

CASE STUDY

COVINGTON ELECTRIC COOPERATIVE

ANDALUSIA, AL

Installer: Alabama Ram Jack • Decatur, AL • 877.875.2171

2011



Project Description: Following an historic outbreak of tornados in Central Alabama, the Covington Electric Cooperative decided to construct a computer vault on their property that would withstand tornadic winds of up to 250 mph. The pre-fabricated, reinforced concrete building was designed and constructed in a factory in Bessemer, Alabama by Modular Connections and transported to the site in Andalusia, Alabama, about 200 miles away by truck.

How Ram Jack was Involved: In order to resist the wind uplift forces, deep-seated helical piles were needed. Alabama Ram Jack was contacted to evaluate the application. Originally the piles were specified to be a relatively small size, 1 1/2 inches in diameter. After reviewing the soils report, the engineers at Ram Jack quickly discovered small diameter piles, would not suffice for this site. In particular, the soils report showed there is a relatively stiff, sandy clay soil at depths of 6 to 8 feet, which the specified smaller-diameter piles would not be able to penetrate, and then the tension-only piles would be vulnerable to pull-out. The Ram Jack analyses showed that our 2 7/8 inch diameter piles with a triple 8"/10"/12" helix would be needed to penetrate the near-surface stiff soils and reach the depths needed to attain the uplift resistance. Alabama Ram Jack was awarded the job primarily because of their expertise in evaluating the situation in advance.

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How Ram Jack was Involved - Continued:

This job also posed a challenge in that the building was prefabricated with steel plates on the bottom for welding to the helical pile brackets that were installed in advance of the building delivery. Therefore, the installation had to be very precise with only a few inches tolerance. Our production crew was up to the task and the building was placed atop the brackets and welded to them to provide the necessary uplift resistance. The electric cooperative now has additional assurance that their operations will not be disrupted during tornadic weather.

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