

ELDER

GREYFRIARS HOUSE

20 - 30 GREYFRIARS ROAD , READING

BIODIVERSITY NET GAIN ASSESSMENT

GREENGAGE





Brighter strategies
for greener projects



Client: Elder Developments (Greyfriars) Ltd

Project: Co-Living Scheme at 20-30 Greyfriars Road

Report: Biodiversity Net Gain Assessment

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1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd was commissioned by Elder Developments (Greyfriars) Ltd to undertake a Biodiversity Net Gain Assessment, using the Statutory Biodiversity Metric, for a site at 20-30 Greyfriars Road.

The Biodiversity Net Gain Assessment aims to quantify the predicted change in biodiversity value of the site in light of the proposed development to assess compliance against national and local planning policy and against the mandate set out in the Environment Act 2021.

The site comprises building, hardstanding, introduced shrub and individual trees as identified from a site walkover undertaken in August 2024.

Proposed habitat creation includes introduced shrub, tree planting and green wall.

The habitat values are split into three categories: area-based 'Habitat Units' (HU), linear-based 'Hedgerow Units' (HeU) and aquatic linear-based 'Watercourse Units' (WU) respectively, where applicable to the site. Only HU is applicable to the site.

The pre-development baseline value is 0.06 HU.

The post-development design proposals are predicted to deliver 0.14 HU. This is a net gain of 0.08 HU (equivalent to +146.40% for HU).

The design proposals meet the BNG Trading Rules and the 10% Biodiversity Net Gain mandate..

A Habitat Management and Monitoring Plan should be produced detailing the habitat creation and long-term management over 30 years (minimum), and is recommended to be conditioned. Assuming landscaping proposals are implemented correctly, and habitats maintained in accordance with the Habitat Management and Monitoring Plan, then the proposals stand to be compliant with legislation and planning policy.

Upon receiving planning permission, a Biodiversity Gain Plan will be submitted to the Local Planning Authority.

2.0 INTRODUCTION

Greengage Environmental Ltd (Greengage) was commissioned by Elder Developments (Greyfriars) Ltd. to undertake a Biodiversity Net Gain Assessment (BNGA), using the Statutory Biodiversity Metric (SBM), for a site at 20-30 Greyfriars Road.

The BNGA aims to quantify the predicted change in biodiversity value of the site in light of the proposed development to assess compliance against national and local planning policy and against the mandate set out in the Environment Act 2021.

This BNGA has been undertaken in October 2024. Any further changes to the design will impact upon the BNG score and the SBM calculations will need to be updated to reflect such changes. This also carries forward throughout the entire lifetime of the project, including after planning permission has been granted, in and throughout the construction phase. BNG aims to give an accurate reflection of the changes happening on site.

2.1 SITE DESCRIPTION

The survey area comprises the site boundary which extends to approximately 0.12 hectares (ha) and is centred on National Grid Reference SU711737, OS Co-ordinates 51.457948, -0.97696290.

The existing site comprises 20-30 Greyfriars Road, a former office building with glazed/stone façade and flat plant covered roof. Vegetation on site is limited to introduced shrub and small street trees. Greyfriars Road runs to the west with Garrard Road to the north. Buildings abut to the east and the south.

The site is set in an urban context with greenspace in the immediate vicinity is limited to private gardens and landscaping to the west.

2.2 PROPOSED DEVELOPMENT

The proposed development proposes to deliver the following landscaping elements:

- Introduced shrub - drought and shade tolerant ornamental planting
- Green wall - climbers up steel wire mesh
- Tree planting

The following plans/documents have been used to inform the post-development habitats in the SBM:

- 126 HGL XX 00 DR L 0002 P02 Ground & Level 1 Landscape GA
- 126 HGL XX 00 DR L 0003 P02 Level 7 Landscape GA
- 126 HGL XX 00 DR L 0004 P02 Level 12 Landscape GA

3.0 METHODOLOGY

3.1 PRE-DEVELOPMENT (BASELINE)

Habitat Data

A site walkover been undertaken by Greengage in accordance with guidance in the UK Habitat Classification System (UKHab)¹ and the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal², in accordance with British Standard (BS) 42020: 2013: Biodiversity³. The site walkover identified and mapped the extent and distribution of different habitat types on site according to the standard UKHab classification methodology, i.e. using Primary Codes, and supplemented with Secondary Codes.

