

# Case Study 18

## Westonbirt

February 2015

### Location

Maples Restaurant, Westonbirt  
Arboretum, Gloucestershire

### SuDS Used

An extensive biodiverse green roof was installed in 2002. This was chosen as maintenance was low and it supported biodiversity in the area.

### How it works

A green sedum roof was chosen over the original design of a stainless steel structure. The sedum blanket is a locally sourced providing insulation to the building as well as attenuation during heavy rainfall, reducing runoff.

### Specific details

The Soil depth is 120mm with a wet weight of 110kg/m<sup>2</sup>. The waterproof layer is a studded HDPE membrane with twin seals to all joints. The following 14 varieties of sedum were selected for drought and shade tolerance: Sedum acre, Sedum album 'Coral Carpet', Sedum album Laconicum, Sedum album Migranthum, Sedum album Murale, Sedum floriferum, Sedum hybridum,

Sedum kamtschaticumkam, Sedum kamtschaticumvar, Sedum lydium, Sedum sexangulare, Sedum spuriu Album Superbum, Sedum spuriu Coccincum, Sedum spuriu Fuldaglut.

### Design and Construction

The Forestry Commission which owns the Maple Restaurant has a principle of using environmentally sensitive construction techniques for all their building. The extensive biodiverse green roof used fitted in with this ethos and provided an aesthetically pleasing construction for patrons to enjoy.





## Benefits and Achievements

The roof creates a new wildlife habitat, slows and stores storm water, complements other environmental technologies on-site and provides acoustic and thermal insulation. It also helps the building blend into the natural landscape setting with a wider variety of plants being planted.

## Challenges

The restaurant recently needed maintenance to repair leaks in the roof. This occurred during a period of particularly heavy rain. The collection of rain water near the skylight was the cause of the leaks. Following repair the roof is now fully water tight.

## Lesson learnt

Very limited maintenance had been completed since the installation in 2002. Regular checks on the performance of the green roof, and the infrastructure that supports it, are now in place.

## Team and Details

**Green roof system** – Greenfix

**Contractor** – Carpenter Oak and Woodland Ltd

**Project Manager** – Brian Kedward, Forestry Commission

**Completion** March 2002

**Size** – 380m<sup>2</sup>