

Erosion Control

Reinforced Grassed River Embankment, Erosamat Type 3,
Selkirk FPS, Scotland



Project Description

The town of Selkirk, in the Scottish Borders, has a long history of damaging floods from the River Ettrick and more recently from the Long Philip Burn. Severe flash flooding event inundating over 100 properties led the Scottish Borders Council (SBC) to identify and prioritise the Selkirk Flood Protection Scheme (FPS) to tackle the issues of flooding in the town. The scheme brief was to construct protection to riverbanks and to raise flood embankments to prevent flooding.

The Challenge

All watercourses, including the Ettrick, which flow into the River Tweed are designated as being a Special Areas of Conservation (SAC) which required the least disruption to the environment during construction. The scheme was one of the first projects submitted under the new Flood Risk Management (Scotland) 2009 Act with a key requirement that wherever possible solutions should give a natural and vegetated appearance.

The challenge was to maintain a grassed embankment especially during a flood event. Grass is a good short term erosion protection solution, however it suffers from potential weak areas due to die back or poor growth which can leads to severe erosion.

The Solution

Referring to the guidelines in CIRIA 116 “Design of Reinforced Grass Waterways” it became clear that a robust open Turf Reinforcement Mat (TRM) was suitable. The proven **ABG Erosamat 3/20Z500M** was selected for the flood embankments which meets the requirements

Project Information

Client	Scottish Borders Council
Contractor	R.J McLeod
Consultant	CH2MHill
Products	Erosamat Type 3 Sudspave 40
Quantity	50,000 m ² / 495 m ² respectively
Benefits	<ul style="list-style-type: none">• Proven and permanent performance• Vegetative appearance in keeping with surrounding area• Easy handling and rapid installation



ABG Erosamat 3/20Z500M

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of CIRIA 116. The **ABG Erosamat Type 3** is a non-biodegradable solution, with a predicted life span of 120 years. The TRM permanently protects the soil in non-grassed areas and reinforces the roots in grassed areas. The system proved its worth and was tested when the grass was only partially established as both storm events “Desmond” and “Frank” caused a surge event with increased water flows. The system worked well and protected the town from a flood as designed. Where the design allows for a over topping the **Erosamat** was pinned right over the crest. For higher embankments and where access for grass cutting equipment used to allow maintenance of the grass areas was required the **ABG Sudspave 40 permeable paving** was used. This was easy to transport lay and fill and can take the light vehicles and footpath traffic.

The ABG Service

ABG Provided full specification and design support to aid the approval process.



Erosamat easily installed over prepared surface with minimum disruption and pinned into place. The Turf Reinforcement Mat is placed over the crest of embankments where overtopping is possible away from housing areas.



Sudspave installed on a radius prior to stone infill being placed



Seeding and filling of the mat was achieved using hydro-seeding using a mixture of organic fibres and seed mix

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