

## The alignment, the link between the bridge and the landscape.

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Angus Low, born 1947, graduated from Cambridge University and joined Arup in London in 1968, where he has since spent most of his career designing bridges. He is interested in understanding design at a fundamental level, which helps him to find simpler solutions.

### Summary

The visual composition of a bridge in a landscape can be much affected by the alignment of the route which is carried by the bridge, so the alignment is a significant part of the design. The relationships are discussed between the alignment and the landscape, between the bridge and the landscape and between the bridge and the alignment. Past projects are used to demonstrate the points being made.

**Keywords:** Landscape, alignment, bridge.

### 1. Introduction

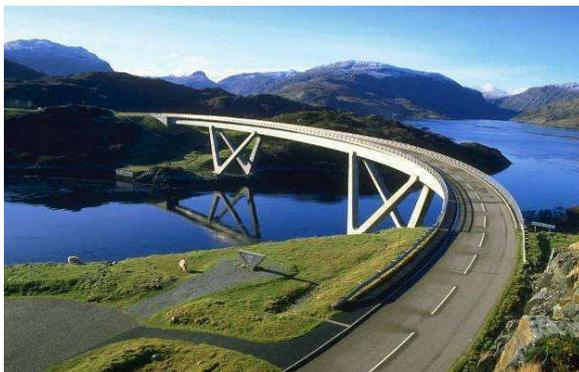
In a general sense it is said that a road or a bridge sits well in the landscape but, more specifically, what does this mean? For the road it is principally the alignment that sits in the landscape. The bridge, as an object, also has a relationship with the landscape and sometimes there are specific ways in which the bridge design and the alignment interact.

As a bridge designer I am looking for a timeless quality. I have no firm rules but I usually find that a bridge design can be enhanced by omitting elements, and then endowing the elements that remain with a form that maximises the appropriateness and presence of the whole bridge. The alignment is clearly an element that cannot be omitted so it is important to understand how it can be used to enhance the overall design.

The paper discusses relationships between the three elements, the landscape, the alignment and the bridge, in pairs. It draws on past projects to illustrate points and some conclusions are drawn at the end.

### 2. The alignment and the landscape

As a purely engineering exercise the process of fitting an alignment to a landform results in a curving alignment where the scale and form of the curves relate directly to the landform. The



landform is generated by geological processes. In gently rounded landforms with some incising by valleys the relationship between alignment and landscape can be harmonious and very satisfying to the viewer at some profound level. In the sharper landscapes of more recent geologies the gentle alignment needed for a road is necessarily fighting against the natural forms. Here bridges and tunnels are needed to resolve the incompatibilities.

In both cases there will be a need for bridges. When the alignment is the dominant feature then bridges are details within the bigger picture. The bridges

*Fig. 1: Kylesku Bridge*