



Arena Central Developments LLP

ARENA CENTRAL SERPENTINE PATH

Biodiversity Net Gain Report





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Executive Summary

Consideration	Description	Reference(s) for further detail
Document purpose/scope	A BNG assessment to support the planning application.	Section 1.1 and Section 1.3
Applicant	Arena Central Developments LLP	Section 1.1
Competent person(s) completing the Biodiversity Net Gain (BNG) assessment	Richard Brown – Associate BNG Consultant – FISC 3. WSP UK Ltd. The Mailbox Birmingham, B1 1RS	Section 2.1
Description of the development and planning permission reference number (if available)	The creation of a new footpath to support the wider Arena Central development, with associated hard and soft landscaping features.	Section 1.2
Statement that the applicant believes that the project is subject to the biodiversity gain condition*	The Proposed Scheme does not meet criteria for BNG exemption, as defined by the Biodiversity Gain Requirements (Exemptions) Regulations 2024.	Section 1.1
Completed Statutory Biodiversity Metric tool provided*?	Yes	Appendix D
Baseline habitat map provided*?	Yes	Appendix A
Post-intervention habitat map provided*?	Yes	Appendix A
Baseline UKHab and condition assessment data provided?	Yes	Appendix E



Consideration	Description	Reference(s) for further detail
Total on-site baseline area (ha)	0.15ha	Section 3.3
Relevant date for the pre-development (baseline) biodiversity value*	6 th August 2025	Section 2.4
Baseline degradation*	N/A	Section 2.4
Irreplaceable habitats*	N/A	Section 3.2
Very high distinctiveness habitats	N/A	Section 3
Headline result: Estimated overall net change in biodiversity value	17.79% net gain of area habitat units	Results are further detailed in Section 3 .
Metric trading rules met?	Yes	Trading summary per habitat provided in the Metric toolkit
Evidence of avoidance and minimisation of adverse effects on biodiversity	The baseline value of the site is relatively low and is being replaced with higher distinctiveness habitats.	Sections 2.5 and 3.4
Evidence of Biodiversity Gain Hierarchy application to compensate for adverse effects	The baseline value of the site is relatively low and is being replaced with higher distinctiveness habitats.	Sections 2.5 and 3.
Significant on-site enhancements	N/A	Section 3.4
Alignment with good practice	This BNG assessment has been undertaken in alignment with the most up-to-date statutory and local guidance and good practice.	Section 2.2 and Appendix C.
Summary of key recommendations	A final Biodiversity Gain Plan (BGP) is to be prepared and submitted post-determination	Section 4



Consideration	Description	Reference(s) for further detail
	to discharge the biodiversity gain condition.	

*Information that forms the minimum information legally required to accompany planning application submissions.

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1 Introduction

1.1 Document Purpose

- 1.1.1. WSP UK Ltd. (WSP) was commissioned by Arena Central Developments LLP to undertake a Biodiversity Net Gain (BNG) assessment of Serpentine Path, Arena Central, Birmingham (herein referred to as “the Proposed Scheme”).
- 1.1.2. Arena Central Developments LLP understands that, should planning permission be granted for the Proposed Scheme, it would be subject to the biodiversity gain condition under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021) (HM Government, 2021a). The Proposed Scheme does not meet criteria for BNG exemption, as defined by the Biodiversity Gain Requirements (Exemptions) Regulations 2024 (HM Government, 2024b).
- 1.1.3. The purpose of this document is to report the process and outcomes of a BNG assessment completed to inform a planning application under the Town and Country Planning Act 1990 for the creation of a new footpath and associated hard and soft landscaping features at Serpentine Path, Arena Central.
- 1.1.4. The Proposed Scheme is not a phased development; therefore, this report relates to the full stand-alone application for the Serpentine Path proposals.
- 1.1.5. This report contains details relating to:
 - the BNG Statement to be submitted for planning application validation; and
 - the draft content of the Biodiversity Gain Plan (BGP) to support the planning application.

1.2 Project Background

- 1.2.1. The Serpentine Path, which forms the focus of this Biodiversity Net Gain (BNG) assessment, is located immediately adjacent to 3 Arena Central (19 Holliday Street, Birmingham B1 1HH; grid reference SP 06385 86645).
- 1.2.2. The Proposed Scheme comprises the creation of a new footpath to support the wider Arena Central development, with associated hard and soft landscaping features. This BNG assessment relates to proposals described in the Preliminary Ecological Appraisal (PEA) prepared by WSP (2025) and should be read alongside that report.
- 1.2.3. The Site area is approximately **0.15 hectares (ha)** based on the design at the time of this assessment and is defined by the Proposed Scheme’s red line boundary shown in **Appendix A**. This is hereafter referred to as “the Site”.

