



The Ecology Co-op

ENVIRONMENTAL CONSULTANTS

Unit 4, Langham Stables, Langham Lane, Lodsworth, West Sussex, GU28 9BU.

Tel: 01798 861 800 - E-Mail: info@ecologyco-op.co.uk - Web: www.ecologyco-op.co.uk

Biodiversity Impact Calculation

Site Name

47 Parkside Road, Reading

Issue Date

31st July 2025

Client

The Harris Partnership

Author

Owen Crawshaw

Project No: P6563

The Ecology Co-operation Ltd

Registered Office: Unit 4, Langham Stables, Langham Lane, Lodsworth, West Sussex, GU28 9BU

Company number: 8905527





Document Control

Issue No	Author	Reviewer	Issue Date	Additions/alterations	Notes
Original	Owen Crawshaw BSc (Hons), MCIEEM	Kate Priestman MCIEEM, CEnv	08/07/24	N/A	
Rev 2.0	Owen Crawshaw BSc (Hons), MCIEEM		04/03/25	Updated to reflect revised layout plans	
Rev 2.1	Owen Crawshaw BSc (Hons), MCIEEM		22/05/25	Minor amendments following comments from GS ecology	
Rev 2.2	Owen Crawshaw BSc (Hons), CEcol MCIEEM		30/07/25	Update following amendments to red line boundary and proposed layout	
Rev 2.3	Owen Crawshaw BSc (Hons), CEcol MCIEEM		31/07/25	Fig 2 replaced	
Rev 2.4	Owen Crawshaw BSc (Hons), CEcol MCIEEM		31/07/25	Minor amendment to Fig 3 and calculations adjusted accordingly	

Conditions of use

This report has been prepared by The Ecology Co-operation Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client. This report only becomes the property of the client once payment for it has been received in full.

We disclaim responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client, and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

About the Author

This report has been prepared by Owen Crawshaw a principal ecologist at The Ecology Co-op, with over 10 years' experience. As a full member of the Chartered Institute for Ecology and Environmental Management (CIEEM) and as a Chartered Ecologist through this body, he is bound by their code of professional conduct.

About the Reviewer

This report has been reviewed by Kate Priestman, who is a Principal Ecologist with over twenty years' experience. Kate has undertaken survey work and reporting, and prepared European Protected Species licences for numerous schemes. As a Full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and a Chartered Environmentalist (CEnv), she is bound by CIEEM's code of professional conduct.



Report Summary

Purpose	The Ecology Co-operation was commissioned by The Harris Partnership to undertake a Biodiversity Impact Calculation of a proposal to construct a new residential dwelling at 47 Parkside Road Reading, using the Statutory Biodiversity Metric to quantify net change in biodiversity.
Summary of Losses and Gains	The proposed development scheme at this site will result in the loss of: On-site 0.018ha of u1 828 – vegetated garden The proposed development scheme at this site will retain: On-site 0.029ha of u1 828 – vegetated garden (poor condition); 0.0173km of h2b – ornamental non-native hedgerow (poor condition). 0.0163ha (1 medium-sized specimen) of u 200 – urban tree (good condition). Post intervention the following habitats will be created: On-site 0.01ha of u1b5 – buildings 0.007 of u1b – developed land;sealed surface.
Final Metric Results	The Statutory Biodiversity Metric calculation has demonstrated that the proposed scheme will results in a likely net loss of 0.03 habitat units (-11.82%) The scheme will not result in a change in hedgerow units. The calculation has identified a 'Low Distinctiveness Broad Habitat Deficit' of 0.03 habitat units.
Does the scheme meet net gain requirements?	The current scheme does not meet the 10% mandatory net gain value set out within the Environment Act 2021 and does not satisfy the trading rules within the Statutory Biodiversity Metric.



