91a High Street, Dodworth, Barnsley, S75 3RQ

Biodiversity Net Gain Assessment

Prepared on behalf of

Mr M Pashley

Final Report

28 August 2024

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Document Control

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As part of membership to our professional body (CIEEM) we are required to provide our biological results to applicable biological record centres. As such, it is our intention to supply biological data collected as part of this assessment to the relevant centre unless directly instructed in writing not to do so by the client.

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Biodiversity Net Gain Assessment

NON-TECHNICAL SUMMARY

- Liz Ecology was commissioned by Mr M Pashley to conduct a Biodiversity Net Gain Assessment of the land at 91a High Street, Dodworth, Barnsley, S75 3RQ. The survey was conducted to support a planning application for clearance of the site and construction of five residential properties with associated garages and gardens.
- The purpose of this report is to identify the net percentage change in biodiversity on-site post-development and to aim for a minimum of a 10% Biodiversity Net Gain (BNG).
- The current National Planning Policy Framework (NPPF) sets out that planning should provide biodiversity net gains where possible. Mandatory biodiversity net gain set out in the Environment Act 2021 came into force on 2nd April for small sites. This requires a minimum of 10% Biodiversity Net Gain using the Statutory Biodiversity Metric. Due to the number of units proposed and the size of the site the site qualifies for the small sites metric.
- The development site is approximately 2184m^2 and consists of artificial sealed surface, buildings and vegetated garden.
- The baseline habitat units are 0.3466 and hedgerow units are 0.00.
- Based on the current proposals, it is predicted that the scheme will have a net loss of 57.01%, however, the small size of the site does not allow for more habitat creation within the site boundaries. Due to the small size of the site the net change in habitat units is -0.1976.
- The client will need to agree off-site compensation via a third party to purchase the required units to achieve the 10% net gain and balance the trading rules.
- Additional habitat units required to meet the 10% are 0.2323. The trading rules are not met primarily due to the loss of low distinctiveness urban habitats. This will need to be considered when seeking off-site BNG habitats so that trading down is avoided.
- The development will also be incorporating enhancements for birds, bats and hedgehogs within the development. Mitigation measures to ensure legal compliance regarding nesting birds will also be required.

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APPENDICES

1. INTRODUCTION

1.1 Liz Ecology was commissioned by Mr M Pashley to conduct Biodiversity Net Gain assessment of the land at 91a High Street, Dodworth, Barnsley, S75 3RQ (Grid reference: SE 31840 05081).

1.2 The survey was conducted to support a planning application including clearance of the site and construction of five residential properties with associated garages and gardens. Access would be instated from the 91a High Street, Dodworth.

1.3 Mandatory BNG came into force on 12th February 2024 for all developments except exemptions and small sites, and small sites came into force 2nd April 2024 (residential 1-9 units on a site less than one hectare, or number of dwellings is unknown and the site is less than 0.5 hectare; or for non-residential for floor space less than 1000m^2 or site less than one hectare). Exceptions include developments of less than 25m^2 habitat or 5m for linear habitats (hedgerows and watercourses), householder applications and small scale self build.

1.4 The aim of this report is to identify the net percentage change in biodiversity on site post development and where possible to seek a minimum of 10% Biodiversity Net Gain (BNG) in accordance with the Environment act 2021 and Biodiversity Net Gain policy from Wakefield District Council, using Defra's Biodiversity Metric calculations.

Site description

1.5 The development site is approximately 2184m^2 and consists of buildings, artificial sealed surface and vegetated garden.

1.6 The site is located within the village of Dodworth, to the south-west of the Barnsley. The site is bounded on all sides by residential properties. In the surrounding area there are greenspaces associated with sports clubs.

Brief

1.7 To conduct a Biodiversity Net Gain (BNG) assessment using DEFRA statutory metric to demonstrate the net change from the baseline to the proposals, with a minimum of 10% net gain, where possible.

Relevant Planning Policy and Legislation

1.8 In England, Biodiversity Net Gain (BNG) is mandatory under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). All planning permissions granted in England will have to deliver at least 10% Biodiversity Net Gain (BNG) to be maintained for a period of at least 30 years. The concept seeks measurable improvements for biodiversity by creating or enhancing habitats in association with development.

