

Project identification

Coatzacoalcos Immersed Tunnel

Type of project

Immersed tunnel



Client

CONSTRUCTORA TUNEL DE COATZACOALCOS, S.A. de C.V.

In co-operation with

Project assignment

Quick Scan, Tender Design for the complete link (immersed tunnel and approaches), Detailed Design immersed tunnel including all related temporary structures/works and technical assistance during immersion operations

Country

Mexico

Location

Coatzacoalcos

Project duration

2003-2004 Quick Scan, Tender design
2007-2009 Detailed design
2012 - 2013 assistance for immersion

Project phase

Under construction

Construction cost

US \$ 160.000.000,=
(excl. VAT)

Consultancy fee

€ 2.200.000,=
(excl. VAT)

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Project description

The Coatzacoalcos Immersed Tunnel will connect the city of Coatzacoalcos with the town of Allende and will be the first immersed tunnel in Mexico. The link comprises two motorway tubes with 2 lanes each and a central gallery.

The total length of the tunnel is 1500 m. The river crossing is constructed according to the immersed tunnel technique and consists of 5 tunnel elements of 138 m each. The maximum depth of the base of the tunnel will be about 30 m below water level.

Scope of work

Quick Scan:

- review of reference design
- identification and implementation of optimisations

Tender design:

- permanent structures:
 - cut and cover tunnels,
 - portal buildings
 - immersed tunnel
- temporary structures:
 - building pits
 - casting basin
 - tunnel trench and retaining structures
 - mechanical and electrical works

Detailed design:

- immersed tunnel elements including all joints
- tunnel trench, backfill and protection layer
- temporary retaining structures for the tunnel trench
- principle design of the tunnel ventilation
- principle design of the fire fighting installations

Assistance for immersion:

- Prediction of settlement
- Design of preload
- Prediction of shear key closure
- Design of ballast and back fill
- Design of attachment of TE 6 to Coatzacoalcos Cut & Cover section
- Design of gravelbed and grout bag foundations