CONTENTS PAGE

1	INTRODUCTION	5
1.1	Purpose of the Report	5
1.2	Background	5
2	Policy and Legislation	8
3	Methodology	9
3.1	Data Sources	10
4	Results	11
4.1	Existing Habitats Assessment.....	11
4.2	Habitat Losses and Gains	11
4.3	Conclusions.....	14
	Condition Assessment Sheets	15



1 INTRODUCTION

1.1 Purpose of the Report

As of the 12th February 2024, there is now a mandatory requirement for all new developments to demonstrate 'net gains' in biodiversity following the release of updated National Planning Policy Framework¹ by the Department of Housing, Communities and Local Government and the Environment Act 2021². A mandatory value of 10% net gain for all developments has also been set out within the Environment Act 2021.

This document includes a baseline 'Biodiversity Impact Calculation' (BIC) for the proposed development at 47 Parkside Road, Reading. The calculation utilises the Statutory Biodiversity Metric and assigns 'biodiversity units' to the pre-existing habitats contained within a proposed development site and those that are predicted to be lost, restored and/or created once the development has been constructed. This allows an objective comparison to be made between the existing biodiversity value of a given site and the predicted biodiversity value post development, with the net change in biodiversity value subsequently quantified.

The purpose of this document is to present the findings of the BIC based on the most up-to date existing habitat survey information and the most current outline plans for the proposed development of the site. BICs provide an evidence base for discussions between the ecological consultant, developer and the local planning authority regarding on-site avoidance, on-site mitigation and off-site compensation requirements.

This report will be used in relation to a proposal for the construction of two new residential dwellings. Given the likelihood of proposed changes in the design scheme, some of the recommendations will potentially be subject to change. The results of the BIC are deemed accurate for the most recent layout plan.

This report was commissioned and produced at the request of The Harris Partnership.

1.2 Background

The site measures 0.046ha in area and consists exclusively of an area of private gardens.

The site was subject to a Preliminary Ecological Appraisal on 11th June 2024³, undertaken by The Ecology Co-op.

Habitats (UKHAB) within the site and along the site boundaries are shown in (Figure 1), these include:

- u1 828 – vegetated gardens;
- u 200 – urban tree; and

¹ HM Government (2023). National Planning Policy Framework. Department for Communities and Local Government. Available online at:

https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2023.pdf

² HM Government (2021). Environment Act 2021 Available online at:

<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

³ The Ecology Co-op (2024). *Ecological Assessment – 47 Parkside Road, Reading.*



- h2b – ornamental non-native hedgerow

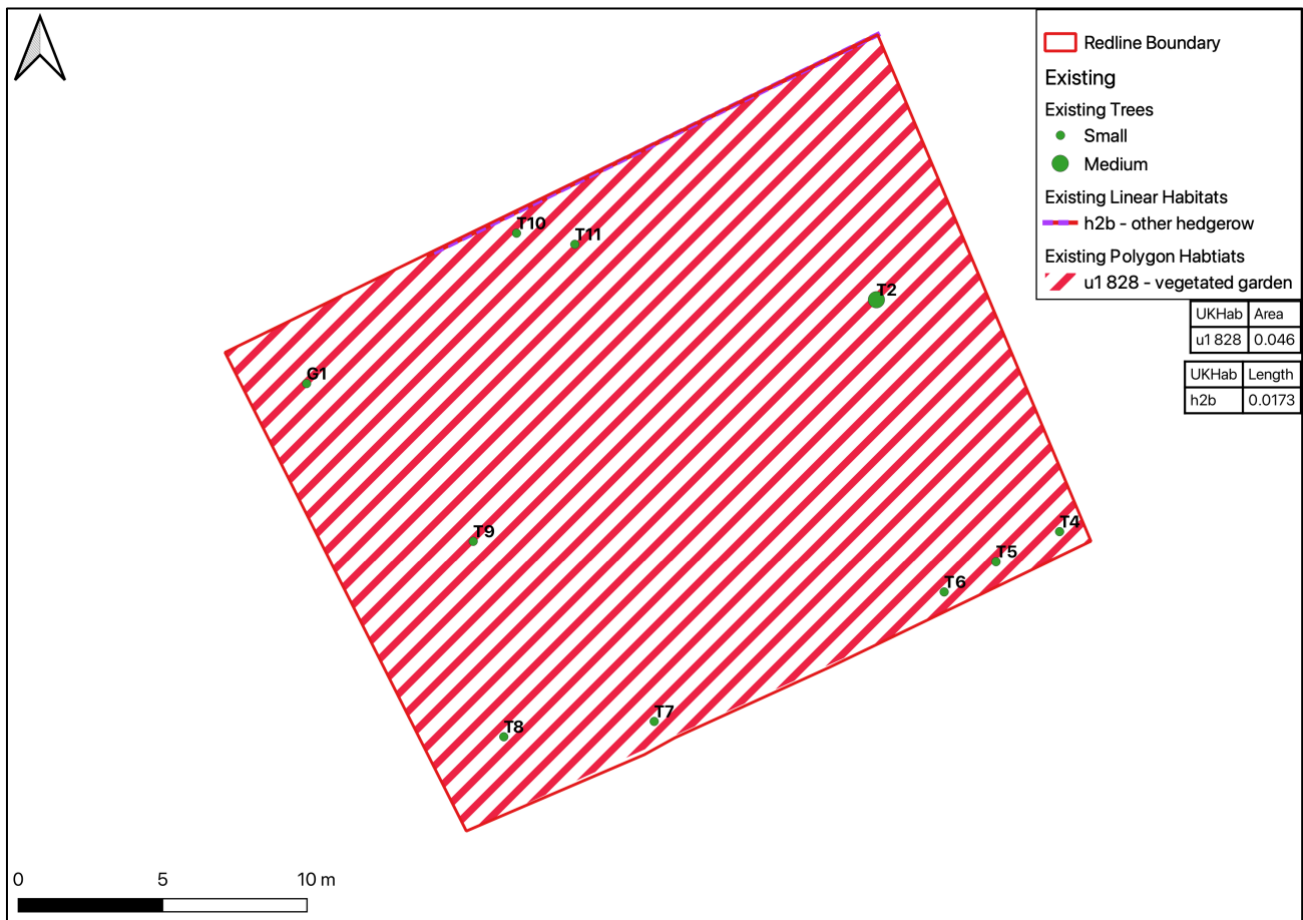


Figure 1. UKHAB map showing existing habitats within the site at 47 Parkside Road, Reading. Produced using QGIS software, version 3.16.3 (Hannover).

