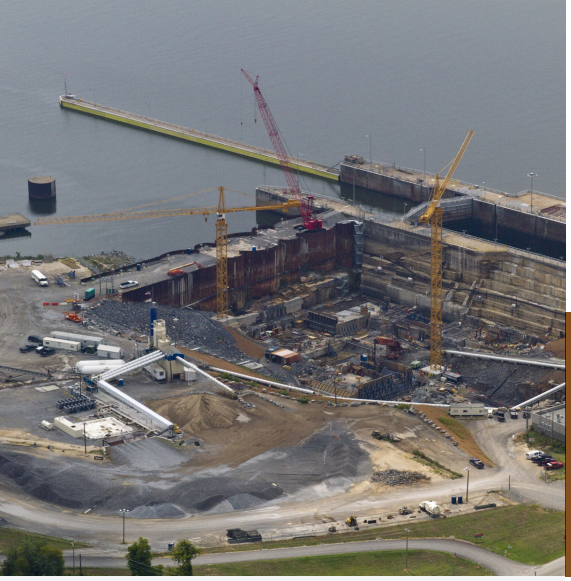

Geocomp
Trusted to help mitigate risk

PROJECT BRIEF

Kentucky Lock Addition Instrumentation & Monitoring

PROJECT PROFILE

CLIENT:
Thalle Construction

LOCATION:
Kentucky Lake

VALUE:

- Provide real-time monitoring that satisfies the USACE requirements for assuring stability and operation of existing lock through construction
- Provide real-time monitoring for contractors to assure life-safety issues are mitigated during open excavation

SERVICES PROVIDED:

- Instrumentation and monitoring
- Risk assessment

"Each sensor has limit values assigned that when exceeded, trip email messages to staff that allow for remote access and review of data for decisions related to changes in construction sequencing or implemenation of contingecy plans."

INSTALLATION OF GEOTECHNICAL INSTRUMENTS & DATA AUTOMATION

Thalle Construction, the contractor for the project retained the services of Geocomp to design and maintain a reliable sensor array to provide continuous real-time information to assure ongoing use of the lock and safety during construction. The various sensors were hard wired to remotely powered and remotely accessed data loggers that continuously monitor sensor response and post data onto Geocomp's *i*SiteCentral® server. Data is reviewed in real-time through simple password-protected internet access. Each sensor has limit values assigned that when exceeded, trip email messages to staff that allow for remote access and review of data for decisions related to changes in construction sequencing or implementation of contingency plans. This type of monitoring system not only provides a measure of risk mitigation for construction activity and assurance of continued operation of an essential part of the waterway transportation system, but can be left in place for long-term maintenance of the new and improved structure.

BACKGROUND

The Kentucky Lock Addition project is a new 110-ft-wide by 1,200-ftlong navigation lock that will be located landward and adjacent to the existing 110 x 600-ft lock. Most of the tows using the 600-ft-long existing lock are longer than 600-ft. Therefore, they have to perform a time consuming double lockage, a procedure that takes about three hours. These double lockages, along with the high traffic volumes experienced at Kentucky Lock, result in significant and costly delay for commercial vessels. From 1996–1998, the average delay time for a vessel at Kentucky Lock was about six hours. A new 1,200-ft lock will virtually eliminate these delays in the near future.