1.3 Biodiversity Net Gain Overview

- 1.3.1. BNG is defined by the Department for Environment, Food, & Rural Affairs (Defra) as an approach to development that makes sure that habitats for wildlife are left in a measurably better state than they were before the development (Defra, 2024a).
- 1.3.2. In England, a minimum 10% BNG is mandatory for major developments and small sites under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021) (HM Government, 2021a).
- 1.3.3. Birmingham City Council does not currently have a published local BNG target above the national 10 % requirement; therefore, this assessment has been undertaken on the basis of the statutory minimum. Arena Central Developments LLP has not set an additional corporate BNG target for this project at this stage.
- 1.3.4. The BNG process follows the mitigation hierarchy, which sets out that everything possible must be done to firstly avoid, secondly minimise and thirdly restore/rehabilitate losses of biodiversity on-site. Only as a last resort, residual losses are compensated for using off-site habitat enhancement or creation (also known as biodiversity offsetting).
- 1.3.5. Mandatory BNG also requires the application of the Biodiversity Gain Hierarchy (Defra, 2024b), which specifies that:
 - *“first, in relation to on-site habitats which have a medium, high and very high distinctiveness (a score of four or more according to the statutory biodiversity metric), the avoidance of adverse effects from the development and, if they cannot be avoided, the mitigation of those effects; and*
 - *“then, in relation to all on-site habitats which are adversely affected by the development, the adverse effect should be compensated by prioritising in order, where possible, the enhancement of existing on-site habitats, creation of new on-site habitats, allocation of registered off-site gains and finally the purchase of biodiversity credits.”*
- 1.3.6. Mandatory BNG must be assessed by a competent person using the Statutory Biodiversity Metric (herein referred to as “the Metric”) and its associated rules and guidance (Defra, 2024c). The Metric accounts for habitat losses and gains resulting from development and quantifies the net change in biodiversity value, measured in ‘area habitat units’, ‘hedgerow units’ and ‘watercourse units’¹. The Metric guidance also states that up-to-date industry good practice principles (CIEEM, CIRIA & IEMA, 2016) and British Standard (BS) 8683:2021 (British Standards Institute, 2021) should be applied.
- 1.3.7. BNG cannot be applied to adverse effects on irreplaceable habitats (Defra, 2024e). BNG is additional to other legislative requirements relating to habitats and species, although mitigation/enhancement from certain schemes can count towards BNG either in full or in part (Defra, 2024f).

¹ The minimum 10% BNG target applies separately for each type of unit, and these cannot be summed or traded.



1.4 Scope of Report

- 1.4.1. Arena Central Developments LLP is proposing to achieve a minimum 10% Biodiversity Net Gain (BNG) for the Proposed Scheme, in line with the Environment Act 2021 and the national mandatory requirements under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). Birmingham City Council currently has no local policy requiring a higher BNG percentage.
- 1.4.2. The remainder of this report and associated appendices describe the BNG assessment methods, results and recommendations for the following aspects of the Proposed Scheme, aligning with the Biodiversity Gain Hierarchy (Defra, 2024b):
 1. The pre-development (baseline) biodiversity unit value of on-site area habitats, hedgerows/lines of trees and watercourses, calculated using the Metric.
 2. The estimated units to be retained, lost, enhanced, and created on-site, based on the Proposed Scheme's design.
 3. The resulting overall net change in **on-site** biodiversity unit value (i.e., whether the Proposed Scheme achieves an on-site net loss, no net loss, or net gain in biodiversity units).
- 1.4.3. It is important to recognise that BNG is one of several factors to be considered when assessing the impact of the Proposed Scheme on biodiversity. Please note that this BNG report does not cover potential impacts of the Proposed Scheme on protected species or, designated sites, although the BNG design has been aligned with these wherever possible. These aspects are addressed within the accompanying Preliminary Ecological Appraisal Report (WSP, 2025).
- 1.4.4. This assessment has been compiled with reference to relevant legislation and policy relating to nature conservation and BNG, listed in **Appendix B**.

2 Methodology

2.1 Quality Assurance

- 2.1.1. This Biodiversity Net Gain (BNG) report and the associated Metric calculation have been completed and independently quality-assured by a team of WSP ecologists competent in BNG assessment. Collectively, the team has over 10 years' experience in habitat surveys and BNG assessments and includes members of the CIEEM at Associate level, with relevant Field Identification Skills Certificates (FISC).
- 2.1.2. Baseline habitat surveys for the Site were undertaken in August 2025 by a competent WSP ecologist with Associate-level competency under the CIEEM Competency Framework in Preliminary Ecological Appraisal and biodiversity assessments. The survey was supervised and quality-checked by a senior WSP ecologist (Associate CIEEM) experienced in PEA and BNG assessments, with 10 years' experience and FISC level 3 field skills.
- 2.1.3. No River Condition Assessment (RCA) was required for this Site as there are no watercourses within or immediately adjacent to the Site.

2.2 Guidance and Tools

- 2.2.1. This BNG report and approach has applied the following guidance and tools:
 - UK Government Biodiversity Net Gain Collection (Defra, 2024g);
 - Statutory Biodiversity Metric and associated user guidance (Defra, 2024c), including the associated rules and principles set out in the Metric User Guide;
 - Biodiversity Net Gain: Good Practice Principles for Development (CIEEM, CIRIA & IEMA, 2016). These are listed in **Appendix C**;
 - Biodiversity Net Gain: Good Practice Principles for Development – a Practical Guide (CIEEM, CIRIA & IEMA, 2019);
 - British Standard 8683 Process for designing and implementing Biodiversity Net Gain – Specification (2021) (British Standards Institute, 2021);
 - Biodiversity Net Gain Reporting and Audit Templates (CIEEM, 2021); and
- 2.2.2. The assessment also takes account of relevant local planning policy and guidance to ensure consistency with the PEA and planning submission, including:
 - Birmingham Development Plan (BDP) 2031;
 - The Birmingham Design Guide Supplementary Planning Document (SPD) 2022; and
 - Key local policies TP7 (Green Infrastructure Network) and TP8 (Biodiversity and Geodiversity) which seek to protect and enhance biodiversity and support delivery of BNG within new developments.



2.3 Data Sources

2.3.1. An initial desk study using publicly available Open-Source (Natural England, 2021) and local datasets to identify potential/likely Habitats of Principal Importance (HPI), irreplaceable habitats, and statutory and non-statutory designated sites for nature conservation. The desk study is described in the PEA (WSP, 2025).

Aerial photography and OS mapping were also consulted to confirm the extent of on-site habitats and local context.

