

Heritage Impact statement

The Migneint-Arenig-Dduallt Special Area of Conservation covers 200 square km. The combination of blanket bog, rough grassland and heather provides habitats for a variety of wildlife including Hen Harrier and Polecat as well as numerous species of moss and invertebrates.

The present small 3-bedroom cottage Hafod y Rhedrwydd would appear to date from the 19th century. It is built on the end of a long hut of which only two walls remain standing. The long hut is presumed to be the Havod yr Edwydd mentioned in a marriage settlement of 1639¹. It was purchased by Sir Richard Lloyd in 1640 (Hafod y Redwyd²) and mentioned as Hafod yr Edwudd² in his will of 1677.

The National Trust acquired the cottage together with the rest of the Migneint in 1951, subsequently selling Hafod y Rhedrwydd off again in 1984. Coflein³ lists a number of walls, sheepfolds and a barn spread over the landscape below the house.

Two mine shafts⁴ hide beside the waterfalls 200m down from the house. Marked as "Levels (copper)" on the 1888 6" map they bear witness to a more industrial past. Another mining site 1 km above the house ("Tips (dis)" on the map^{4,5}) may have been a manganese mine⁶.

The micro-hydro scheme has been designed to be completely in keeping with its surroundings and will hopefully itself be considered "heritage" in centuries to come. Only three components will be visible above ground: the extraction system, a tall but narrow settling tank and the turbine hut.

The extraction system uses a pair of stainless steel Coanda screens. These are located in the upper reaches of the stream, hidden down between the banks where they will be invisible at distances greater than 10 metres. Natural Resources Wales have requested that the system improve the natural habitat by facilitating the movement of trout up and down a step that is currently too high for them. The screens are therefore accompanied by a plunge pool and small weir: the fish can progress upwards via three jumps not exceeding 25 cm in height.

It is important that bubbles and froth are separated from the extracted water before it passes down the penstock to the turbines. A tall, thin tank (constructed from a section of 560 mm HDPE pipe, standing upwards) allows any bubbles to separate out; it also provides a buffer to handle short-term flow fluctuations, e.g. when starting to fill a bath in the cottage. This pipe will sit against a convenient rock outcrop approximately 30m from the extraction point; half-hidden in a cleft in the rock face, the visible side will be disguised against the rock by shiplap fencing. It will only be visible from a westerly direction and it should only be apparent from close-up.

The turbine hut will be built in traditional fashion using Blaenau Ffestiniog slate and lime mortar for all visible walls. The slate slabs range in thickness from 50 to 250 mm, making a wall 300 mm thick (before adding internal insulation and dry-lining). The turf roof will re-use all the turf lifted when creating the base slab. This will hide the hut from view (at closest approach, the hut is 165m from the road down a 40% slope) as well as providing thermal and noise insulation. The door will be wood and stained to fit in with its environment.

References

1. http://orapweb.rcahms.gov.uk/coflein//D/DCP2013_097_01.pdf

2. http://discoveringoldwelshhouses.co.uk/library/Hhistory/con%20008_HH_45_Dulassau-lsaf.pdf
3. http://www.coflein.gov.uk/en/site/search/result?PNMRSNAME=redwydd&SEARCH_MODE=COMPLEX_SEARCH
4. Photographs of [surroundings](#)
5. <http://www.coflein.gov.uk/en/site/411361/details/y-gamallt-old-slate-quarry>
6. <http://www.davel.f2s.com/hendrecoed/Merioneth-Manganese/mines/ralltgoch/index.html>