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GREENWOOD RESOURCE CENTRE, BREEAM 2014 NEW CONSTRUCTION LANDUSE AND ECOLOGY CREDITS ASSESSMENT

Project	Prepared and Approved by	Checked by	Client	Status	Date
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		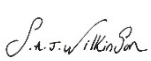			

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Summary
Richard Graves Associates Ltd has been appointed to provide the advice of a suitably qualified and experienced Ecologist to provide advice on the protection and enhancement of biodiversity in connection with new construction at Greenwood Resource Centre Camden.

Richard Graves, who is a suitably qualified Ecologist for the purposes of BREEAM visited the site on the 18th May 2016, prior to the start of construction and has confirmed that it is of low ecological value.

The development is registered for the BREEAM 2014, New Construction, scheme and is targeting Landuse and Ecology (LE) credits. On the basis of the survey and implementation of the recommendations the following credits may be awarded:

- LE01: 2 Credits
- LE02: 2 Credits
- LE03: 2 Credits
- LE04: 2 Credits
- LE05: 2 Credits (assuming 4 additional recommendations are implemented)

A maximum of **10 LE** credits may be achievable for this scheme if all of the recommendations, and four of the additional recommendations, are implemented and the Land Contamination Report confirms that the site is contaminated.

INTRODUCTION

Richard Graves Associates Ltd has been appointed by Wynne-Williams to undertake a Land Use and Ecology Credits Assessment. The development scheme has been registered for BREEAM 2014 New Construction scheme and is targeting achieving an 'excellent' rating. As part of achieving this rating, Land Use and Ecology Credits (BREEAM, 2014) have been targeted.

The aim of this report is to provide all of the information required in the Technical Appendix of the BREEAM 2014 scheme.

Contact Details

Ecologist

Full contact details for Richard Graves Associates Ltd are provided on the title page of the report.

Client

The client contact details for the project are: Andrew Jenkins, Assistant Design Manager

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Ecologist Details

The site survey and assessment has been undertaken by Richard Graves BSc (Hons) MSc PGDip CEcol CEnv FCIEEM. Richard has the following degree and postgraduate qualifications:

- BSc (Hons) Human Biological Sciences (Ecology), Awarded by Loughborough University of Technology in 1991;
- Postgraduate Diploma Environmental Impact Assessment, Awarded by The University of Wales, Aberystwyth in 1993; and
- MSc Crop Production in the Changing Environment, Awarded by The University of Essex in 1996.

Richard is an Ecologist with over twenty years in continuous professional practise, which includes: local authority and consultancy. Richard has undertaken and managed some of the largest projects and commissions ever undertaken in the UK and is an author and editor of established and previous good practice guidelines (Hundt, 2012).

Richard is a Fellow of the Chartered Institute of Ecology and Environmental Management (CIEEM) (CIEEM, 2013) and works in accordance with its Code of Professional Conduct (CIEEM, 2013). Richard is one of the first Chartered Ecologists in the UK and also a Chartered Environmentalist. Richard is a suitably qualified and experienced ecologist for the purposes of BREEAM and Code for Sustainable Homes (CfSH) land use and ecology credits assessments.

METHODS

Background (desktop) information in relation to the site has been obtained from existing reports including a Phase 1 Habitat Survey completed in September 2013 (Chris Blandford Associates, 2013), which covers the building and adjacent area.

A desktop study with a 2 km radius was obtained from Greenspace Information for Greater London (GiGL) and used to inform this report (Walker, 2016).

A walkover survey prior to construction on the 18th May 2016 was undertaken by Richard Graves to confirm / update the details provided in the existing Phase 1 report.

Limitations

The Phase 1 survey (Chris Blandford Associates, 2013) was undertaken in April 2013, which is within the optimal season. The report appears to be a competent Phase 1 survey. However, the surveyors and their level of competence (qualifications and experience) are not identified and the Phase 1 plan was not supplied with the report. Given the uncomplicated nature of the habitats present, this is not considered to be a significant limitation. Other than further disuse, there has been no change to the buildings and hardstanding currently occupying the future construction site.

RESULTS

For full results of the survey please refer to the Phase 1 Survey (Chris Blandford Associates, 2013) and the desktop report (Walker, 2016). In summary the findings were:

Sites

There is one statutorily protected, site a Local Nature Reserve (LNR) within the 2 km search radius. Belsize Wood LNR is located approximately 1.5 km to the southwest of the site. LNRs are designated under the National Parks and Access to the Countryside Act (HMG, 1949) and are usually owned and managed by local authorities for the benefit of wildlife and the public. As the LNR is separated from the site by distance and the urban area of Camden and significant road and rail routes there are unlikely to be any impacts on it from the construction and use of a new building in Kentish Town.

