

# Tender Designs of Major Infrastructure Highway Projects

# Twin Bore Highway Tunnels of the Cross Israel Northern Highway, Sections 3 & 7

Israel

### **Project**

Cross Israel Northern Highway, Twin Bore 3 – Lane Tunnels of Road Sections 3 & 7

#### **Construction Cost**

Total Cost: approx. € 80 m.

**Project Schedule** 

 Tender Design:
 2012-2013

 Construction:
 2014 - 2019

### **Project Description**

Twin Bore 3-Lane Highway Tunnels (Yokneam, Rekhasim & Ibtin)

Mined sections total length: 9.200m Excavation cross section: 130m<sup>2</sup> -190m<sup>2</sup> Effective cross section: 58m<sup>2</sup> (3 x 3.70m)

Pedestrian & vehicle cross passages cross section: 36m<sup>2</sup>

Composite Shotcrete Lining C30/37

Temporary support: outer shotcrete

Permanent lining: sprayed waterproof membrane and steel

reinforced inner shotcrete permanent lining

#### **Excavation Method**

NATM – Mechanical excavation

Due to strict vibration limits on the adjoining oil & gas pipelines D&B is not permitted

#### Geology

Limestones, chalk, dolomites, marls

Seismically active area (Carmel Fault), zones with shattered geomaterials

Karstic Features

Overburden heights: 3m - 100m

#### **Our Services**

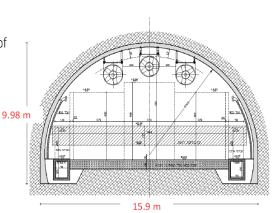
- Appraisal of the tender Basic Solution
- Preparation of alternative and cost effective tunnel E&S cross sections as well as BoQ's for the tender dossier on behalf of AKTOR S.A. & SBI Group
- Tender design and preparation of the technical offer

# 43 forepoles Φ114/140, L=12.0m e=0.40m a=8.0m SUPPORT CLASS - IV 22 fiberglass facebolts 250KN, L=12.0m a=8.0m

Excavation typical cross section

## Client

AKTOR S.A. (Greece) SBI Group (Israel)



Typical tunnels cross section

42 pcs fully grouted spiles Φ32, L=6.0m e=0.30m a=3.00m

38 pcs tubes Φ51/41, L=6.0m e=0.35m a=3.00m

Super Swellex bolts 250KN, I= 4.00m

SD rockbolts 200KN, I= 6.00m