

# Focus on piling and foundations

## Rotary large diameter piling

Primarily used for large public, commercial and industrial developments as well as transport infrastructure projects, we are one of the largest contractors in this field. We have particular expertise in delivering large, complex and technically challenging projects.

Balfour Beatty Ground Engineering offer a comprehensive range of piling systems in the UK and Ireland.

- Rotary large diameter piles
- Continuous Flight Auger (CFA) piles
- Driven piles
- Mini piles



Rotary bored piling rig

Top down construction is used to speed up construction of multi-storey projects with deep basements. Plunge columns within piles are used to enable the construction of the building above ground level to commence at the same time as excavation for the basement, saving months off the construction period.

Other developments include under reams for very high loads and drilling fluids such as bentonite and vinyl polymer, where the bore requires support during excavation.

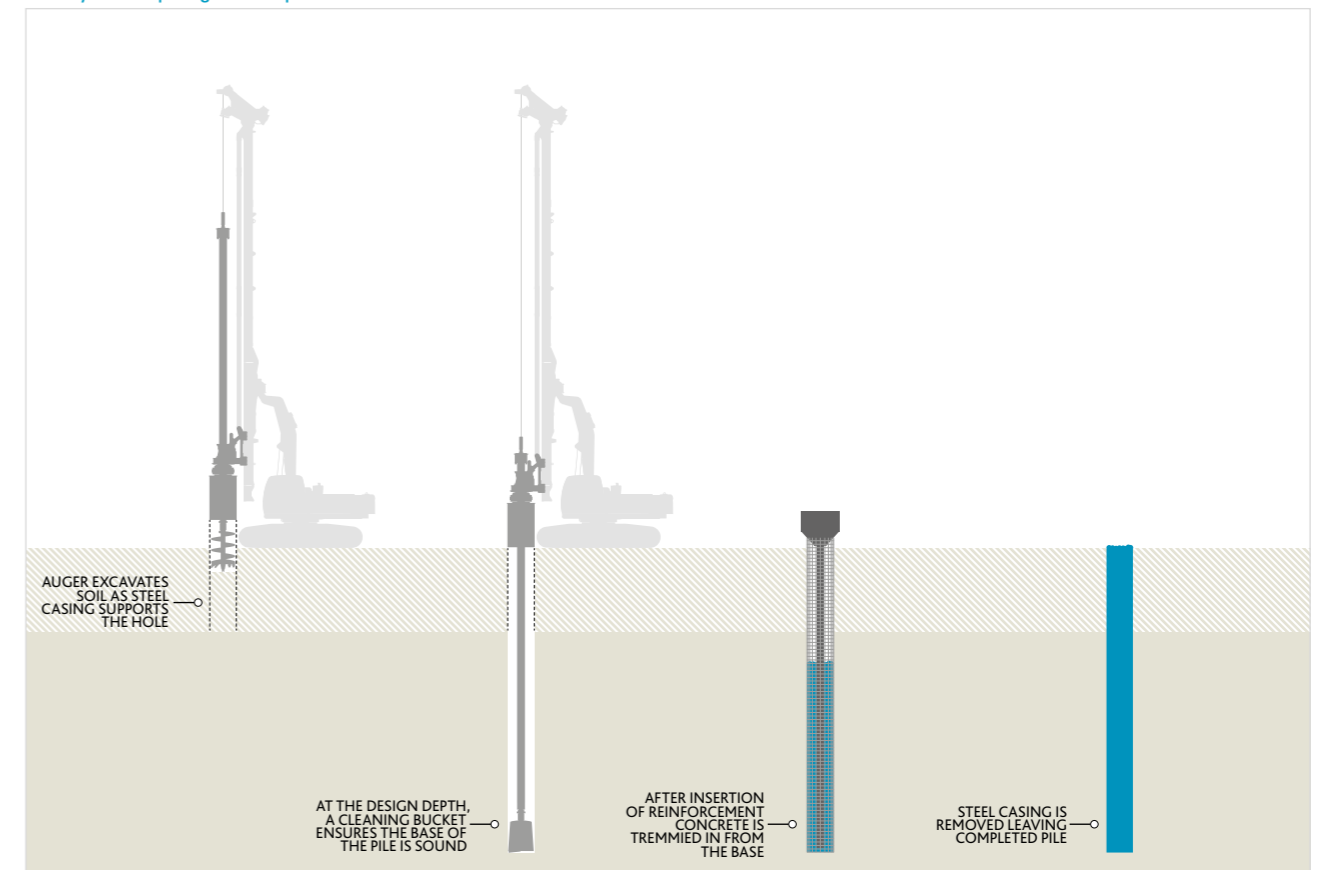
To save on the construction of pile caps they can sometimes be removed altogether by embedding the steel structure directly into the top of large diameter piles. These are known as monopiles.

### The technique

An auger is used to excavate the soils, whilst a steel casing is inserted to maintain the bore through the top layers of unstable ground. A steel cage or pattern of reinforcing bars is introduced into the bore before the concrete is poured. The steel casing is later withdrawn. Where collapsible conditions are expected at depth, vinyl polymer or bentonite support fluids can be used.

The key strengths of this technique are, the ability to deal with obstructions and the minimal disturbance. This method is suitable for all soil types and ideal for retaining walls.

### Rotary bored piling technique



### Rotary bored piling technique capabilities

Dimensions	From	To
Practical Depth	N/A	70m
Diameter	0.45m	3.0m
Typical Load Capacity	1000kN	30,000kN
Rig Height	12.5m	28m
Rig Weight	37,000kg	140,000kg
Rig Length	7m	10m
Rig Width	3m	5m
Noise Profile at 10m	85db	90db