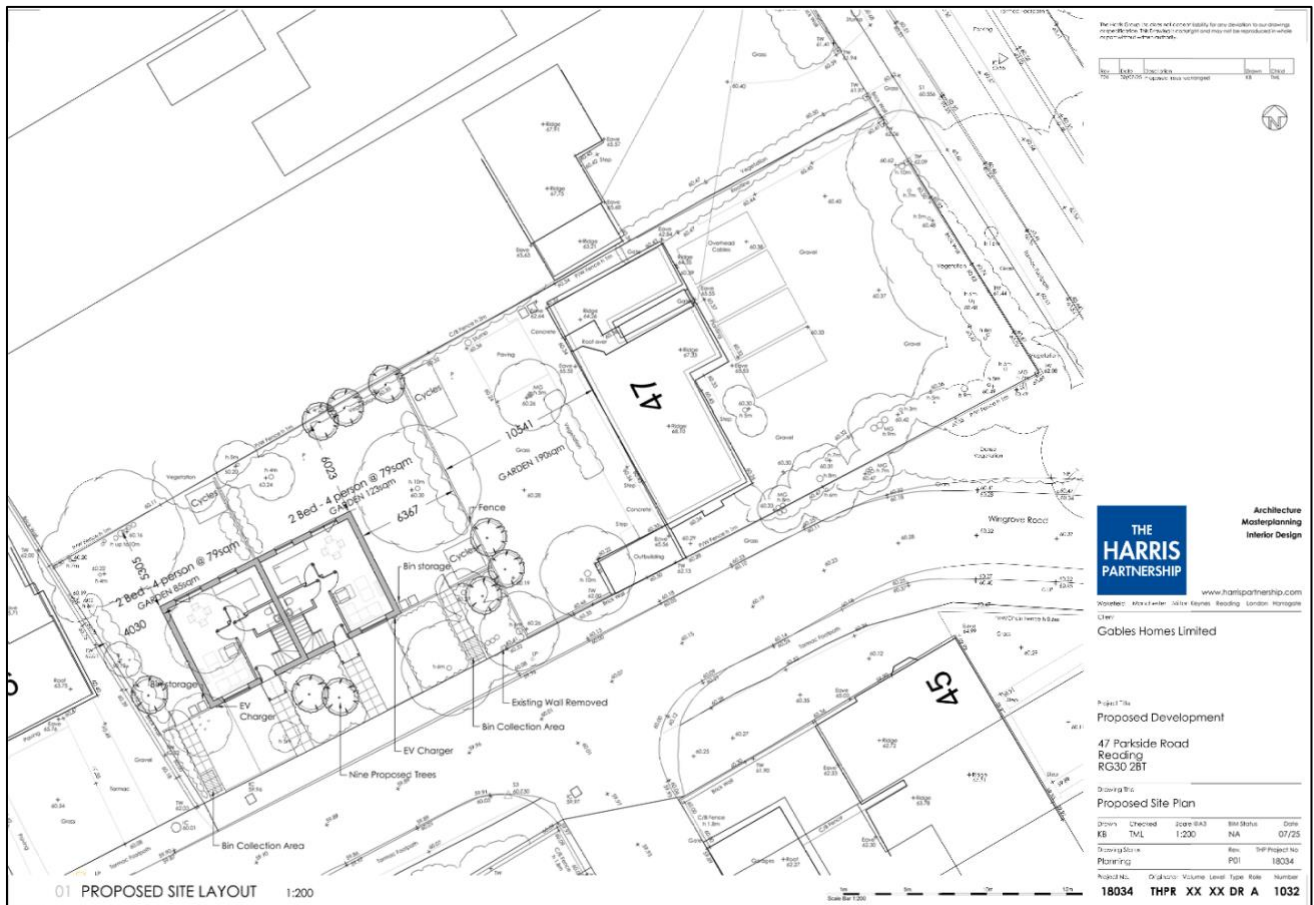


Figure 2. Proposed scheme layout for the development at 47 Parkside Road, Reading, reproduced from The Harris Partnership (Drawing no. 18034 THPR XX XX DR A 1032 P01)

