

Capital Square, Edinburgh



CLIENT

BAM Properties Ltd

CONSULTING ENGINEERS

Blyth & Blyth with geotechnical design by
Byrne Looby and Partners

MAIN CONTRACTOR

BAM Construction Ltd

ROLE

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

SPECIFICATION

ICE Specification for Piling and Embedded
Retaining Walls

EQUIPMENT

2no. Mait HR260 Heavy Duty Rotary Piling
Rigs

CONTRACT PERIOD

April 2018 to June 2018

CONTRACT VALUE

£960k

Capital Square is a landmark office development in the heart of Edinburgh City which when complete will offer over 122,000 sq.ft of Grade A accommodation.

The site of the new building involved redevelopment of the redundant Skypark building on Morrison Street, and the adjacent Capital House car park.

The site location was completely surrounded by existing buildings so logistics had to be planned very carefully in order to minimise the impact on the local community which included the prestigious Sheraton Hotel located immediately adjacent to the site.

P J Edwards & Co (UK) Ltd were employed by BAM Construction Ltd to initially install a number of rotary bearing piles to allow advanced relocation of a critical electrical substation, and then to subsequently install bored pile retaining walls around the perimeter of the site to facilitate excavation and construction of the basement for the new building.

In carrying out the works a combination of bored pile retention systems were used including both permanent contiguous bored pile walls, and temporary kingpost bored piles.

The permanent contiguous bored pile wall was formed using a combination of 50no. 750mm and 900mm diameter piles which were all installed using traditional techniques using segmental temporary casing.

*Mait HR260
piling rig installing
contiguous bored wall piles*



CASE STUDY



Installation of the bored kingpost wall

The temporary kingpost bored pile wall consisted of 80no. 1000mm diameter piles, reinforced with a heavy 457x191 steel sections, and positioned at typical 2m centres to receive a cast insitu reinforced concrete panel to span between the kingposts.

Steel sections were typically 11m in length.

Normal for drilling in Edinburgh, the ground conditions proved very challenging with some rock

sockets up to 8m in depth required to be drilled into the very competent Ballagan Formation sandstone. Due to the anticipated hard drilling conditions 2no. heavy duty 80t Mait HR260 rotary piling rigs were used to deliver the works.

Although the permanent contiguous piled wall was designed to act in cantilever during basement excavation, the temporary kingpost wall relied on a proprietary propping system at ground level to support the retention system during excavation and subsequent basement construction.



Kingpost retaining wall with support props installed