



Description of the Project and Welcome Building

A new environmentally-friendly visitor Welcome Building including the Christopher Mitchell Information Centre, at the National Arboretum in Gloucestershire. The new Welcome Building showcases sustainability in its timber construction and creates an exciting 'launch-pad' to help visitors make the most of their time here.

Summary

The primary aims of the project were:

- To conserve the grade 1 registered historical landscape of Westonbirt, the National Arboretum to enable us to be good custodians of our landscape heritage and natural environment.
- To enable our visitors to increase their awareness and appreciation of Westonbirt's tree collection and landscape heritage by improving their arrival and welcome.
- To increase the number and range of people who take an active part in the arboretum's heritage and its maintenance.

Connecting people with trees

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Westonbirt, The National Arboretum is
cared for by the Forestry Commission.

Supported by:

the friends
of Westonbirt
Arboretum 
Registered Charity 293190

We achieved this by:

- Restoring the central area of historic downland by removing car parking, reinstating ecologically valuable grassland and restoring historic boundary structures.
- Constructing a new Welcome Building to house information, interpretation and immediate visitor needs at the point of arrival.
- Improving orientation signage for all visitors from the moment they arrive and throughout their visit.
- Implementing a 5-year activity plan to allow new and under-represented individuals and groups to participate in our work.

The Welcome Building has the dual function of interpreting the site to visitors and welcoming them effectively. It is discreetly located in a natural landscape hollow, but retains presence through its pitched roof. It thereby provides a clear landmark to direct arriving visitors in the right direction once they leave their cars.

The design principles behind the style of the Welcome Building were very thoroughly discussed by the expert team behind the planning of the Project. The result is a modest and unassuming building, tucked into a dip in the landscape. This choice was driven by the landscape heritage of Westonbirt, and the original picturesque design intentions of the Victorian creators of the Arboretum. There are no follies or architectural embellishments within the Arboretum landscape. Functional buildings were created where required in the local vernacular, but the exotic trees and the landscape they shaped were always designed to be the stars of the show. We worked hard in planning this project to be faithful to these original landscape intentions.

The Welcome Building houses a number of essential visitor facilities that are currently dispersed, often less than ideally located and sometimes hard to find. Visitors now have access to toilets, mobility scooters, up to date information and day tickets or Friends membership all in one place at the start of their visit. In addition to its functional elements, the Welcome Building contains an information room with a range of innovative and interactive media to provide visitors with the information they need to understand the history and management of the National Arboretum and the wider role of trees in our lives.

Restoration of the downland. The most significant improvement has been the removal of the old car park and the start of the process of its restoration to downland. This is one of the fundamental elements of the first phase of the Westonbirt Project. The English Heritage have been particularly supportive of this change as it represents a major step forward in conserving the historical landscape of which the central downs are an important part. The restoration process involves both civil engineering and an ecological phases and will, we hope, eventually create species-rich meadow grassland which will enhance the appearance and biodiversity of the arboretum.

The Welcome Building has been awarded a BREEAM 'Excellent' rating with a score of 74.64%. Subject to final certification by the BRE.

It has been designed using timber and low energy technologies to reduce the impact on the environment. The building itself employs a variety of low energy design features including heating by an air source heat pump, high natural light levels and natural ventilation. All timber used on the project is FSC or PEFC approved and the majority including the structural frame and cladding is sourced from the UK and fabricated in the UK. Both the use of certified timber and the environmental rating were important factors for us.

Key Building Information

- BREEAM Rating & Score – Excellent (74.64%)
- CPRE (Campaign to Protect Rural England) Gloucestershire Award

- Basic Building Cost - £2,278 /m²
- Services Costs - £370.43 /m²
- External Works - £17.60 /m²

