



Working platforms enabled ground improvement of the highly variable soils, which were very weak in places, and to provide access for the piling rig.

T-Value Method gets full marks

On-site validation testing confirmed Tensor's T-Value Method accurately predicted safe bearing capacity at the top of two mechanically stabilised working platforms, when very weak ground meant standard approaches could not be used.

CLIENT'S CHALLENGE

Temporary working platforms were needed in two areas of the site of the new Green Park Primary Academy in King's Lynn, to enable ground improvement at the start of construction. The underlying peat and clay soils were highly variable and very weak in places, with undrained shear strengths as low as 9kPa, which fell outside BR470 platform design guidance.

TENSAR SOLUTION

Tensor's T-Value method, which considers the full benefits of stabilising geogrid, was used to produce the designs for the working platforms based on rig loadings, soil conditions and granular fill grading. The two platforms were built using 6F1 aggregate, mechanically stabilised with Tensor geogrid.

Green Park Primary Academy

Temporary working platforms

📍 Norfolk, UK

BENEFITS

35%
savings in construction costs

20%
savings in construction time

50%
savings in carbon emissions



The underlying peat and clay soils had undrained shear strengths as low as 9kPa, which fell outside BR470 platform design guidance.

PROJECT BACKGROUND

Norfolk County Council awarded the £8m design and build contract for the new 420-place Green Park Primary Academy in King's Lynn to Cocksedge Building Contractors.

Due to the very weak, and highly variable, peats and clays on site, ground improvement using controlled modulus columns was needed beneath the car park and site compound. This was also needed to give a piling rig access to an area of firmer ground, where it could install CFA piles for the school buildings.

Consultant Richard Jackson was tasked with designing temporary working platforms, covering a total area of 2,150m², to support a maximum load of 272kPa from the rig carrying out ground improvement. However, the underlying soils' minimum undrained shear strength (S_u) of 9kPa fell outside BR470 platform design guidance, so Tensar was asked to provide a solution to allow piling operations to take place safely.

Tensar used its T-Value Method, enabling the full benefits of stabilising geogrids to be incorporated in the design analysis. The method can be used for a range of working platform materials and ground conditions, including very low subgrade shear strengths, such as at Green Park Primary Academy.

Tensar developed two designs, one for the area with a minimum S_u of 9kPa, and another, where the minimum S_u was 25kPa. The Tensar platform designs were successfully installed and based on a comparison with similarly derived non-stabilised platform thicknesses, saved around 35% in construction costs, 20% in construction time and around 50% in carbon emissions for the working platforms.

Principal contractor:
Cocksedge Building Contractors

Subcontractor:
Bowie Construction

Consultant:
Richard Jackson

Client:
Norfolk County Council

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