

Abingdon Hydro planning application PP-02694197: Design and Access Statement

Application details

Location: Abbey Meadow, next to Abingdon weir: grid reference SU505972

Type of application: Full Planning Permission

Name of agent: None

Name of applicant: Abingdon Hydro Ltd

Reference: PP-02694197

Date

7 June 2013

Site context

The site is the narrow spit of land where the public footpath along the north side of Abbey Meadow approaches the weir. It is designated Green Corridor and at present the site is not used for anything. That particular location close to the weir has pleasant views but it is not attractive in itself. The footpath is well used, being part of the Thames Path and also a popular walking route from the town, and it will be alongside the development.

In addition, there will be a fish pass in the form of a meandering stream, as marked on the drawing.

Design principles

The primary aim of the project is to generate hydroelectric power from the water flowing over Abingdon weir. The design is decided mainly by the requirements of the Environment Agency. They do not permit the generator to be put in the weir itself (except under exceptional circumstances) because that could affect their ability to handle floods. The peninsula where Abbey Meadow meets the weir is the only alternative site. Archimedes screws must be used because they are safe for fish. The way the water discharges into the weir pool matters. A fish pass is required. Meeting these requirements sets the basic parameters of position, size and layout.

Refinements

The project is being undertaken by Abingdon Hydro Ltd, a local not for profit co-operative. The directors, all local, see it as more than just a way of generating green electricity. Archimedes screws are very visible, and access is easy because it is beside the Thames Path. We want to take advantage of this, to make it a local attraction, a visible demonstration of renewable energy, and something that will be inspiring for the town and give a sense of ownership. So a walkway was added, to give good views, and a shelter for visiting groups such as schools and for an information display. Also the Environment Agency wanted the fish pass to look as natural as possible, so we want to make it an attractive addition to Abbey Meadow.

This was the commission given to the architect. The refinements cost extra, and we believe that it is right to include them, but community groups do not have much money, so it was important to keep the cost down where possible.

Architect's implementation of the design

(This section is written by LAPD Architects, Culham)

The design approach for this public sustainable scheme required the project to be robust, yet attractive and above all complement and sit seamlessly within the natural landscape.

The Archimedes screws and associated equipment provide the means to generate power from the water. The scheme has been designed to include two Archimedes screws, which will provide green energy and generate a revenue stream for the local community, which in turn will encourage other sustainable community projects thereafter. Therefore the scheme is truly sustainable from an energy production and financial point of view.

Part of the brief was the key importance to make this scheme accessible to all of the community, including the elderly and disabled. The scheme offers seamless transitions from the existing footpaths onto the new paths and into the visitors centre shelter. This sustainable installation is of educational interest to the community and has been designed to facilitate close engagement and offer interaction with the Archimedes screws. The visitors centre is an open structure which provides visual displays for more in-depth information about the power

supplied by the screws as well as information about the machinery itself. This modest sized open structure provides a sheltered area suitable for use by a small class of children. The form was designed to fit seamlessly into the landscape; it is low in height and is positioned unobtrusively at the edge of the existing footpath to the Abingdon weir.

The palette of materials has been carefully selected, taking reference from the existing context and existing built form. It was important to ensure a robust, durable and cost effective construction which will be able to withstand weather and vandalism but at the same time create an attractive aesthetic which will blend cohesively with the existing landscape. The visitors centre will be constructed from imprinted concrete. The metal roof is equally robust and fits with the relative industrial theme of this installation. As a design feature within the visitors centre, the monitoring technology display panels will be visible to the general public. This illustrative measure acts as an aid to help rationalise the power output from the screws and show how this positively transposed can be used within the community. Illustrative, user friendly, information boards explain in more detail what each mechanical component is doing, in turn explain the value of this sustainable installation.

