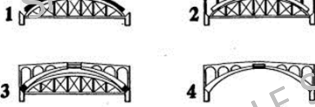


MAIN STREET BRIDGE

3 Hinged Arch

A reinforced concrete bridge, the main span replaced an earlier truss bridge exhibiting greater decorative detail, and presenting pre-hinge technology in arch spans over the river. The hinges, held together with temporary bolts, allowed the arch ribs to be poured as two separate pieces. After the arches set, fabric joints were inserted between them and the circular space between the hinges was filled with molten lead.

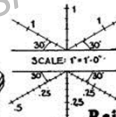
While the hinges were considered desirable for minimizing the stresses introduced during construction by shrinking and settlement, today the hinges are seen as potential weak spots in the event of an earthquake.



Construction

Three-hinged arch bridges were erected in these steps: 1) the base of the piers were constructed and the ribs were poured supported by formwork; 2) after the ribs set, the superstructure was poured above; 3) the end hinges were fixed and encased in concrete, and 4) any remaining formwork was removed and the center hinge filled.

The seven arch ribs of North Main Street were designed at varying widths to correspond to their traffic load. The thickest central rib was designed for trolleys, while the thinnest outer ribs were for pedestrian loads. In between trolley and pedestrian ribs were two ribs for automobile traffic.



Railway Rib Hinge

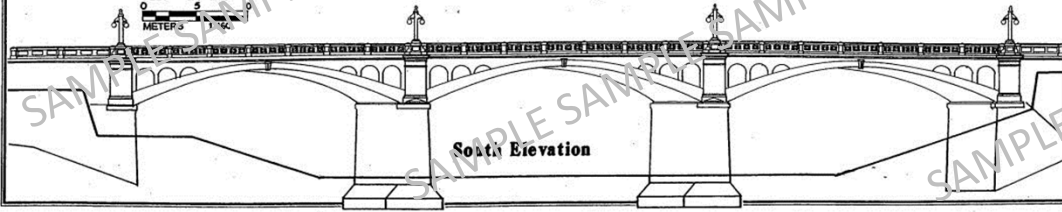
Arch Keystone

Ornamental Lights

Digital Signature – can be customized to include Professional Engineer seal and author details. Click seal for signature details.

current traffic barrier and modern lighting systems give little hint of the decorative effects that the reinforced concrete such as an anodizing material to the original designers.

South Elevation



NORTH MAIN STREET BRIDGE 1910
 LOS ANGELES, CALIFORNIA
 LOS ANGELES RIVER BRIDGES RECORDING PROJECT
 CALIFORNIA 1" = 1'