

Bridge over the Picassent Gully

The arch bridge over the Picassent Gully consists of a single steel arch 51.50m in span with a composite deck connected to the arch by means of steel hangers.

The steel arch is circular in shape and its transversal section is quadrilateral with variable side length both in elevation and plan. The arch and deck are connected to one another by seven hangers, in a single, central plane, placed every 6.30m. These hangers are composed of closed triple Z cables with a nominal 58mm diameter.

The rise of the arch at the crown is approximately 8.60m, giving a rise/span ratio of L/6.

The transversal section of the deck consists of a

triangular-shaped haunched steel girder, running from 1.10m at the centre of the structure to 0.10m at its extremes. This box-girder is divided into six cells by vertical webs. The section is completed with a 0.18m thick concrete slab hence giving a total depth equal to 1.28m and a depth/span ratio of L/40.

Transversal diaphragms are placed each 3.15m which coincide with; the centers of support at the abutments, with each hanger and at the intermediate point between every second hanger.

Each stub-abutment is founded with four circular 1.25m diameter piles.



Spain /2011
Project data

Structural type:
Arch bridge with composite deck and
steel arch 51.50m in span
Location:
Picassent. The Province of Valencia
Proprietor:
Town Council of Picassent
Scope of Works:
Construction Project