During the PEA, the habitats were also subject to Condition Assessments, where relevant, in accordance with the SBM Condition Assessments. (See 'Habitat Condition' below).

Statutory Biodiversity Metric Calculation Tool

This BNGA uses the government mandated methodology within the 'Statutory Biodiversity Metric User Guide' (SBM User Guide), distributed by Department for Food Environment and Rural Affairs (Defra), February 2024⁴.

BNG uses habitat type and condition as a proxy for overall biodiversity value, measured in Biodiversity Units (BU) which are calculated using the SBM. The BU are separated into area-based Habitat Units (HU), linear-based Hedgerow Units (HeU) and aquatic linear-based Watercourse Units (WU), as applicable to a site, respectively. For this site, HU are applicable.

The following information on each habitat type are the required SBM inputs:

- Type;
- Area/length;
- Condition; and
- Strategic significance.

The areas of each habitat parcel are measured, with each habitat parcel assigned a 'Distinctiveness', 'Condition' and 'Strategic Significance' score. Distinctiveness is a default score for the habitat classification, representing its inherent biodiversity value, whereas condition refers to the state each habitat parcel is in relative to a predetermined set of criteria outlined in the SBM User Guide.

Strategic significance draws upon priorities and objectives within local plans and strategies, and is measured by providing habitats with a score from low to high as follows:

- Low - "area / compensation not in local strategy";
- Medium - "location ecologically desirable but not in local strategy"; and
- High - "formally identified in local strategy".

To calculate the pre-development (baseline) BU value, habitat data collected during the site walkover has been used. A habitat map has been created based on the data collected. The area extents for each habitat type shown in the habitat map were then measured using Quantum Geographical Information System (QGIS) software.

To calculate the HU associated with trees on site, stem diameters of each tree were used to assign each tree a rating of 'small', 'medium', 'large' or 'extra large', in line with the User Guide. The rating corresponds to an area value to be used.

Distinctiveness values were automatically calculated for the site and habitat conditions were assessed both in the field, and retrospectively using site photos.

Type and Area/Length

The SBM uses a classification system based mainly on the UKHab Classification System¹ but with input also from other systems including the Water Framework Directive (WFD) Lakes Typology⁵, the European Nature Information System (EUNIS) habitat definitions⁶, Habitats Directive Annex 1 definitions⁷.

As such, UKHab classifications used in the site walkover do not always translate directly into the SBM habitat types that are available for selection within the pre-set drop-down menus. Occasionally UK Hab secondary codes provide the key information to be able to allocate the SBM 'best fit' selection for the UKHab habitat type. Habitat conversions that are applicable to the site are listed in Table 3.1 below. The SBM classifications are hereafter used throughout the report.

Table 3.1 UKHab to SBM habitat conversions

UKHab Habitat Type	SBM Habitat Type
Urban – Buildings	Developed land; sealed surface
Urban – Developed land; sealed surface	Developed land; sealed surface
Urban - Suburban/ mosaic of developed/ natural surface	Urban tree

For individual trees present on the site, the area extent attributed to individual trees has been calculated using the 'Tree helper' within the SBM calculation tool. This is based upon using Diameter at Breast Height (DBH) in centimetres (cm). In accordance with the SBM User Guide, based on 'Diameter at breast height (centimetres (cm))', tree sizes have been recorded as follows;

- Small is less than 30 cm diameter,
- Medium is greater than 30 cm, to less than or equal to, 60 cm;
- Large is greater than 60 cm, to less than or equal to 90 cm; and,
- Extra large is greater than 90 cm.

Habitat Condition

Where applicable, habitats were subject to a condition assessment in accordance with the SBM Condition Assessments. Formalised copies of the Condition Assessments for the Baseline habitats are provided as Appendix C.

