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Subsurface Utility Engineering

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Moving Quickly

In 2004, Georgia Governor Sonny Perdue announced the Fast Forward Congestion Relief Program, a comprehensive six-year, \$15.5 billion transportation effort to deal with Georgia's rapidly growing traffic congestion. Transportation projects that fall under the Fast Forward program will be accelerated in their completion schedules.

One of the state's Fast Forward programs is the Georgia Department of Transportation's (GDOT's) Signal Timing and Synchronization Upgrades. Approximately 2,500 traffic signals in heavily congested traffic corridors will be synchronized to optimize traffic flow, and the operation of nearly 2,000 isolated intersections in metro Atlanta will be improved.

As work proceeds, GDOT requires information regarding the existence and approximate location of all underground utilities between the edge of the road and the right-of-way to allow for the installation of fiber optic cable for the signal synchronization. GDOT has contracted with TBE Group, a leader in Subsurface Utility Engineering (SUE), to provide this information . . . in an incredibly quick 15-day turnaround time for each work order.

The tight schedule parameters have presented challenges for GDOT, utility owners and TBE. The utilities are asked to provide TBE with the necessary utility records information within difficult-to-meet time frames. "It's a challenge for the utility owners to get this information to TBE in such a short period of time," said Jun Birnkammer, GDOT State Subsurface Utilities Engineer. "The information TBE provides us at the end of the 15 days must sometimes be based on incomplete utility information. If TBE receives the utility information after the deadline, they forward the updated information to us."

The shortened time frames affect GDOT's ability to provide TBE with complete information as well. "The information we are providing TBE is not typical for SUE projects because our designers have no time to obtain survey information," said Brent D'Angelo, GDOT Assistant State Utility Engineer. "Therefore, the information we get back from TBE is not intended for excavation purposes but is used as a corridor identification tool, helping us determine, for example, whether the lines should be aerial or underground, and if underground, along which side of the road."

For TBE, the quick turnaround means delivering a final product based on records research only, because that is all the short time frame allows.

According to the ASCE *Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data*, there are four recognized quality levels of subsurface utility information:

- *Quality Level D* comes solely from existing utility records or oral recollection.
- *Quality Level C* involves surveying visible above-ground utility facilities, such as manholes, valve boxes, posts, etc., and correlating this information with existing utility records.
- *Quality Level B* entails the use of surface geophysical techniques to determine the existence and horizontal position of underground utilities.
- *Quality Level A* involves the use of nondestructive digging equipment at critical points along the utility's path to determine the precise horizontal and vertical position of underground utilities, as well as the type, size, condition, material and other characteristics.

With GDOT's Fast Forward projects, the scope of services covers Quality Level (QL) D only. Even so, TBE takes it one step further. We compare our records information with actual field conditions and use our electromagnetic equipment to determine the existence and location of the utilities.

Expediting the Process

Traditionally, it can take weeks, or even months, to obtain and verify QL-D information. Remember, though, these projects fall under the Fast Forward program, and GDOT has given us just 15 days to deliver the information on each work order. Therefore, we have taken internal steps to expedite the process and easily meet our 15-day deadlines.

"TBE has really streamlined the process by moving the field data into the electronic database very quickly," Birnkammer said.

We were presented with a challenging set of parameters for this contract, and we have developed creative ways to meet those challenges. TBE has the resources to get the job done.

"Given all of the limitations associated with this project, TBE has done a great job providing us with the information we have asked for," said D'Angelo.

TBE Group, a national SUE and utility coordination provider with offices in Georgia and more than 40 other states, has been providing SUE services to GDOT since their introduction in 1999. For more information on TBE's SUE and utility coordination services, contact Randy Sanborn at 678-421-0080 or rsanborn@tbegroup.com.

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State Highway Depts. Accelerate Locating of Utilities in Road Design



Accidental damage to underground utility facilities during highway construction results in lost lives, serious injuries, project delays, and aggravating service disruptions. This has been a problem for many years. Subsurface Utility Engineering (SUE) is proving to be a viable solution.

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