1.9 The planning authority for the site is Barnsley Metropolitan Borough Council. The council have an adopted local plan and supplementary planning documentation which is for Biodiversity Net Gain + 10%. It states that all development will provide a minimum net gain of 10% of the current ecological value of the site.

2. METHODOLOGY

Assessing Strategic Significance

2.1 A desk study was conducted to collate baseline data about ecological sites within the zone of influence of the proposed development site, following guidelines set out by the Charted Institute of Environmental and Ecological Management (CIEEM, 2017). This data-gathering exercise was undertaken to obtain any available information relating to statutory nature conservation sites, ecological networks, local plans and priority habitats to help establish the strategic significance of the site. Sources of information used are shown in Table 1.

Table 1: Summary of information sources used for the desk study

Organisation/source	Information sought
MAGIC	Locations of and citations for all national statutory wildlife sites, including SSSI, and all international sites including SAC, SPA or Ramsar sites within 5 kilometres of the site. Priority Habitats within 300m.
Wakefield Council	Adopted Local Plan, evidence base, and polices map

2.2 This evidence was reviewed and used to assess the strategic significance of the site, and/or individual habitats and whether it lies within an ecological network for the area.

Baseline Assessment

2.3 A baseline botanical assessment was undertaken by Elizabeth Davies, qualified ecologist, on 29th July 2024 before works commenced on site in mostly clear, still and dry weather conditions. The survey employed techniques based on the UK Habitat Classification System. Botanical information was collected, focussing on the dominant and/or key indicator species for each habitat, to enable allocation of habitats to hierarchy levels 3 and/or 4. Where relevant priority habitats were also identified. The conditions of the habitats on the site were assessed in line with the technical sheets supplied alongside DEFRA Statutory Metric, which are part of the mandatory guidelines.

2.4 The UK habitats map was digitised using QGIS. The mapped habitats were measured using the derived areas, and habitat areas are provided in metres squared. Linear features were measured using the derived length and the measurements provided in kilometres.

Biodiversity Net Gain

2.5 Biodiversity Net Gain complements and works with the biodiversity mitigation hierarchy set out in the National Planning Policy Framework paragraph 180a. To achieve a net gain in a way that is consistent with the mitigation hierarchy and reflects the 'spatial-hierarchy' preference for local enhancements, the following steps should be followed:

(1) Aim to avoid or reduce biodiversity impacts through site selection and layout;

(2) Enhance and restore biodiversity on-site;

(3) Create or enhance off-site habitats, either on their own land or by purchasing biodiversity units on the market; and

(4) As a last resort, to prevent undue delays, purchase statutory biodiversity credits from the UK Government where they can demonstrate that they are unable to achieve biodiversity net gain through the available on-site and off-site options.

2.6 On completion of the fieldwork the habitat information was mapped and areas were imported into the DEFRA Biodiversity Statutory Metric Calculation Tool. The metric calculates the baseline biodiversity units for the site based on the following factors:

- Area
- Habitat distinctiveness
- Habitat condition
- Strategic significance

2.7 Once inputted the metric provides biodiversity units for the proposed habitats based on the following factors:

- Area
- Habitat distinctiveness (full metric only – automatically calculated for small sites metric)
- Habitat target condition
- Strategic significance
- Time habitat is created (full metric only)
- Time to the target condition (full metric only – automatically calculated for small sites metric)
- Difficulty of creation (full metric only – automatically calculated for small sites metric)

2.8 The difference between the baseline units and proposed units is then used as a measure of change and is used to assess the number of biodiversity units achieved. Habitats, hedgerows and rivers are inputted as separate factors, with each requiring net gains.

2.9 The Small Sites Metric user guide (2024) states that the SSM cannot be used where Priority habitats (excluding hedgerows and arable field margins), statutory protected sites or habitats or European Protected Species are present.

2.10 As per the Small Sites Metric user guide (2024) page 30 and pages 55-56 of Statutory Biodiversity Metric user guide (2024):

- We will record any medium, large and very large trees in private gardens.
- And any small trees that are ancient or veteran in private gardens.
- Small trees outside of private gardens will be counted.
- Exceptions; we cannot count newly planted trees within private gardens.