Habitats must be quantified using criteria set out by the SBM Condition Assessments to determine their relative condition.

The condition of a habitat is a measure of the biological 'working-order' of a habitat type judged against the perceived ecological optimum state for that particular habitat.

The condition of each habitat type was assessed against pre-set criteria and categorised as either 'Good', 'Fairly Good', 'Moderate', 'Fairly Poor' or 'Poor'. Where a habitat type varies in condition within the site this was recorded and mapped.

Strategic Significance

The SBM calculation tool accounts for whether the habitat is situated in an area locally identified as significant for nature.

Data on areas and habitats locally identified as significant for nature were obtained from the following:

- Multi-Agency Geographical Information for the Countryside (MAGIC) website for mapped statutory designated sites;
- Habitats listed within the Local Biodiversity Action Plan (LBAP);
- Local Plans;
- Local Nature Recovery Strategies;
- River Basin Management Plans;
- Catchment Plans;
- National Character Area profiles; and/or,
- Priority Habitats for Restoration.

Using the SBM calculation tool, habitat values have been calculated based on whether they occur commonly or whether they are rare, their area (ha) (or length (km) for linear features such as hedgerows), condition and importance within the local area, usually identified from local relevant planning policies or documents.

3.2 POST- DEVELOPMENT (PROPOSED)

To calculate the post-development BU value, the area extents for each habitat type were measured based on the landscaping proposals provided by Henshall Green.

Habitat types were inferred from landscaping proposals provided by Henshall Green. Where justification for habitat types is required, this has been included in Section 4.0.

Targeted condition scores were assigned by Greengage, using the SBM habitat condition criteria, whilst considering the likely future use of each landscaping area and what was considered feasible to reach.

In accordance with the BNG Trading Rules, changes in broader habitat types (for example, 'Urban', 'Woodland' and 'Grassland' habitats) are also tracked, and trading habitats is discouraged unless specifically targeted within a local strategy. Trading down of habitats is not permitted.

The definition of 'significant enhancements', in accordance with government guidance (www.gov.uk) is 'areas of habitat enhancement which contribute significantly to the proposed development's BNG, relative to the biodiversity value before development'.

Retention of existing habitat does not count as an on-site enhancement.

What counts as a significant enhancement will vary depending on the scale of development and existing habitat, but these would normally be:

- Habitats of medium or higher distinctiveness in the biodiversity metric;
- Habitats of low distinctiveness which create a large number of biodiversity units relative to the biodiversity value of the site before development;
- Habitat creation or enhancement where distinctiveness is increased relative to the distinctiveness of the habitat before development;
- Areas of habitat creation or enhancement which are significant in area relative to the size of the development;
- Enhancements to habitat condition, for example from poor or moderate to good.

3.3 COMPETENCIES

In accordance with 'British Standard: 8683 (BS:8683) Process for designing and implementing biodiversity net gain – Specification', this BNGA and all associated condition assessments have been completed by competent, suitability trained and qualified ecologists.

3.4 ASSUMPTIONS

Statutory Biodiversity Metric Calculation Tool

The condition of the habitats, either for the baseline or that a habitat is considered to be able reach post-development, has been assessed using information within the SBM User Guide and based upon the ecologist's judgement of the habitats/input from the landscape architect.

Where there was no suitable UKHab or SBM habitat classification for a habitat, a 'best fit' alternative has been used with an explanation given to justify its use.

Note the sum of the values shown in columns within the Biodiversity Units tables may differ from the total units stated. This is due to rounding and is not considered significant. The totals stated reflect those calculated within the SBM calculation tool, based on the SBM User Guide.

4.0 RESULTS

4.1 PRE-DEVELOPMENT (BASELINE)

Statutory Biodiversity Metric Calculation Tool

Using the SBM calculation tool the baseline biodiversity value of the site has been identified to be 0.06 HU.