A UK Habitat Classification (UKHab) (UKHab, 2023) survey was undertaken of the Site (including boundaries and adjacent features) on 6th August 2025 following best practice guidelines. This survey provided baseline habitat data which detailed the habitat types present on-site, their area (ha) and/or length (km) and their geographic distribution. Full details of the survey method are provided within the PEA (WSP, 2025). All areas/lengths of habitats have been measured using ArcGIS Pro with reference to Ordnance Survey MasterMap basemap. Habitat survey data are included in **Appendix A** and **Appendix D**.

Condition assessments for area habitats were completed concurrently with the baseline habitat survey. A summary of condition assessment results is provided in **Appendix E and F**. Detailed condition assessments per individual habitat parcel are provided within the supplementary dataset (see **Appendix D**).

A Landscape General Arrangement Plan and Planting Plan was provided by Gillespies on 15/09/2025, titled P22408-00-001-GIL-0002-01, identifying areas of habitat to be enhanced or created on-site. This plan was translated into post-development Metric habitat types for use in the assessment. Post-development habitats are visualised in Appendix A, Figure 2, and the design has undergone iterative improvements to achieve the best feasible outcomes for biodiversity.

In addition to the above, this assessment has drawn on:

- Baseline ecological information contained in the Preliminary Ecological Appraisal (WSP, 2025);
- The Birmingham Development Plan (BDP) 2031 and the Birmingham Design Guide SPD (2022) to ensure alignment with local biodiversity policy.

2.4 Relevant Date for Pre-development Biodiversity Value (On-site Baseline)

- 2.4.1. The metric calculation has been carried out based on on-site baseline habitats present on the 'relevant date'². This was determined based on the date of the planning application, and whether authorised habitat degradation had been carried out since 25 August 2023 or unauthorised habitat degradation had been carried out since 30 January 2020.
- 2.4.2. No signs of habitat degradation were recorded therefore the relevant date is taken to be the date of the planning application. It is considered that the baseline survey data collected on 6th August 2025 reflects the habitats present on this date.

2.5 Biodiversity Gain Hierarchy

- 2.5.1. The Proposed Scheme has been designed in accordance with the Biodiversity Gain Hierarchy (Defra, 2024b).
- 2.5.2. The Proposed Scheme has been designed in accordance with the Biodiversity Gain Hierarchy (Defra, 2024b). This has been achieved by integrating biodiversity considerations into the design process from the outset and at key milestones, including:
 - Avoidance: locating the new footpath and associated works entirely within previously developed or sparsely vegetated urban land, thereby avoiding impacts on higher-value habitats within and adjacent to the Site;
 - Minimisation: reducing the footprint of new sealed surfaces where possible and selecting construction methods that minimise temporary habitat loss or disturbance;
 - Restoration/Enhancement: introducing new planting, including ornamental shrubs and a small SuDS feature, to provide more diverse and structurally varied habitats than are currently present on-site; and
- 2.5.3. All feasible on-site opportunities for enhancement have been implemented. The Metric demonstrates a measurable net gain without the need for off-site compensation or purchase of biodiversity credits.
- 2.5.4. These measures were identified through close collaboration between WSP's ecology team, Arena Central Developments LLP, and the project landscape designers during preparation of the PEA (WSP, 2025) and the BNG assessment.

2.6 Strategic Significance

- 2.6.1. The strategic significance of habitats has been assessed following the categories set out in Table 7 of the Metric User Guide (Defra, 2024c). As no Local Nature Recovery Strategy

² As defined in paragraph 5 of Schedule 7A (Biodiversity Gain in England) of the Town and Country Planning Act 1990 (HM Government, 1990).

(LNRS) applies to the Site, the assessment has been based on local planning guidance and published habitat datasets, including:

- Birmingham Development Plan (BDP) 2031;
- Birmingham Design Guide Supplementary Planning Document (SPD) 2022;
- Natural England Priority Habitat Inventory (HPI) datasets;
- Other relevant local ecological datasets referenced in the PEA.

2.6.2. All habitats on-site have been assigned a **low strategic significance score**, reflecting that the Site is outside of any local strategy or priority area. This has been applied consistently to baseline habitats and post-intervention habitats, as summarised in Table 2-1.

2.6.3. Habitats have been assigned a strategic significance score based on their location and habitat type. This has been applied to baseline and post-intervention habitats, as summarised in **Table 2-1**.

Table 2-1 – Strategic Significance Assignment

Strategic Significance	Habitats Assigned and Reasoning
High (Formally identified in local strategy)	None – the Site is not located within a formally identified local strategy area or designated habitat network.
Medium (Location ecologically desirable but not in local strategy)	Not applicable – no areas on the Site fall under this category.
Low (Area not in a local strategy)	All habitats on-site, including sparsely vegetated land (ruderal/ephemeral), urban sealed surfaces, introduced shrub planting, and urban trees, are assigned low strategic significance as the Site is outside any local strategy or priority area.

2.7 Additionality

2.7.1. There are no habitat creation or enhancement measures associated with the Proposed Scheme that require consideration for additionality, as all on-site post-intervention habitats are measures that can be counted in full in line with government guidance on what counts towards BNG (Defra, 2024f).

2.8 Limitations

2.8.1. The UKHab survey was completed on 6th August 2025 with full coverage of the site; therefore, the survey data is considered representative of habitats present.



- 2.8.2. Detailed design information for the Proposed Scheme, including temporary construction areas and final landscaping specifications, was provided but subject to minor ongoing refinements. This may affect the exact habitat areas for post-intervention Metric calculations.
- 2.8.3. No other significant limitations were identified. All on-site habitats were surveyed within an appropriate season for vegetation identification, and no protected or priority species surveys were required to support BNG calculations.