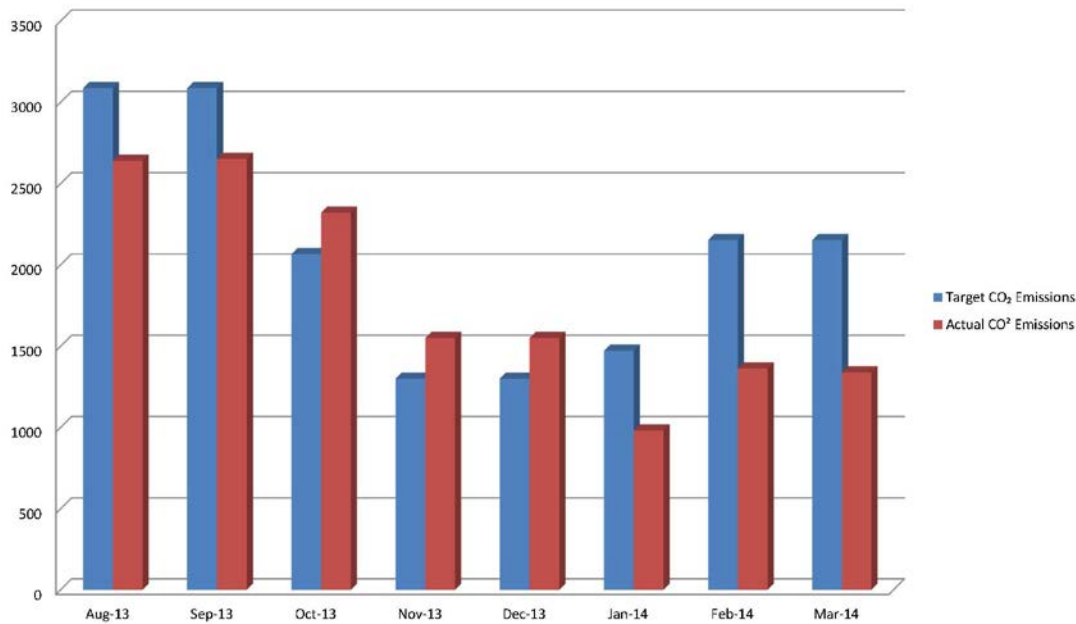
- Total area of site – 2.4km²
- Welcome Building Gross floor area – 368m²
- Information Centre area – 87.6m²
- Circulation – 95.2m²
- WC – 67.5m²
- Storage – 89.8m²
- Office /Kitchen – 28m²
- Plant Room – 6.4m²
- 100% area of ground to be used by community
- 25% area of building to be used by community

Building Performance Information

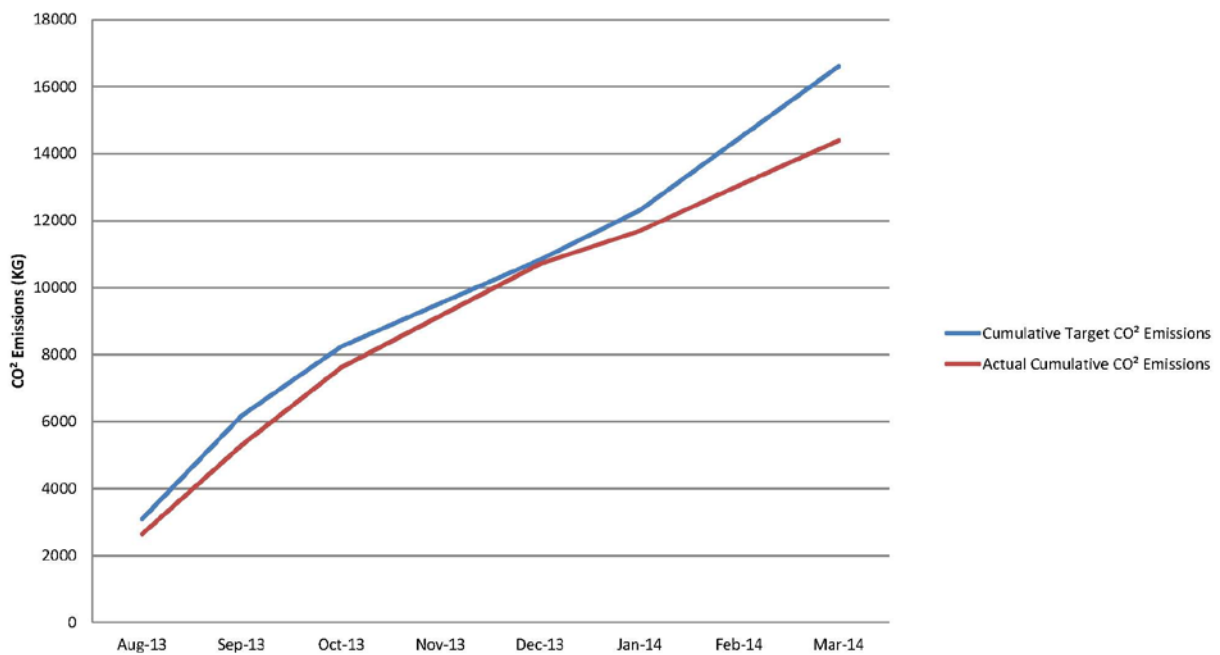
- Predicted energy consumption – 95kWh /m²
- Predicted renewable energy generation – N/A
- Predicted water use – 2.1m³/person/year

