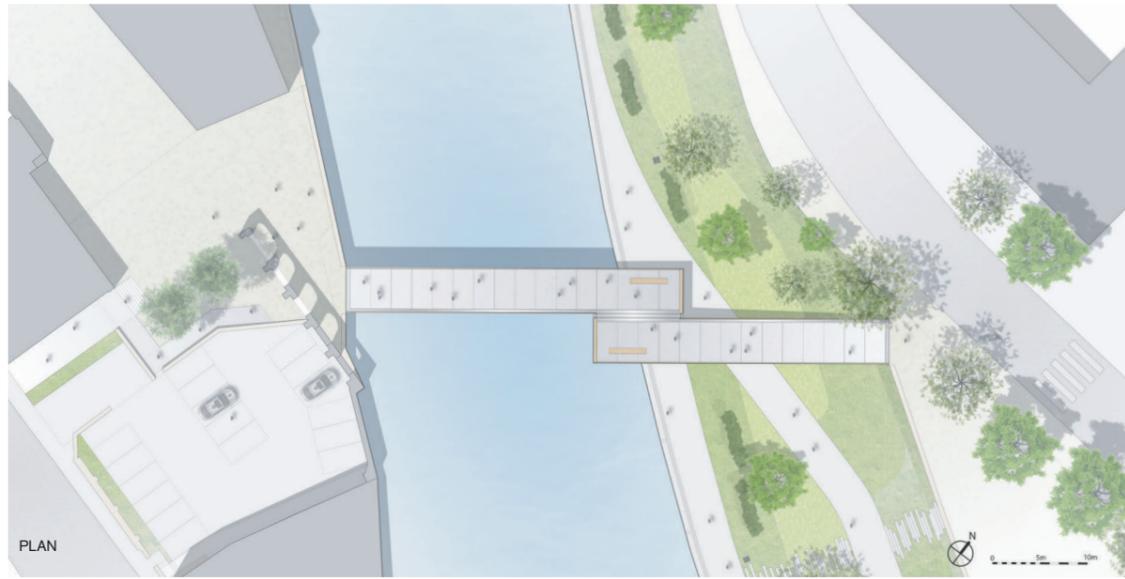
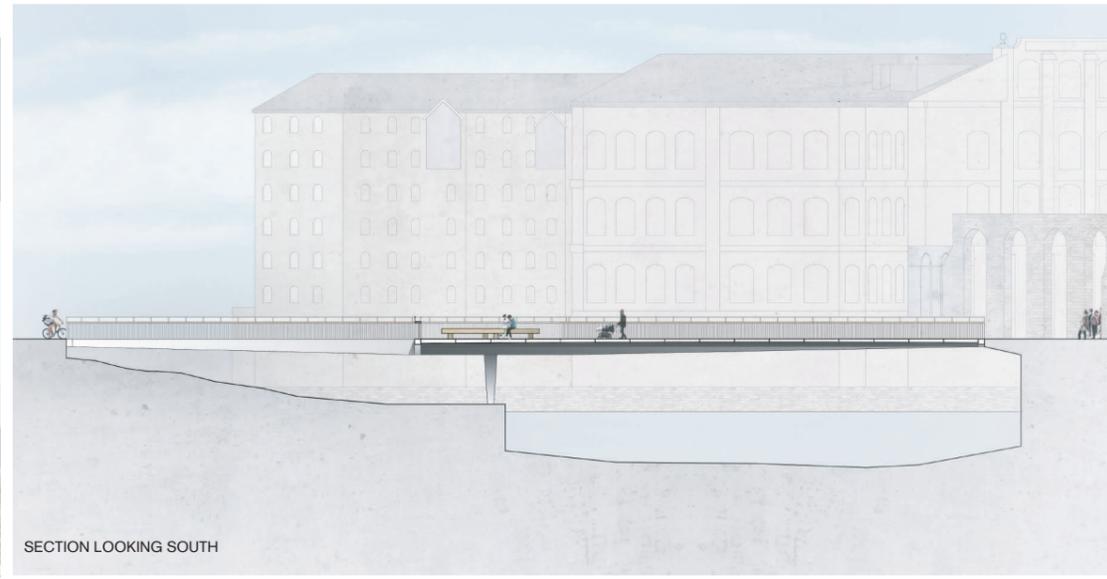




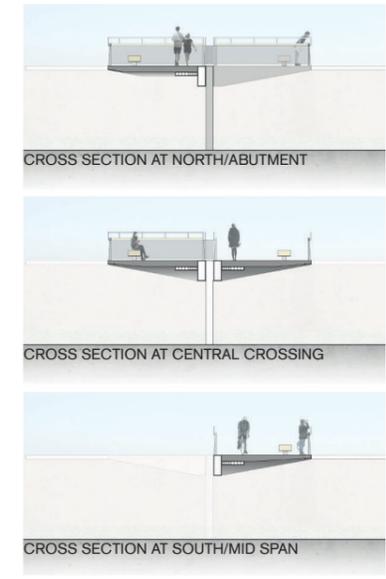
Zig-Zag Bridge BATH QUAYS BRIDGE DESIGN COMPETITION



PLAN



SECTION LOOKING SOUTH



CROSS SECTION AT NORTH/ABUTMENT

CROSS SECTION AT CENTRAL CROSSING

CROSS SECTION AT SOUTH/MID SPAN



DESIGN CONCEPTS

Creating a special place on the river

The Zig-Zag bridge intensifies the experience of crossing the river, creating a memorable focal place for people to pause and enjoy a moment of calm.

