ERGOSE S.A. - HIGH SPEED RAILWAY LINE ATHENS - KORINTHOS - PATRA

SECTION: KAKIA SKALA

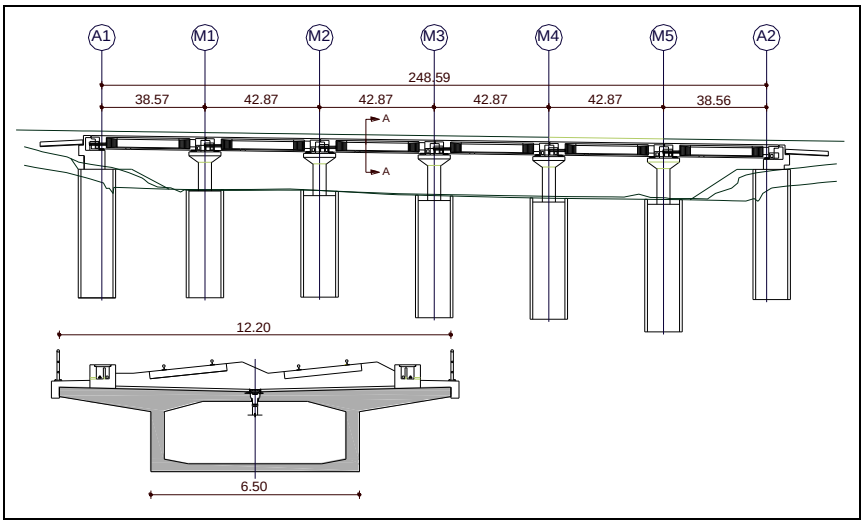
BRIDGES Γ4Nα (km 65+144.14 - 65+204.13), Γ5Nα (km 65+314.58-65+438.86)

PROJECT BUDGET:	4.448.350 €
CONSTRUCTION:	ALTE S.A. - AEGEK S.A. (2001-2003)
DESIGN:	ODOMECHANIKI Ltd - KANON CONSULTING (2000-2001)

This project involved the construction of a pair of similar railway bridges. The first one measured 3 spans. The total length is 64.0m, 21.33m for the end ones and 21.44 for the middle spans. The second one measured 6 spans similar and the total length was128.0m. The bridge cross section was a single cell box girder 2.55m high and 6.50m wide. Cantilever slabs extended from each side of the box, resulting in a bridge width of 12.70m. Of the 12.70m bridge width, 8.70m was used for the two railway lines, 2.40m for the two sidewalks and 1.60m for the cable ducts.

The superstructure was prestressed in both longitudinal and transverse directions and supported by sliding pot bearings. The piers were relatively short – with a maximum height of 6.70m – and the horizontal forces were transmitted to them through concrete shear key arrangement.

Because of the subsoil fragmented nature and high seismicity of the area – the foundation was constructed through deep concrete wells (rock sockets), which measured 6.0m in diameter and ranged from 20.0m to 25.0m in length. In addition, steel piles were driven into the ground during the excavation of the foundation, and the excavated surface was covered by shotcrete measuring a minimum of 25cm in thickness.



Railway Bridge Γ5Nα -Longitudinal section and cross section