Erosion Control

Erosaweb, Gedling Access Road, Nottingham, UK

abg creative geosynthetic engineering

Case Study

Project Description

The Gedling Access Road is a new 3.8km single carriageway road to the North East of Nottingham city centre, linking the B684 Mapperley Plains Road at the North Western end of the scheme to the A612 Trent Valley Road / Nottingham Road to the South Eastern side of the site. Running parallel with the A6211 Arnold Lane and through the centre of the old Gedling colliery site, the road serves the new £140m Chase Farm housing estate redevelopment.

The Challenge

Working on behalf of Nottinghamshire County Council and key project partners Gedling Borough Council, Keepmoat Homes, Homes England and D2N2, consultant Via East Midlands Ltd managed the design and delivery of the scheme. Balfour Beatty were awarded the construction contract with preparatory ground works undertaken by contractor Mick George, including the construction of a substantial 1km long section of steep embankment (1:2 slope) to raise the road to connect to the existing Plains Road. Planners required as small a construction footprint as possible and the steep embankment maximises the re-use of fill materials from the cut. This prevented the need to deposit unconsolidated fill elsewhere along the route and avoids the carbon intensive transfer of fill offsite. The mercia mudstone is stable at 1:2 and the challenge was to retain a minimum of 200mm topsoil onto the compacted slope, up to 45m long in places.

The Solution

ABG were consulted to recommend a design to prevent erosion of the new 1:2 gradient embankment. The solution also needed to assist traction for the back actor and dozer equipment working in the clay based soils,

Project Information	
Client	Nottingham County Council
Contractor	Balfour Beatty & Mick George
Consultant	Via East Midlands Ltd
Products	Erosaweb GWX 200/300
Quantity	20,000m^2
Benefits	• High friction containment system quickly filled using dozers • Allows slope drainage and quick establishment of vegetation • Avoids requirements for heavier wire mesh and pinning • Carbon Saving

Erosaweb for soil retention on steep slopes

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which became extremely slippery to navigate in wet

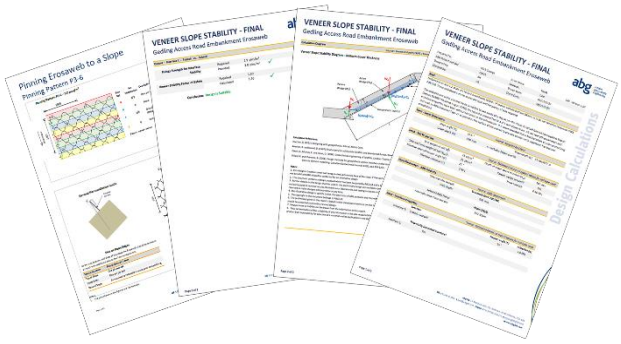
weather. **ABG Erosaweb**, manufactured by ABG, was proposed to contain the topsoil onto the compacted steep slope, enabling a natural grass finish to be establish once completed and providing a light-weight and low carbon alternative to using a wire mesh. The **ABG Erosaweb** cells retain the topsoil fill whilst still allowing water to drain through. The large 4m x 6m GWX 200/300 panels have a cell size of 200mm deep x 300mm diameter and are simply stretched out into position down the slope before pinning into place. The avoidance of importing crushed stone for the embankment reduces the scheme's environmental impact and fits in with the overall programme of ecology mitigation measures, including the planting of 5.84 hectares of new trees, a 40% increase in woodland area.

Embankment position along the new 3.8km GAR

The ABG Service

In total 20,000 m^2 of **ABG Erosaweb** GWX 200/300 was supplied. Supporting calculations were completed for the veneer stability and for the loading of specific machines used to complete the backfilling operations. Assistance was provided at the beginning and during the completion of the works to assist with setting out and establishing the correct pinning pattern.

Expanding ABG Erosaweb panels into position & pinning



ABG Erosaweb Slope Stability Design Guidance

Backfilling Erosaweb panels using bladed dozer

Contact ABG today to discuss your project specific requirements and discover how ABG past experience and innovative products can help on your project.

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