2.9 Assumptions

- 2.9.1. Baseline Habitat and Condition: The baseline habitat data and condition were collected during a UKHab survey on 6th August 2025. It is assumed that these data are representative of the relevant date for the planning application, and no significant habitat degradation has occurred since the survey.
- 2.9.2. It is assumed that habitat creation and enhancement measures will be implemented in alignment with the construction programme, with minimal delay beyond the completion of the footpath and associated landscaping works. Temporal multipliers applied in the Metric reflect immediate implementation post-construction.
- 2.9.3. No off-site compensation units are currently required to achieve the 10% BNG target for this small-scale scheme, based on the predicted net gain from on-site habitat creation and enhancement.
- 2.9.4. A precautionary approach has been applied throughout the assessment to ensure that habitat areas and conditions are not overestimated. No residual biodiversity credits are assumed to be required from market purchases, as on-site measures are sufficient to meet the minimum 10% BNG requirement.

2.10 Data sharing statement

- 2.10.1. Arena Central Developments LLP permits ecological survey data gathered as part of this BNG assessment to be shared with the Local Environmental Records Centre or other bodies.

3 Results

3.1.1. This section provides a summary of results for the Proposed Scheme, including the on-site baseline and post-intervention biodiversity. Further detailed quantitative results are provided within the Metric toolkit(s) (see **Appendix D**).

3.2 Irreplaceable habitats

3.2.1. Irreplaceable habitats (as defined in the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 (HM Government, 2024a)) are treated differently within the statutory framework for BNG. Good practice (CIEEM, CIRIA & IEMA, 2019) recommends that an overall scheme-wide BNG cannot be achieved where there are losses of irreplaceable habitats, although mandatory net gain requirements will still be applied to remaining habitats.

3.2.2. No irreplaceable habitats were identified on-site.

3.3 On-site Baseline Biodiversity

3.3.1. An overview of the baseline biodiversity for the Proposed Scheme is provided below. The tabs within the accompanying Metric (**Appendix D**) provide quantitative details on the habitat baseline and should be referred to for full details on the habitats present on-site. In this instance, please refer to tabs: A-1 Site Habitat Baseline,

3.3.2. A baseline habitat map is provided in **Appendix A**. A summary of baseline habitat units is provided in **Figure 3-1**.

Area habitats

3.3.3. The total area covered by on-site area habitats measures approximately 0.15 ha. This includes a combination of sparsely vegetated urban land (ruderal/ephemeral), developed/sealed surfaces, and small patches of introduced shrubs.

3.3.4. The baseline area habitats are dominated by sparsely vegetated land – ruderal/ephemeral (0.118 ha), with developed/sealed surfaces accounting for 0.034 ha. The ruderal areas are characterised by opportunistic colonising species with varying abundances recorded across different quadrats. Introduced shrubs are present in minor areas but are not currently classed as priority habitats.

3.3.5. A small existing Sustainable Drainage System (SuDS) feature – a triangular planter/water feature installed as part of the 3AC works – is located within the Site (0.0004 ha). This feature will be retained as existing under the Proposed Scheme and therefore, no adverse effects are anticipated.

3.3.6. No Habitats of Principal Importance (HPI) or irreplaceable habitats were identified within the Site. These habitats provide low distinctiveness and are of low strategic significance, reflecting their urban context.



Hedgerows

3.3.7. No hedgerow or line of tree habitats were identified on-site.

Watercourses

No watercourses, ditches, or riparian zones were identified within or adjacent to the Site. Therefore, no baseline watercourse units are included in the Metric calculation.

3.4 On-site Post-intervention Biodiversity

3.4.1. An overview of on-site post-intervention biodiversity for the Proposed Scheme is provided below in line with the Biodiversity Gain Hierarchy (Defra, 2024h). Full quantitative details of on-site habitat retention, enhancement, loss, and creation are provided in the Metric.

3.4.2. A post-intervention habitat map is provided in **Appendix DA**.

On-site Habitat Retention

3.4.3. The small SuDS planter/water feature will, however, be retained in its current form. No other habitat on site will be retained as part of the Proposed Development.

On-site Habitat Enhancement

3.4.4. No on-site enhancement measures proposed for existing habitats, as the baseline habitats are of low distinctiveness and limited ecological value.

On-site Habitat Loss

3.4.5. All sparsely vegetated land (ruderal/ephemeral) and sealed/developed surfaces on site will be lost to the development for the creation of new introduced shrub, SUDs and sealed/developed surfaces pathways along with new trees.

On-site Habitat Creation

3.4.6. Onsite habitats that will be created are a mixture of developed land (sealed surface, introduced shrub planting and urban trees. Through the centre of the site is a small SuDS water feature.

Significant On-site Enhancements

3.4.7. The habitat proposed to be created on site are not deemed to be classified as significant on-site gains (Birmingham City Council, 2025). The majority of the habitat to be created will be low distinctiveness habitat with only a small number of urban trees to be proposed within the planting. DEFRA state "*LPAs may also require legal agreements for wider planning policy reasons for other on-site enhancements or retained habitats which do not fall into the 'significant enhancements' category. For example, where these are expected to contribute to locally important species or ecological networks. Examples include amenity planting areas or individual street trees which may be significant depending on circumstances.*



Check with your LPA for more guidance or a local plan which explains any local requirements. It is proposed within the context of the site, a HMMP would not be required but the implementation and management of this habitat could be secured by a Landscape and Ecological Management Plan (LEMP) or another similar document.

- 3.4.8. The Proposed Scheme results in a modest positive increase in biodiversity value on-site due to the creation of new habitat on site.

