

CASE STUDY

DERBY HYDRO POWER HOUSE

SECTOR:	ENERGY AND WASTE
CLIENT:	DERBY CITY COUNCIL
CONTRACTOR:	BALFOUR BEATTY
CONSULTANT ENGINEER:	W S ATKINS
MGF DEPOT:	MIDLANDS - RUGELEY
PRODUCTS HIRED:	406UC HYDRAULIC BRACE, 10M LARSSSEN PILES

SCOPE OF WORKS:

The purpose of the job was to design and supply temporary and permanent support for a hydro power house and turbine chamber (plus associated inlet channel and tailrace) constructed at the side of an existing weir on the banks of the River Derwent in the centre of Derby.

ISSUES & SOLUTIONS:

The design incorporated a single level of modular 406UC Hydraulic Brace system in conjunction with Larssen piles up to 10m in length, toed in mudstone, covering a perimeter of over 150m.

MGF's design allowed early removal of the brace by using a permanent concrete base slab as a low propped cantilever. The design had to take into consideration the complicated construction sequence; and the location of a large crane during installation and removal of the river piles.

During the project Balfour Beatty and MGF collaborated to develop the Stairsafe system (the UK's first temporary steel stair system designed specifically for excavations). The system proved a great success in providing rapid and safe access into excavations leading to greater site productivity. The system is now being used throughout the UK on excavations up to 6.5m in depth.

THE VERDICT

From early in the tender process MGF have been heavily involved with Balfour Beatty to develop an innovative, cost effective and highly complicated cofferdam design; which helped make Balfour Beatty's tender attractive to the client, Derby City Council.

“MGF were brought in at tender stage to assist in the value engineering of the cofferdam and support frames. Upon contract award, MGF's technical team were extremely proactive in producing a workable design in line with the projects requirements. The professional, amenable and expedient attitude continued throughout the process from design, technical support, plant hire and delivery and site assistance.”

Michael Rummens, Balfour Beatty Site Agent



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