Besides the functional aspects of the scheme, the screws and the visitors centre which provide shelter and facilitate learning, the cantilevering foot bridges enable the installation to be viewed in a different dimension. This powerful statement, of appeared floating footbridges cantilevering out over the river; forms a strong concept behind the design as a whole. In order for this installation to sit cohesively within the landscape it was of importance to allow the installation to be inhabited and used as a platform to enjoy the views that would otherwise be missed if this installation was not present within the landscape. The new raised footbridges facilitate interaction with the new scheme as well as with the existing landscape.

We liaised closely with the Oxford City Council Foot-Path Officer, Environment Agency and Forestry Officer to ensure that the proposed scheme complies with all of their needs. Part of the scheme incorporates a necessary fish pass to provide a safe diversion for fish. It also includes a new bridge, of required widths and hand rails, providing access to the public from one side to the other side of this fish pass. Whilst the necessary construction work is in progress there will be a temporary footpath created via a diversion to the Thames path ensuring public access to this popular destination is maintained.

The proposed fish pass has been designed to meet requirements set out by the Environment Agency and falls within their guidelines of maximum and minimum gradients. It is a natural stream, simulating a natural habitat with average depths of 300mm, safe within a public area. Any land excavated will be retained on site for embankment build up and fish pass construction. The fish pass' meandering path has been carefully plotted to navigate around trees and their root protection zones as far as possible to minimise the disruption of the existing trees.

We feel this sustainable installation not only makes a positive contribution to the town and sits seamlessly within the landscape but is a scheme that will be enjoyed and benefit the wider community. This is a community project from the community for the community.

Access

Access for pedestrians and cyclists will be the same as it is now. At present the path between the footbridge and the weir is in a rather rough condition, especially near the weir, and it will be improved. The rest of the footpath is in reasonable condition. It could take a van but not a lorry. The nearest public car parks are in town, and it is 5 to 10 minutes' walk from there. We hope it will be a popular local attraction and generate extra pedestrian traffic, but we are not expecting a huge increase.

Coming from town in a wheelchair, the footpath can be bumpy and muddy but is passable. The weir is as far as one can go because it is difficult to get a wheelchair across the weir or over the footbridge. The walkway round the screws will provide a more interesting destination before returning to town.

Maintenance

Archimedes screws have a long lifetime and do not need much routine maintenance, just an occasional man in a van. It is not possible to bring heavy equipment along the footpath, so bigger maintenance tasks such as changing the bearings would probably be done from the river.

Community engagement

During the last two years, as the project has been developing, we have put much effort into appearing at public events, and exhibiting in the community shop. We find nearly everyone is strongly in favour of this project. There is more detail in the Supporting Statements: Statement of Community Involvement [22].

Sustainability

The project is not just sustainable, it generates renewable energy. The detail is in the Sustainability Statement.

Ecology

This is described in the Supporting Statements: Biodiversity Survey/Protected Species Report [4]. The site, including the cable route, have been surveyed, using as a starting point the extensive data on the area collected by Abingdon Naturalists Society. A bat survey has been done as well. Fish are considered by the Environment Agency. The project is environmentally benign, with no impacts that could require an EIA.

Summary

This project ticks about as many boxes as one project can tick:

- It has a strong message about sustainable energy, which we believe the town will find positive and inspiring, and sets a good example by making it attractive.
- The Town Council feels that we have not taken full advantage of our waterfront up to now and wants to put that right. It will help toward that goal by adding a feature that can attract locals and visitors to Abbey Meadow. Being at the far end, it will encourage people to go further in.
- The walkway round the screws will provide excellent views, and the fish pass will be a further attraction, that demonstrates our provision for wildlife.
- It is an educational resource, and has provision for visiting parties.
- It gives people an opportunity to participate directly, by becoming shareholders.
- It will generate a community share which can be used to support other environmental projects.
- It will leave this part of the Thames and the Thames Path in better condition than it is now.
- It gives the Environment Agency extra flood control.

The Supporting Statements, in particular the Planning Statement/Justification, cover these points in more detail.