



▲ Side tower T1 & middle tower T2

His Majesty King Abdullah Bin Hussain of the Hashemite Kingdom of Jordan opened the Wadi Abdoun Bridge on 15. Dec. 2006, an outstanding structure of the newly built Amman Ring Road.

Three Y shaped towers raising up to 71 m above ground are carrying the load of a 425 meter long bridge deck on 60 stay-cables over two main-spans of 132 m and two side-spans of 63m.

### Scope of works performed

- Construction Engineering & Geometry Control
- Technical assistance in segmental erection, Stay cable installation and Post-tensioning operations
- Supply of Stay cables (200 ton)
- Supply of PT system (450 ton)

With an s-shaped bridge gradient designer and contractor are challenged to control the sophisticated geometry of towers and deck.

Larsen & Toubro Ltd. in Joint Venture with Arab Technical Construction Co. as Main Contractor has appointed VSL for Technical Assistance on all aspects of bridge deck erection, stay cable engineering and related PT works.

The Bridge Deck consists of 378 precast segments which are fabricated at site. In order to save weight for erection the total width of the bridge was divided in 3 pieces which are joint after erection.

The segments are erected by an erection gantry.

12 segments are carried by one stay cable each side before the gantry advances to the next step. After 6 segments a temporary stay is used in order to reduce the moments during erection.

The stay cables ranging from 17.5 m up to 76 m length are fixed at the tower with a special designed saddle pipe with partitions for each layer of strand. VSL's SSI 2000 system has been used for the stays with 55 up to 73 numbers of strands.

The last closure between Pylon 2 and 3 was completed middle of September 2006.

With its illuminated towers the opening of the Wadi Abdoun Bridge in December 2006 has added a new landmark to the sky of Amman.



**PROJECT**  
Curved Cable Stayed Bridge

**OWNER**  
Municipality of Greater Amman,  
Hashemite Kingdom of Jordan

**MAIN CONTRACTOR**  
JV - Larsen & Toubro Limited  
Arab Tech. Construction Co.

**ENGINEER**  
DAR Al Handasah, London

**VSL ENTITY**  
VSL Switzerland Ltd.

**DATE**  
2006

▲ Segments carried by one stay cable each side before  
▼ the gantry advances to the next step



[www.vsl.com](http://www.vsl.com)