



Lakhdaria-Bouira motorway section

Upgrading of the motorway section: detailed design and technical assistance

2013 – On-going



ALGERIA

Client

AFITEX ALGERIE

Highlights

Upgrading of a 33-km section

Traffic maintained on the highway during the works



The Project

As part of the upgrading works for a 33-km motorway section between Lakhdaria and Bouira, TERRASOL was contracted by the ETRHB / ALTRO consortium to carry out the project detailed design.

It is one of the most difficult sections on the East-West motorway axis, particularly due to the topography and geology along the route.

As part of its assignment, TERRASOL managed all technical aspects related to the upgrade, including specific works phasing enabling to maintain the traffic on the motorway.

Key features

- Road geotechnical issues
- Slope stability studies
- Technical assistance during the works

Our Services

We worked on road geotechnical issues (wide-ranging damage covering the road surfaces and foundation soils): a preliminary breakdown of the section into homogeneous zones was established based on the damage survey and the various investigations carried out by ETRHB (georadar, evenness measurement, deflectograph and core drilling); then pavement structures were proposed (new / reinforced roadways) based on the residual resistance of each zone.

We also studied the stability of the slopes along the alignment, notably with an exceptional challenge in the section with a 6% gradient between Oued Isser and the Bouira plateau (Djebahia sector): various motion kinetics were analysed from photographic reports, archive files, geotechnical testing, as well as the specific instrumentation monitoring set up during the design phase (topographic targets and inclinometers). Several treatment solutions were then proposed: embedded slab on piles, rigid inclusions, barrier, anchored pile wall, stiffened backfill reinforced with geotextile, consolidation and drainage.

Lastly, at the consortium's request, TERRASOL fulfilled a technical assistance assignment throughout the duration of the works.

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