There are 26 sites of importance for nature conservation (SINCs) within the 2 km search radius. Local sites may receive protection in the planning system. SINCs in London are graded into the following hierarchy of importance:

- Metropolitan Importance
- Borough Importance Grade I
- Borough Importance Grade II
- Local Importance

The nearest site of Metropolitan Importance is M072 Hampstead Heath, which is located approximately 600 m to the northwest of the site at its closest extent. The nearest SINC is CaBI04, Kentish Town City Farm, Gospel Oak Railsides and Mortimer Terrace Nature Reserve, elements of which are located to the southwest, west and northwest of the site. The southwestern section is approximately 100 m from the site at its closest extent.

Given the habitats surrounding the site and lack of connecting features there are unlikely to be any impacts on SINCs resulting from the development.

Habitats

Habitats in London were previously recorded as part of the London Open Space and Habitat Survey. Other than the SINCs noted above the site and its immediate surroundings have not been previously recorded.

The habitats (within the site) recorded in the Phase 1 habitat survey (Chris Blandford Associates, 2013) are primarily built development.

Species

Protected species records from GiGL (Walker, 2016) are considered relevant within 1 km (depending on the mobility of the species) and when they are less than five years old. Several bat species have been recorded within 2 km (with records from 2012). No protected species have been recorded from or adjacent to the site.

The Phase 1 Survey Report (Chris Blandford Associates, 2013) notes that all buildings surveyed were of low potential for bats.

No species records relate directly to the site. However, a number of London Biodiversity Action Plan (LBAP) priority species are included in the desktop search and may be used to inform the specific enhancements for the project.

ASSESSMENT AND RECOMMENDATIONS

LE01 Site Selection
The majority of the construction site (at least 75%) is within previously developed land. One credit may be awarded. The BREEAM feasibility assessment indicates that the site may be heavily contaminated (this is to be confirmed by others). If this is confirmed, and remediation will be undertaken to enable the development, then one credit can be awarded.

In total, up to two credits may be awarded, subject to the clarifications above.

LE02 Ecological Value of Land and Protection of Ecological Features
The site as a whole is assessed as being of low ecological value. The 'construction area' is also assessed as of low ecological value.

The following protective measures are recommended:

- Storage of plant and materials on site must not impinge on the root protection areas of any retained (nearby) tree as this will cause soil compaction and damage tree health;
- Plant and materials on site should be securely stored so as to prevent access to wildlife. Any excavations should be covered over night or provided with a means of escape for animals; and
- Lighting during construction and operation should be designed so that it does not shine onto nearby vegetation.

A suitably qualified Ecologist has been appointed and undertaken a survey prior to any construction activity, confirming that the site is of low ecological value. One credit may be awarded. The recommendations for the protection of wildlife will implemented prior to construction. One credit may be awarded

In total, two credits may be awarded.

LE 03 Minimising Impact on Existing Site Ecology
A calculation has been completed of the site area (divided into buildings and hard-standing and landscaping / garden planting) and the number of species (which are native species or species identified as of ecological value) included before and after development.

Details of the site before development:

Habitat Type*	Area of habitat type (m^2)	Number of species per habitat type
Buildings and hardstanding	2,195	0
Landscape / Garden Planting	5	1

Calculation of the Ecological Value of the Site Before Development:

Plot Type	Area of Plot Type [m²]		Species [No.] (from Table 2 or a SQE*)		Species x Area of Plot Type
Buildings and hardstanding	2,195	×	0	=	0
Landscape / Garden Planting	5	×	1	=	5
	2,200	×	1		1
(1) Total site area =				(2) Total =	**6**
				Species before development = 1	**(+) 0.003**
				Total species × area of plot type / Total site area = (2)/(1) = 5	

Calculation of the Ecological Value of the Site After Development:

Plot Type	Area of Plot Type [m²]		Species [No.] (from Table 2 or a SQE*)		Species x Area of Plot Type
Buildings and hardstanding	2010.2	×	0	=	0
Raised Planting Beds	143.1	×	4	=	572.4
Grassland (TBC)	46.7	×	6	=	280.2
				(2) Total =	852.6
				Species after development = 10	**(+) 0.38**
				Total species × area of plot type / Total site area = (2)/(1) =	

The calculation indicates a positive change in ecological value of 0. 38 which is greater than zero, two credits may be awarded.

