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Report prepared for: Ellenbrook Consulting Ltd.

For the Site of: Land at 1 and 2 Longcroft Green, Welwyn, Herts, AL8 6EP.

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Contents

Biological Impact Assessment (BIA)

0.0 Non-Technical Summary

0.1 Background

The client commissioned Cherryfield Ecology to undertake a Biodiversity Impact Assessment (BIA) for the site of **Land at 1 and 2 Longcroft Green, Welwyn, Herts, AL8 6EP**, to determine the biological impact of the proposed development.

Biodiversity Net Gain (BNG) is an approach to development that leaves biodiversity in a better state than it was before. The process relies on the mitigation hierarchy, which sets out that everything possible must be done to firstly avoid, secondly minimise and thirdly restore and rehabilitate losses of biodiversity on site.

This report uses the Small Site Metric (Natural England, 2021) to quantify the biodiversity baseline for the site and calculate the post-development biodiversity unit for the proposed scheme following the best practice guidelines as set down by CIRIA (2019).

0.2 Results and Findings

- Following a stage 1 assessment (Cherryfield Ecology, 2021), the habitats on site were identified and include: Buildings, Hardstanding, Improved Grassland, Amenity Grassland, Bramble Scrub (cleared), Scattered Trees, Native Species-Poor Hedgerow and Line of Trees (Coniferous).

- The habitats within the proposed development have been identified and include: Urban – Developed Land, Sealed Surface, Grassland – Modified Grassland, Native Hedgerow and Urban Trees.

- A summary of the change in Biodiversity Net Gain on site is given in Table 1.

Table 1: Change in Biodiversity Net Gain (BNG) on site

BIA Units	Total Net Unit Change	Total Net % change
Habitat Units	-0.1236	-15.18%
Hedgerow Units	0.9237	958.19%

0.3 Impact Assessment and Recommendations

The proposed development will result in a -15.18% net loss in Habitat Units and a +958.19% net gain in Hedgerow Units on site. The national guidelines require a minimum of 10% increase in net gain per BIA unit across the site. As such, in order to meet the minimum 10% net gain for Habitat Units, a further **0.2050 Habitat Units (+25.18%)** will need to be achieved.

This is not possible on-site and an off-site compensation will be required.

Also, reducing the area of developed land by 390m^2 and increasing the amenity grassland areas will reduce the net loss to +1.44% in Habitat Units. This will reduce the total loss in Habitat Units with off-site compensation reduced to 0.0697 Habitat Units to achieve the minimum 10% biodiversity net gain.

The inclusion of native hedgerow in the proposed plans has more than met the minimum 10% net gain; however, creating a native **species-rich** hedgerow will enhance and increase this biodiversity gain further.

N.B. The client is responsible for ensuring that the enhancements are carried out in accordance with the report, that they are properly maintained, that no alterations are made without first consulting a suitably qualified ecology, and that similar stipulations should be included in the deeds.

1.0 Introduction

1.1 Aim

The aim of this report is to determine the Biodiversity Net Gain for the proposed scheme and, where necessary, make recommendations for increasing net gain in order to comply with the national guidelines.

1.2 Background Information

The client, Ellenbrook Consulting Ltd., has commissioned Cherryfield Ecology to undertake a BIA for the site of **Land at 1 and 2 Longcroft Green, Welwyn, Herts, AL8 6EP**. Planning permission is being sought for the demolition of the existing building and the construction of two detached dwellings and a set of apartments.

The stage 1 assessment of the site identified habitats as Buildings, Hardstanding, Improved Grassland, Amenity Grassland, Bramble Scrub (cleared), Scattered Trees, Native Species-Poor Hedgerow and Line of Trees (Coniferous).

The proposed development of the site consists of Urban – Developed Land, Sealed Surface, Grassland – Modified Grassland, Native Hedgerow and Urban Trees.

1.3 Study Area

The site is 1,940 m^2 in size. The national grid co-ordinates for the centre of the site are TL236120.

1.4 Suitably Qualified Ecologist

This report has been completed by Kate Hair and checked by Sarah Downing and Martin O'Connor. Sarah and Martin meet the criteria for a suitably qualified Ecologist as given in Section 2.1 below.

2.0 Methods

2.1 Baseline Condition

Baseline condition of the site was established from data collected during the Ecological Appraisal (EA) of the site undertaken by Cherryfield Ecology on 12/04/2021, following national guidelines (JNCC, 2010).

- **Habitat Units** - All habitats (excluding hedgerows and watercourses) within the footprint of the development, were assessed during the EA following the HCA guidelines (Natural England, 2019b).
- **Hedgerow Units** - Any hedgerow or line of trees on site was assessed during the EA following Hedgerow Regulations best practice methodology.
- **River Units** – Any water course on site was assessed during the EA following the HCA guidelines (Natural England, 2019b).

