

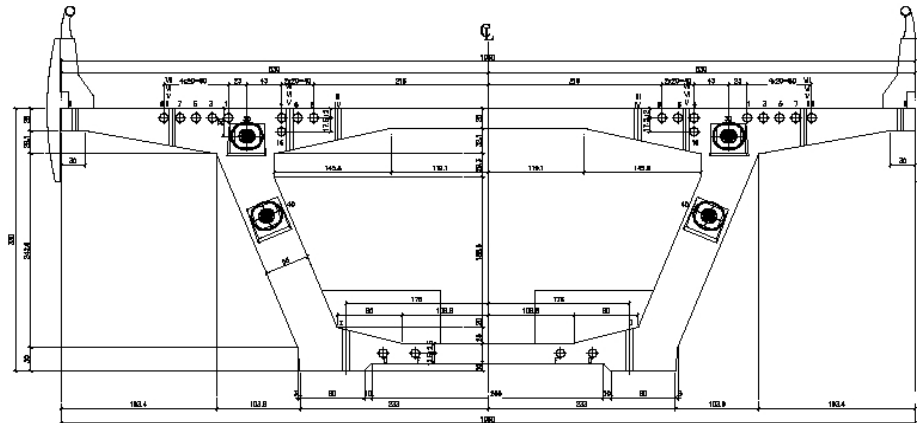
Quarry Bridge (1/3)

Location	Roichmen Quarry, Israel
Date	Construction in progress 2006
Services	Detailed design and onsite services
ABES member	ABES Israel – KEDMOR



Description

The Quarry Bridge crossing the "Roichmen Quarry" was designed partly as a pre-cast segmental balanced cantilever (414m) and partly as a cast-in-place incrementally launched girder of 409m length. The typical pre-cast segment length is 3.0m at its longitudinal axis and the maximum length of a segment for the incrementally launched part of the bridge is 22.5m long. The superstructure of both parts is made of a box girder of 3.3m depth and 11m width.



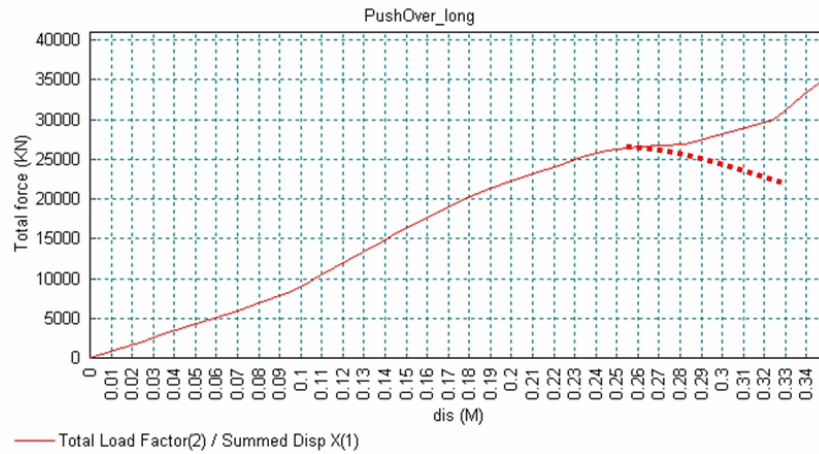
Box section for the pre-cast segmental portion.



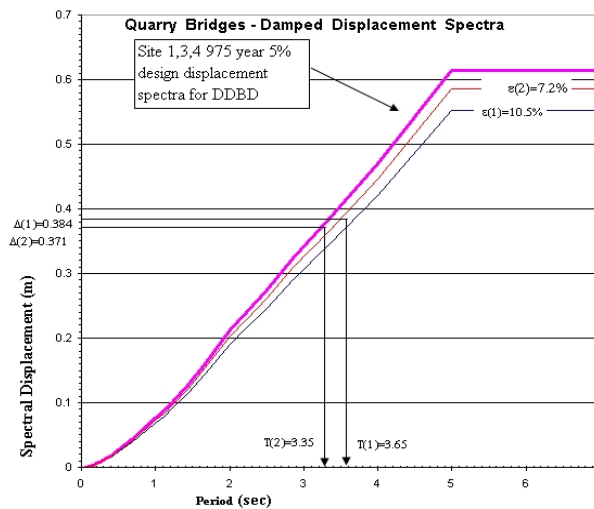
Piers under construction

Quarry Bridge (2/3)

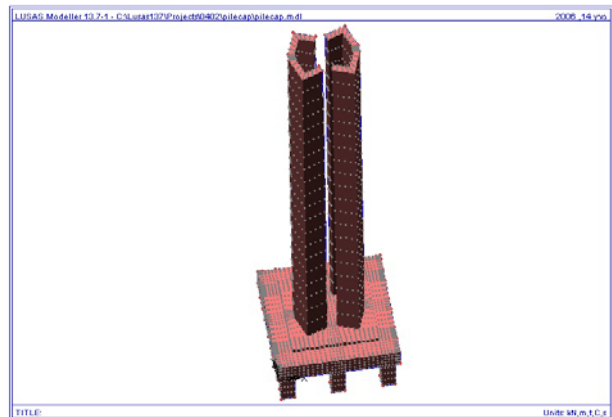
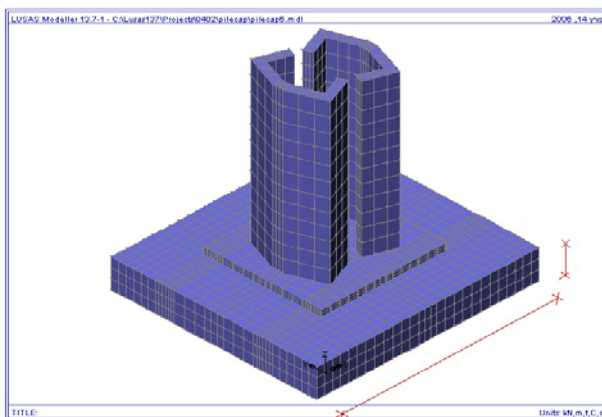
Pier 2 is much shorter, and therefore stiffer, than the other piers of this bridge. A special gap-element at the top of this pier enables the rest of the columns to respond prior to this pier in the event of an earthquake and by that prevent premature failure. A non-linear gap element was implemented as part of a pushover analysis in order to fine-tune the over-all earthquake response of the bridge.



Direct Displacement Based Design – DDBD



The geometrical dimensions of the piers were set to the minimum possible in accordance with the DDBD analysis.



Quarry Bridge (3/3)

