

## Kesrouan Coastal Area Water Supply Project

### Country

Kesrouan, Lebanon

### Clients

Council For Development And Reconstruction  
Japan Bank for International Cooperation (JBIC)

### Project Capital Cost

US\$60 Million

### Services

Design Review  
Construction Supervision  
Hydrogeological Surveying

### Main Trades

Civil, MEP, Electrical, Hydraulic and Environmental Engineering

### Project Time Frame

2001 - 2011



Cutter Head of the Tunnel Boring Machine

### Narrative Description

In the late 90's, the Lebanese Government embarked on a widespread development scheme to rebuild the country's basic infrastructure in an effort to ease the possible effects of future water shortages and to supply the growing potable water needs.

The Kesrouan Coastal Area Water Supply Project aims to provide potable water for the coastal and surrounding areas of Kesrouan Caza from El Madiq spring emerging in Nahr Ibrahim River. The water is transmitted to reservoirs and distribution networks of the villages of Aaqabe, Kfar Chiham, Bouar, Safra, Adma, Tabarja, Kfarhabab, Sahel Aalma, Ghazir, Jounieh, Batha, Daraoun, Ghosta, Sarba, Hantouch, Zouk Mikael, and Zouk Mosbeh.



Water Wells in the River Bed



Hydraulic Tunnel Under Execution

The core project components are:

- 15Km GRP transmission pipes, diameter up to 1,000mm
- 57Km DI water supply branches, diameter up to 600mm

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- 45Km polyethylene distribution networks, diameter up to 225mm
- 27 water reservoirs, capacities 500, 1,000 and 3,000m<sup>3</sup>
- 17 pumping Stations with power up to 250KW
- Supply and installation of an Automation Control System / SCADA
- Hydraulic tunnel: 4.03 km long and 3.0 m minimum final lined diameter. A 1,000mm potable water pipe was laid inside this tunnel, conveying a flow of about 1m<sup>3</sup>/s along with an open channel for irrigation water conveying a flow of ~ 2m<sup>3</sup>/s
- Catchment works for Madiq spring
- 5 boreholes with flow up to 150 L/s each in Nahr Ibrahim river bed
- 2.5Km Gravity sewer line along a section of the coastal road, diameter up to 700mm
- 4.5Km pumping sewer line from Sewer Pumping Station to sea outfall

Dar Al Handasah Nazih Taleb & Partners in association with Montgomery Watson were commissioned with providing comprehensive engineering services covering Design Review, Hydrogeological Surveying and Construction Supervision.

