

# Case Study

## Aquablock 1mm HDPE Geomembrane

### **Location:**

River Bain,  
Bainbridge

### **Client:**

Metcalfe Plant Hire

### **Project:**

Bainbridge Hydro  
Scheme



### **Contractor:**

Metcalfe Plant Hire



### **Stormwater Management**

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**The Bainbridge Hydro scheme is a community funded electricity generating project. It has the installed capacity of 45Kw, generating approximately 185,000 kWh of electricity per annum. This is enough to power 40 houses, which in turn will save 80 tonnes of CO<sup>2</sup> per year and approximately 3,000 tonnes over an expected lifetime of 40 years.**

The project requirement was to line a newly excavated Leat with an impermeable geomembrane and protection fleece underlay; the dimensions of the Leat are 55 metres long and 10 metres wide including the anchor trench fixing. The fully lined Leat would allow for enough water flowing from the river Bain to be diverted down the channel to propel an Archimedean screw that would generate the electricity. The Leat was created by excavating through the permeable limestone bedrock. The very nature of the bedrock made it very difficult to cost effectively prepare a trench smooth enough in finish to allow for a thin gauge protection fleece that would safeguard the geomembrane from puncture.

The contractors original intention was for them to purchase thinner materials and line the Leat themselves, but due to the adverse weather conditions over the extremely harsh winter, progression on site was becoming highly important, Stormwater Management Ltd were asked to make a site visit to discuss



the available options. Following this site survey, SWM proposed a full supply and install solution using their experienced site operatives. It was agreed that due to some of the complexities of the installation, using their own inexperienced labour would probably create further delays, therefore the proposal to install was fully accepted.

Stormwater Management began installing the 1mm HDPE Aquablock with a 500 gsm non-woven geotextile on Wednesday 9th February 2011 and had completed to the satisfaction of the client by the end of the following day.

***“Stormwater Management provided the client with a full solution by supplying the required materials and also presenting highly experienced operatives to install the system. This saved the contractor time and avoided the need for them to obtain any specialist training or equipment”.***

