

# CASE STUDY RAF, UXBRIDGE



## PILING

### CLIENT



### MAIN CONTRACTOR



### SCOPE OF WORKS

CFA piling

## Project Brief

Roger Bullivant Limited (RB) were contracted to design and install piles for the new hi-tech visitor centre and education facility for the Battle of Britain Bunker to be constructed for Hillingdon Council. The new building is located adjacent to the existing underground bunker at RAF Uxbridge and required a combination of standard and restricted access piling to permit installation of the piles for the foundations.

## Key Issues/Requirements

- Piles were required to support the new visitor centre building and external deck due to the ground conditions encountered on site and the proposed loadings.
- Due to the configuration of the building two working levels were required to allow construction of the external deck at a higher level.
- The original proposal for the scheme comprised 450mm diameter piles. The ground conditions consist of made ground over gravels to 6m depth, underlain by London Clay. RB studied the ground investigation report and carried out calculations to reduce the pile diameter to 300mm and provide a more economical value engineered solution.
- The pile loading requirements were 150kN compression combined with 25kN tension and 25kN horizontal loadings.
- The programme for the works was crucial and due to the proposed opening date for the visitor centre the piling works needed to be completed before Christmas.





# PILING



## Solution

- Roger Bullivant Limited (RB) installed 148no. 300mm diameter CFA piles to 11.5m depth using our standard 7000 series CFA rig for the main building.
- To overcome the limited space available at the higher level for the external deck, which was located approximately 2m above the main site, 16 no. piles 12m in length were constructed using SFA with a Klemm 708 mini rig. This removed the requirement for additional earthworks to facilitate the placing of a larger rig on this area of the site, by providing a restricted access solution.
- RB designed the piles with a factor of safety of 2.6 in accordance with LOSA guidelines in the London Clay to remove the requirement for static load testing, which would have increased the programme on site.
- The weather on site was particularly misty, but RB did not let this affect our programme for the works!



**ROGER BULLIVANT LIMITED**

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