

Auger Cast Piles

Alex G. Spanos Heart
& Vascular Center
Mercy General Hospital
Sacramento, CA



MALCOLM

Deep Foundations

CONSTRUCTION PERIOD

November 2008 to September 2010

CLIENT

Owner: Catholic Healthcare West
General Contractor: DPR Construction, Inc.

SERVICES

- 2 Compression Tests
- 2 Tension Tests
- 1 Lateral Test
- 172 Each 18 ft Dia. by 25 to 50 ft deep

Benefits of Auger Cast Piling

- Efficient/Quick/Cost Effective.
- Low Noise/Low Vibration.
- Does not generate ground water.
- Well suited for ground conditions that may cave.

Project Overview

Malcolm Drilling Company was awarded the Auger Cast Piles for the new Alex G. Spanos Heart & Vascular Center in Fall 2008. This new facility was designed to be a state-of-the-art cardiovascular care facility. The first phase of work was to install a pile load test program to verify the design. After successfully completing the pile load test program, Malcolm Drilling began the four phases of construction over the next two years. The first two phases were constructed within confined access at the basement level next to the existing hospital tunnel. The remaining two phases were constructed at the existing hospital parking lot level between the original Mercy Hospital building and Mercy Medical Plaza. It was particularly challenging accessing the site with the large equipment and working in close proximity to the hospital vehicle and pedestrian traffic. The new Heart Center consists of a five story steel structure and a partial basement on both sides of the existing hospital tunnel. The Office of Statewide Health Planning and Development (OSHPD) was the governing agency for the project.

CONTACT MALCOLM

This job was managed by our Northern California Division in Hayward, California. For a complete list of office locations and technologies, visit Malcolmdrilling.com



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Construction Details

All piles were installed using a Bauer RTG 23S drill rig. The test program included two (2) Compression tests to 500 kips, two (2) Tension tests to 317 kips, and one (1) Lateral test to verify the pile design. Malcolm Drilling installed 172 Production Piles 18 inches in diameter by 25 to 50 ft deep. Since the top of the Auger Cast piles were approximately 5 to 6 ft below grade, a bond breaker system was used to cut-off the concrete to the correct elevation. Steel bond breaker plates at the cut-off elevation and plastic vertical rebar covers were installed to minimize chipping and damage to the reinforcing cage. When pile spacing allowed Malcolm was able to install 18 piles per day. These piles were all installed under the stringent requirements of OSHPD.



Ground Conditions

The soil conditions at the site consisted of silt with sand over silty sand, with a zone of poorly graded sand. The zone of poor graded sand made this a perfect job for Auger Cast Piles. A conventionally drilled pier steel casing would have normally been used to keep the shafts open which would have significantly increased the pile installation cost.

Quality Control

Pile reports were generated after the completion of each pile for approval by the owner's representative. The pile reports were generated using the electronic on-board software. The individual pile reports documented many aspects of the pile installation such as pile depth, drilling times, concrete consumption, concrete pressure, and concrete volume per lineal foot of pile. These reports were used as the final as-built condition.

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