

DR WILLIAMS'S LIBRARY, GORDON SQUARE, LONDON

BREEAM ASSESSMENT – LAND USE AND ECOLOGY CRITERIA

ROUTE 2

FOR

DR WILLIAMS' LIBRARY

SEPTEMBER 2019

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| Date: | September 2019 |

1.0 Introduction

Landscape Science Consultancy Ltd (LSC Ltd) was commissioned by Dr Williams's Library to assess BREEAM performance under the Land Use and Ecology (LE) criteria, for proposed works within the grounds of Dr Williams's Library.

The proposed development relates to the rear extension of the library building within an existing yard area – hereafter referred to as the 'Survey Site'. The proposed development will require the loss of a small number of low value trees and one mature sycamore tree. A fully mature London plane tree will, however, be retained and protected. The yard is predominately a gravel substrate.

This BREEAM assessment is informed by an ecology site survey undertaken on 5th July 2019 by a Suitably Qualified Ecologist. The results of the survey are detailed within the Ecology Report provided in **Appendix 1**.

This report details the performance of the proposed development under BREEAM criteria **LE1, LE2, LE3, LE & LE5**, following **Route 2**.

2.0 Methodology

2.1 BREEAM Assessment – Land Use and Ecology

BREEAM is a tool for assessing the environmental performance of a development whilst providing mitigation aimed at avoiding or offsetting environmental impacts. Credits are awarded in several categories of environmental impact according to the type of development and are added together to produce an overall score for the development.

The ecological value of the Survey Site is based on a detailed site walkover undertaken on 5th July 2019 by Steven Weber BSc (Hons) MCIEEM; a Suitably Qualified Ecologist (SQE).

The aim of the survey was to identify broad habitats present and record target notes (TN's) of areas of interest, broadly following the 'Extended Phase 1' methodology as set out in CIEEM Guidelines for Preliminary Ecological Appraisal (2013) and the JNCC Handbook for Phase 1 Habitat Survey (2010) guidelines.

The results of the survey are detailed within the Ecology Report provided in **Appendix 1**.

2.2 Suitably Qualified Ecologist

In order to meet the BREEAM criteria for a Suitably Qualified Ecologist (SQE), the survey and assessment has been undertaken by Steven Weber BSc (Hons) MCIEEM.

Steven is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and has over eleven years' experience undertaking such surveys and assessing the factors that affect ecology in relation to construction and the built environment. As a full member of the Chartered Institute of Ecology and Environmental Management he is bound by a professional code of conduct and peer review. Steven holds a BSc (Hons) in Environmental Conservation and Countryside Management.

3.0 BREEAM Assessment – Land Use and Ecology

The following BREEAM categories have been assessed under Route 2: LE1, LE2, LE3, LE4 & LE5.

3.1 LE1 – Re-use of Land

Assessment Criteria

The following requirements need to be fulfilled to demonstrate compliance with these criteria under Route 2:

1. One credit is awarded where evidence is provided to demonstrate that the majority of the footprint of the proposed development falls within the boundary of 'previously developed land'.

In order to achieve the first credit in LE1, the following must apply: *'At least 75% of the proposed development's footprint is on an area of land which has previously been occupied by industrial, commercial or domestic buildings or fixed surface infrastructure'*.

(one credit can be awarded)

2. One credit is additionally awarded where the site is deemed to be significantly contaminated as confirmed by a contaminated land specialist's site investigation, risk assessment and remediation strategy.

(one credit can be awarded)

Performance of Proposals

The Survey Site comprises predominantly a yard area with gravel and hard standing. Therefore, over 75% of the proposed development's footprint is on fixed surface infrastructure associated with the existing library building. **Criteria 1** is achieved.

The only element of contamination in which LSC Ltd are qualified to assess is ecological contamination. Ecological contamination refers to non-native invasive plant species, specifically Japanese knotweed and giant hogweed. As neither of these species were found on the Survey Site it is not considered to be ecologically contaminated. **Criteria 2** cannot be achieved.

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| One credit can be achieved under LE1. |
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3.2 LE2 – Ecological Risks and Opportunities

Assessment Criteria

The following requirements need to be fulfilled to demonstrate compliance with these criteria under Route 2:

1. The client or contractor confirms compliance is monitored against all

- relevant UK and EU or international legislation relating to the ecology of the site.
2. Of relevance to Route 1 only – not valid for this assessment.
 3. A Suitably Qualified Ecologist (SQE) carries out a survey and evaluation the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions;
 4. The SQE's survey and evaluation determines the site's ecological baseline, including:
 - a. Current and potential ecological value and condition of the site and related areas within the Zone of Influence.
 - b. Direct and indirect risks to current ecological value from the project.
 - c. Capacity and feasibility for enhancement of the site's ecological value and, where relevant, areas within the Zone of Influence.
 5. Recommendations and data collected from the survey and evaluation are shared with appropriate project team members to influence decisions made for activities during site preparation, design and construction works, which can support ecological features;
(one credit can be awarded)
 6. Survey and evaluation criteria 3-5;
 7. The project team liaise and collaborate with representative stakeholders early enough to influence key planning decisions to:
 - a. Identify the optimal ecological outcomes for the site.
 - b. Identify, appraise and select measures to meet the optimal ecological outcomes for the site (criterion 7.a), in line with the mitigation hierarchy of action, according to the route being used.
(one credit can be awarded)

Performance of Proposals

The only legislation of ecological relevance to the Survey Site is the Wildlife and Countryside Act (1981, as amended) with regards to nesting birds. Adherence with the Method Statement appended to the Ecology Report would ensure compliance with this legislative requirement and with **Criteria 1**.

Under the compliance requirements a Suitably Qualified Ecologist (SQE) has been commissioned to undertake an ecology survey – the Ecology Report is provided in Appendix 1. This ensures compliance with **Criteria 3, 4, 5 and 6**.

The scale of Ecological Value and subsequent Ecological Impact of the scheme is not sufficient to require liaison with any stakeholders and therefore compliance with **Criteria 7** is achieved automatically.

The additional 'exemplary credit' under LE2 is not achievable for the proposed development.

Two credits can be achieved under LE2, provided that the Method Statement appended to the Ecology Report is implemented during construction.

3.3 LE3 - Mitigating Ecological Impact

Assessment Criteria

The following requirements need to be fulfilled to demonstrate compliance with these criteria under Route 2:

1. LE2's 'Survey and Evaluation and Determining Ecological Outcomes' criteria have been achieved using Route 2;
2. Further planning to avoid and manage negative ecological impacts on-site is carried out early enough to influence the concept design and design brief as well as site preparation planning;
3. On-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice (e.g. mitigation measures to protect existing ecological features);
4. Criteria 2-3 are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining Ecological Outcomes' in LE2 Ecological Risks and Opportunities;
(one credit can be awarded)
5. Of relevance to Route 1 only – not valid for this assessment.
6. Of relevance to Route 1 only – not valid for this assessment.
7. Criteria 2-4 have been achieved;
8. Negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy, in line with the SQE's recommendations (see Methodology) and, either:
 - a. No overall loss of ecological value has occurred.
(two credits can be awarded)
 - b. OR where criterion 8.a is not possible: the loss of ecological value has been minimised.
(one credit can be awarded)

Performance of Proposals

The previous section (3.2) of this report outlines the assessment of LE2, thus ensuring compliance with **Criteria 1** of LE3.

Under the compliance requirements, a Suitably Qualified Ecologist (SQE) has been commissioned to advise on measures required to avoid ecological impacts on site – these are provided in the appended Ecology Report. This ensures compliance with **Criteria 2**.

Adherence with the Method Statement appended to the Ecology Report would ensure compliance with this legislative requirement and with **Criteria 3**.

The scale of measures required to avoid ecological impacts are not sufficient that they require collaborative input; rather the recommendations of the SQE have been communicated and designed into the scheme. This achieves **Criteria 4** by default.

Criteria 7 is achieved through observance of the above.

Compliance with **Criteria 8b** had been achieved through observing the Mitigation Hierarchy. The SQE confirms that the retention and protection of a fully mature London plane tree within the proposed development results in the loss of ecological value being *minimised*.

Two credits can be achieved under LE3, provided that the Method Statement appended to the Ecology Report is implemented during construction.

3.4 LE4 – Ecological Change and Enhancement

Assessment Criteria

The following mandatory requirements need to be fulfilled to demonstrate compliance with these criteria under Route 2:

1. Criterion for Route 2 in LE3 has been achieved;
2. The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.
3. Of relevance to Route 1 only – not valid for this assessment.

The following requirements need to be fulfilled to achieve the first credit associated with these criteria under Route 2:

4. Measures have been implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE02. Measures are implemented in the following order:
 - a. On site, and where this is not feasible,
 - b. Off site within the Zone of Influence.
5. Data collated are analysed and where potentially valuable, provided to the local environmental records centres nearest to, or relevant for, the site.

(one credit can be awarded)

The following requirements need to be fulfilled to achieve the up to three additional credits associated with these criteria under Route 2:

6. Up to three credits are awarded based on the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology. Credits are awarded in line with the Reward Scale table in GN36 where there are no residual impacts on protected sites or irreplaceable habitats.

(up to three credits can be awarded)

Performance of Proposals

The previous section (3.3) of this report outlines the assessment of LE3, thus ensuring compliance with **Criteria 1** of LE4.

Adherence with the Method Statement appended to the Ecology Report would ensure compliance with legislative requirements and with **Criteria 2**.