A breakdown of the baseline calculations for HU is provided in Table 4.1 below:

Table 4.1 Baseline Habitat Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Urban	Developed land; sealed surface	0.1038	V. Low	N/A - Other	N/A
Urban	Introduced shrub	0.003	Low	Condition Assessment N/A	0.01
Urban	Introduced shrub	0.001	Low	Condition Assessment N/A	0.00
Individual trees	Urban tree	0.0122	Medium	Poor	0.05
*Individual trees are not included in the total site area to avoid double counting				TOTAL	0.06

The above table has been completed based on the methodologies detailed in Section 3.0 and on application of the below points:

- In accordance with the SBM User Guide, 'Developed land; sealed surface' and 'Introduced shrub' have no condition assessment.
- 'Urban tree' was assigned 'Poor' given the size, condition and species of the trees present.

4.2 POST-DEVELOPMENT (PROPOSED)

Using the SBM calculation tool, the proposed development is predicted to deliver 0.14 HU, as shown in Table 4.2.

Table 4.2 Post-Development Habitat Units

Broad Habitat	Proposed Habitat	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Urban	Developed land; sealed surface	0.10499	V. Low	N/A - Other	0.00
Urban	Introduced shrub	0.00385	Low	Condition Assessment N/A	0.01
Urban	Ground based green wall	0.00474	Low	Poor	0.01
Urban	Introduced shrub	0.0039	Low	Condition Assessment N/A	0.01
Urban	Introduced shrub	0.0016	Low	Condition Assessment N/A	0.00
Urban	Introduced shrub	0.00092	Low	Condition Assessment N/A	0.00
Individual trees	Urban tree	0.0244	Medium	Poor	0.07
Individual trees	Urban tree	0.0163	Medium	Poor	0.04
*Urban trees and green walls are not included in the total site area to avoid double counting				TOTAL	0.14

The above tables have been completed based on the methodologies detailed in Section 3.0 and on application of the below points:

- In accordance with the SBM User Guide, 'Developed land; sealed surface' and 'Introduced shrub' have no condition assessment.
- 'Urban tree' was assigned 'Poor' given the size, condition and species of the trees present.
- Vertical greening is proposed for the site, which under SBM is listed as a 'ground-based green wall'. The habitat is assumed to reach a condition score of 'Poor' given its shaded location and likely lack of structural variety.

5.0 EVALUATION AND DISCUSSION

Under the proposals, and in the absence of additional enhancement measures and habitat creation, the development is predicted to deliver 0.14 HU, which is an increase of 0.08 HU. This corresponds to an equivalent 146.40 % BNG. All BNG Trading Rules have also been satisfied.

The proposals are therefore in compliance with all relevant legislation and planning policy (see Appendix D).

Table 5.1 below evaluates whether the habitat types that will be present post-development will contribute 'significant enhancements'.

Table 5.1 Significant Enhancements Evaluation

Criteria	Present/ Absent	Comments
Habitats of medium or higher distinctiveness in the biodiversity metric (created)	Present	Through planting of Urban trees.
Habitats of low distinctiveness which create a large number of biodiversity units relative to the biodiversity value of the site before development	Absent	Not applicable given the total vegetation coverage.
Habitat creation or enhancement where distinctiveness is increased relative to the distinctiveness of the habitat before development	Absent	Distinctiveness ranges from V. low to Medium for pre and post development scenarios.
Areas of habitat creation or enhancement which are significant in area relative to the size of the development	Absent	Not applicable given the total vegetation coverage.
Enhancements to habitat condition, for example from poor or moderate to good	Absent	All habitats are lost.

A Habitat Management and Monitoring (HMMP) will be produced setting out the actions required to manage and maintain the habitats to maximise their biodiversity value over the long term (30 years minimum). This is recommended to be secured by condition.

Further qualitative ecological enhancement should ideally also be targeted on site through the provision of invertebrate habitat features (such as pollinator posts), bat boxes, and bird boxes, to help protect

nationally and locally important species, including those specified in national , regional and local Biodiversity Action Plans.

6.0 SUMMARY AND CONCLUSIONS

This BNGA has been completed to identify the pre-development (baseline) biodiversity value of the site and compare against the predicted post-development biodiversity value.

