
**A465 – Heads of the Valleys Dualling
Section 2 – Gilwern to Brynmawr**



CLIENT

Welsh Government

CONSULTING ENGINEERS

CH2M & Atkins

MAIN CONTRACTOR

Costain Ltd

ROLE

P J Edwards & Co (UK) Ltd acted as Piling Contractor

SPECIFICATION

Specification for Highway Works

EQUIPMENT

Mait HR260 Heavy Duty Rotary Piling Rig
Llamada P150 Heavy Duty CFA Piling Rig
Down the Hole Hammer Odex Drilling System

CONTRACT PERIOD

April 16 – Present (discrete visits over period)

CONTRACT VALUE

£7m

DTHH Piling at Retaining Wall RW14W

The A465 Dualling Scheme incorporates a 40 km (25 mile) highway upgrade running between the towns of Abergavenny and Hirwaun. Due to the overall size of the scheme the project has been split down into discrete sections to be delivered at different times, and by different main contractors.

Having previously worked on Section 3 of the scheme near the town of Tredegar in 2013, P J Edwards and Co (UK) Ltd secured further work on Section 2 for which Costain Ltd had been appointed as main contractor by the Welsh Government.

Section 2 of the scheme runs through the Clydach Gorge between the towns of Gilwern and Brynmawr, including 8.1 km of carriageway, 14no. major structures, and up to 12.5 km of different retention systems including bored pile retaining walls, soil nailing, and reinforced earth walls.

CASE STUDY

Working in the spectacular Clydach Gorge presented the construction team with some very challenging targets in terms of working logistics, protection of the local environment, and minimising disruption to the local community. In addition, from a geotechnical perspective, the project route encompassed some extremely onerous and complex ground conditions.

P J Edwards & Co (UK) Ltd were appointed to install bored pile foundations for 6no. structures, including bridge supports and bored pile retaining walls. Due to the complex and highly variable ground conditions encountered along the length of the project, a variety of drilling techniques were employed.

Where ground conditions allowed, the more traditional rotary bored cased piling technique was used. All piles were installed with inhouse heavy duty rotary rigs with pile diameters up to 1200mm.

One of the bridges piled near Gilwern boasted the UK's largest precast concrete arch structure.

Traditional rotary piles being installed for foundations to Structure S11



Rotary techniques were also used to install a piled kingpost retaining wall which required very tight tolerances for placement of the rolled steel sections. These tolerances were very important in order to facilitate subsequent installation of the concrete panels spanning between each kingpost.



Installation of a kingpost retaining wall at RW31

CASE STUDY

In addition to the more traditional techniques, P J Edwards also used very specialised down the hole hammer (DTHH) systems for two piled retaining walls where more conventional drilling techniques were considered unviable due to the extremely hard rock formations presented by the Farewell Rock at the western end of the project, and the Castell Coch Limestone Formation located further east.



DTHH work at Retaining Wall RW02

These works were delivered using all internal plant and allowed 750mm diameter piles to be drilled up to depths of 28m with rock sockets typically in excess of 10m. Adoption of this technique significantly mitigated the risk of programme slippage.



DTHH Work on Retaining Wall RW14E