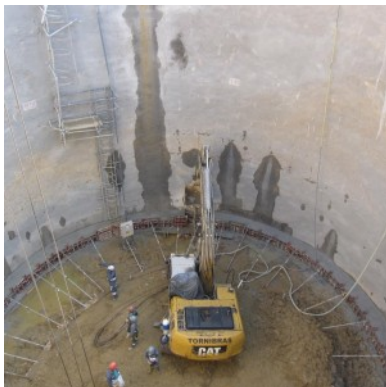




## INTERNAL STRUCTURES OF THE GÁVEA SOUTH AND EAST STATIONS LINE 4 – SECTION JARDIM OCEÂNICO / GÁVEA

BASIC DESIGN (2013 - 2014); EXECUTIVE DESIGN (2014 – IN PROGRESS) – INTERNAL STRUCTURES DESIGN; EXCAVATION, EARTH RETAINING AND ACCESSES (STRUCTURES); ONSITE TECHNICAL ASSISTANCE



**Client:** CJC - Engenharia e Projetos, Ltda.

**Location:** Rio de Janeiro Metro Network Expansion Project, Rio de Janeiro, Brazil

**Design date:** 2013 - 2017

**Construction date:** 2014 - 2017

**Services:** Basic Design (2013 - 2014); Executive Design (2014 – In progress) – Internal Structures Design; Excavation, Earth Retaining and Accesses (Structures); Onsite Technical Assistance

**Construction:** Riotrilhos / CCRB - Consórcio Construtor Rio Barra

### Summary:

Structural design of the South and West Stations inserted in two shafts: The first circular with  $\varnothing=30\text{m}$  (West) and the second elliptical with 27m along the major axis (South) and 55 - 57m depth respectively. The platforms are built in the lower section of the shafts and in a mining gallery with excavation starting from the shafts.

The design included the internal structures of the two stations, the technical structures and the connection passages between the two shafts, as long as earth retaining systems and cut and cover structures for public accesses with approximately 200m total length, in close proximity to the existing buildings

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