

A1M1 Great North West Bridge

Soreze, Mauritius

New bridge in Soreze, Mauritius set to become a national landmark.



The project

The Road Development Authority of Mauritius recently commissioned the construction of the new A1M1 bridge across the Great River North West Valley in Sorèze. Located south of Port Louis, the classic extradosed bridge design will effectively connect the areas of Chebel and Sorèze and finally join the main A1 and M1 arterial roads.

The challenge

The underlying soil profile at each pier position revealed a combination of silty gravels, colluvium, clay, rock layers and boulders, thus piling was required to support the bridge piers. Temporary steel casings were used to ensure the integrity of the pile shaft. The piles had to be cast underwater by a gravity fed tremie pipe system using high slump, self compacting, ready mixed concrete.

The pier positions were located in the largely inaccessible deep ravine, making it extremely complex for the piling equipment and materials to reach the site.

The solution

The pile design called for a total of 40 piles per pier, and each pile was 1080 mm in diameter. The piles were designed to carry a working load of 8,85 MN. Two O-cell tests were carried out to verify the design and construction of the foundation piles. O-cell tests require no kentledge or reaction piles and proved to be cost-effective for tests with very high test loads. The test piles performed extremely well, with settlement of 7mm at 14.5MN and 11mm at 21MN.

The project involved the installation of 80 No. 1080mm Ø temporary cased bored piles up to 22m deep, using rock augers, coring buckets, cluster drills and chisels.

Project facts

Owner(s)

Road Development Authority of Mauritius

Solutions

Heavy foundations

Keller business unit(s)

Keller Mauritius

Markets

Infrastructure

Main contractor(s)

TGBV - Transinvest - General Construction Co. - Bouygues
TP - VSLi Joint Venture

Techniques

Bored piles - cased

Email address

info.za@keller.com