

Client: Shropshire County Council
Site: Minsterley Temporary Bridge
Location: Minsterley, Shropshire

Project Description

GTL Partnership have been appointed as foundation designers by Shropshire County Council for the design of the abutments to the temporary bridge across Minsterley Brook.

The client required a quick and easy to install foundation solution for the temporary bridge abutment to allow essential repair and strengthening works to the existing Grade 2 listed concrete bridge. At the end of the works the piles and grillage are to be removed and site returned to its original condition.



Geotechnical Ground Conditions

The ground investigation information provided showed good ground conditions, of a mixture of clays, and sands and gravels directly below the site.

Helical Pile Design

GTL designed the Helical piles and grillages to take highway loading conditions.

GTL carried out a static analysis using 450 diameter bearing plates to generate the required pile capacity.

The piles and grillages were designed to resist both vertical and lateral loading conditions from vehicle actions on the bridge.

GTL used a combination of vertical and raked piles at varying depths to achieve the client requirements. Raked piles were used to contend with the high lateral forces from the highway and thermal loads.



Installation

The piles and grillages were installed in a single 5 day possession of the site with the temporary bridge surface installed two days later.