

EISTEDDFOD FIELD
LLANELLI, WALES, UNITED KINGDOM**Channelling Works****Problem**

To create a permanent venue for The Eisteddfod as part of the Millennium Coastal development, the Afon Dulais river needed diverting. Although it is a relatively small water course it has quite high energy and flows of approximately 2 m/s (6.5 ft/s). On this site of significance and prestige, the diversion had to retain the character and quality of the original course. In addition, the down-stream end of the Afon Dulais is an important salmon spawning river; the fish rescue collected 1700 fish from the 300m (980') long original section.

The proposed alignment of the new watercourse traversed sandy soils, which were highly erodible. The client demanded that the most natural solutions should be adopted to provide the sustainable new channel. Erosion protection was originally provided by extensive bankside vegetation. This was to be reinstated and the bed morphology replicated.

Solution

A biodegradable woven coir erosion control matting, Maccaferri Biomac was selected to protect the new channel banks. It was pinned to the banks using steel 'J' shaped pins. As it is made from woven coir, Biomac biodegrades after 1-2 years. Reno mattresses and blockstone pitching were used where the channel changed direction because the curved outer banks required a greater shear resistance than Loopmat® could provide. An overflow weir from the channel to feed new fishing lakes was constructed from Reno mattresses.

Filled with durable 75-100mm diameter stone, Maccaferri Reno mattresses provide high performance, long term erosion control. The voids between stones in the Reno mattress soon collect silts (unlike some rip-rap) in which vegetation establishes. Reno mattresses combine an engineered structure with the capacity to re-vegetate. An ideal combination for this ecologically sensitive yet erosive project. These re-vegetation effects can be achieved immediately if required by using Maccaferri Geomac®. The new fishing lakes were excavated from the sandy soils and were profiled to include submerged shelves and slopes to encourage ecological and habitat diversity.

Client: THE MILLENNIUM COASTAL PARK**Designer / Consultant:** OVE ARUP & PARTNERS**Contractor:** ALFRED McALPINE LTD**Products used (Qty.)****Date of construction:** 07/2000 - 06/2001[Google Maps](#)[Google Earth](#)**Biomac secured to the new channel bank flood berms****18 months after construction, vegetation has established well**



Blockstone & Reno mattresses protecting outside bends