Cashflow marrs bright summer

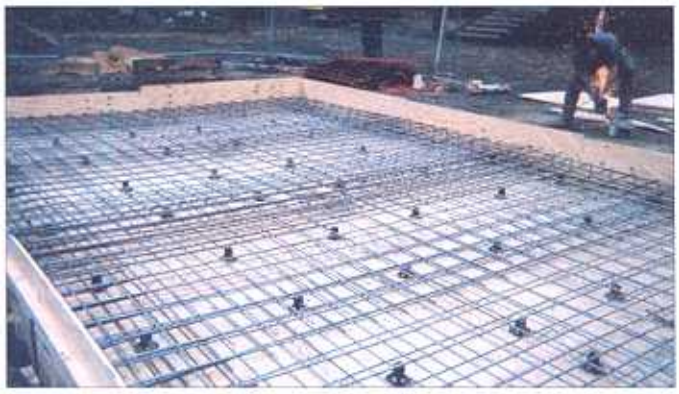
Business in the piling and foundation sector is booming but payment remains a problem, says Jon Young.

Payment delays and shortages in technical staff are tainting an otherwise bright summer for the piling and foundation sector.

The industry has enjoyed a steady increase in demand from the private residential sector, affordable housing and hospitals and is looking forward to the opportunities presented by the 2012 Olympic Games, says Miller Piling director Ross Miller.

But in recent months average payment delays from the private sector have increased from 30 days to 45 days, adds Miller.

Miller believes that the industry can cope with the extra work expected from the Olympics, but that the bottleneck in payment needs to be identified and cured to improve the flow of business.



Concrete proposal

With-A-Void foundation construction could save 1M.m^3 of concrete a year on housing construction based on the Office of the Deputy Prime Minister's annual target of 50,000 new homes, says Withers managing director Rob Withers.

A £30,000 property extension in Dulwich Village, London, demonstrates the savings that can be made using the technique. Conventional void-forming methods traditionally result in material, such as cell-core, being left in the ground. With-A-Void uses collapsible and removable steel-fabricated chairs.

This allows contractors to work faster, reducing costs and waste, with less excavation and muck-away.

Its principle is relatively simple. To construct a 250mm-thick reinforced concrete raft slab supported on a grid of piles, the void of 225mm is created by casting the slab on reusable falsework.

Construction of a typical 150m^2 house using conventional groundwork methods is likely to get through 60m^3 of concrete and about 90m^3 of muck. A piled foundation using the With-A-Void system needs a third less concrete – about 40m^3 – resulting in a third less waste material, claims Withers.

Playing to the Gallery

Each summer the Serpentine Gallery commissions the design of a temporary pavilion that offers a rare opportunity to create an experimental structure.

GTL was commissioned for the second year running to design, fabricate and install screw piles to provide a foundation solution for this unique structure.

The pile itself consists of a circular hollow shaft with helix-shaped steel plates strategically welded to the shaft. Each helix is circular in plan with a predetermined pitch that allows the pile to rotate into the ground.

Soil investigation data was used to design a foundation that consisted of 14, 114mm diameter circular hollow shafts, each pile had two 350mm helix-shaped steel plates.

The piles were screwed into the ground to a depth of 6m to satisfy both the compressive and tensional loads of some 235kNm.

As the structure is temporary, the screw pile was an ideal solution as they can be unscrewed and reused. This type of pile also mitigates root damage and is quick to install with little environmental impact.

GTL used a 7t, 360°-tracked excavator to install the piles. Installation took just two days and the load could be applied immediately.

The centrepiece of this summer's design is a walled enclosure with a spectacular ovoid-shaped inflatable canopy that floats above the Gallery's lawn.

The translucent structure will be illuminated from within at night.

The canopy will be raised into the air or lowered to cover the amphitheatre below, according to the weather.