LE 04 Enhancing Site Ecology

The client has requested advice on enhancing site ecology and the production of an associated report. A summary of the key recommendations are as follows:

Appropriate enhancement would include those that benefit existing species and those that encourage new species to use the site for foraging and shelter, in particular London Biodiversity Action Plan Species. We recommend:

- The planting of locally appropriate native species or non-native species with a known attraction or benefit to local wildlife.
- The adoption of horticultural good practice (e.g. no, or low, use of residual pesticides).
- The installation of bird, bat and/or insect boxes at appropriate locations on the site. On that basis the species targeted for enhancement measures are:
    - Bats: all species, but particularly those recorded in the local area (*Myotis nattereri* Natterer's, *Myotis daubentonii* Daubenton's, *Nyctalus noctula* noctule, *Pipistrellus pipistrellus* common pipistrelle, *Plecotus auritus* brown long-eared bat and *Pipistrellus pygmaeus* soprano pipistrelle); and
    - Birds: *Passer domesticus* house sparrow.

Positioning Nest / Roost Boxes

There are no trees within the site sufficiently large to provide a secure location for bat roost or bird next boxes, however the buildings will be more suitable locations for sparrow terraces.

Bats: Two Schwegler 1FQ bat roost boxes or a similar type of roost boxes should be fixed to the building at different orientations (south and west) to provide a range of different temperatures within the roosts for bat throughout the year. The bat boxes should be positioned at least 4m above the ground and Bat boxes should not be placed below or close to windows, or close to any external lighting.This type of box does not require any further maintenance within its design life.

House Sparrow: Two Schwegler 1SP
http://www.nhbs.com/1sp_schwegler_sparrow_terrace_tefno_174850.html or similar sparrow terraces should be fixed to the external walls / features of the building. These should be placed at least two metres above ground level, shaded from direct sunlight and away from internal and external lighting.

A suitably qualified ecologist has been appointed and has made recommendations for enhancing site ecology.

If the recommendations are implemented 2 credits may be awarded.

LE 05 Long term impact on biodiversity
The client has appointed a suitably qualified ecologist (Richard Graves) in advance of the start of development on site. The SQE confirms, as far as we are able to, that relevant legislation (in this case The Wildlife and Countryside Act 1981, as amended) has been complied with during the design process and will continue to be complied with during the course of development.

Management Plan

A Management Plan will be prepared for the site with a term of at least five years.

Additional Measures

The following additional measures are taken from Table 58 (BREEAM, 2014):

1. *Biodiversity Champion:* The principal contractor nominates a Biodiversity Champion with the authority to influence site activities and ensure that detrimental impacts on site biodiversity are minimised in line with the recommendations of a suitably qualified Ecologist.

2. *Training*: The principal contractor trains the site workforce on how to protect site ecology during the project. Specific training must be carried out for the entire site workforce to ensure they are aware of how to avoid damaging site ecology during operations on-site. Training should be based on the findings and recommendations for protection of ecological features highlighted within a report prepared by a suitably qualified Ecologist.

3. *Monitoring & Recording*: The principal contractor records actions taken to protect biodiversity and monitor their effectiveness throughout key stages of the construction process. The requirement commits the principal contractor to make such records available where publicly requested.

4. *Habitat Creation*: Where a new ecologically valuable habitat appropriate to the local area is created. This includes a habitat that supports nationally, regionally or locally important biodiversity, and/or which is nationally, regionally or locally important itself; including any UK Biodiversity Action Plan (UK BAP) priority habitats

5. *Sensitive Scheduling of Works*: Where flora and/or fauna habitats exist on-site, the contractor programmes site works to minimise disturbance to wildlife. For example, site preparation, ground works, and soft landscape works have been, or will be, scheduled at an appropriate time of year to minimise disturbance to wildlife. Timing of works may have a significant impact on, for example, breeding birds, flowering plants, seed germination, amphibians etc. Actions such as phased clearance of vegetation may help to mitigate ecological impacts. This additional requirement will be achieved where a clear plan has been produced detailing how activities will be timed to avoid any impact on site biodiversity in line with the recommendations of a suitably qualified Ecologist.

If a management plan and **two** of the additional measures noted above are implemented one credit may be awarded.

If a management plan and **four** additional measures are implemented two credits may be awarded.

References

BREEAM. (2014). *New Construction 2014 Technical Manual - Land Use and Ecology Credits.* London: BREEAM.

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HMG. (2010). The Conservation of Habitats and Species Regulations. London: HMSO.

Hundt, L. (2012). *Bat Surveys Good Practice Guidelines 2nd Edition.* London: Bat Conservation Trust.

Walker, A. (2016). *An Ecological Data Search for Greenwood Place, Kentish Town.* London: eCountability on behalf of GiGL.