



TUNLEY
ENVIRONMENTAL

BIODIVERSITY NET GAIN ASSESSMENT REPORT

TRUSTED SUSTAINABILITY SCIENTISTS

BIODIVERSITY NET GAIN ASSESSMENT REPORT

FOR

**161 West End Lane, NW6 2LG,
London, England**

**in collaboration with
Henport Investment Company Ltd
and
Altaras Architecture Ltd**

Contents

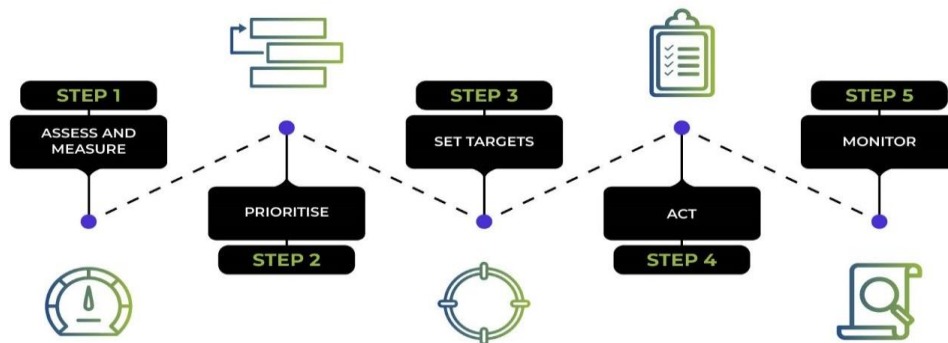
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Nomenclature

Nomenclature	Description
Baseline Assessment	Before a biodiversity impact assessment project begins, a baseline assessment is conducted to determine the existing biodiversity of the project site. This assessment establishes the current state of habitats, species, and ecosystem functions.
Biodiversity	The variety of life within a defined area for example, globally or in a specific habitat which can be described by a variety of metrics including species abundance or the living plant index and which we are dependent on to provide us with food, clean water and many more essentials.
Biodiversity Loss	The reduction in the variety and abundance of species in a particular ecosystem or across the entire planet. It can result from factors such as habitat destruction, pollution, climate change, and invasive species.
Biodiversity Net Gain	A concept that aims to ensure that development projects have a positive impact on biodiversity by enhancing or creating habitats both onsite and offsite.
Biodiversity Net Gain (BNG) Assessment	The quantification of the overall positive impact on biodiversity resulting from a specific activity or project. While biodiversity gain refers to the increase in the numbers, genetic variability, and species variety in a given area, BNG goes a step further by assessing whether the difference between biodiversity losses and gains leads to a net positive impact.
Biodiversity Units	A measure to describe the level of biodiversity present on a given site.
DEFRA Statutory (Official) Biodiversity Metric	Is a tool developed by the UK Government that provides a standardised approach to quantifying changes in biodiversity resulting from development activities. It assigns values to different habitats and species based on their ecological importance, and it allows for the calculation of a numerical score that reflects the overall biodiversity impact of a development.
Habitat	The specific environment or type of ecosystem in which a particular species of organism lives. Habitats can range from forests and wetlands to grasslands and urban areas.
Habitat Condition	The state or quality of a habitat, taking into consideration factors such as biodiversity, ecological processes, and overall health. Habitat condition assessment is essential in determining the effectiveness of conservation or restoration efforts.
Habitat Distinctiveness	The unique characteristics and features that differentiate one habitat from another. Distinctiveness is often assessed based on the diversity of species, ecological functions, and physical attributes of a habitat.
Habitat Strategic Significance	The local importance of a habitat determined by assessing both its geographic location and the specific type of habitat it represents. This evaluation helps in understanding the unique value and contribution of the habitat in its surrounding ecosystem.
On-Site	Refers to activities, impacts, or features that occur within the boundaries of a specific development or project site. In the context of Biodiversity Net Gain, on-site measures may include habitat creation, enhancement, or protection within the project area.
Off-Site	Relates to actions or effects that occur outside the boundaries of the development or project site. Off-site measures in Biodiversity Net Gain may involve compensatory actions, such as creating or enhancing habitats in a different location to offset any biodiversity loss caused by the development.
Small Site	A small residential site is a development which is less than 1 hectare with less than 9 dwellings, or where the number of dwellings is unknown an area of less than 0.5 hectares. A small commercial site is a development which has created floor space of less than 1,000 m ² or with a total site area of less than 1 hectare.
Major Development	A major development is any development, either residential or non-residential, which falls out of the requirements of a small site. This means more than 9 dwellings or greater than 0.5 hectares for residential developments or greater than 1,000 m ² floor space, or over a hectare for non-residential developments.

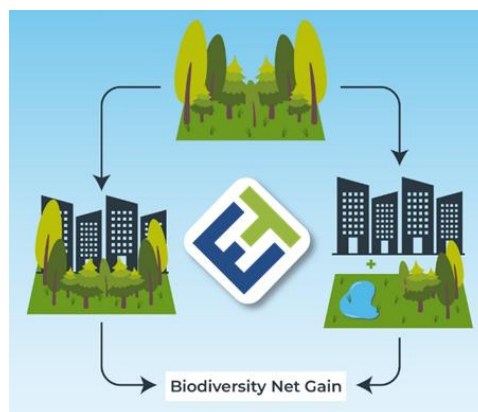
Methodology and Quantification Standards

This Biodiversity Net Gain (BNG) report has been completed using methodology consistent with the Science Based Targets for Nature (SBTN), Nature Positive Initiatives, and DEFRA Regulations.



