CANTSINK
SUPPORTING INNOVATION

Case Study

IMAX THEATER EXPANSION, POOLER, GA

SITUATION

Soft fill material around an IMAX theater expansion in this coastal community imposed a need for greater support under the building to house the nation's largest IMAX screen. Stability Engineering consulted with Cantsink on the use of its helical piers to ensure lasting stability for the structure in increasing wet climate conditions. Whitaker Laboratories provided excellent, accurate analysis from soil borings, which allowed the Cantsink installation to proceed with confidence.

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SCOPE OF WORK

Load calculations were essential because of the significant weight of the structure. Some column loads exceeded 800,000 pounds. More importantly, significant lateral capacities influenced the use of multiple smaller shaft helical piles rather than fewer, larger capacity piles. With multiple piles battered to provide support in opposite directions, the lateral stability was greatly enhanced. In addition, site conditions, including rain, made installation challenging, but the crew was able to proceed with the work as planned because helical piers can be installed despite wetness, unlike other support methods. The crew completed the installation of 336 helical piers, for a total of 5,302 linear feet, in just five days.

ANCHOR SYSTEM

Twenty-three Cantsink 2 7/8-inch OD pipe piles (ICC certified) with galvanized finish were used, totaling more than 600 feet in all. Installation was accomplished using a standard skid steer machine with a minimum torque drive head of 6,000 ft.-lbs. String lines and laser levels can be used to locate the piles for supporting the triple 2×12 beams specified in the engineering plans.

RESULTS

Installation was completed in one day followed immediately by the framing of the floor system. Providing the reliable support of helical piles not only saved time and money on this new construction, it will eliminate concerns over the possibility of future damage from heaving. The number and intensity of hurricanes and tropical storms affecting coastal regions are increasing. Cantsink helical piles can provide cost-effective elevation and support that help avert damage from extreme rain and flooding.