Recommendation 4 in the Ecology Report details the installation of a sparrow terrace box to enhance nesting opportunities for a declining urban bird species. This will achieve **Criteria 4**.

The data obtained through the survey are not considered potentially valuable, thus they do not merit disclosure to the Local Records Centre. This achieves **Criteria 5** by default.

Due to the very small size of the existing Survey Site and the proposed extension of the building within it, a soft landscaping scheme for the implementation of further ecological enhancement is not proportionate or feasible. The fully mature plane tree within the proposed development will however be retained and protected. The SQE therefore confirms that it is not practically feasible to achieve the No Net Loss requirements and there are no residual impacts on protected sites or irreplaceable habitats (GN36 – Table 09).

The proposed development achieves Minimising Loss under **Criteria 6**.

The additional 'exemplary credit' under LE4 is not achievable for the proposed development.

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| <p>Two credits can be achieved under LE4, provided that the recommended sparrow box is installed post-development.</p> |
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3.5 LE5 – Long Term Ecology Management and Maintenance

Assessment Criteria

The following mandatory requirements need to be fulfilled to demonstrate compliance with these criteria under Route 2:

1. The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site.
2. The following must be achieved, according to the route being assessed:
 - a. Route 2 – Criterion 8 in LE3 has been achieved, and at least one credit under LE4 for 'Change and Enhancement of Ecology' has been awarded.

The following requirements need to be fulfilled to achieve the first credit associated with these criteria under Route 2:

3. Measures have been implemented to manage and maintain ecology throughout the project. These measures are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining Ecological Outcomes' in LE 02 . To ensure the optimal ecological outcomes agreed in LE 02 are met in-practice, these measures must monitor and review the effectiveness of the mitigation and enhancement measures in place for LE 03 & LE 04 to ensure they are implemented.
4. A section on Ecology and Biodiversity has been included as part of the tenant or building owner information supplied, to inform the owner or occupant of local ecological features, value and biodiversity on or near the site. This should include detailed management and maintenance plans as required by landscape and asset managers as well as relevant parts of the handover information for occupiers written in a format that encourages understanding and supportive behaviours.

(one credit can be awarded)

The following requirements need to be fulfilled to achieve the second credit associated with these criteria under Route 2:

5. A Landscape and Ecology Management Plan, or equivalent, has been developed in accordance with BS 42020:2013 Section 11.1 covering at least the first five years after project completion as a minimum and including:
 - a. Actions and responsibilities of relevant individuals prior to handover;
 - b. The ecological value and condition of the site at handover and how this is expected to develop and change over time;
 - c. Identification of opportunities for ongoing alignment with activities beyond the development project, which support the aims of BREEAM's Strategic Ecology Framework;

- d. Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts;
 - e. Clearly defined and allocated roles and responsibilities for delivering the plan.
6. The Landscape and Ecology Management Plan or similar will be updated to support maintenance of the ecological value of the site.
(one credit can be awarded)

Current Performance of Proposals

Adherence with the Method Statement appended to the Ecology Report would ensure compliance with legislative requirements and with **Criteria 1**.

Criteria 2 is achieved through compliance with Criteria 8 in LE3 and at least one credit being awarded in LE4.

The applicant intends to comply with **Criteria 3 & 4** during the construction and operational phases of development – these criteria can therefore be achieved.

As no soft landscaping strategy is to be included as part of the proposed development, a Landscape and Ecology Management Plan cannot be implemented. **Criteria 5** cannot be achieved.

One credit can be achieved under LE5, providing compliance with Criteria 3 & 4 is evidenced.

3.6 BREEAM Ecology and Land Use Summary

The performance of the proposed development under LE1 to LE5 is detailed in Table 01 below. The final credits awarded will be dependent on the Applicant or their representative providing compliance evidence as deemed appropriate by the BREEAM Assessor.

Table 01. Summary of BREEAM Land Use and Ecology credit scores.

| Credit Reference | Assessed Credit Performance | Total Credits Available |
|------------------|-----------------------------|-------------------------|
| LE1 | 1 | 2 |
| LE2 | 2 | 2 |
| LE3 | 2 | 3 |
| LE4 | 2 | 4 |
| LE5 | 1 | 2 |
| TOTAL | 8 | 13 |

APPENDIX 1

ECOLOGY REPORT

1.0 Survey Site Location

The Survey Site is located to the rear of Dr William's Library, at 14 & 15 Gordon Square, London. The Ordnance Survey grid reference for the centre of the Survey Site is TQ 29711 82196.