Trading Rules

- 3.4.9. Based on the on-site design, the Metric trading rules have been met for all habitats.

Summary of On-site Biodiversity Change

- 3.4.10. Headline results for the on-site baseline units, on-site post-intervention units, and on-site net change are shown in **Figure 3-1**. Detailed results per individual habitat type, including habitat trading, can be viewed within the Metric toolkit (see **Appendix D**).

Figure 3-1 - On-site Headline Results

On-site baseline	Area habitat units	0.24	
	Hedgerow units	0.00	
	watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Area habitat units	0.28	
	Hedgerow units	0.00	
	watercourse units	0.00	
On-site net change (units & percentage)	Area habitat units	0.04	17.79%
	Hedgerow units	0.00	0.00%
	watercourse units	0.00	0.00%
Off-site baseline	Area habitat units	0.00	
	Hedgerow units	0.00	
	watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Area habitat units	0.00	
	Hedgerow units	0.00	
	watercourse units	0.00	
Off-site net change (units & percentage)	Area habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	watercourse units	0.00	0.00%
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Area habitat units	0.04	
	Hedgerow units	0.00	
	watercourse units	0.00	
Spatial risk multiplier (SRM) deductions	Area habitat units	0.00	
	Hedgerow units	0.00	
	watercourse units	0.00	
FINAL RESULTS			
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Area habitat units	0.04	
	Hedgerow units	0.00	
	watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Area habitat units	17.79%	
	Hedgerow units	0.00%	
	watercourse units	0.00%	
Trading rules satisfied?	Yes ✓		



4 Recommendations and Next Steps

4.1.1. The following recommendations apply to the Proposed Development in order to meet national and local policy and legislative requirements, as well as BNG good practice:

1. A final Biodiversity Gain Plan (BGP) is to be prepared and submitted post-determination to discharge the biodiversity gain condition.
2. A 30-year Habitat Management and Monitoring Plan (HMMP) is not proposed for this site, as it is deemed that the habitat creation and management long term can be secured by a suitable worded landscaping planning condition.
3. No off-site measures or biodiversity credits are required, as the net gain is achieved on-site (17.79%).

5 Conclusion

- 5.1.1. The Biodiversity Net Gain assessment for the Serpentine Path demonstrates that the Proposed Scheme delivers a net gain of 17.79% for on-site area habitats, exceeding the mandatory 10% requirement under the Environment Act 2021.
- 5.1.2. All feasible on-site creation has been incorporated in line with the Biodiversity Gain Hierarchy.
- 5.1.3. As a result, the Scheme meets national and local policy requirements and demonstrates a positive contribution to biodiversity without the need for off-site measures or biodiversity credits.

6 References

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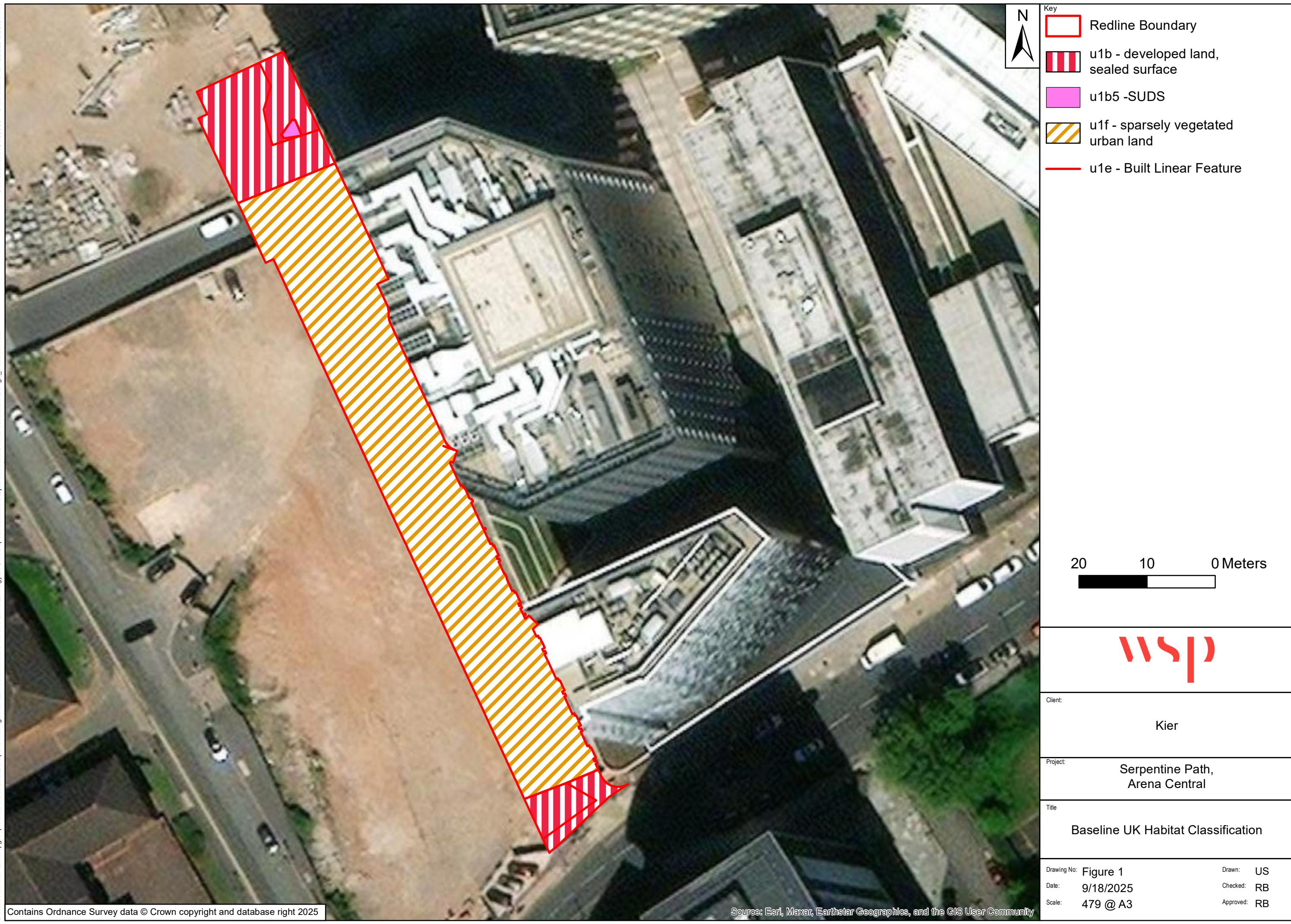