The baseline value for the site has been calculated as 0.06 HU.

The post-development design proposals are predicted to deliver 0.14 HU. This is a net gain of 0.08 HU (equivalent to +146.40 % for HU).

The design proposals meet the BNG Trading Rules and are in compliance with the mandate set out in the Environment Act.

A HMMP should be produced detailing the habitat creation and long-term management over 30 years (minimum) and is recommended to be conditioned. Assuming landscaping proposals are implemented correctly, and habitats maintained in accordance with the HMMP, then the proposals stand to be compliant with legislation and planning policy.

Upon receiving planning permission, a Biodiversity Gain Plan will be submitted to the Local Planning Authority.

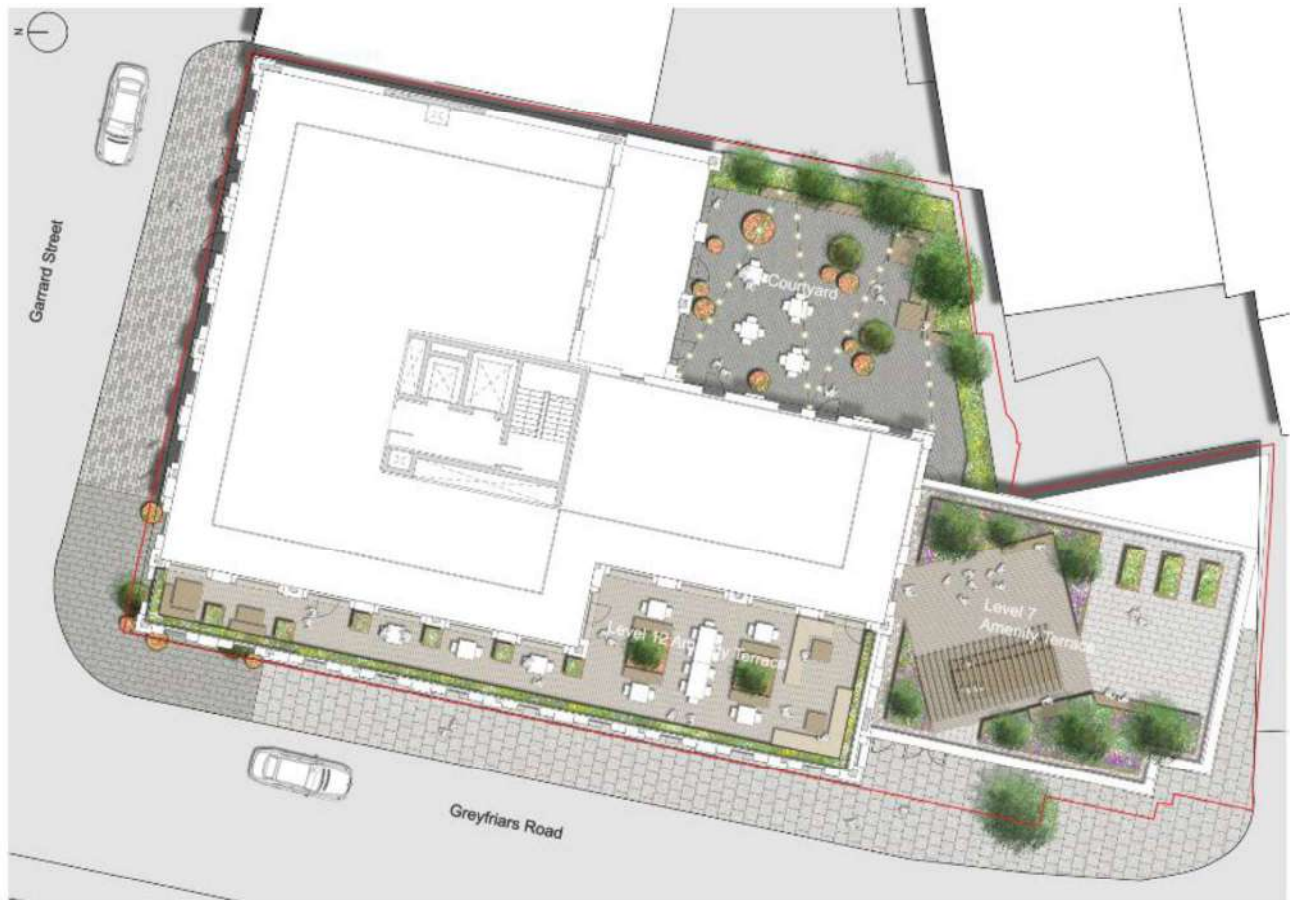
APPENDIX A EXISTING SITE

Figure A.1 Existing Site (Redline indicates approximate survey boundary)



APPENDIX B LANDSCAPING

Figure B.1 Landscape Masterplan



APPENDIX C CONDITION ASSESSMENTS

C.1 TREE CONDITION ASSESSMENTS

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The tree is a native species (or at least 70% within the block are native species).	N	
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	
C	The tree is mature (or more than 50% within the block are mature) ¹ .	N	
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	N	
Number of criteria passed			
Condition Assessment Result (out of 6 criteria)		Condition Assessment Score	Score Achieved x/√
Passes 5 or 6 criteria		Good (3)	
Passes 3 or 4 criteria		Moderate (2)	
Passes 2 or fewer criteria		Poor (1)	
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.			

APPENDIX D RELEVANT LEGISLATION AND POLICY

D.1 LEGISLATION

The BNGA has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England including:

- UK Government's 25 Year Environment Plan (DEFRA, 2018);
- Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services (DEFRA, 2011);
- National Planning Policy Framework (NPPF) (MHCLG, 2023);
- The Natural Environment and Rural Communities (NERC) Act (HMSO, 2006); and
- The Environment Act (DEFRA, 2021).

The Environment Act, 2021

Under the Environment Act, 2021, as of 12th February 2024 and 2nd April 2024, it is mandatory in England for new developments (with a small number of exceptions) to deliver a minimum 10% biodiversity net gain (BNG), as measured by the Statutory Biodiversity Metric or Small Sites Metric (SSM) respectively, secured through planning condition as standard (as per schedule 14 of the Act). Approach to the delivery of BNG must follow the mitigation hierarchy, with avoidance of impact and on-site compensation/gains prioritised, ahead of the use of off-site compensation, or the purchase of statutory credits.