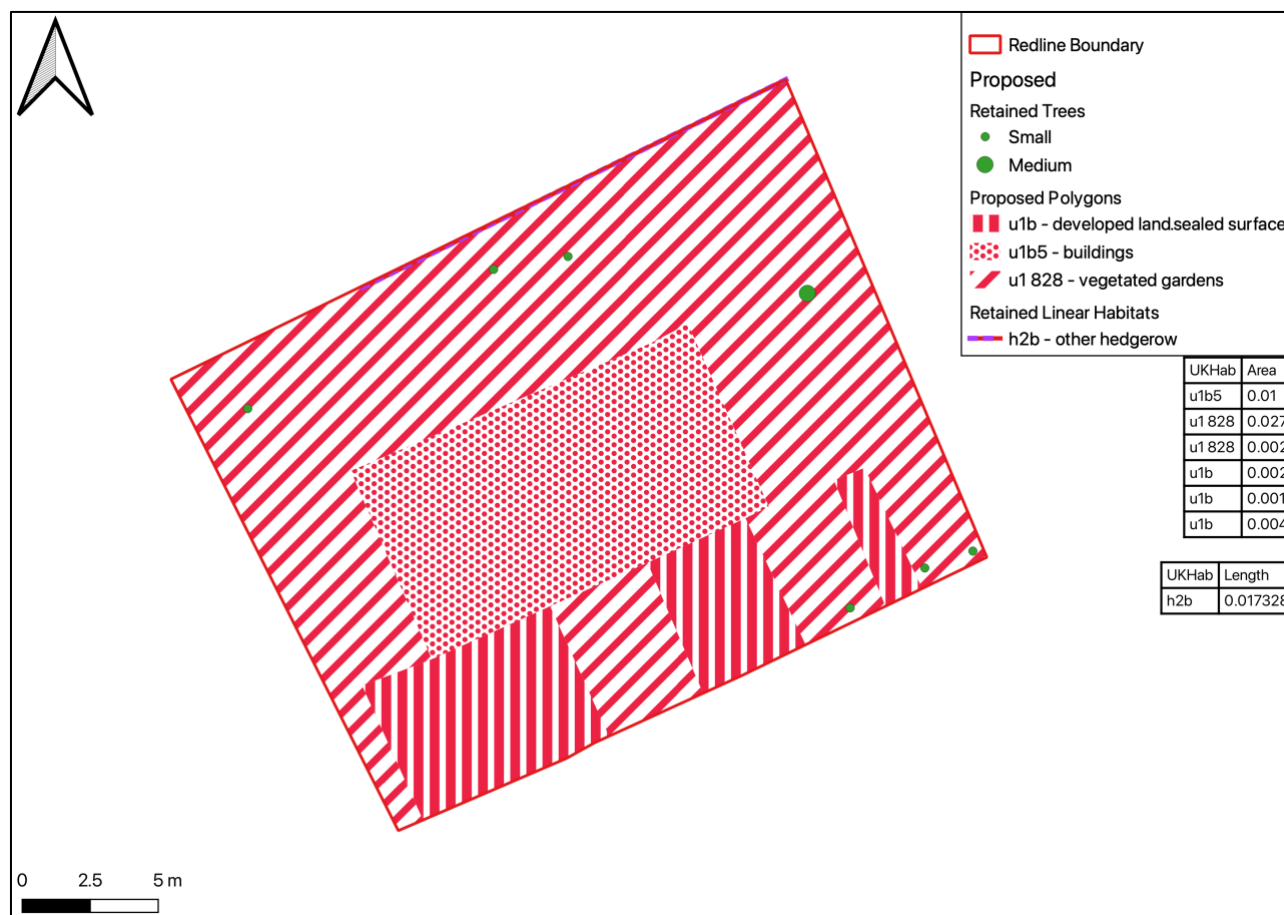


Figure 3. UKHAB map showing proposed habitats within the site. Produced using QGIS software, version 3.16.3 (Hannover).

2 Policy and Legislation

NPPF (2024)

The NPPF sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regards to the operation of the planning system.

Paragraph 180d, states that planning policies and decisions should contribute to and enhance the local environment by:

- “*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*”

Paragraph 185b, states that to protect and enhance biodiversity and geodiversity, plans should;

- “*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 186d, states that when determining planning applications, authorities should apply the following principle:



- “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.

Environment Act (2021)

The Environment Act sets a target of halting the decline in species through the inclusion of a legally binding 2030 species abundance target. Aiming to restore natural habitats and enhance biodiversity, the Act requires new developments to improve or create habitats for nature (through mechanisms such as mandatory Biodiversity Net Gain), and tackle deforestation. Going forwards, UK businesses will need to look closely at their supply chains as amongst other measures they will be prohibited from using commodities associated with wide-scale deforestation. Woodland protection measures are also strengthened through the Act.

Local Policy

A summary of Reading Borough Council's Policies relating to Biodiversity Net Gain are provided in Table 1.

Table 1. A summary of Reading Borough Council's policies relating to Biodiversity Net Gain.

