Arachthos Bridge
by WilkinsonEyre

This design proposal for a 1,000m viaduct across the Arachthos Valley in northern Greece was entered for a limited international design competition in 1999. The design of the structure is related to changes in its physical context over time, anticipating the future flooding of the valley due to a planned hydro-electric scheme.

A winding river on the valley floor informs the span arrangement, with piers located to avoid the ox-bow loops of the water. The main spans are formed by concrete shells, their geometry derived from a toroid. The cut forms an undulating profile to the bridge when viewed in both plan and elevation, moving from deck level at mid span to a higher curved peak at each of the piers. The deck is vertically aligned in such a way as to create a ‘sag’ curve, revealing the whole crossing to the driver on reaching the bridge. This elongated vista is edged by the waving form of the concrete shells, creating an alternating rhythm of transverse and longitudinal views.

Details
Location: Arachthos, Greece
Client: Egnatia Odos AE
Architect: WilkinsonEyre
Structural Engineer: Arup
This bridge forms a 560m crossing over a deep mountain valley at Metsovo on the Egnatia Odos highway in Northern Greece. A rock anchored suspension bridge solution provides a delicate landmark structure in a highly sensitive location. This solution in an area of outstanding natural beauty demonstrates WilkinsonEyre’s ability to provide an innovative yet sympathetic solution with minimal impact on the ecology of the site.

The bridge links two tunnels through opposing mountains and the catenary cables splay out from the deck to form a valley of hangers through which vehicles pass. The proposal was the winning design in an international design competition in 1998, and was subsequently developed in detail to tender.

Details
Location: Metsovo, Greece
Client: Egnatia Odos AE
Architect: WilkinsonEyre
Structural Engineer: Arup
Span: 560m
Value: £20 million
Design: 1998

Awards
Non-members Award at Royal Academy Summer Exhibition 1999