2.0 Site Description

The Survey Site was visited on 5th July 2019 by Steven Weber BSc Hons MCIEEM. It was found to comprise a small yard to the rear of the Dr Williams's Library, measuring approximately 400m². The Survey Site is enclosed by high-sided period buildings and supports a small number of trees and shrubs, varying from young ornamental plantings to tall and fully mature broadleaf specimens. Bare ground is dominant below the canopies of trees and shrubs within the Survey Site; ornamental herbaceous planting is minimal and scattered in distribution.

The most prominent tree within the Survey Site is in the south-western corner and comprises a single, fully-mature London plane (*Platanus x hispanica*) over 35m in height. The crown network is dense and spreading, typically reaching over the top of the surrounding buildings. Along the northern boundary of the Survey Site is a late semi-mature sycamore (*Acer pseudoplatanus*) to 20m height. The remaining specimens within the Survey Site typically comprise young to semi-mature trees and shrubs of limited ecological value:

- A short semi-mature holly (*Ilex aquifolium*) shrub growing in very close proximity to the existing building;
- A short semi-mature cotoneaster (*Cotoneaster frigidus*) shrub growing directly into the existing building foundations;
- x2 young self-set *Laburnum* and *Prunus* trees;
- A small group of low ornamental shrubs, somewhat unmanaged, leggy and lacking in aesthetical form.

The habitats within the Survey Site are considered to be of negligible ecological value. The only ecological features of value within the Survey Site are the two mature trees – the sycamore and the London plane as described above.



Map 1. The Survey Site (shown *approximately* by the red line) in context with the surrounding landscape. Reproduced using Google's Fair Use Policy.



Map 2. The Survey Site (shown *approximately* by the red circle) in context with the surrounding landscape. Reproduced using Google's Fair Use Policy.

3.0 Protected Species

The only Protected Species which may be present within the Survey Site are nesting birds which are likely to make use of features associated with the onsite vegetation as well as potentially aspects of the building(s). This is likely to represent typical urban species such as feral pigeon, house sparrow, starling and blackbird.

No suitable habitat for other protected species was identified.

4.0 Recommendations

The following recommendations are provided with regards to Ecological Enhancement of the Survey Site:

- 1) Works should proceed with due regard to nesting birds – a Method Statement to secure this is below and should be followed during site clearance and construction works;
- 2) The mature sycamore and particularly the fully mature plane tree on the south-eastern edge of the site should be retained and protected where possible to minimise ecological impacts;
- 3) Retention of further trees and shrubs are not considered significant in minimising ecological impacts as they compromise specimens of low or negligible ecological value;
- 4) A sparrow terrace bird box should be installed on the elevation of the new extension fencing the open yard – this would enhance nesting opportunities for this declining urban bird species;
- 5) A landscaping scheme should be created to introduce ecological value to retained areas of the site, if this is practicable.

5.0 Method Statement with Regards to Nesting Birds

Timing of Works

To ensure avoidance of negative impacts to nesting birds within vegetation or other features suitable for nesting (i.e. buildings), measures would be taken to ensure that no nesting birds are killed, injured or disturbed during the works.

The measures would depend upon the seasonal timing of works – alternative approaches to achieve the required protection are outlined below with reference to the breeding season.

Clearance Outside of the Breeding Season

Where clearance and construction works are targeted outside of the breeding season, between March to September inclusive, then clearance can proceed without survey or further constraint.

Clearance During the Breeding Season

Where clearance works are to be conducted during March to September inclusive, a nesting bird survey would be carried out by a qualified Ecologist prior to clearance. Nests are only protected if they are active (i.e. being used to rear young) or in the process of being built.

Suitable vegetation for nesting birds would include trees, shrubs, dense bramble and marginal aquatic vegetation, as well as long grass and herbs, particularly in respect of ground nesting birds. Nesting birds can occupy a wide variety of built structures.

- If no active nests are identified within the work area, then clearance of the vegetation would be conducted **on the day of survey**, by hand and under the supervision of the Ecologist, to render the area unsuitable for nesting birds. Birds have the potential to begin nesting in previously surveyed areas within a few days or even hours. All brash piles would be removed from site, chipped or crushed to ensure that birds do not create nests in these features. Construction works would then proceed in the surveyed areas without further constraint.
- If active nests are located they would be left undisturbed until the young have fledged and the parent birds had abandoned the nest. Fencing or barrier tape would be erected around the nest sites, with a suitable buffer zone to ensure that works would not encroach on the nests and cause disturbance. This would be dictated by, and set out by, the Ecologist and would take into account the site specific conditions. Works would not proceed in the nesting areas until the Ecologist confirms that the chicks have fledged, or the nest has otherwise become inactive, and that works can proceed without causing disturbance to nesting birds.

Potential for Nesting Birds in Buildings

Where buildings are to be demolished or modified externally during the nesting season, pre-emptive measures to prevent nests from becoming established may be put in place prior to the bird breeding season. Measures may include the netting or boarding of likely nesting sites under the supervision of the Ecologist.