Policy number/title	Policy summary
CC9 – Securing Infrastructure	In determining appropriate provision or contribution, the highest priority will be given to the following: • [...] Open space, green infrastructure and other measures to improve or enhance biodiversity;
EN12 – Biodiversity and the Green Network	b) 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 .
H11 – Development of Private Residential Gardens	Proposals for new residential development that includes land within the curtilage or the former curtilage of private residential gardens will be acceptable where: [...] 8) The development provides biodiversity net gain wherever possible, and would not have an adverse impact on biodiversity in terms of the fragmentation of blocks of gardens, which as a unit or in association with adjacent green space are deemed to make an important contribution to biodiversity and contribute to the green network; and
H13 – Provision for Gypsies and Travellers	Proposals should: [...] vii) Not result in the loss of biodiversity or important trees, and provide a net biodiversity gain where possible.

3 Methodology

This BIC uses the Statutory Biodiversity Metric calculation tool published by Natural England⁴. This is used to calculate ‘habitat units’ and ‘hedgerow units’ by multiplying the area (ha) or lengths (km), ‘distinctiveness’ (habitat type), ‘condition’ (quality), and strategic significance (location in relation to the authority’s local strategy) of each habitat parcel.

⁴ Natural England (2023) *The Statutory Biodiversity Metric – Calculation Tool*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>



The calculation provides a negative value to the biodiversity units where habitat is being directly lost to development. Where habitats are enhanced or created on-site, or off-site, the calculation gives a positive value but adds risk factors that account for uncertainty - difficulty in creating new habitats and time delays while they establish; habitats that are more difficult to restore or that will take a long time to reach a set target condition will score lower and therefore make a smaller positive contribution.

Where on-site gains are equal to or larger than the losses, the project is deemed to have neutral biodiversity impact or biodiversity 'net gain' respectively.

Where on-site gains do not outweigh on-site losses and a biodiversity 'net loss' is calculated, this becomes an 'offset requirement'. Offsets can be provided by further habitat creation or enhancement in-situ or elsewhere and are assessed using the same metric to balance the predicted gains against the losses to ensure no net loss will be achieved. It follows that a biodiversity net gain can still be achieved by providing higher biodiversity gains through the offset than the net loss resulting from the development.

Note that the metric does not allow for 'trading down'; one of the key principles in measuring biodiversity net losses or gains is that habitats of high ecological importance cannot be offset by the creation of larger areas of habitats with lower value. The Statutory Biodiversity Metric calculation tool includes a 'trading down correction' that deducts the number of biodiversity units that are not accounted for through the creation of equivalent high distinctive habitats than that lost. For example, the loss of a small area of lowland meadow priority habitat (very high distinctiveness) will not be offset by a larger area of modified grassland (lower distinctiveness) and will only be offset by an equivalent area of habitat of the same distinctiveness or higher.

3.1 Data Sources

This calculation uses the most up to date survey information, using botanical data gathered during the site visit of 11th June 2024 and specific condition assessments which were undertaken on the same date. The areas of each habitat category were measured using The UKHab App⁵ and GIS mapping tools (QGIS). Condition assessments were made in accordance with the Statutory Biodiversity Metric condition assessments document⁶ and the Statutory Biodiversity Metric: draft user guide⁷. Applying the precautionary principle, a presumption for the higher condition was used where there was any uncertainty in the condition of existing habitats.

To predict habitat/hedgerow units supported after by the site after completion of the development, the aerial imagery was overlaid by the proposed scheme layout (see Figure 2). This allowed direct losses of habitats to be measured where the built environment overlaps with pre-existing habitat, with gardens and amenity areas treated separately. The habitats that are 'created' after development are assumed to achieve the highest level of condition as appropriate; a separate landscape and enhancement plan should be produced to ensure this condition is achieved.

