Geocomp

Technologies to manage risk for infrastructure

Project Brief

Doyle Drive Replacement Project

Client:

California Department of Transportation (Caltrans)

Location:

San Francisco, CA

Services Provided:

- Installation of noise monitors, seismographs, and crack meters
- Implemented an 18 month monitoring program

Value Provided:

- Monitoring of noise vibration and structural movement due to construction with real-time project alarms

Background & Project Challenges

Constructed almost 60 years ago to provide direct access to San Francisco's Golden Gate Bridge, Doyle Drive's structural deterioration could not accommodate the existing traffic volume. The effects of heavy traffic and exposure to salt air significantly deteriorated the structures that support the elevated roadway. In this condition, Doyle Drive was vulnerable to earthquake damage and was determined that it had reached the end of its useful life. Caltrans began the replacement of the existing Doyle Drive with a new parkway-type roadway that included new bridges, short tunnels, new access and improved views from within the Presidio neighborhood of San Francisco. Geocomp's role was to provide monitoring services and real time alerts so the project team had adequate time to develop contingency plans for unacceptable noise, vibration or structural movement levels.

Geocomp Role & Accomplishments

Geocomp implemented an 18 month monitoring program in a sensitive neighborhood community which included:

- Seismographs installed inside and around sensitive buildings along the construction alignment to record vibrations caused by demolition and construction activities.
- Crackmeters installed on landmarked buildings within the zone of influence of construction.
- Soundmeters with audio recording capabilities to capture the audio of any noise exceedence in order to positively identify the source of the event. All noise metrics and audio files were uploaded to SQL database for review.
- All data was captured and stored on *iSiteCentral*™, a web-based data processing, presentation, reporting and alarm system to provide project members with up-to-date performance measurements to control construction activities.