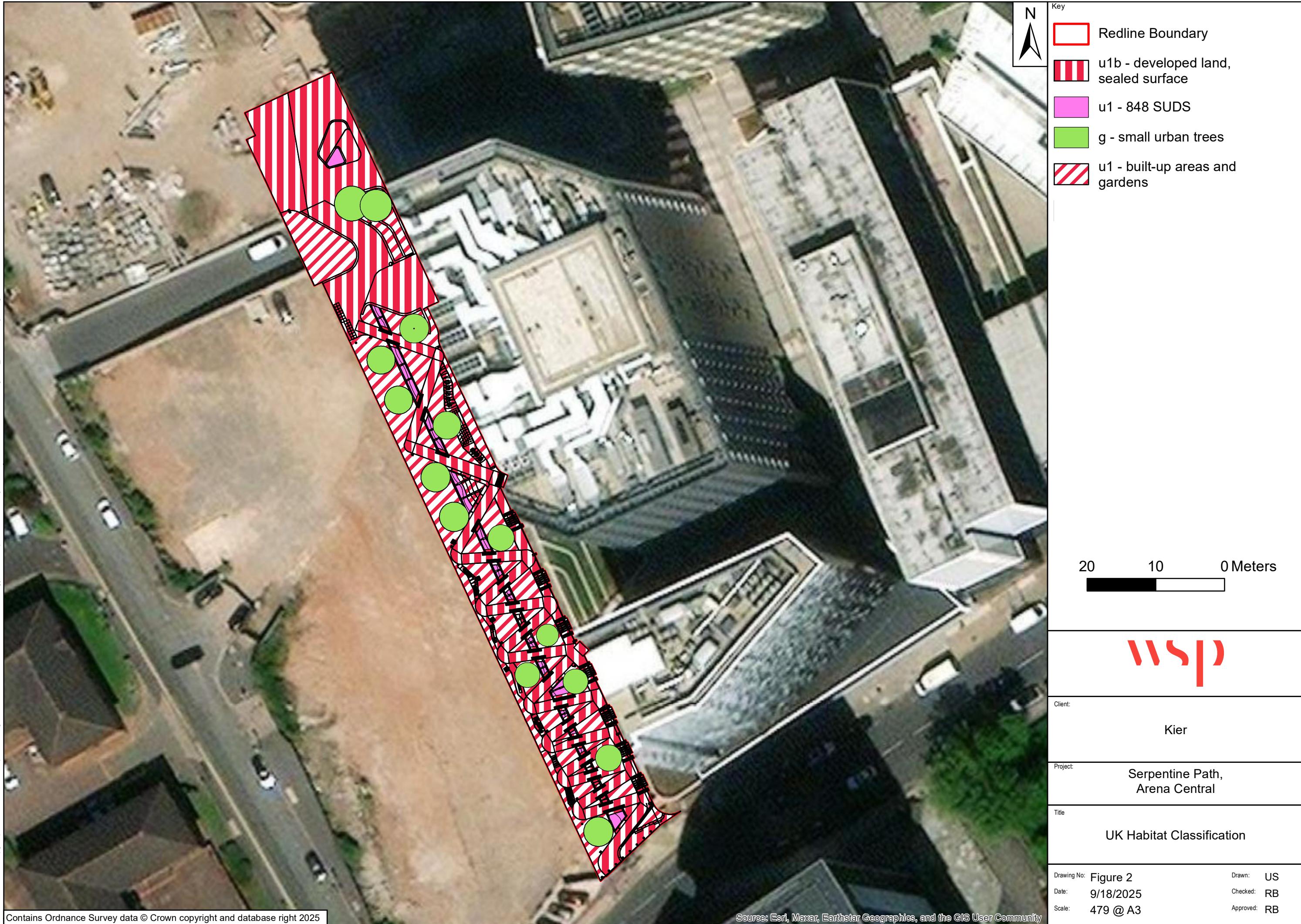
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Appendix A

Baseline and Post-intervention Habitat Maps







Appendix B

BNG Legislation & Policy





Appendix B – BNG Legislation and Policy

National legislation

England

Environment Act 2021

BNG is mandatory under Schedule 7a of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021) (HM Government, 2021a). This means that most major developments (with exemptions) must deliver a minimum of 10% net gain for biodiversity as a condition of planning permission, measured by the Statutory Biodiversity Metric. There are six statutory instruments that work together to deliver the BNG framework including:

- The Biodiversity Gain (Town and Country Planning) (Consequential Amendments) Regulations 2023 (HM Government, 2024e);
- The Biodiversity Gain Sites Register (Financial Penalties and Fees) Regulations 2023 (HM Government, 2023a);
- The Biodiversity Gain Site Register Regulations 2024 (HM Government, 2024f) ;
- The Biodiversity Gain Requirements (Exemptions) Regulations 2024 (HM Government, 2024b);
- The Biodiversity Gain Requirements (Irreplaceable Habitats) Regulations 2024 (HM Government, 2024a); and
- The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024 (HM Government, 2024d).