Light touch

The bridge touches the banks lightly, allowing the historic arches to be retained and leaving the public spaces at each side open and flexible to suit the forthcoming developments and maximise connections in every direction.

Simplicity

As well as creating an uplifting and uncluttered space, the rigorously restrained form and shorter span are economic, allowing more of the budget for high quality materials.

Advanced structure

The elegant and minimal structure poised over the river is achieved through advanced structural design and construction techniques.

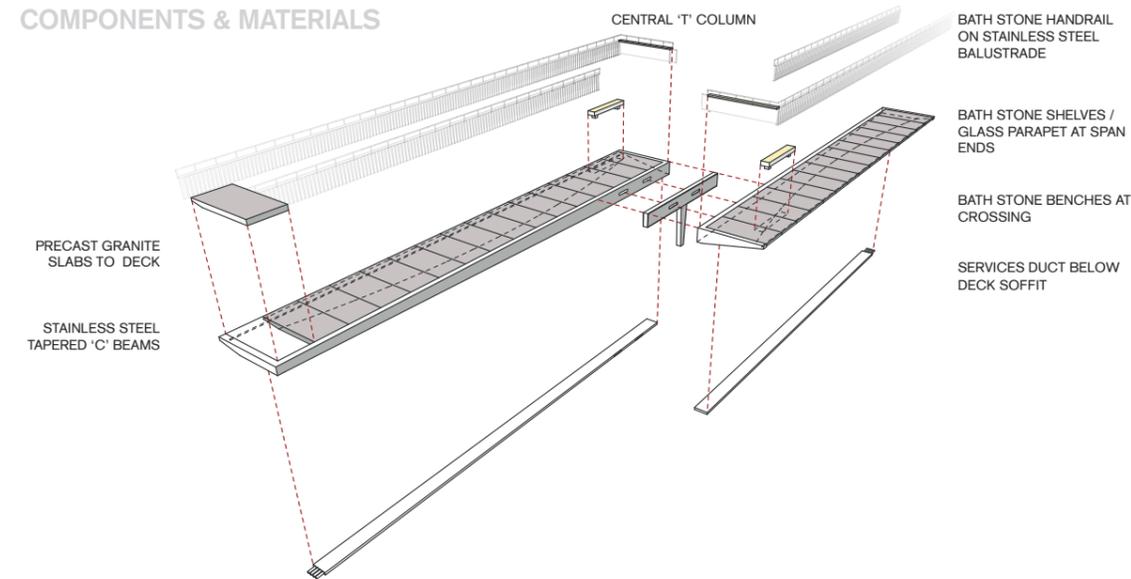
Robust and enduring

Materials are chosen to fit the Bath context, last long with minimal maintenance and improve with age, befitting the World Heritage site.

A new landmark for Bath

The Zig-Zag bridge creates a distinctive and unique place for people to enjoy the riverscape, an uplifting focus for Innovation Quays and an imageable new destination for the city.

COMPONENTS & MATERIALS



STRUCTURE

Steel reinforced precast granite slabs form the deck. Following the principles of traditional cantilever stone staircase landing construction these interlock and, with longitudinal tie-rods and in-plane shear keys, form a continuous truss in plan. Slab soffits are tapered to save weight. The mass of the slabs results in a low natural frequency and acts as damping.

The deck is supported around three sides on tapered steel box beams ('C' beams), acting together as a portalised propped cantilever.

The single central tapered steel 'T' column support is fixed between the two C columns and sits on a pile cap above the existing sewer. Abutments are precast rc on pile caps.

The rigorously refined structure and minimised span result in an elegant and effortless structural expression.

CONSTRUCTION METHOD

The construction method and sequence are straightforward:

1. Install North, South and central foundations.
2. Crane in central T column from top compound.
3. Crane in north C beam.
4. Crane in south C beam (with temporary access platform)
5. Install precast slabs in sequence, simultaneously on both spans working inwards from ends.
6. Install superstructure- balustrades and furniture.

LIGHTING

Lighting is subtle and unobtrusive, warm and friendly, providing just enough for people to feel safe while avoiding any spill into the landscape below. LEDs provide long life and energy efficiency.

The central crossing is gently lit from glare-free fittings hidden under the benches and shelves, creating a little oasis. The top of the shelves are also softly lit. The central meeting between the two spans is emphasised by lines of light either side of the T column.

The historic arches at the south bank are carefully illuminated, with additional tree uplights and concealed lighting around the public space. The north bank space is lit from columns and tree uplights. No lighting is needed to the outer ends of the bridge because of their proximity to the public spaces and highway.

PUBLIC SPACES

The design of the public spaces at each side is left simple and minimal to allow freedom for how the design of the adjacent developments evolve. Spaces are stone paved with low walls to the river edge. Steps/ramp provide access for pedestrians and cyclist to the road at the south.

PUBLIC ART

The bridge creates opportunities for the integration of public art commissions: perhaps a quiet sound installation concealed within the benches, text carved into the stone shelves/handrails.

