

PROJECT NAME: Welches Dam Strobe Diversion Lights
CLIENT: Jackson Civil Engineering

AQUATIC CONTROL ENGINEERING LTD - PROJECT PROFILE



Welches dam is set on an RSPB site and was recently undergone a full refurbishment WS Atkins were the consultants and Jackson civil engineering were the contractors. Welches dam has four pumps set in two sumps which are not fish friendly, a solution was required to prevent fish from entering the sumps and passing through the pumps which would cause fish mortality.

To solve the problem it was decided to install strobe diversion lights in the sumps to prevent fish from entering the sumps.

The strobe lights flash extremely bright pulses of light through the pump sumps, fish and eels are known to stay away from these lights and therefore they should stay away from the sumps.

To allow the correct light levels inside the sump to be reached, the sump width and water levels had to be considered. Two strobe units with three sets of lights in each unit would be mounted in each sump on Stainless Steel rails. The Strobe units sit on the bottom of the sump and can be slid up the rail for easy maintenance access.

Installation was carried out over two days. The first sump was dammed with stop logs and drained, fish stuck in the sump were caught and rescued. Scaffolding was set up and work could begin. The stainless steel rails were lowered into position and holes were marked and drilled. The rails were secured with chemical anchors in the sump ceiling and mechanical anchors used at the base due to the moisture.

Once all the rails were in place the strobe units were ready to be lowered on to the rails and into the sumps. The pumping station crane was used to lower the lights into place. Industrial electrical services connected the system and the lights started flashing. The effect was astounding the whole sumps were pulsing with light and it became apparent to all parties involved why a fish would avoid these sumps.

At first one sump was left empty so the effect of the strobe lights could be seen by people stood in the sump the lights were so bright it made some people a little nauseous but clearly displayed the light dispersion from these strobe units.

The sumps at Welches dam now contain water and tests of fish mortality rates will commence once the pumping station is opened and fully operational.

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