

# LEEDS AREA IMPROVEMENT – PACKAGE 2A (LAIP 2 OLE)

📍 Bradford Forster Square Station

## PROJECT BACKGROUND

The Central Rail Systems Alliance (CRSA) and Balfour Beatty selected our Rail division to install concrete augured overhead line equipment (OLE) foundations and bespoke down-the-hole hammer (DTH) plunge CHS piles.

This work was essential to accommodate new overhead line structures and equipment as part of the Platform 0 installation at Bradford Forster Square Station.

## CHALLENGE

The project encountered significant challenges due to varying ground conditions at the site. The depth to rock head differed from borehole data, complicating excavation efforts.

Additionally, unidentified sandstone mining operations posed risks to structural integrity. The site's geological variability, influenced by the Pennine Lower Coal Measure formations, along with shallow groundwater and hard ground levels, further complicated construction.

To address these issues, innovative piling solutions were implemented to successfully install the overhead line equipment (OLE) foundations.

## SOLUTIONS

Due to the challenging hard ground conditions in the area, the team employed strategic temporary works to install 20No OLE foundations and 10No bespoke down-the-hole hammer (DTH) plunge piles.

This required off-tracking operations and the use of a tracked RRV in stabiliser mode, allowing access to difficult and hard to reach locations.

Key equipment utilised for the project included the Colmar T10000FS and Colmar T10000FSC, Movax KB70 Rock Drill, VESPA Mast 3 – SPD Piling Mast, Movax SG60/65 and Daedong twin Jawed vibratory hammer.

The project was successfully completed within an 8-week programme, with all foundations installed on schedule.

## AT A GLANCE

**Sector:** Infrastructure

**Solutions:** Concrete augured OLE Foundations, Bespoke Down the Hole Hammer / Plunge CHS Piles

**Techniques:** Down the Hole Hammer & Plunge CHS Pile Cased & Augured (Traditional Concrete Augured)

**Client:** Central Rail Systems Alliance (CRSA) / Balfour Beatty (CRSA)

## EQUIPMENT

- Colmar T10000FS & Colmar T10000FSC
- Movax KB70 Rock Drill
- VESPA Mast 3 – SPD Piling Mast
- Movax SG60/65
- Daedong twin Jawed vibratory hammer

