[Canada](#)  
[China](#)  
[Puerto Rico](#)  
[United Kingdom](#)[Idea Submission](#)[About TBE](#)[Offices](#)[Contact Us](#)[Site Map](#)[Career Opportunities](#)[Bookmark This Site](#)

Thank you for visiting the TBE Article Archives.

## Utility Conflicts

Picture this: A military base begins the construction of a new storage facility building. Records fail to show a fiber optic cable (FOC) installed by the information technology department. A backhoe hits and cuts the FOC, causing work stoppage at the construction site, major communications shutdown on the base and a costly construction delay while the FOC is repaired.

What if it had been a water main, cutting off water to the base? Or a gas line, resulting in a dangerous explosion?

Experience has shown that relying on information from old plans and records regarding the location of under ground utilities may not be the wisest decision. Often, these subsurface facilities are not where the records say they are. Once construction begins, the inaccurate information can result in costly conflicts, damage, delays, service disruptions, redesigns, claims and possible injuries and lost lives.

## Demonstrating Success

The Federal Highway Administration (FHWA) has already demonstrated that the relatively inexpensive SUE process yields a high return on investment for roadway construction. In a study completed in January 2000, FHWA found that for every dollar spent on SUE by a state highway department, the department realized an average saving of \$4.62. FHWA and many other governmental transportation agencies now strongly advocate the use of SUE on highway construction projects.

SUE makes good engineering and design sense for any type of construction project that requires excavation around existing underground utilities, including construction projects at military bases.

## Naval Station Mayport

Naval Station Mayport, Jacksonville, Fla., is the third largest naval facility in the continental United States. It is host to more than 70 tenant commands, including the aircraft carrier USS John F. Kennedy, one of the last remaining conventionally powered carriers.

Mayport wanted to upgrade its underground utility facilities, including its electrical system, in order to service visiting nuclear-powered aircraft carriers.

Carrier wharf C2, located at the far end of horseshoe shaped Mayport Basin, was designated for the upgrade. MIL-CON Construction Corp., the prime contractor on this design-build project, decided to directional bore from the base side of the horseshoe out to wharf C2, running the new electrical lines under the basin. This was a much shorter less costly solution.

To work, numerous underground utility lines—both active and inactive—needed to be located and identified on both sides of the basin.

Speed was especially important on this project. The job was awarded to MIL-CON immediately following the terrorist attacks of Sept. 11, 2001. USS John F. Kennedy was deployed soon after, and MIL-CON had to complete the utility upgrade before the carrier came home.

MIL-CON called on the TBE group, internationally recognised SUE experts, to find those lines. TBE identified, located and mapped all existing lines in just a few weeks. By the time MIL-CON team was ready to excavate, it knew where every underground utility was located.

“Because of the war on terror, we weren’t told when the carrier was returning.” said Kerry Bentley, CEO, MIL-CON “We just knew we had to finish the job before it [the carrier] came back. We did, with a few days to spare. Because of the confidence we had in the underground utility location information provided by the SUE process, we were able to work at a faster pace and complete the project on time.”

## Hurlburt Field Air Force Base

Located just west of Fort Waltom Beach, Fla., Hurlburt Field is home of U.S. Air Force Special Operations. The base planned significant improvements to its main entrance to improve traffic flow, stormwater drainage, and security.

Based on available records, which showed a 4-in underground water line, improvement plans

focused on replacing the line with a 6-in line for improved service to the surrounding facilities.

Nondestructive vacuum excavation was conducted. This revealed that the existing line already was a 6-in PVC line, thereby eliminating the need for replacement and saving thousands of dollars.

According to O.M. "Chuck" Spangler Jr., RA Chief of Military Design and Construction, Hurlburt Field, the 6-in line was not the only underground utility identified through the Sue process. "We also found underground lines that we didn't know were there because they were not recorded on our drawings," he said.

"The SUE process provided us with a more accurate picture of what's located underground before we began construction," Spangler explained. "It also gave us the opportunity to develop better cost estimates on our construction projects."

### **Hurlburt Field, 505th CCW Air Operations Center**

The Air Force was looking to turn an 8-acre parcel of Hurlburt Field into an Air Operations Center Training campus for the 505th Command and Control Wing, a unit of the Air Combat Command. Bullock Tice Assoc., a Pensacola, Fla., architectural firm, was commissioned by the Mobile, Ala., District of the U.S. Army Corps of Engineers to design the first two facilities, which represented the first phase of a two-phase project.

While the new design included new underground utility lines, designers knew it was important to locate existing underground lines to avoid conflicts. This was especially important because there were numerous underground communication lines. Damaging or completely incapacitating any one of the lines would require several days of work to restore vital base communications infrastructure

Bullock Tice called in TBE Group to find and identify the existing underground utility lines. Using the SUE process, TBE identified numerous old, uncharted underground utility lines, many of which had been previously abandoned or not maintained.

"At potential conflict sites, TBE's vacuum excavation process provided us with the horizontal and vertical locations, as well as sizes, of these lines," said Jon Molloy, AIA, VP and Project Manager, Bullock Tice.

Phase two of the project is not yet funded. However, TBE Group has already designated all existing underground utilities for the entire 8-acre site. This data will aid the future design process.

### **Setting the Standard**

In 2003, the American Society of Civil Engineers (ASCE) published its Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data. The standard formally defines the SUE process and establishes guidelines for collecting and depicting SUE information.

The ASCE standard is an emerging guideline among a growing number of engineering and construction professionals, and the SUE process is being incorporated in an increasing number of military construction projects.

## **Credits**

### **Author(s)**

Capt. James R. Allen, P.E., CEC, M.SAME, USN(Ret.)

### **Publication(s)**

The Military Engineer  
Nov-Dec 2007

### **Read Another Article**

#### **SUE: Then and Now**

Subsurface Utility Engineering (SUE) is an engineering process that has evolved considerably over the past few decades. It has been used primarily by State transportation departments (DOTs), local highway agencies, utility companies, and highway design consultants.

[Read Full Article](#)

#### **More Articles**

- [Moving Quickly](#)
- [Subsurface Underground Engineering: 'The next best thing to X-ray vision'](#)
- [SUE - Reducing Risk](#)





Clearwater FL USA  
800.861.8314  
<http://www.tbegroup.com/>



Ontario, Canada  
877.487.4823  
<http://www.tshtbe.com/>



Doncaster, UK  
01302 802200  
<http://www.sueunitedkingdom.com/>



Beijing, China  
10.65308343  
<http://www.suechina.com/>



Rio Piedras, Pue  
787.751.7878  
<http://www.tbeca.com/>

Toll Free: 1.800.861.8314 (USA)

[Home](#) | [Privacy Policy](#) | [Careers](#) | [Bookmark This Site](#) | [FAQ](#)

TBE Group, Inc. Copyright © 2007 All Rights Reserved  
Site Design TETRA Enterprises, Inc. in association with Satellite Solutions Network, Inc.