



TRANSPORTS - METRO

Funicular of Guindais

ABOUT

The Funicular of Guindais which links the Batalha Square to the Douro Riverside of Porto was originally designed by Raul Mesnier at the end of 19th century and runs parallel to the *Fernandina* wall. After more than a century of inactivity caused by a serious accident, this icon of the city was totally recovered and reestablished as part of the scope that had been defined for the "Porto 2001 – European Capital of Culture" program.

Structural and geotechnical solutions

The geological and geotechnical study comprised the characterisation of the foundation rock mass of the wall, based on the results obtained in the geological prospection campaign carried out. After the geological-geotechnical characterisation of the rock massif was held a classification using some systems of classification of rock massifs.

An instrumentation campaign of the wall was performed, for the structural behaviour monitoring and follow-up when the Funicular of Guindais was built. Besides the geological and geotechnical study, GEG assured the structural and foundations design of the viaduct, tunnel and stations.

The Funicular is driven along a steel viaduct that follows the steep profile of the cliff. Different solutions of piers were considered for the viaduct, under which a cascade was excavated in the rock itself for drainage purposes but essentially as an aesthetic element.

FACTS

Year: 2000

Client: Porto 2001

Services: Detailed design, Structural Engineering, Foundations design, Bridge and Viaduct Engineering, Tunnel Design and Engineering, Stations and Multimodal Terminals design, Construction planning, Consulting and on-site technical support

TEAM

António Campos e Matos

Paulo Pimenta

LOCATION

Porto, Portugal

More than a means of transportation, the Funicular of Guindais encourages a walk between two emblematic zones of Porto, enjoying the splendid perspective of the Douro River and the two-levelled steel Bridge "Dom Luiz I" designed by the Belgian engineer Théophile Seyrig, a disciple of Gustave Eiffel.

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