

Thames Tideway Carnwath Road Upper Shaft Structures

CLIENT: BMB Joint Venture

LOCATION: United Kingdom

YEAR OF COMPLETION: 2023

Carnwath Road Riverside is one of three main sites on Thames Tideway used to launch TBMs. The main shaft, 25m in diameter and 42m deep, provides a junction between 3 tunnels and a mezzanine (chamber) level for plant. The top of the shaft will be buried and landscaped providing a public space on the north bank of the River Thames.

We redesigned the upper shaft as part of a value engineering exercise to enable construction of those elements 'top down'.

This redesign eliminated the need for 20,000m³ of falsework volume and enabled works at the bottom of the shaft to commence before and during construction of the upper shaft, unlocking significant programme benefits.

We achieved this by introducing underslung steel transfer trusses with precast bottom chords, and a series of precast concrete elements to form a kit of parts which were installed from ground level and hung within the shaft, supported from the top of lining wall. In-situ pours were then undertaken to cast these elements integral with the shaft lining.

KEY FACTS:

- Value Engineering
- Top-down construction
- Off-site construction methods

