

Overbridge 38, Cheshire

Our Services

- Data Interpretation
- Working Platform Designs
- Bearing Capacity Checks
- Slope Stability Analysis
- Design Checks



Stability Analysis and Design Checks

Crouch Waterfall & Partners (CWP) under a Design & Build contract with Barhale on behalf of Network Rail, were responsible for the design of the new 3 span continuous steel bridge on existing abutments, which was installed in a 27 hour possession. **CGL** assisted CWP with the temporary works design, which included the use of a 1,000 tonne mobile crane working at full capacity.

CGL provided a working platform design in accordance with BRE 470 for the mobile crane along with bearing capacity checks on the underlying soils. Due to the close proximity of the crane to the crest of the existing cutting slope, **CGL** also reviewed the site investigation data and undertook a ground stability analysis using Oasys Slope to ensure that the cutting remained stable during the lift under the applied loads.

Independent design checks and supporting in-

formation were provided by **CGL** to support Form C approval by Network Rail.

In assisting CWP, **CGL** was able to undertake review of third party data, provide interpretation of the soil conditions and undertake numerical modeling of the ground. The analysis undertaken by **CGL** helped demonstrate that a piled solution was not required for the temporary works, which would have significantly affected the construction programme, and provided confidence in the temporary works design for the solution adopted.

Provision of supporting design check documentation enabled Network Rail requirements to be satisfied allowing construction to proceed, whilst ensuring the needs of CWP were met.

Client: Crouch Waterfall and Partners