I-64 / Hwy 40 Seismic Retrofit

PROJECT DESCRIPTION

Low Overhead Drilled Shafts to Retrofit Bridge for Seismic Event

In seismic terms, St. Louis, MO is considered to be in relative proximity to the New Madrid Fault. This fault is predicted to be the epicenter of the next major seismic event in the Midwestern US. Therefore, in the late 1990, the Missouri DOT began the long process of retrofitting a 15,700 feet of elevated Hwy 40/ I-64 in downtown St. Louis.

The retrofit design required over 1,000 drilled shafts and hundreds of rock anchors to be installed at all structural column locations. All of the drilled shafts had a minimum 5-ft. rock socket, although many required a much deeper socket due to poor rock conditions. Over an 11-year period, Subsurface Constructors installed all of the drilled shafts for the several lettings of this project.

Drilled shafts ranging from approx. 50 ft. to as much as 90 ft. were installed with overhead limitations as low as 25-ft. Drilling often encountered soft, running silts making shaft construction and pouring very difficult.

PROJECT TEAM

Owner:
Missouri DOT

Geotechnical Engineer:
Jacobs Civil, Inc.

Structural Engineer:
Jacobs Civil, Inc.

General Contractor:
Fred Weber, KCI, Kraemer, St. Louis Bridge Co.

Ground Improvement Design/Builder:
Subsurface Constructors, Inc.