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STABILISATION OF WALL 642 AT SURREY QUAYS STATION FOR LONDON OVERGROUND / TRANSPORT FOR LONDON

The trackside retaining wall at and adjacent to Surrey Quays Station had developed a distinct lean over a period of time giving concern to TFL about its' safety and likelihood of overturning onto the platform and live track.

Cintec International had a long standing track record on parapet strengthening for the network and the Cintec system had existing approval from TFL for usage of this type of structural issue.

Cintec were invited by the relevant TFL Project Manager to put forward a design solution and budget costs for the necessary remedial work to stabilize the wall without the need to take down and rebuild. The latter option would be extremely costly, lengthy and pose massive operational problems for the network.

Due to public concerns of the leaning wall at the rear of the platform a temporary support system was provided using a scaffold system and Cintec anchors as an interim measure prior to the main works being commenced.

Cleshar Construction Services commissioned Cintec and their design engineers MDHP to arrive at a design solution for the stability of the temporary support scaffold.

Consequently a full design was commissioned for Cintec / MDHP to produce a permanent stabilization solution for the 130m length of wall which varied in height from 6.00m to 7.00m.

To enable this to be carried out a full digital topographical survey was commissioned by MDHP for Brunel Surveys for the whole length of wall and platform area.

Additionally further data regarding services and drainage was provided by Cleshar.

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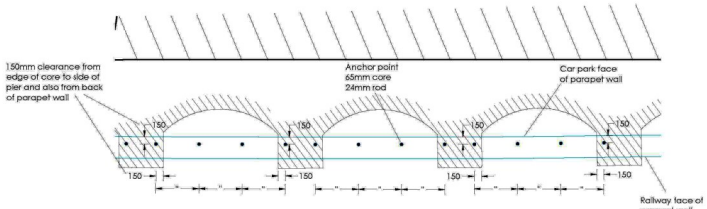
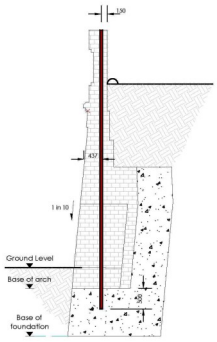
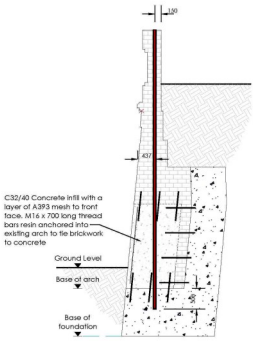


TYPICAL PART PLAN VIEW
VERTICAL ANCHOR ARRANGEMENT 1:50



TYPICAL SECTION - ARCH ABUTMENT 1:50



TYPICAL SECTION - ARCH 1:50

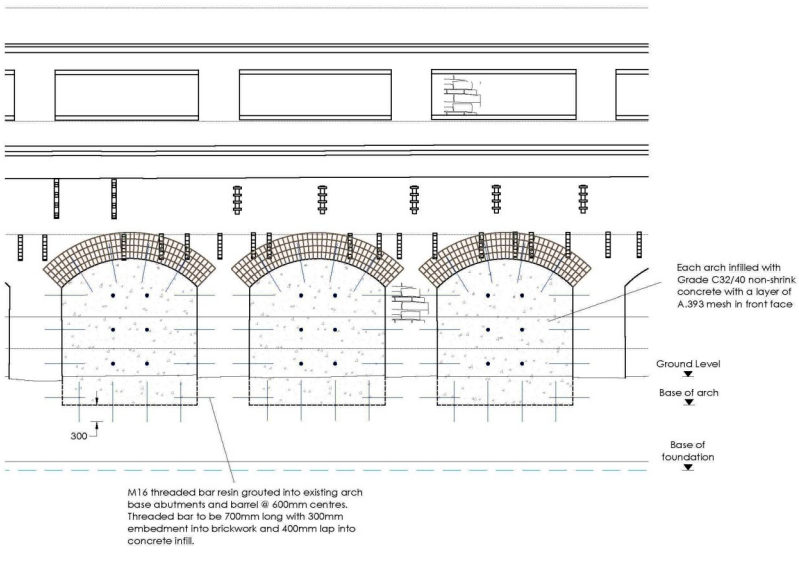
To simplify the solution vertical Cintec GB24 anchors in a 65mm hole were introduced into the wall extending from foundation level to level with the top of parapet but recessed 50mm.

In effect, as the wall had been proved to be rotating from a known point above ground level the anchors were acting as vertical cantilevers to resist further rotation.

OCL Group were appointed by the client as framework contractor who provided all site facilities, access, scaffolding etc and including other structural works such as concrete infill to existing arches and dowels into the brickwork.

The design CAT3 check was carried out by Fairhurst Structural and Civil Engineers.

The very confined site, working in close proximity to a live railway, and limited working space did not prevent the anchor installation being completed on program.



TYPICAL PART ELEVATION SHOWING
ARCH INFILL ANCHOR ARRANGEMENT 1:50