#### Case

# STUDY

**STRATAWEB 150** Stone Lodge School Vegetated Slope



#### The

# BACKGROUND

Geosynthetics Limited were contacted in January 2020 by MLM Group to provide a Technical Recommendation to create a slope to support a new access road to a new school as part of a much needed site expansion.

The required slope was 8m high and 120m long.



### Our Client's REQUIREMENTS

A vegetated slope solution for a new school access road.

## Initially the new slope was required to be at angle of 26.5 degrees, or 1v:2h.

Geosynthetics Engineering team analysed this geometry along with the soils and loading data which showed that to ensure the slope was structurally stable, a geogrid reinforced slope was required.

The Technical Recommendation utilised Stratagrid reinforcement with a biodegradable mat at the face to control erosion and aid vegetation establishment

However, following a re-model of the site, additional land was made available at the toe meaning the angle could be slackened off to 18.4degrees, or 1v:3h.

# Our Value Engineered SOLUTION

When Geosynthetics Limited Engineers analysed this revised geometry, it showed that the slacker slope structurally stable without needing the previously detailed Stratagrid reinforcement.

At this shallower angle protection was however still required for erosion control of the slope face. A 150mm depth of topsoil had been detailed, so in order to contain this a second Technical Recommendation was produced utilising our 150mm deep Strataweb 3D cellular confinement system.

The Strataweb was secured in anchor trenches at the toe and crest of the slope that were then backfilled.

The 8m vertical height, and the slope at angle of 1v3h meant that the sloping length was 25m, so to ensure the product was robustly fixed, a combination of steel fixing pins on the slope, and reinforcing tendons running down the slope threaded through the Strataweb were used.

Once the Strataweb was securely fixed it was infilled with topsoil and seeded to create a natural vegetated finish.

The same solution was also detailed and used on a smaller sloped area on the opposite side of the new school access road.

To assist contractors BAM Construction and Chartway Civil Engineering, our Engineering team prepared a detailed material quantity requirement.

Support was also provided to the site installation team to ensure they clearly understood the solution, in turn this improved their efficiency and reduced the installation time.







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