Under mandatory BNG, the Biodiversity Gain Hierarchy must be considered by LPAs when determining whether to approve a Biodiversity Gain Plan. Here, efforts must be made to first avoid then minimise adverse impacts in relation to on-site medium, high and very high distinctiveness habitats. Secondly, any adverse effect should be compensated by prioritising in order, where possible, the enhancement of existing on-site habitats, creation of new on-site habitats, allocation of registered off-site gains and finally the purchase of biodiversity credits. All significant on-site gains and all off-site gains from a development must be legally secured, managed and maintained for a period of 30 years.

Mandatory BNG does not replace existing legislations and protections for sites, habitats and species.

The Environment Act 2021 also amended the Natural Environment and Rural Communities (NERC) Act 2006 (HM Government, 2006). This amendment extended the duty of public authorities (the 'Biodiversity Duty') beyond the original NERC Act, which referred only to



conservation, so that it included the enhancement of biodiversity in England. Further description of the NERC Act is provided below.

All government policy and guidance are collated under the Biodiversity Net Gain Collection (Defra, 2024g).

UK Government's Environmental Improvement Plan

Biodiversity Net Gain is a key cross-cutting theme to deliver the environmental targets and commitments set out in the Government's Environmental Improvement Plan (Defra, 2023a).

National Planning Policy Framework

The revised National Planning Policy Framework (NPPF) (HM Government, 2024g) refers to conserving and enhancing the natural environment. This requires Local Authorities in England to take measures to:

- Conserve and enhance biodiversity;
- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks within plans;
- Promote the conservation, restoration and enhancement of priority habitats, ecological networks and priority species within plans, in addition to secure measurable net gains for biodiversity; and
- Refuse planning permission for development, if significant harm resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for.

The revised NPPF refers to biodiversity and environmental net gains in the following paragraphs:

- Transport Infrastructure:
 - Paragraph 108. "*Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*
d) the environmental impacts of traffic and transport infrastructure can be identified assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains."
- Planning decisions
 - Paragraph 125. "*Planning policies and decisions should a) encourage multiple benefits from both urban and rural land ... and taking opportunities to achieve net environmental gains - such as developments that would enable new habitat creation or improve public access to the countryside.*"



- Paragraph 187. “*Planning policies and decisions should contribute to and enhance the natural and local environment by: ... d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs.*”
- Paragraph 192. “*To protect and enhance biodiversity and geodiversity plans should b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing **measurable net gains for biodiversity**.*”
- Paragraph 193. “*When determining planning applications, local planning authorities should apply the following principles: a) 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; ... and d) ... “development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can **secure measurable net gains for biodiversity** or enhance public access to nature where this is appropriate”.*

Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities (NERC) Act (HM Government, 2006) requires public bodies, including local authorities, ‘*to have regard to the conservation of biodiversity in England when carrying out their normal functions*’.

Section 40 sets out the ‘Duty to Conserve and Enhance Biodiversity’, and states that:

- Paragraph 1. “*A public authority which has any functions exercisable in relation to England must from time to time consider what action the authority can properly take, consistently with the proper exercise of its functions, to further the general biodiversity objective*”. The general biodiversity objective is the “*conservation and enhancement of biodiversity in England*”.

Section 41 sets out that:

- Paragraph 1. “*The Secretary of State must... publish a list of the living organisms and types of habitat ... of principal importance for the purpose of conserving biodiversity*” based on consultation with Natural England; and that
- Paragraph 3a. The Secretary of State must “*a) take such steps... to further the conservation of the living organisms and types of habitat included in any list published under this section, or (b) promote the taking by others of such steps*”.

Appendix C

**BNG Good Practice Principles
(CIEEM, IEMA & CIRIA, 2016)**





Appendix C – BNG Good Practice Principles (CIEEM, IEMA & CIRIA, 2016)

Principle	Description	Evidence
1. Apply the mitigation hierarchy	<p>Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision-makers where possible, compensate for losses that cannot be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.</p>	See Section 3 for details on how the Biodiversity Gain Hierarchy has been applied.
2. Avoid losing biodiversity that cannot be offset by gains elsewhere	<p>Avoid impacts on irreplaceable biodiversity – these impacts cannot be offset to achieve No Net Loss or Net Gain.</p>	See Section 3.2 for details relating to avoidance of irreplaceable habitats.
3. Be inclusive and equitable	<p>Engage stakeholders early, and involve them in designing, implementing, monitoring, and evaluating the approach to Net Gain. Achieve Net Gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.</p>	The benefits in terms of biodiversity, as well as ecosystem services will be available to the main stakeholders – the employees/residents/users of facilities, as well as the general public. The BNG outcome is to be shared with relevant stakeholders through the planning process. Stakeholders will be able to review results and provide comments and queries as part of this process.

