

CATFORD UTX

NETWORK RAIL – SOUTHERN REGION

NEW UNDERTRACK TRACK CROSSING

Due to the reconstruction of intersection bridge CAT 476, Frankham Consultancy Group were appointed to carry out the design of a new Undertrack Track Crossing (UTX) crossing and elevated trough route to permanently divert existing service cables.

This was the preferred method for managing the S&T and Level 3 cables located in the cess. The use of a permanent UTX diversion had a number of additional benefits when compared to providing a temporary cable bridge, which included cost efficiencies and reduction in possession activities.

The works, which were in accordance with Network Rail's standard Planning, Design and Construction of Undertrack Crossings (NR/L2/CIV/044), utilised an open cut installation method.

Due to constraints dictated by the standard and site, it was not possible to install the UTX using benching or battering. Temporary works were instead utilised to achieve the open cut installation method using a proprietary system (Fig. 2). The new UTX passes from cess to cess and connects to new inspection chambers to allow several cables to be carried.

Due to the constraints imposed by the site and surrounding environment, such as limited possessions and buried services, High-Density Polyethylene (HDPE) chambers and ducts were used to form the UTX to allow for speed and flexibility in the installation.

Due to ground conditions where the water table could fluctuate above the base of the chamber, an anti-floatation skirt was added to the base of the chambers.

The location of the UTX and chambers and the construction methodology were also influenced by clearance requirements from track welds and running rail edges.

The design placed particular emphasis on minimising the risks to the operational railway whilst maintaining the stability and integrity of adjacent infrastructure and lineside apparatus.



FRANKHAM

Client:
Osborne

Sector:
Rail

Services:
Civil Engineering

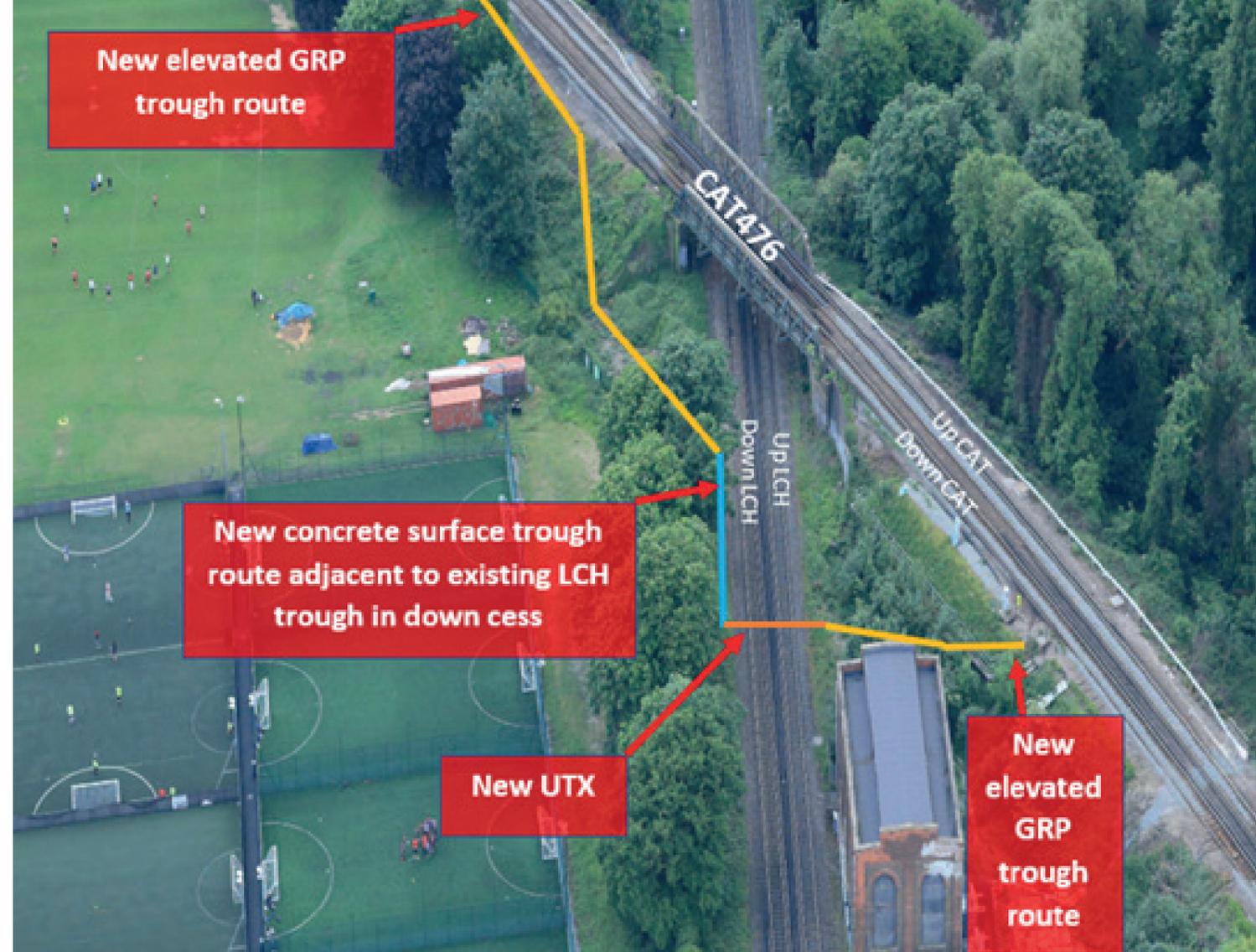


Fig. 1 New route for existing services being diverted prior to replacement of intersection bridge.

Fig. 2 Installation of temporary works, duct and turning chamber (at rear).



Fig. 3 Completion of works and reinstatement of tracks and ballast.

