

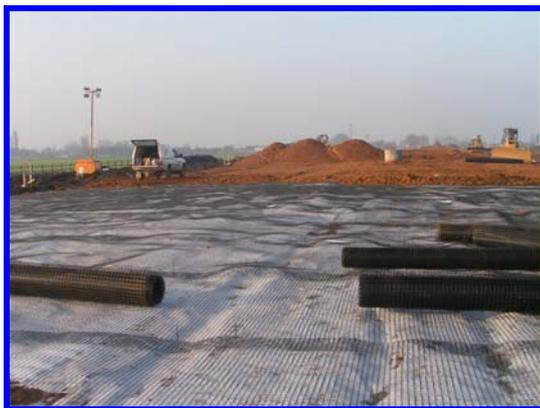
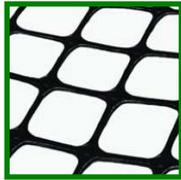


A47 THORNEY BYPASS, CAMBRIDGESHIRE

E'GRID 3030 Ground Stabilisation Solution

The construction of over 14 km of new dual carriageway over marshland was always going to require the use of some form of geosynthetic layer in order to provide the client with the optimum design solution. To provide ground stabilisation at the base of the highway, and separation of the granular fill from the underlying marshland, a layer of E'Grid® 3030 biaxial geogrid was placed on top of a high extension nonwoven geotextile. In total, over 400,000m² of geosynthetics were installed on this project.

E'Grid biaxial grids are produced from polypropylene on the world's first fully integrated geogrid production line. They are produced by punching and stretching high quality punched polymer sheets under closely controlled factory conditions. The resulting E'GRID biaxial geogrid has square apertures, high tensile strength and an optimised geometry of nodes and ribs that maximises interlock with the soil.



Due to the high tensile stiffness of E'Grid biaxial geogrids, working loads are developed at very low levels of strain in the construction. This, together with the fact, that the overlying granular material partially penetrates and projects through the apertures to create a positive interlock with the underlying surface, ensures maximum performance is obtained from the reinforcement/stabilisation layer. The presence of very soft ground conditions on the A47 also

dictated the need for an underlying geotextile separator, and as such it was important that a high elongation nonwoven was used to ensure the geotextile would stretch (without bursting) around the stone projecting through the apertures.



In order to provide continuous strength in the main load carrying direction E'Grid 3030 was installed across the width of the carriageway. Product continuity along the length of the carriageway was provided via a 300mm overlap, secured during the construction phase with plastic cable ties.

Project Details:

Contract: A47 Thorney By Pass
 Description: 14km of new highway
 Contractor: Birse Civil Engineering
 Consultant: W.S. Atkins
 Client: The Highways Agency
 Geosynthetic: E'Grid 3030
 Quantity: 200,000m² of biaxial grid