The Act introduces the condition that no development may begin unless a Biodiversity Gain Plan (BGP) has been submitted and approved by the LPA.

The Act also amends requirements of the NERC Act, 2006, adding the need to not just conserve, but enhance biodiversity through planning projects. Furthermore, it introduces the need for the LPA to have regard to relevant local nature recovery strategies and relevant species/protected site conservation strategies, when making their decision.

Under the Act, the enhancements must be maintained for at least 30 years.

D.2 PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2023⁸ sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: ‘if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused’. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Local

Reading Local Plan

EN12 Biodiversity and the Green Network

On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible. Development should:

- Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and
- Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable.

REFERENCES

¹ UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>).

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

³ BSI (2013); British Standard 42020:2013: Biodiversity – Code of practice for planning and development, BSI Standards Publication

⁴ Department for Environment Food and Rural Affairs (2024) The Statutory Biodiversity Metric User Guide. Available at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides#:~:text=The%20statutory%20biodiversity%20metric%20tool,the%20statutory%20biodiversity%20metric%20tool>

⁵ UKTAG (UK Technical Advisory Group). (2003). Guidance on Typology for Lakes for the UK. Water Directive Framework.

⁶ EEA (European Environment Agency). (2019). EUNIS Habitat Classification. Available at: <https://www.eea.europa.eu/data-and-maps/data/eunis-habitat-classification>

⁷ JNCC (Joint Nature Conservation Committee) Annex I Habitat Types (2019) Available at: <https://sac.jncc.gov.uk/habitat/>

⁸ GOV.UK. (2023). National Planning Policy Framework. [online] Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

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