



## Brazzaville Corniche

Construction of a viaduct – Geotechnical assistance

2013 - 2016



CONGO - Brazzaville

### Client

Consortium Setec TPI - SGI

### Owner

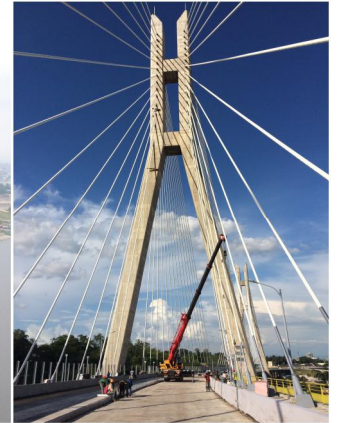
Ministère de l'aménagement du Territoire et de la délégation générale aux grands travaux de la République du Congo / Délégation Générale aux Grands Travaux

### Highlights

Curved dual-carriageway cable-stayed viaduct 546 m long with a 285 m central span and 2 piers 120 m high

"Stockade" 360 m long on 13 supports

Dual-carriageway road 1200 m long on reinforced soil (rigid inclusions and stone columns)



### The Project

The project consists in building a road link alongside the river Congo to improve access to downtown Brazzaville. The Congo government awarded the construction contract to the Chinese company CRBC. The project had to overcome a number of geotechnical difficulties:

- alluvial environment of the river banks necessitating soil reinforcement,
- cable-stayed structure with heavy loads, necessitating deep foundations of large diameter,
- presence of compressible and changing materials.

All the structures have been founded on piles because of the poor characteristics of the superficial materials and the need to account for strong horizontal loads.

The embankment sections have necessitated the use of retaining walls on reinforced soil (stone columns), and the high embankments the use of rigid inclusions in order to meet the stability and deformation criteria.

Construction lasted from 2013 to 2016.

### Our Services

Terrasol's mission, providing geotechnical support to Setec TPI, consisted in:

- revision and adaptation of the geotechnical synthesis,
- checking the contractor's calculation reports for the foundation aspects,
- geotechnical stability,
- soil/structure interaction,
- geotechnical recalculations using Foxta and Talren software,
- signing off the contractor's documents (procedures, calculation reports, summaries),
- assistance to SGI's local control team.

The mission required many meetings with the project stakeholders (control, contractor, owner) both in Paris and on site, demonstrating Terrasol's capacity for rapid reaction to client's requests worldwide.

### Key points of our missions

- Geotechnical summary,
- Recalculation on a complex structure,
- Use of the latest geotechnical developments (ASIRI),
- Complex calculation of pile groups under multiple loads, using the Foxta software,
- Reactivity, including on site.

### terrasol

Immeuble central seine  
42 - 52 quai de la rapée  
75583 Paris cedex 12 France  
Tél +33 1 82 51 52 00  
Fax +33 1 82 51 52 99  
info@terrasol.com