The steps taken during the construction process to reduce environmental impacts

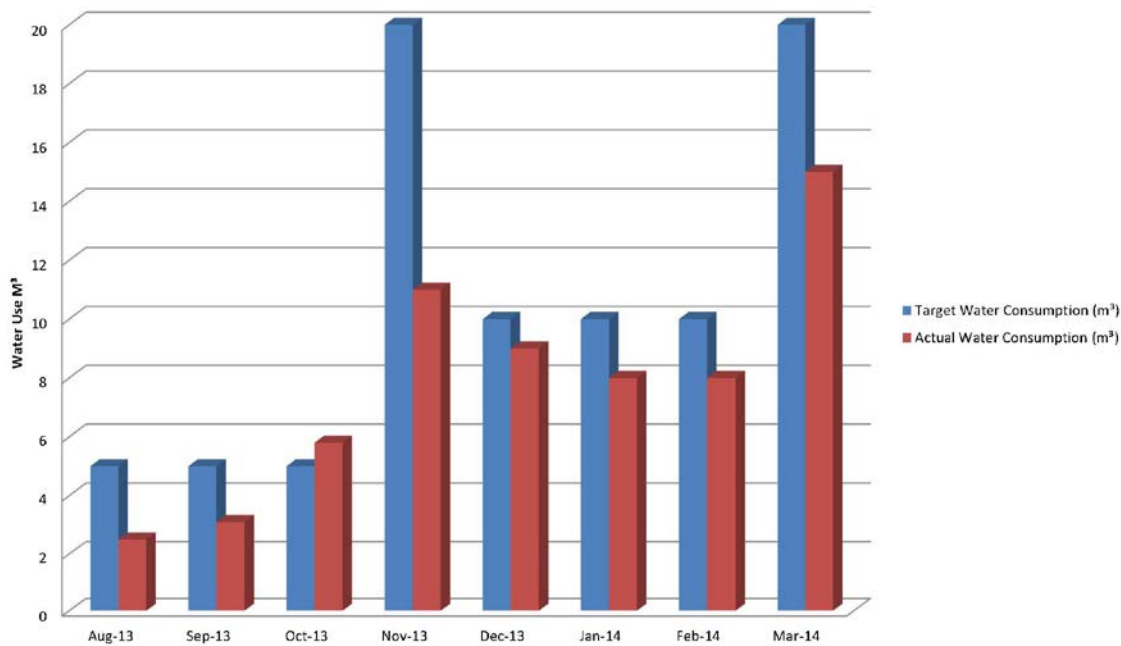
During the construction process the use of energy & water arising from construction activities was actively monitored against monthly targets. The final monitoring graphs for the project are included below:



Construction Phase Energy Targeting – CO₂ Emissions



Construction Phase Energy Targeting – Cumulative Target, CO₂ Emissions



Construction Phase Energy Targeting – Water Consumption

To ensure materials were responsibly sourced the Speller Metcalfe, main contractor, site management, subcontractors and buying team were aware of their responsibility to source materials only with a BES6001 or ISO14001 Certificate.

The site was enrolled in the Considerate Constructors scheme, achieving beyond best practice performance with a score of 40/50. The site team took a number of steps to encourage the site team to reduce their environmental impact, by initiatives such as encouraging car sharing, cyclist facilities, toolbox talks about specific site issues. The considerate constructors site monitors reports for the project are appended overleaf.

The main contractor achieved 91% recycling from its mixed waste produced during the construction of the Welcome Building. The canteen waste from the welfare cabins was segregated for composting, and the timber surplus was separated and taken off site by a local specialist timber recycling company who recycled the materials into furniture, pulp and other useable products. The team actively encouraged suppliers to reduce packaging to limit the amount of waste produced.

The carbon footprint during the work was monitored and shared with the Forestry Commission and posted on a site notice board during the works. The information includes details on travel distances and types used to access the rural site. Trade contractors used are local and exceeded Speller Metcalfe's target of 75% from within a 30 mile radius of the arboretum.

Social and Economically Sustainable Measures Achieved & Piloted

- Over 98 volunteers have contributed over 2,000 hours to the project so far to help complete the Welcome Building and Downland Restoration
- Over 6,000sqm has been restored to Grade 1 downs landscape which has increased the habitat available for wildlife and also increasing the area of species rich grassland
- Visitors now have the opportunity to learn more about the importance of the arboretum including the work we do, how we manage an internationally important tree collection and how we manage pests and disease
- Visitor numbers have increased by 25% for the first three months after opening the new Welcome Building
- We have cut expenditure used to manage the arboretum during our busiest season, autumn, due to the new efficient entry system, the new layout and the new permanent toilet facilities we now provide
- The construction was phased to provide minimal disturbance to the site.
- Communication of H&S measures was carried out with close consideration of the clients requirements
- Speller Metcalfe has made a £5,000 contribution to the Arboretum through a tree adoption scheme, this will ensure the Arboretum will continue to thrive for future generations to enjoy