



Case

STUDY

**STRATAGRID, LANDLOK,
DUODRAIN, EKOTEX**

Kirkby Homes

Reinforced Soil Slope

The BACKGROUND

Due to the proximity of two new properties to the development boundary there was insufficient space for the height difference of 4.4m to be dealt with by a natural slope.

Geosynthetics engineers were contacted and provided with topographical and geotechnical information. From this calculations in accordance with Eurocode 7 and BS8006:2010 were carried out and a Technical Recommendation prepared which proposed the use of a 45 degree vegetated face Reinforced Soil slope over a length of 55m.

Our Client's REQUIREMENTS

A sustainable solution for a reinforced soil slope.

The calculations were externally checked and indemnified by EQUATE Design Limited.

The properties in question were supported on piles and hence did not impose any loads onto the reinforced soil slope, however, they had been built prior to the reinforced slope. This meant that space was extremely tight both for the solution, and the necessary working room for the contractor to build it.



MARKET SECTOR:

Rail



LOCATION:

Plot 7 Winkworth Business Park
Hartley Wintney, Hampshire



CONTRACTOR:

Vividline Construction



DESIGNER:

EQUATE Design Limited



Our Value Engineered **SOLUTION**

Ground conditions at foundation level were very poor, more so due to the adverse winter weather at the time of construction.

To deal with this a 300mm foundation pad of compacted MOT Type 1 above a layer of Ekotex geotextile was detailed. Additionally a drainage layer of Duodrain and a drainage pipe was installed behind the reinforced soil block.

The reinforced soil block comprised 6m long horizontal layers of Stratagrid at 500mm vertical spacings, and a compacted 'well graded granular backfill'; this was chosen to enable construction to continue almost uninterrupted during the adverse weather.

The 45 degree reinforced slope was finished with a 150-200mm layer of seeded topsoil and a Landlok Turf Reinforcement Mat to minimise surface erosion and provide a sustainable, maintenance free vegetated face.

To ensure that Kirkby Homes and their contractor, Vividline, fully understood the design and the required construction methods, the site was visited prior to and during construction.