The Statutory Biodiversity Metric calculation tool uses a separate calculator spreadsheet for linear features. This works under the same principles as above but replaces areas of habitat with linear length of a feature. It should

⁵<https://ecountability.co.uk/ukhabsurvey-app/>

⁶ Natural England (2023) *Statutory Biodiversity Metric Condition Assessments* Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

⁷ Natural England (2023). *Statutory Biodiversity Metric draft user guide*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>



be noted that because linear features often have higher ecological importance, linear habitats are assigned higher distinctiveness and must be offset with other linear features. The hedgerow units generated for linear features are not equivalent or interchangeable with biodiversity calculations for areas of habitat.

4 Results

4.1 Existing Habitats Assessment

A summary of habitats and condition assessments is provided in Table 2. Full results of condition assessments for habitats which require it (using the Statutory Biodiversity Metric condition assessment document) are provided in Appendix 1.

Overall, the on-site calculated baseline is 0.07 habitat units and 0.01 hedgerow units.

Table 2. Existing habitat conditions for 47 Parkside Road, Reading.

Habitats		Condition Assessments
UK Habitat (UKHAB) Classification System	Location/Reference (habitat parcels split if multiple areas with different condition assessments)	Condition
u1 828 – vegetated garden	N/A	Poor
h2b – ornamental non-native hedgerow	N/A	Poor
u 200 – urban tree	T2	Good

4.2 Habitat Losses and Gains

The proposed development scheme at this site will result in the loss of:

On-site

- 0.018ha of u1 828 – vegetated garden

The proposed development scheme at this site will retain:

On-site

- 0.029ha of u1 828 – vegetated garden (poor condition);
- 0.0173km of h2b – ornamental non-native hedgerow (poor condition).
- 0.0163ha (1 medium-sized specimen) of u 200 – urban tree (good condition).

Post intervention the following habitats will be created:

On-site

- 0.01ha of u1b5 – buildings
- 0.007 of u1b – developed land;sealed surface.



The overall results of the calculations are presented in Table 3. Please refer to the Statutory Biodiversity Metric calculation tool supplied with this document (submitted separately) for full details of the calculation.

**Table 3.** Headline results of the BIC for the proposed development at 47 Parkside Road, Reading

On-site baseline	Habitat units	0.29		
	Hedgerow units	0.01		
	Watercourse units	0.00		
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.25		
	Hedgerow units	0.01		
	Watercourse units	0.00		
On-site net change (units & percentage)	Habitat units	-0.03		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site baseline	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site net change (units & percentage)	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-0.03		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Spatial risk multiplier (SRM) deductions	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)	Habitat units	-0.03		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-11.82%		
	Hedgerow units	0.00%		
	Watercourse units	0.00%		
Trading rules satisfied?	No - Check Trading Summaries ▲			
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	0.29	0.32	0.06
Hedgerow units	10.00%	0.01	0.01	0.00
Watercourse units	10.00%	0.00	0.00	0.00



Table 4. Trading summary results of the Biodiversity Impact Calculation for the proposed development at 47 Parkside Road, Reading.

