

Crossrail C360 Eleanor and Fisher Street Shafts

Civil and Structural Engineering
Design



Customer	Crossrail/Costain Skanska JV
Our role	Temporary Works Design
Location	London, England
Value	£23m
Construction period	2015 to 2016
Contract	Crossrail

Eleanor and Fisher Street Shafts

The project

Eleanor and Fisher Street shafts will provide ventilation and intervention access to the running tunnels of Crossrail's Elizabeth Line. Both shafts are situated in small, congested sites within London. There is little space for storage of materials on site, and as such it was proposed to construct the core walls of the internal structure in advance of the floor slabs. The core walls were designed as completely independent structures to the main shaft. This was not the construction sequence assumed by the permanent works designers.

The challenge

Skanska designers provided a stability assessment of these core walls in their temporary condition prior to the construction of the floor slabs. Our assessment also considered the temporary construction loading from the formwork and other construction activities.

The solution

Globally the walls were found to be stable in their temporary condition; however due to the various openings in the walls, some additional temporary support was required in some locations. The team then designed temporary propping to these local areas, which was coordinated and sequenced with the formwork designs using 3D models.



Eleanor Street Shaft

The outcome

Our assessment allowed the walls to be constructed in advance of the floor slabs, which made the construction programme more efficient. Where temporary propping was used, the design utilised standard components that could be re-used.

3D models were used to co-ordinate and sequence the temporary propping designs with the formwork

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