

# CASE STUDY

## American Royal Building

Kansas City, Missouri

Installer: Ram Jack of Missouri • Kansas City, MO • 816.505.9990

2010



**Situation:** The American Royal Center is one of the buildings located within the 14-Acre American Royal Complex. This facility is used to host several national conventions, trade shows, livestock shows, and industrial exhibit shows.

Cracks and wall rotation/movement was observed in several of the interior CMU walls in addition to floor slab separation/settlement. The observed distress and floor settlement proved to be a potential safety hazard to the numerous fans visiting the stadium. Therefore, it was proposed that the respective CMU walls be underpinned and stabilized to mitigate any further damage.

**Solution:** The Request for Proposal (RFP) was put forth by the City of Kansas and JE Dunn. The piles were to be designed for a minimum allowable capacity of 15 kips in compression as proposed by the project structural engineer. Although the project was bid once before, it was determined that the winning contractor did not have the required experience with similar commercial helical installation. Therefore Ram Jack (KC waterproofing) who met all the project requirements was called upon to complete the project. Once the project was awarded, Ram Jack's Engineering Department set upon optimizing the helical pile diameter and helix configuration based on the soil parameters provided in the geotechnical report.

The project specification also required a pre-production testing program which included field pile load tests at the project site. The testing program was included to verify the minimum embedment depth and ultimate capacity of the piles.

**Conclusion:** Ram Jack's 2 $\frac{7}{8}$ " helical pile with a single 8" helix and a double 8"-10" helix configuration was designed to be used at the project site. The piles were installed quickly and efficiently preventing any unnecessary disruptions to the facility.

### STRENGTH AND STABILITY

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