Low Distinctiveness				
Habitat group	Group	On-site unit change	Off-site unit change	Project wide unit change
Cropland - Cereal crops	Cropland	0.00	0.00	0.00
Cropland - Horticulture	Cropland	0.00	0.00	0.00
Cropland - Intensive orchards	Cropland	0.00	0.00	0.00
Cropland - Non-cereal crops	Cropland	0.00	0.00	0.00
Cropland - Temporary grass and clover leys	Cropland	0.00	0.00	0.00
Cropland - Winter stubble	Cropland	0.00	0.00	0.00
Grassland - Modified grassland	Grassland	0.00	0.00	0.00
Grassland - Bracken	Grassland	0.00	0.00	0.00
Heathland and shrub - Rhododendron scrub	Heathland and shrub	0.00	0.00	0.00
Lakes - Ornamental lake or pond	Lakes	0.00	0.00	0.00
Sparsely vegetated land - Ruderal/ephemeral	Sparsely vegetated land	0.00	0.00	0.00
Sparsely vegetated land - Tall forbs	Sparsely vegetated land	0.00	0.00	0.00
Urban - Bioswale	Urban	0.00	0.00	0.00
Urban - Bare ground	Urban	0.00	0.00	0.00
Urban - Allotments	Urban	0.00	0.00	0.00
Urban - Facade-bound green wall	Urban	0.00	0.00	0.00
Urban - Ground based green wall	Urban	0.00	0.00	0.00
Urban - Ground level planters	Urban	0.00	0.00	0.00
Urban - Other green roof	Urban	0.00	0.00	0.00
Urban - Intensive green roof	Urban	0.00	0.00	0.00
Urban - Introduced shrub	Urban	0.00	0.00	0.00
Urban - Rain garden	Urban	0.00	0.00	0.00
Urban - Actively worked sand pit quarry or open cast mine	Urban	0.00	0.00	0.00
Urban - Sustainable drainage system	Urban	0.00	0.00	0.00
Urban - Vacant or derelict land	Urban	0.00	0.00	0.00
Urban - Vegetated garden	Urban	-0.03	0.00	-0.03
Woodland and forest - Other coniferous woodland	Woodland and forest	0.00	0.00	0.00
Coastal saltmarsh - Artificial saltmarshes and saline reedbeds	Coastal saltmarsh	0.00	0.00	0.00
Intertidal sediment - Artificial littoral coarse sediment	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral mud	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral sand	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral muddy sand	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral mixed sediments	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral seagrass	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral biogenic reefs	Intertidal sediment	0.00	0.00	0.00
Intertidal hard structures - Artificial hard structures	Intertidal hard structures	0.00	0.00	0.00
Intertidal hard structures - Artificial features of hard structures	Intertidal hard structures	0.00	0.00	0.00
Heathland and shrub - Other sea buckthorn scrub	Heathland and shrub	0.00	0.00	0.00
		-0.03	0.00	-0.03

4.3 Conclusions

The Statutory Biodiversity Metric calculation has demonstrated that the proposed scheme will result in a likely net loss of **0.03 habitat units (-11.82%)**

The scheme will not result in a change in hedgerow units.

The current scheme does not satisfy the trading rules within the Statutory Biodiversity Metric. The calculation has identified a 'Low Distinctiveness Broad Habitat Deficit' of 0.04 habitat units.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



Condition Assessment Sheets

P6563 47 Parkside Road, Reading

Record 23265955 Baseline
Created: Jun 11, 2024 | Owen Crawshaw
Edit record
Export record

Results
Condition Assessment
General Species
Photos & Activity

URHAB Primary Name
Urban

Metric Broad Habitat
Individual trees

Metric Habitat
Urban tree

Condition of habitat
Good

3

Distinctiveness
Medium

4

Secondary Codes
URHAB code: u 200

Additional
200 | Tree

Species information
View species information

1 Total species recorded

0 Quadrats recorded

1 Total native woody species

0.0 Mean species per quadrat

Tree information

32 Tree DBH (cm)

Medium Tree Size Class

Habitat Notes

T2

Record 23265955 Baseline

Results
Condition Assessment
General Species
Photos & Activity

3

Condition Assessment Results
Good

Condition Criteria Assessment for Individualtrees

A. The tree is a native species (or at least 70% within the block are native species).

TRUE

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

TRUE

C. The tree is mature (or more than 50% within the block are mature).

FALSE



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.

TRUE

E. Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.

TRUE

F. More than 20% of the tree canopy area is overhanging vegetation beneath.

TRUE

Record 23265955Baseline

Created: Jun 11, 2024 | Owen Crowshaw

Edit recordExport record

ResultsCondition AssessmentGeneral SpeciesPhotos & Activity

PENDING

1 species recorded

Select species to see more information

Search for a Species

Tilia cordata (Small-leaved Lime)

Species

Tilia cordata(Small-leaved Lime)

Photos of species

Upload image

Record 23265955Baseline

ResultsCondition AssessmentGeneral SpeciesPhotos & Activity

Photos of habitat features and relating to the condition assessment