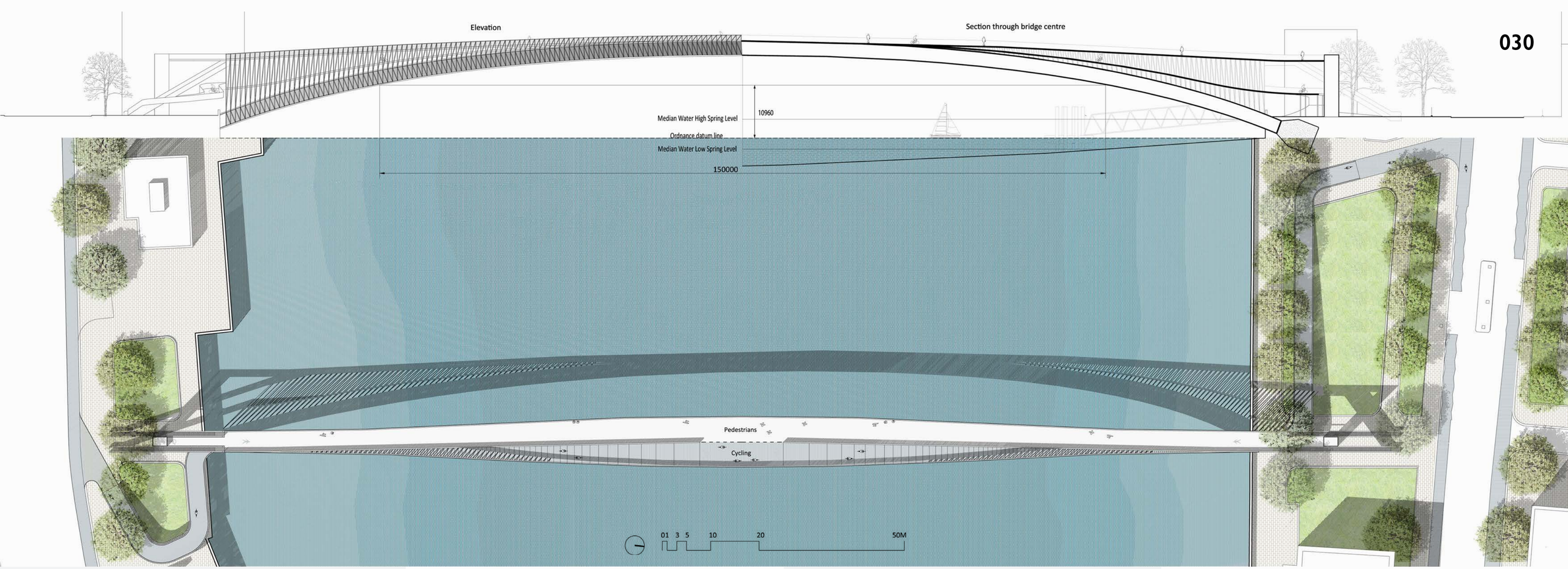
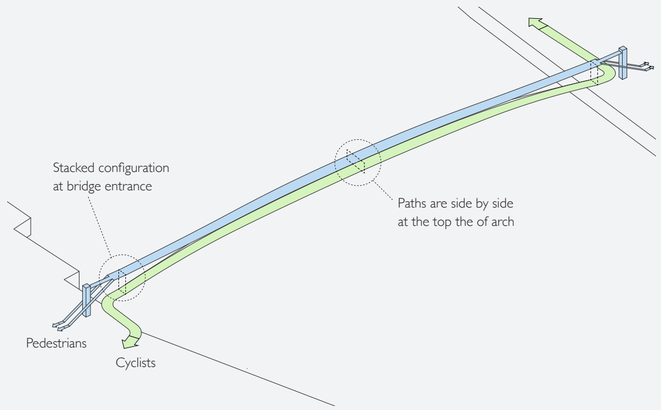


Challenge One: Integrating Cycling and Pedestrian Traffic

There are two distinct routes for cyclists and pedestrians
Cyclists follow the base of the arch, pedestrians are on the deck above in a double-decker configuration. When the base and deck meet at the apex of the arch the cyclists and pedestrians are side by side.

Cyclists cycle straight on and off the bridge with minimal ramps
As the 4m wide cycle path follows the curve of the arch, the amount of ramps is minimised making for a smooth transition from street cycling to bridge cycling. Escalators and two lifts take pedestrians up to the top deck for a comfortable walk across the bridge along a 4m wide path with excellent views.