Habitat area or length, condition and distinctiveness were used to calculate baseline Biodiversity Units, providing a measure of the biodiversity pre-development. This calculation is in accordance with Defra's technical paper, guidance for developers and guidance for offset providers (Defra 2012 a, b and c). This is the standard metric used for calculating BU and LU in the UK.

- **Habitat Area and Hedgerow Length** – The area of each habitat or length of hedgerow was provided by the client.
- **Habitat Distinctiveness & Habitat Condition**– A pre-assigned value given by the the Small Site Metric.

2.2 Post-Development Units

Post-development biodiversity units are calculated in a similar way to baseline biodiversity units using the "Initial indicative scheme for the purposes of securing fees" plan provided by The Client. However, in addition to area, condition and distinctiveness of the proposed habitats, the key risks to delivery are taken into account through incorporation of risk factors. The Defra metric sets out three risk factors: distance from the Scheme (Spatial Risk); time taken for created or enhanced habitats to reach target condition (Temporal Risk); and how difficult it is to create or enhance any given habitat (Delivery Risk).

2.1 Suitably Qualified Ecologist

Best practice guidelines require that this report be completed by a suitably qualified ecologist. BS42020:2013 defines a suitably qualified ecologist as someone who:

- holds a degree (or equivalent qualification, e.g. N/SVQ level 5) in an ecology related subject.
- has been a practising ecologist with a minimum of 3 years relevant experience within the last 5 years.
- clearly demonstrates a practical understanding of factors affecting ecology in relation to construction and the built environment; including acting in an advisory capacity to provide recommendations for ecological protection, enhancement and mitigation measures.
- is bound by a professional code of conduct.
- is subject to peer review.
- is not acting or advising outside their professional competencies.

A full member of one of the following organisations are usually deemed suitable: Chartered Institution of Water and Environmental Management (CIWEM); Royal Society of Biology (RSB), Chartered Institute of Ecology and Environmental Management (CIEEM); Institute of Environmental Management and Assessment (IEMA); Landscape Institute (LI).

2.2 Limitations

It is important to note that a scheme-wide biodiversity net gain or no net loss cannot be achieved for the scheme as a whole if there are negative impacts on irreplaceable habitats.

Defra guidance dictates that any compensation offered to address impacts on irreplaceable habitats should be agreed directly with Natural England (NE). The baseline habitat which is identified for such compensation and the biodiversity units resulting from this compensation should also be excluded from biodiversity unit calculations.

Following Defra guidance, impacts on irreplaceable habitats and their compensation have been excluded from this biodiversity unit calculation.

Biodiversity Impact Assessment only deals with habitat and as such this report does not cover any of the requirements of the proposed development arising from potential impacts on protected species and designated sites.

3.0 Baseline Condition

3.1 Habitats on site

The Small Site metric uses the UK Habitat Classification System (UKHab, 2020). Table 2 below gives the habitats identified as being present on site during the Ecological Appraisal using the Phase 1 Habitat Classification and the relevant conversion to the UK Habitat Classification System.

Table 2: Habitats identified on site.

Phase 1 Category	UK HAB category
Buildings and Hardstanding	Urban – Developed Land; Sealed Surface
Improved Grassland and Amenity Grassland	Grassland - Modified Grassland
Scrub	Heathland and Shrub – Bramble Scrub
Native Species-Poor Hedgerow	Native Hedgerow
Line of Trees (Coniferous)	Line of Trees
Scattered Trees	Urban Trees

Developed Land; Sealed Surface covers the building and hard standing on site.

Modified Grassland on site covers the intensively mown amenity grassland areas and the species-poor grassland area dominated by a Perennial Ryegrass *Lolium perenne* and Cock's Foot *Dactylus glomerata* with limited forb species dominated by Ribwort Plantain *Plantago lanceolata* with occasional Dock *Rumex sp.* and Dandelion *Taraxacum officinale*.

Bramble Scrub on site has been recently cleared, therefore, under the metric guidance, the site was assessed on the previous condition. Small areas of Bramble *Rubus fruticosus agg.* border the site and seen to be encroaching on the surrounding grassland habitat.

Native Hedgerow on site is assessed as species-poor due to the dominance of Hawthorn *Crataegus monogyna* and abundant Ivy *Hedera helix* and Bramble.

Line of Trees covers the two lines of Leyland Cypress *Cuprocyparis leylandii* on site.

Urban Trees cover the young trees (*Eucalyptus sp., Betula sp., Acer pseudoplatanus, Prunus sp., Prunus spinosa* and *Sambucus nigra*) and two mature trees (*Quercus sp.* and *Fraxinus excelsior*).

