

Piling Process Improvement

Background

A major £120 million road improvement scheme to upgrade of the A74 between Carlisle and Guards Mill included converting two lane dual carriageway to three lane motorway. The project also included the construction of an all purpose route for non-motorway traffic.

Problem

The construction of two major structures crossing the River Esk and West Coast Main Line involved a significant amount of piling activity.

At the start of the project the Piling contractor was achieving a rate of 5.8 piles per week which was insufficient to meet programme requirements. The programme was on critical path and forecast to overrun by approx. six weeks.

Solution

A rapid Improvement approach was adopted where people involved in the process were pulled together for a three day period to take part in a number of workshops to identify issues affecting performance.

Once issues were identified the team went on to develop solutions and controls to increase productivity whilst also maintaining quality.

Cage design was changed to enable a smoother and easier insertion.

New more appropriate tools were purchased to reduce Auger change cycle times.

The storage of tools and materials were relocated to be closer to the point of works.

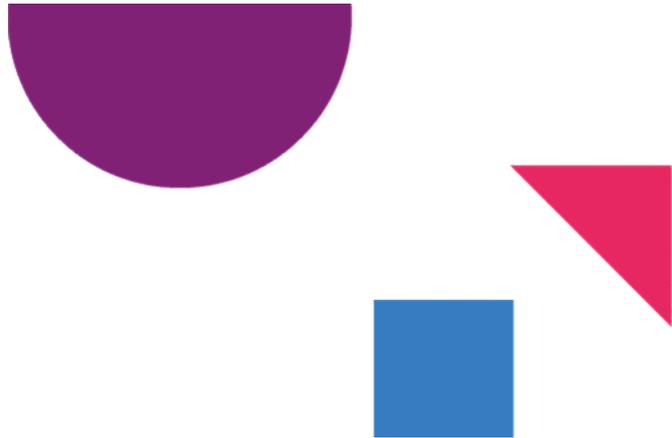
Workflow was streamlined (concrete arrived when needed).

Benefits Delivered

Process delays were reduced by 50% and drilling and pouring times reduced by 50%

Output improved from 5.8 to 8 piles per week.

The total estimated financial benefit for this project is estimated at £976k



“The whole ethos is different because we’ve created an environment where everyone is challenging their own assumptions. A massive amount of what we’ve done is improving communication links between the designers, project engineers and quantity surveyors to build a more integrated unit. Collaboration with Bourton has given us greater awareness of potential barriers and issues. Their consultancy was extremely pragmatic, like a ‘route map’ that helped us to get from A to B”.

Shane Betts, Process Improvement Manager