

Project Profile

Woolwich Arsenal Phase 1 and 2 Development

Background

BSG Ecology was commissioned to provide ecological advice on the design of two brown roofs for development phases 1 and 2 at Woolwich Arsenal in London. We provided guidance on the features to be incorporated into the final roof design to accommodate and benefit both the rare bird black redstart and nationally scarce invertebrate species populations.

BSG Ecology's role in the project

Phase 1-the redevelopment of Building 10 at The Warren, Woolwich Arsenal

Work on this phase was undertaken in 2007. The brown roof design creates a 'wasteland' habitat, by combining a species-rich brownfield habitat mosaic with areas of bare ground providing valuable habitats for rare and protected species. These are characteristic of 'urban wasteland' habitats associated with the London area.

A mixed mosaic of 'wasteland' habitat was created through using a variety of aggregate materials to form a combination of different substrate types, supporting bare ground and areas of wildflowers and t brownfield meadow. Once the substrate was laid it was sown with either a wildflower mixture or a brownfield grassland meadow mixture. The design incorporated additional deadwood habitat, such as untreated wooden sleepers and logs, for invertebrates. Insect nest boxes were attached to the inside of the parapet wall to provide nesting and over-wintering opportunities for invertebrates. Nesting opportunities for black redstart were also provided through the installation of nest boxes on the building.

Phase 2 Woolwich Arsenal 2010

Phase 2 was constructed in 2010. The aim of this brown roof design was to create an open 'dry neutral meadow' habitat. The design characteristics of this roof complement the Phase 1 development by providing additional feeding resources for important invertebrate species. Plants that provide nectar and pollen resources are especially important in supporting certain invertebrate species. Dead herb stems, fruit heads and seed heads also benefit stem-nesting and seed-feeding insects.

The substrate used for this phase of works was composed of crushed brick and concrete rubble, mixed with low fertility sub-soil to provide a well-drained growing medium with both deep and shallow areas. A range of substrate depths were incorporated to provide growing conditions for the variety of plants that were sown. A locally appropriate neutral grassland seed mix was used to establish a diverse grassland community with the seeds being sown directly onto the roof.

Outcome

The innovative way in which we maximized the biodiversity and conservation benefits of the development, through the brown roof design, was formally recognised by Sustain Magazine Awards 2010 who gave BSG Ecology the Biodiversity Award.

