



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. A 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 embankments to prevent flooding.

The Challenge

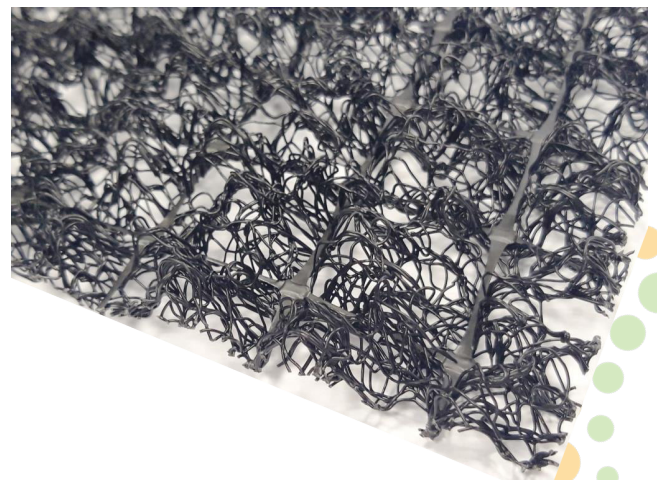
All watercourses (including the Ettrick) that flow into the River Tweed are designated as being Special Areas of Conservation (SAC) and require minimal disruption to the environment as possible during construction. The scheme was one of the first projects submitted under the Flood Risk Management (Scotland) 2009 Act with a key requirement that solutions should give a natural and vegetated appearance. The challenge was therefore to maintain a grassed embankment 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 lead to severe erosion problems.

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 3/20Z 500M** was selected for the embankments to meet the requirements of CIRIA 116.

Project Information

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



ABG Erosamat 3/20Z500M

Erosion Control

Reinforced Grass River Embankment, Erosamat, Selkirk FPS, UK



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 storms "Desmond" and "Frank" hit and 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 overtopping, the Erosamat was pinned over the crest. For higher embankments, and where access for grass cutting equipment was required was required, **ABG Sudspave 40** permeable paving was used. This was easy to transport, lay and fill and can withstand light vehicles and foot traffic.

The ABG Service

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



Erosamat easily installed over the prepared surface and pinned into place. The Turf Reinforcement Mat is placed over the crest of embankments where overtopping is possible.



Sudspave installed on a radius prior to stone infill being placed



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

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