



# SUBSURFACE CONSTRUCTORS, INC.

*Full Service Geotechnical Contractors and Ground Improvement Specialists*

## **Drilled Shafts/Earth Retention**



Pinnacle Casino, St. Louis, MO – Drilled Shafts and Earth Retention

### **PROJECT DESCRIPTION**

In the Fall of 2005, Subsurface Constructors was selected to install the drilled shafts for Pinnacle Entertainment's \$430 million downtown St. Louis casino, luxury hotel, and parking garage. As part of its value engineering proposal, Subsurface performed an Osterberg Load Cell Test in an attempt to decrease the design diameters and rock socket lengths of the drilled shafts. As a result of the test, shaft diameters were decreased from six feet to five feet and rock sockets were significantly shortened, saving the project roughly \$200,000. Subsurface used six drill rigs to install 340 drilled shafts in a three to four month period. Final rock sockets for the drilled shafts ranged from five to twelve feet.

In addition to the foundation work, Subsurface performed the design and construction of 24,000 square feet of temporary shoring to allow for a 20-ft excavation in the structure footprint.

### **PROJECT TEAM**

Owner:	Pinnacle Casino	Geotechnical Engineer:	Geotechnology, Inc.
Earth Retention Design/Builder:	Subsurface Constructors, Inc.	General Contractor:	McCarthy Building Company