3.2 Irreplaceable Habitats

No irreplaceable habitat is present on site.

3.3 Strategic Significance

The site does not fall within a local biodiversity opportunity area.

The following habitats on site are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act:

- No habitats on site are listed under Section 41 of the NERC Act.

The following habitats are included in the Biodiversity Action Plan:

- No habitats on site are listed in a Biodiversity Action Plan.

Table 2: Baseline Habitat Units

UK HAB category	Habitat Area (m^2)	Habitats Units Delivered
Urban – Developed Land; Sealed Surface	520	0.0000
Grassland - Modified Grassland	1110	0.4440
Heathland and Shrub – Bramble Scrub	310	0.1240
	Total Biodiversity Units	**0.8140**

Table 3: Baseline Linear Units

UK HAB category	Length (m)	Linear Units Delivered
Native Hedgerow	8	0.0320
Line of Trees	14	0.0644
	Total Linear Units	**0.0964**

4.0 Post-Development Units

Proposed site plans were used to calculate the Biodiversity Units post-development. The Habitat Condition and pre-assigned Distinctiveness used for the calculations are given in Table 4 below.

From the proposed plans, it is assumed that 11 trees will be retained, and 9 trees will be planted. It is also assumed there will be a hedgerow planted around the site.

Table 4: Condition and Distinctiveness of Habitats on site Post-Development

UK HAB category	Distinctiveness	Condition
Urban - Developed land; sealed surface	V. Low	N/A
Grassland – Modified Grassland	Low	Moderate
Native Hedgerow	Low	Moderate

Developed Land; Sealed Surface defines the roads, driveways and buildings taken from the proposed development plans.

Modified Grassland defines the communal amenity areas and private gardens, of which no details on border plants or shrubs have been given. It has been assumed as moderate condition due to the difficulty of ensuring the correct future management for higher conditions.

Native Hedgerow defines the assumed proposed hedgerow in the proposed plans provided, with an assumed condition of moderate.

The Habitat Units and Linear Units for the site post-development have been calculated using georeferenced GIS software (Table 5 and Table 6).

Table 5: Summary of Habitat Units Post-Development

UK HAB category	Area (m^2)	Habitats Units Delivered
Urban - Developed land; sealed surface	1390	0.0000
Grassland – Modified Grassland	550	0.1908
Urban Trees	41	0.0124
	Total Biodiversity Units	0.2032

Table 6: Summary of Linear Units Post-Development

UK HAB category	Length (Km)	Habitats Units Delivered
Native Hedgerow	265	1.0201
	Total Biodiversity Units	1.0201

5.0 Results

The proposed development will result in a -15.18% net loss in Habitat Units and a +958.19% net gain in Hedgerow Units on site.

It is not possible to achieve the recommended net gain on-site and an off-site compensation will be required.

5.1 Conclusion and Discussion

Defra guidelines require developments to achieve a minimum 10% net gain in both Habitat and Hedgerow Units. As such, in order to meet the minimum 10% net gain for Habitat Units, a further **0.2050 Habitat Units (+25.18%)** will need to be achieved.

Reducing the area of developed land by 390m^2 and increasing the amenity grassland areas will reduce the net loss to +1.44% in Habitat Units. This will reduce the total loss in Habitat Units with off-site compensation reduced to 0.0697 Habitat Units to achieve the minimum 10% biodiversity net gain.

The inclusion of native hedgerow in the proposed plans has more than met the minimum 10% net gain; however, creating a native **species-rich** hedgerow will enhance and increase this biodiversity gain further.

Recommendations on how this can be achieved are given in **Section 5.2**.

5.2 Recommendations

Hedgerows

It is recommended that a diversity of hedgerow species is included in the proposed hedgerows on site. Suitable hedgerow species include:

- Hawthorn
- Hazel
- Holly (*Ilex europaeus*)
- Wild privet (*Ligustrum vulgare*)
- Field maple (*Acer campestre*)
- Blackthorn
- Guelder rose (*Viburnum opulus*)
- Wayfaring tree (*Vibrunum lantana*)
- Dog rose (*Rosa canina*)
- Spindle (*Euonymus europaea*)
- Holly (*Ilex europaeus*)

The hedgerow should include 5 or more woody species within a 30m length in order to be classified as **species-rich**.

Where possible no cutting should take place between during peak bird nesting season, which runs from March to September. Where possible shrubs and hedgerows should not be cut back annual, as flower buds often form on second-year growth. Trimming hedges on a two- or three-year rotation, targeting different sections each year, will make sure there are always flowers for pollinators in spring and berries for birds in autumn. Hedges cut every three years can produce two and a half times as much blossom as those cut annually. Rotational cutting can also save time and money that would be invested in annual cutting.

6.0 References

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