Principle	Description	Evidence
4. Address risks	<p>Mitigate difficulty, uncertainty, and other risks to achieving Net Gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.</p>	<p>The Statutory Biodiversity Metric accounts for delivery risk, temporal risk, and spatial risk in the unit calculation (see Section 2 and Appendix D for the Metric toolkit).</p>
5. Make a measurable Net Gain contribution	<p>Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.</p>	<p>The Statutory Biodiversity Metric has been applied to quantify changes in biodiversity value.</p>
6. Achieve the best outcomes for biodiversity	<p>Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly justified choices when:</p> <ul style="list-style-type: none"> <li data-bbox="468 1358 906 1650">■ Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses; <li data-bbox="468 1673 906 1920">■ Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation; 	<p>The Proposed Scheme has been designed to meet the trading rules of the Statutory Biodiversity Metric (see Section 3/Appendix D), apply the Biodiversity Gain Hierarchy (see Section 3), and incorporate local strategic objectives for nature (see Section 2.6).</p>



Principle	Description	Evidence
	<ul style="list-style-type: none">■ Achieving Net Gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels;■ Enhancing existing or creating new habitat;■ Enhancing ecological connectivity by creating more bigger, better, and joined areas for biodiversity.	
7. Be additional	Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e., do not deliver something that would occur anyway).	See Section 2.7 (Additionality).

Principle	Description	Evidence
8. Create a Net Gain legacy	<p>Ensure Net Gain generates long-term benefits by:</p> <ul style="list-style-type: none"> ■ Engaging stakeholders and jointly agreeing practical solutions that secure Net Gain in perpetuity; ■ Planning for adaptive management and securing dedicated funding for long-term management; ■ Designing Net Gain for biodiversity to be resilient to external factors, especially climate change; ■ Mitigating risks from other land uses; ■ Avoiding displacing harmful activities from one location to another; ■ Supporting local-level management of Net Gain activities. 	<p>A BGP will be developed for the Proposed Scheme in collaboration with relevant stakeholders.</p>
9. Optimise sustainability	<p>Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.</p>	<p>BNG has been used to inform the Proposed Scheme's design in collaboration with to provide positive outcomes for biodiversity while optimising wider sustainability.</p>
10. Be transparent	<p>Communicate all Net Gain activities in a transparent and timely manner, sharing the learning with all stakeholders.</p>	<p>The BNG outcome is to be shared with relevant stakeholders through delivery of the Proposed Scheme via the local authority planning portal.</p>

Appendix D

**Statutory Biodiversity Metric &
Supplementary Files**

WS|P



Appendix D – Statutory Biodiversity Metric & Supplementary Files

A completed Statutory Biodiversity Metric Excel toolkit has been provided alongside this report.

Appendix E

Habitat & Hedgerow Condition Assessment Summary





Appendix E – Condition Assessment Summary

Table E-1 provides a summary of baseline condition assessment results for area habitats. Full, detailed condition assessment results can be found in **[Appendix F]**.

Table E-1 – Condition Assessment Summary for Area Habitats – Baseline

Habitat reference or location	Condition sheets	Total number of condition sheets used, or habitat parcels	Number of parcels of each condition achieved					Notes
			Good	Fairly Good	Moderate	Fairly Poor	Poor	
On site	Urban – Developed land (sealed surface)	1					n/a	
On site	Urban – Ruderal/Ephemeral	1					1	



Habitat reference or location	Condition sheets	Total number of condition sheets used, or habitat parcels	Number of parcels of each condition achieved					Notes
			Good	Fairly Good	Moderate	Fairly Poor	Poor	
On site	Urban – SUDS	1					1	Due to the size of this water feature (4m2) a full condition assessment was not deemed appropriate and the condition was set to poor.

APPENDIX F – CONDITION ASSESSMENT SHEETS

**Condition Sheet: URBAN Habitat Type****Habitat Types**

- Sparsely vegetated land - Ruderal/Ephemeral**
- Sparsely vegetated land - Tall forbs**
- Urban - Allotments**
- Urban - Biodiverse green roof**
- Urban - Bioswale**
- Urban - Cemeteries and churchyards**
- Urban - Facade-bound green wall**
- Urban - Ground based green wall**
- Urban - Intensive green roof**
- Urban - Open mosaic habitats on previously developed land**
- Urban - Rain garden**
- Urban - Sustainable drainage system (SuDS)**
- Urban - Vacant or derelict land**
- Urban - Bare ground**

Habitat Description

u1f-81 (Ruderal or ephemeral) 82 (vacant or derelict land) – Sparsely vegetated urban land: Scattered areas of ruderal vegetation were observed on bare soil within the Survey Area. Dominant species included Canadian fleabane (*Erigeron canadensis*), Hedge mustard (*Sisymbrium officinale*) and buddleia. Vegetation is unmanaged and opportunistic, often colonising disturbed or bare substrates. Occasional debris was present. While these ruderal areas provide limited foraging habitat for invertebrates, none of the species are considered priority or protected. This habitat does not meet HPI criteria.

See the Statutory Biodiversity Metric User Guide for green roofs and UK Habitat Classification (UKHab) for other habitats:

[UKHab – UK Habitat Classification](#)

On-site or off-site, site name and location	On site	Survey date and Surveyor name	Richard Brown - 6th August 2025
Limitations (if applicable)	N/A	Survey reference (if relating to a wider survey)	N/A
Grid reference	SP 06394 86627	Habitat parcel reference	N/A
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)

Core Criteria - must be assessed for **all urban habitat types:**

A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	No	The majority of this habitat is dominated by buddleia with few other ruderal species present.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Yes	There is a mix of species which are suitable nectar sources for invert
C	Invasive non-native plant species (listed on Schedule 9 of WCA ¹) and others which are to the detriment of native wildlife (using professional judgement) ² cover less than 5% of the total vegetated area ³ . Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	No	buddleia dominant across the site



Condition Assessment Result	Condition Assessment Score	Score Achieved ✕/✓
Results for habitats requiring assessment of 3 core criteria only (all listed urban habitats except Open mosaic habitat on previously developed land, Bioswale, SuDS and Green roofs) :		
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.	Good (3)	
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)	
• Passes 0 or 1 of 3 core criteria.	Poor (1)	✗



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