2.11 As per the Small Sites Metric user guide (2024) page 26 and page 49 of Statutory Biodiversity Metric user guide (2024):

- Where urban-vegetated garden is used for baseline habitat units, if there are parcels of higher distinctiveness these will be mapped and counted separately to avoid under-recording biodiversity.

2.12 The version of the Small Sites Metric which was used in this assessment was published July 2024.

2.13 Limitations

2.14 Whilst every effort has been made to accurately map the habitats on site there may be discrepancies associated with the projected coordinate reference system. The National Grid transformation, however, is considered to be the most accurate with an accuracy level of less than one metre.

3. BASELINE CONDITIONS

3.1 The results of the Baseline Assessment are presented below. A UK Habitat survey map is shown in Appendix II. The map illustrates the location and extent of the sites surveyed, along with additional notable features.

Strategic Significance

3.2 The site is located in a modern urban area with limited connectivity into the wider landscape.

3.3 There are NERC S41 Priority habitats shown on MAGIC within 500m of the site, deciduous woodland (closest is approx. 90m east).

3.4 There are no designated sites within 500m of the site. The site is located within a SSSI Impact Risk Zone, however the proposed development does not trigger a requirement to consult Natural England regarding the proposed development.

3.5 There are no ecological network opportunity areas on site, or Priority habitats on site or in the immediate vicinity of the site. The habitats on site are typical buildings, hardstanding and garden habitats within an urban area and are not considered ecologically desirable.

3.6 The site is not part of any designated site or listed on any local plan, neighbourhood plan or other policy document for ecology. It is within a settlement boundary within the local plan, and is considered to have low strategic significance (Area/compensation not in local strategy/ no local strategy).

3.7 On-Site Habitats

3.8 The following were recorded on site, and are described below:

- Developed land - Artificial sealed surface, including buildings; and
- Vegetated garden:
    - Modified grassland;
    - Urban trees; and
    - Introduced shrub.

Developed land

3.9 The buildings and hardstanding are classified as developed land, sealed surface.

3.10 These areas have a distinctiveness of very low and condition assessment is not required.

Modified grassland

3.11 There were areas of short mown modified grassland in the rear garden. Species present included abundant creeping bent, frequent Yorkshire fog, occasional perennial rye-grass, and rare occurrences of dandelion and cat's-ear.

3.12 The grassland is short across the whole area, bramble scrub is less than 20%, with physical damage less than 5%, bare ground approximately 5% and an absence of invasive, non-native species. There were approximately 5 species per square metre.

3.13 The grassland – modified grassland is considered to be of low distinctiveness and is in moderate condition.

Introduced Shrub

3.14 There were areas of introduced shrub across the majority of the site. Species noted included honeysuckle, *Ilex* x *altaclerensis*, holly, houttuynia cordata, rosebay willowherb, bramble, hawthorn, dogwood, montbretia, berberis darwinii hook, Mexican orange, *alium* species, *lynchis coronaria*, common ragwort, rhubarb, hydrangea, monsonia species, pendulous sedge, hypericum Albany, abelia species, fuschia species, rosemary and anemone altaica,

3.15 The introduced shrub is considered to have low distinctiveness, with no condition assessment required.

Urban trees

3.16 There was small silver birch, sycamore apple and pear trees present on the site, scattered across the garden.

3.17 Urban trees are of "medium distinctiveness", it is considered that all of the trees on site pre-clearance were small and small trees do not need to be counted in the SSM Metric.

Summary

3.18 Below in table 2 is a summary of the baseline habitats, areas, condition assessment and distinctiveness.

Table 2: Summary of baseline habitats

Habitat	Biodiversity Units	Area (m^2)	Condition	Distinctiveness	Suggested action
Developed land; sealed surface	0.00	451	N/A - Other	V. low	Compensation not required
Vegetated garden	0.346	1733	N/A	Low	Same distinctiveness or better habitat required

4. BIODIVERSITY NET GAIN METRIC

On site biodiversity gains

4.1 The calculations have been based off the following proposals:

- 232 m2 private gardens within the plots – this is listed as 'vegetated garden' in the biodiversity metric due to location within private residences, which cannot guarantee continuity of the habitat for a minimum of 30 years (As per the Small Sites Metric user guide (2024) page 27 and page 51 of Statutory Biodiversity Metric user guide (2024)).
- No new tree or hedgerow planting has been proposed as part of the BNG, as again it is residential gardens and long term retention cannot be guaranteed due to potential homeowner changes to gardens post completion, and therefore these cannot be counted in the SSM (see methodology Section 2, exceptions under the user guides).