The two routes are side by side at the top of the arch
Both routes have a slight swerve to either side and as the arch climbs the two paths run along side one another creating a celebration of activity at an open platform in the centre of the bridge.

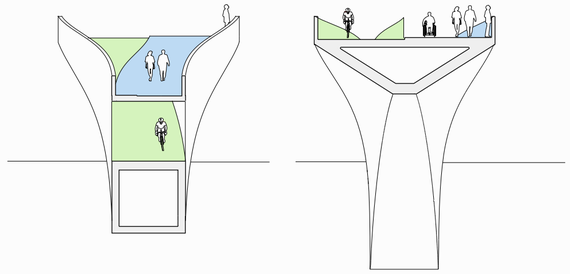


Challenge Two: Place Making

The bridge is not just a connector but a place itself
It celebrates the act of crossing by having at its centre a 10m wide viewing deck, a place to look out across the river and city beyond. As cyclists ride this moment will be a special place as this is where their route crests and they see an expanse of space before heading downhill.

It learns from the fineness and intricacy of Victorian engineering
Constructed in steel and using a simple arched truss, the design follows a lineage of iron structures of Britain from the great railway stations of the capital to the Iron-bridge of Shropshire.

By stacking paths, maximum thinness and lightness is achieved
This allows for the bridge to be closely integrated into the city fabric. Stacking also helps minimise the length of ramps allowing the cycle route to be seamlessly connected to the existing traffic system and have a smaller landing on the river bank.



Section at either end of bridge

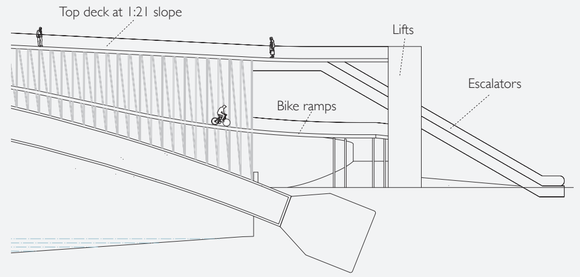
Section at centre of bridge

Challenge Three: Achieving Regulation Heights and Access

The design achieves the minimum clearance height
A 150m zone has the required minimum clearance 10.96 AOD. In order to achieve this the height of the bridge has been increased slightly, it is taller than it otherwise would be to accommodate the arch.

It spans the Thames in one clear arch leaving navigable channels clear
The unified image of a single arch will be a potent symbol for the newly connected neighbourhoods. It also allows for complete navigational flexibility for water craft and removes the need to construct costly piers in the middle of the river.

Escalators and lifts provide an efficient method to access the top deck
Given the height requirements for the top deck we propose to use escalators as a quick, efficient and compact method for pedestrians to climb to the top of the bridge. Lifts provide disabled access and the arc of the top deck is set to give a 1:21 slope for wheelchair use across the length of the bridge.

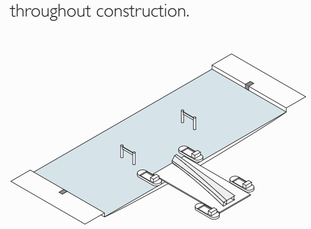


Challenge Four: Non-impeding Construction

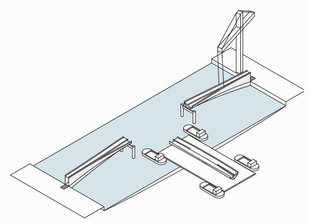
Use Prefabricated elements to reduce construction time
The all steel construction allows the bridge to be constructed off site in sections This means we can limit river closures or limitations of the shipping lanes to smaller time frames.

All elements floated and craned into place from barges
The two riverbank parts of the bridge can be floated in lying on the side and then turned with limited cranage requirement onto their end abutments and the temp supports in the river. The central piece will then be floated in and connected before removing the supports.

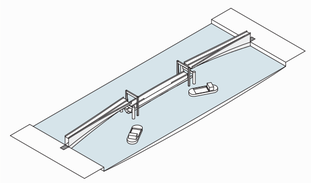
Minimal temporary piers allows for continual use of river
Having only two temporary supports, which can either be piles driven into the river bed or on floating pontoons, allows water traffic to continue to use the river throughout construction.



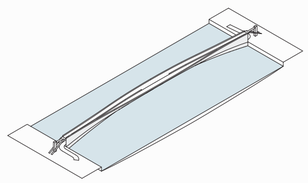
Step 1: Construct temporary piers and end abutments



Step 2: Float prefabricated elements and crane onto supports



Step 3: Lift central section



Step 2: Remove all temporary supports