

GEOPIER®

RAMMED AGGREGATE PIER® Technology - Success Story



NASA turns to Geopier® to support new tarmac staging area at their rocket engine test facility



CLIENT'S CHALLENGE

The project involved construction of NASA's new tarmac staging area at its rocket engine test facility. The new foundation included 20,000 square feet of new pavement that would consist of 12-inch reinforced concrete. The heavy loads associated with the rocket support pedestals resulted in an approximate 3,000 psf contact stress acting upon the pavement slab and underlying soils.

SUBSURFACE CONDITIONS

The soil conditions consisted of 10 to 25 feet of loose sands and silty sands, which are common in the Gulf Coast region of Mississippi. If left unimproved, the poor soil conditions would experience unacceptable settlements under the loads of the rocket pedestal.

GEOPIER® SOLUTION

To solve this complicated ground improvement problem, Geopier® geotechnical engineers chose to use a Geopier system consisting of displacement X1® piers that would not only improve much of the underlying loose sands in place, but would also allow new sand to be placed within the cavity to create a very dense matrix of Rammed Compaction® points. The final design consisted of 400 Geopier displacement X1 piers, which were installed in 22 days.

Stennis Space Center (B-Stand Tarmac)

Picayune, Mississippi

National Aeronautics and Space Administration (NASA)

Owner

Advon Corporation

General Contractor

Southern Earth Sciences

Geotechnical Engineer

Jacobs Engineering

Structural Engineer

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