

## Erosion Control



### Erosion Control installation utilising Erosamat Type 3 to help protect dwellings from potential flood risk, Blackmoss Reservoir

Two dwellings situated below the Blackmoss Reservoirs in Barley had been identified as at risk from flooding should either (or both) the reservoirs burst their banks after heavy rainfall.

The scope of the project was to construct a new emergency spillway below the lower reservoir so that flood flows could safely pass by the dam and be directed away from the properties and into an existing waterway, ultimately draining away to safety.

The site included a section of slope significantly steeper than the surrounding land and forming part of the route for the diverted flood water. Due to the severe incline, flood water passing over this area could reach speeds of approximately six metres per second.



*Erosamat Type 3 rolls positioned prior to unrolling*

#### Project Information

Project **Ground works for reservoir spillway and to protect dwellings from potential flood waters**

Products **Erosamat Type 3/20 G50**

Area **2,100m<sup>2</sup>**

Client **United Utilities**

Consultant **GVA Livigunn**

Traditional methods of erosion control, such as planting the area with trees to help reinforce it, could not be used as this would impede the flow of water as well as taking an unacceptable amount of time to establish and become effective.

As a result it was decided that this area must be reinforced using an alternative method to prevent landslips and erosion caused by fast flowing water. Erosamat Type 3 was specified by the project engineer as the solution to the problem.

Erosamat Type 3 is a closely packed matrix of polypropylene fibres thermally bonded together to create a tough and flexible, long lasting erosion control mat that reinforces and stabilises weak surfaces thereby preventing surface erosion occurring. On this project the 'G' variant was used which includes a geogrid reinforcement within the structure.



*Erosamat Type 3 unrolled and place down embankment*



*Erosamat Type 3 with imported top soil laid on. Note the soil particles filling the Erosamat Type 3 matrix*

Due to the high flows in the event of a breach the engineer preferred the long-life expectancy of the Erosamat Type 3 to a biodegradable variant as a way of securing long-term erosion control across the slope.

The specification called for the Erosamat Type 3 to be mechanically anchored using Terra-Lock ground anchors to prevent uplift, and further protect the sub-soil, before having seeded top soil brushed into the structure to allow vegetation to establish quickly across the area