

CASE STUDY WATERS EDGE DEVELOPMENT, MYTCHETT



FOUNDATIONS

CLIENT

Nicholas King Homes

SCOPE OF WORKS

Over 2000 Driven Precast
Concrete Piles
Over 5km of RBeam

ACHIEVEMENTS

Completed on time
Completed on budget

Project Brief

Roger Bullivant Limited (RBL) was appointed to design and construct foundations for a collaborative residential project involving Nicholas King Homes and A2 Dominion. The project, known as Water's Edge Development located in Mytchett, involved the construction of 248 properties, including houses with 3, 4, and 5 bedrooms, as well as apartments. This picturesque development is situated near stunning lakes and offers over 2.5 kilometres of scenic waterside walks.

RBL was asked to provide a cost-effective and efficient piled foundation solution, considering the presence of river terrace gravels and the Camberley sand formation. Safety and timely completion were key considerations for this undertaking.



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Key Issues/Requirements

- The original client brief comprised Continuous Flight Auger (CFA) piles to 15m or more. With RBL's wealth of knowledge in these particular ground conditions, we were able to value engineer the scheme resulting in 8m to 10m long segmental Driven Precast Concrete Piles.
- Reducing the amount of excavated material and using a shallower working platform were also identified as potential areas for significant savings.
- RBL also utilised its precast ground beam system, RBeam, which resulted in a reduction in the number of piles required and reduced the project programme.

Solution

- RBL implemented a cost-effective solution by utilising a combination of in-house manufactured 200mm and 250mm square Driven Precast Concrete Piles, ranging from 8m to 10m in length, in conjunction with the precast RBeam foundation package. This approach eliminated the extensive amount of spoil that would have been generated if the client had proceeded with deep Continuous Flight Auger (CFA) piles. Additionally, it eliminated the need for wet concrete pile works and reduced the number of lorry movements to and from the construction site by 48%.
- The switch to precast piles also enabled the use of a lighter piling rig, which resulted in a thinner working platform requirement and cost-saving benefits for the client.
- Being surrounded by lakes and wildlife, the team were able to carry out works utilising their Driven Quiet Hammer Rigs, minimising disruption to the local environment.
- By utilising a pile and RBeam foundation package, not only was the overall number of piles reduced from the original designed scheme, but the additional benefit of precast concrete eliminated the requirement for curing time, generating further savings in time.
- To date, RBL has successfully installed over 2000 Precast Driven Piles and over 5 kilometres of precast RBeam, demonstrating their extensive experience and expertise in the field.



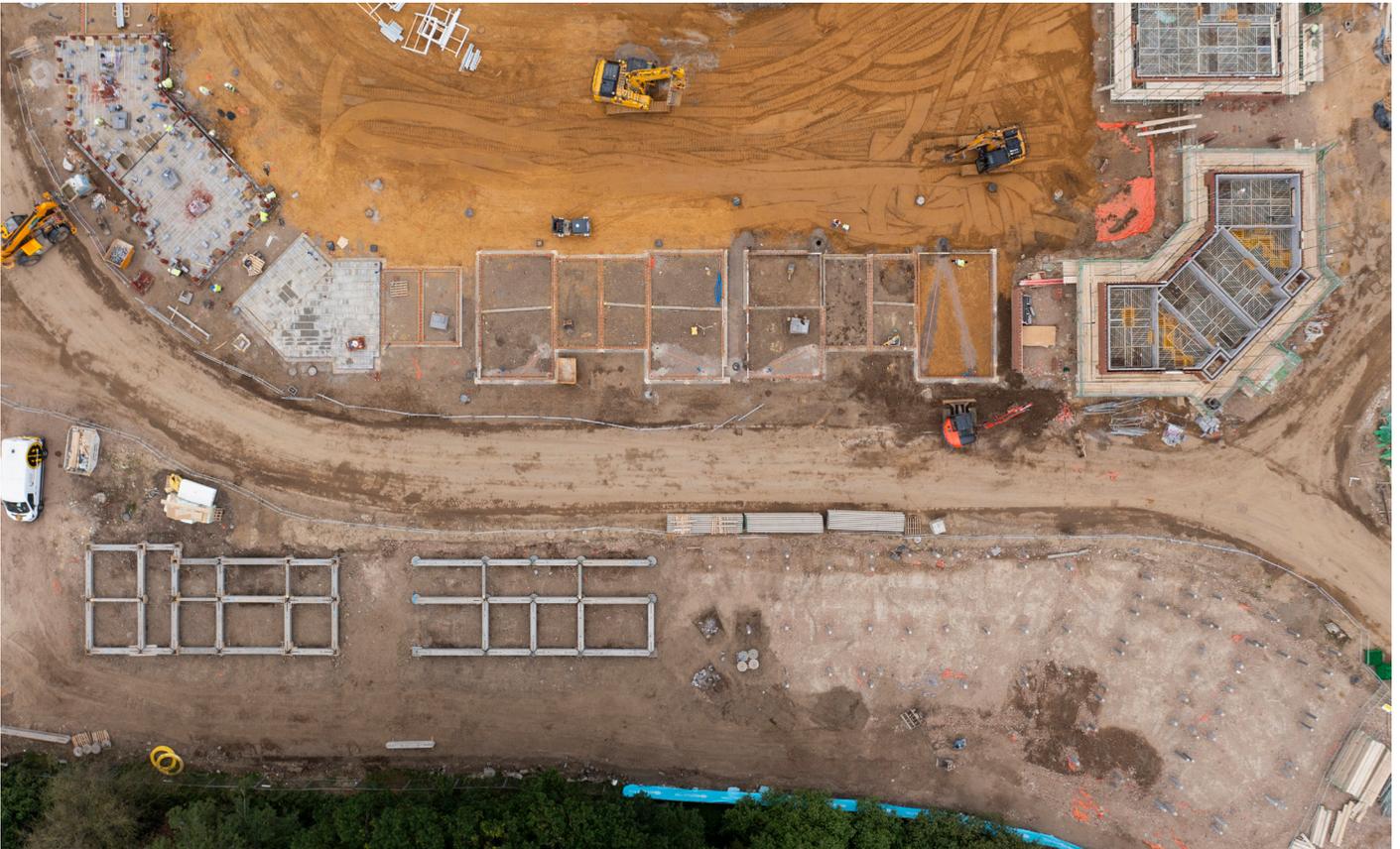
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Commercial, Technical & Construction Director at Nicholas King Homes said,
“Roger Bullivant’s involvement throughout the whole project, from the beginning in discussions with both design and site operations, was second to none. Their attention to detail, and understanding of the site constraints and programme requirements brought their Driven Precast Concrete Pile and RBeam Foundation Package off the drawing board and onto site. The finished product is superb. Our representatives enjoyed working alongside a team that was professional and had excellent Health & Safety Awareness. Part one of the works in the Southern Area is now completed and the Northern area is starting later this month. We look forward to working with the Roger Bullivant team again and cannot recommend their services enough!”



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