୯ CASE STUDY

DOUBLE ENVELOPE - MACHINE FOUNDATION

Gainesville, Florida

Installer: Ram Jack Solid Foundations · Gainesville, FL · 386.462.3001



SITUATION

In an effort to keep up with the high demands of envelopes, The Double Envelope Company purchased a new printing press machine for their plant. This press weighs approx- imately 50,000 lbs. It was quickly determined that the 6" thick floor slab where the printing press machine was going to be placed was not sufficient to support the gravity and dynamic loads. A contractor was hired to build a new foundation.

The contractor knew he was in for a challenge when he received the soils report. The soil borings indicated the ground water table was 7-feet below the finished floor elevation and a 3 foot layer of organic silty soil was present 4 feet below the floor slab. Therefore, an underpinning system was required in order to transfer the loads from the printing press machine to stable soils.

SOLUTION

One of the challenges was to install a deep foundation system for the printing press machine inside of an existing plant. The other challenge was that the installation of the new foundation system couldn't interrupt the normal operations of the plant. Therefore, time was of the essence.

Ram Jack helical piles seemed to be the ideal solution to the owner's needs. They can be installed quickly with limited access equipment, with no spoils and can be immediately loaded after installation.

Ram Jack Solid Foundations was contacted to provide a bid for a foundation that would support the new printing press machine. Ram Jack's engineering department worked with a local structural engineer to design a new foundation based on the project soils report and the press manufacturer's specifications.

CONCLUSION

The new foundation was to be 40'-0 long, 7'-6" wide and 18" thick. A total of (24) 2 7/8" diameter Ram Jack helical piles were required. Fourteen of the piles were placed vertically and the remaining ten piles were placed at a batter to resist the dynamic lateral loads generated by the machine.



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In order to meet the owner's time constraints, two machines were utilized during the pile installation. The machines were operating simultaneously. The piles were installed to an average embedment depth of 25 feet below the foundation. The total installation time for the piles was 7 hours.

The contractors were thrilled to be placing the reinforcement and concrete the day after the helical piles were installed. The owner was thrilled that the foundation was installed on time, within budget and with minimal disruption to his plant operations.





