



Quisi Bridge: a new route for the railway line in Alicante, Spain.

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Abstract

The new bridge on the ravine of Quisi is located downstream of the existing Santa Ana bridge dated on the beginning of the XX century (1915). This steel truss structure has recently been refurbished and stands out because of its historical, patrimonial, architectural and sentimental value. It will be used as a greenway, while the Quisi bridge will carry the new vehicles of the railway line. In this context, on top of the technical and budget constraints, the design team is aware of the importance of finding a correlation of the structures to enhance both civil constructions, that are to be found necessarily close one to each other. Finally, the solution for the new bridge consists of a 370 metres long post-tensioned concrete box girder divided into eight spans (35+6x50+35) and 8 metres wide, with a single fixed point to longitudinal actions located at the third pier with a distinctive A-shape.

Keywords: viaduct, post-tensioned, concrete, steel, railway, rehabilitation, greenway, FEM



Figure 1. Old and new bridges