

NBAR - NORTH BEXHILL ACCESS ROAD BEXHILL-ON-SEA, EAST SUSSEX, UNITED KINGDOM

Ground Improvement

Problem

The North Bexhill Access Road project is a 2.4 km single-carriageway road designed to accommodate future employment land to the north of Bexhill-on-Sea in East Sussex, South East England.

The completed infrastructure project will stimulate business and housing growth around the area. Works began on site in July 2016 and are still ongoing with a planned finished date towards the end of 2018.

One of the main features of the project is soil road embankments.

The embankment on phase 1, which was completed in the winter of 2016, sits over soft soil material and it is reinforced using high-strength uniaxial geogrids (Paralink) as basal reinforcement. The embankment on phase 2, which started in October 2017, is located over depth alluvium and peat lenses. Therefore, it was designed over ground improvement columns combined with a Paralink geogrid acting as a load transfer platform.

In both phases, mobile cranes and piling rigs were present on-site to support the operations.

Solution

The Static Method was then used for the design of the temporary haul roads and hard standings working platforms.

The ground conditions encountered on site generally consisted of alluvium overlying solid deposits of the Tunbridge Wells Sand, the Wadhurst Clay and the Ashdown Formation, with a soil strata profile as follows:

- Soft-made ground with silty clay pockets and superficial deposit (alluvium) with local pockets of peat down to approx. 8.55 m below ground level (bgl). Spongy dark brown fibrous peat was encountered between 4.70 and 5.20 m bgl. It was also noted that at both sides of this peat layer, between 3.90 to 6.25 m bgl, fibrous peat pockets were encountered up to 50 mm thick.
- Firm clay with some sandy layer down to 8.55 m bgl
- Stiff to very stiff clay and weathered mudstone beyond.

Further testing confirmed an undrained shear strength (cu) between 10 kPa to 20 kPa for the sub-strata. Those values were assumed to perform the Static Method design.

Using the Static Method, for this project, a variable thickness platform from 500 mm up to 900 mm of compacted granular material was achieved with the inclusion of two or three layers of Mactex W2 S.

Client: Sea Change Sussex

Designer / Consultant: Campbell Reith

Contractor: Breheny Civil Engineering

Products used (Qty.)

Date of construction: 04/2016 - 02/2017

[Google Maps](#)

[Google Earth](#)



Well graded granular material placed over Mactex W2



General view of the first layers of Mactex W2 S laid



Mactex W2 (in white) installed over the soft clay sub



Macgrid WG S geogrids designed and installed for the



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Working platform during the final stages of