4.2 A map of the proposed habitats is provided as Appendix 3.

4.3 The existing baseline across the site was compared to the current hard and soft landscaping plans. The Statutory Biodiversity Small Sites Metric calculated a net change of **negative 25.45%** for habitat units. The full Metric spreadsheet has been provided alongside this report for the LPAs review. Table 4 summarizes the biodiversity metric results.

Table 3: DEFRA Biodiversity metric results

On-site baseline	Habitat units	0.3466
	Hedgerow units	0.00
On-site post intervention	Habitat units	0.1490
	Hedgerow units	0.00
Total net change %	Habitat units	-57.01
	Hedgerow units	0
Trading rules satisfied	Yes/No	No – due to loss of habitat on site

4.4 The client will need to agree off-site compensation via a third party to purchase the required units to achieve the 10% net gain and balance the trading rules.

4.5 Additional habitat units required to meet the 10% are 0.2323. The trading rules are not met primarily due to the loss of low distinctiveness urban habitats. This will need to be considered when seeking off-site BNG habitats so that trading down is avoided.

Other enhancements

4.6 Recommendations have been provided for ecological enhancements to provide net gains to biodiversity across the site, in line with the National Planning Policy Framework (2021) and Local Plan Policy:

- Small holes (13 x 13cm) will be left in any fences separating the gardens from adjacent properties to allow hedgehogs to move freely throughout the site.

- The installation of two bat bricks/integrated bat boxes within the walls of half of the new buildings will enhance the habitat for the local bat population. Bat bricks/boxes should be installed at the eaves on the south or western elevation, away from windows and external light sources. These can be integrated into the cavity wall, brick faced or rendered over with just a small entrance hole visible.
- The provision of nest boxes for bird species such as swift and house sparrow on the walls of the new building will provide permanent nesting for species in decline. Swift boxes have the added benefit of being used often by other non-target species such as house sparrows.
- Both swift and house sparrows are colonial species and therefore the bricks will be fitted in groups with a minimum of three within proximity to each other to form colonies. The provision of groups of swift bricks on site will enhance the habitat for the local bird population. Swift bricks will be fixed no less than two storeys (4.5-5m) above ground level and nest boxes can be sited on any aspect of a building except the southern side (unless shaded by the eaves) to prevent the young becoming heat stressed. One group of three swift boxes is proposed for the development.
- Installation of bee bricks within the walls of the new building (two per unit). Provision of bee bricks can provide excellent alternative habitat for solitary non-stinging bees. These bricks will be erected 1 metre above ground level within the brickwork.
- Areas to be planted as flowerbeds will include plants that provide good nectar sources for invertebrates such as bees and attract insects which will provide foraging for birds and attract moths for bats. Species include honeysuckle, jasmine, evening primrose, hebe, sedum, night scented stock, lavender, chives, geranium, foxgloves, aquilegia, wallflower and fuchsia.
- All vegetation clearance will be conducted outside of the nesting bird season (considered to run between March and September, inclusive). If this is not possible checks immediately prior to vegetation clearance will be conducted by a suitably qualified ecologist.

5. REFERENCES

CIEEM, CIRIA, IEMA (2016) Biodiversity Net Gain. Good practice principles for development.

CIEEM, CIRIA, IEMA (2019) Biodiversity Net Gain. Good practice principles for development. A practical guide. CIRIA C776a. London, 2019.

CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

Department for Communities and Local Government (2005), *Circular 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.*

DEFRA (2023) Biodiversity Metric Calculation tool (spreadsheet) (Biodiversity Metric 4.0)

DEFRA (2023) Biodiversity Metric 4.0 User guide

DEFRA (2023) Biodiversity Metric 4.0 and SSM: Technical Annex1 (habitat condition assessments)

Ministry of Housing, Communities and Local Government (2021), *National Planning Policy Framework.*

Multi-Agency Geographical Information for the Countryside (MAGIC) Website

Appendix I
Proposed site layout

Appendix II

Current on-site habitat map, showing habitat units (survey date 29th July 2024)

Appendix II

Post development on-site habitat map, showing habitat units