

LOADTEST

O-Cell® Testing of Bridge Foundations



*My Thuan, Vietnam
Designer: Maunsell, Contractor: Bilfinger + Berger*



*Hwy #82 Greenville Mississippi, USA
Designers: HNTB Corp, Contractors: Massman Traylor Bros.*



*SuTong, China
Design: China Highway Planning and Design Institute, Consultants Inc. (Beijing)*



*New Millennium Bridge over the Panama Canal
Designers T. Y. Lin International
Contractor: Bilfinger + Berger*



*Cooper River Bridge in Charleston
South Carolina Department of Transportation
and Parsons Brinckerhoff, Trevlcos Corporation
and Case Atlantic Co*

The O-cell method for testing the foundation capacity of piles used for bridge piers provides numerous advantages over traditional top-down loading arrangements.

As the technology for drilled shafts/piles develops and larger loads are demanded from each foundation element, the need to verify these design capacities is increased.

These photos are just a small selection of some of the world class crossings that have successfully used our O-cell technology to test the foundation elements.

ADVANTAGES

A key benefit of using bi-directional testing is the elimination of additional anchor piles or external reaction systems. The O-cell method allows one portion of the pile to react against the other during loading.

In ground conditions where the end bearing may be comparable or greater than the friction, the O-cell may be located at the bottom of the pile and the test will measure end bearing and friction, directly and independently.

The O-cell method is particularly advantageous over water or in congested construction areas. Additionally, our method is not only applicable for preliminary expendable test piles, but also allows for the integrity of working test piles to be restored and subsequently integrated into the structure as working piles.

APPLICATIONS

The O-cell method is well suited for any size and capacity drilled shaft or pile, for tests both on land and off-shore. Typical loads encountered using the O-cell method exceed 50 MN and can reach levels greater than 200 MN for some bridges.

