Case Study - Gloucestershire

Small scale micro-hydro installation

Very low head
Case Study:

Site: Gloucestershire
Turbine: Compact Archimedes screw
Power: 6kW
Head: 1.4m

Western Renewable Energy (WRE) was brought in by another firm to act simply as installer of the mechanical and electrical equipment, and for commissioning.

Site specific issues include:
• Very low 1.4m head
• Small flow
• Particular flooding issues
Existing weir and pump house, with leat out of use and tailrace filled in.
Brief to house screw as far as possible in building to retain historical use.
The first Rehart screw turbine in the UK, an enclosed compact, seen here under construction in factory (courtesy MPC Ltd)
New channels shown with pump house temporarily without end wall for turbine installation.
Installation was a quick job, as the compact design removes much of the installation time, although the location in the powerhouse required careful manual handling once the system was under the roofed area.
After installation the pump house was rebuilt by the contractor and commissioning followed.