Science-Based Targets for Nature Steps which Tunley Environmental's Biodiversity Net Gain (BNG) services aligns with to achieve reduced impact on Nature.

Biodiversity was quantified using the DEFRA (Department for Environment, Food & Rural Affairs) statutory (official) biodiversity metric as a tool to assess and measure biodiversity in the context of development projects. This metric is specifically designed to assist in quantification of the impact that development activities have on biodiversity and determine whether Biodiversity Net Gain (BNG) is achieved. Where BNG refers to the idea that the biodiversity value of a site should be enhanced due to development, ensuring a "net gain" in ecological terms. Tunley have completed all calculations within small site metric along with any required documents such as habitat condition. These additional documents will be submitted alongside this form in the excel format for LPA approval.



Tunley Environmental's conceptualisation of Biodiversity Net Gain.

Where applicable, the equivalent small site biodiversity metric was utilised for developments under the requirements for the statutory (official) biodiversity metric. The BNG assessment was further completed using methodology consistent with the international standard BS 8683:2021 (Process for designing and implementing BNG). Information on data sources and assumptions made to support this analysis are provided in Appendix A.

Executive Summary

Biodiversity, which underpins over half of the global economy, is in crisis due to human activity, threatening around a million species with extinction at rates far beyond the natural norm. Biodiversity net gain (BNG) is a concept implemented into the *Town and Country Planning Act 1990* that aims to ensure that development projects in the UK, specifically England, have a positive impact on biodiversity by enhancing or creating habitats either on-site or off-site, or a combination of both.

According to the UK government a major development is defined as a residential development where the number of dwellings is greater than 9 or the area is greater than a hectare, or if an unknown number of dwellings, the site area is more than 0.5 hectares. For a commercial development a small site is where floor space created is less than 1,000 square metres or the total site area is less than 1 hectare. The site at 161 West End Lane, NW6 2LG, London, is a predominantly urban site with no priority habitats and no designated sites within the 500 m boundary ([See Magic map results](#)). The site is being developed from a 3-storey building in an urban area into a rear extension to create 1 extra dwelling. The development site for has a total area of 500 m², and plans propose 1 dwelling, and therefore as stated in the Town and Country Planning Act, this site is classified as a small site.

Tunley Environmental have conducted an independent assessment to quantify the biodiversity value of the site before and after development. Using data provided by Henport Investment Company Ltd and Altaras Architecture Ltd, the baseline 'area habitat' biodiversity units of the site were calculated to be 0.08 units over an area of 500 m². This is comprised of 'vegetated garden', 'developed land; sealed surface' and individual urban trees. Within the proposed development there are plans to create 'vegetated garden' and 'developed land; sealed surface' area habitats. These initiatives will result in 0.04 'area habitat' units post-development, translating to a -49.8% net loss in 'area habitats'. Given that the proposed development will result in a biodiversity net loss in 'area habitats', the developer is committed to purchase '0.05' off-site biodiversity credits from a 3rd party provider to meet the 10% BNG requirement (**Figure 1**).

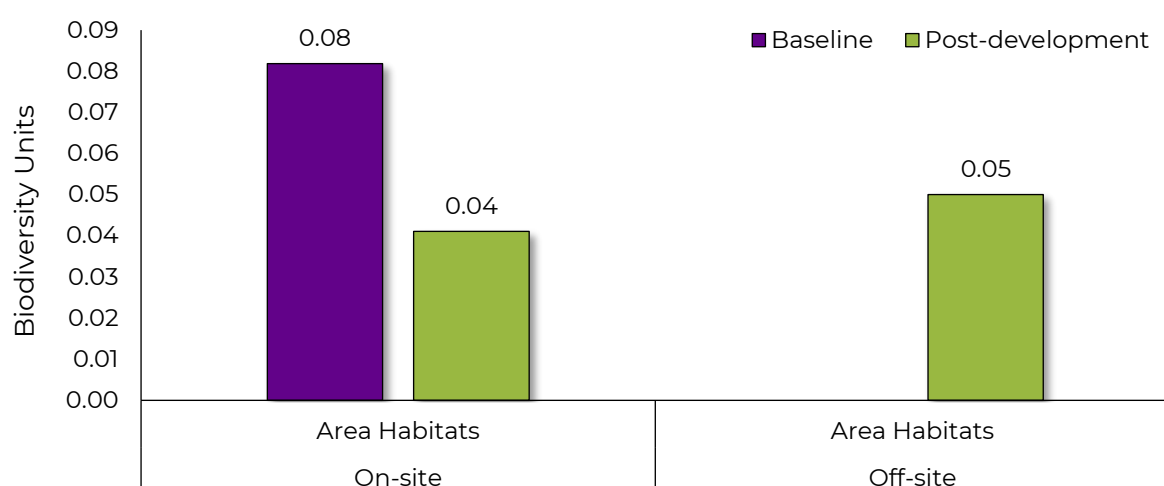


Figure 1. Total before and after biodiversity units for the site at 161 West End Lane, NW6 2LG.

Introduction

Biodiversity is the foundation of the global economy. The World Economic Forum (WEF) estimates that over 50% of the world's GDP, equivalent to 33 trillion pounds, significantly depends on nature and the services it provides. However, biodiversity is amid a severe global crisis. Human-induced changes in land and sea use, overexploitation, invasive species, pollution, and climate change are the primary drivers of rapid biodiversity decline. Human activity threatens approximately a million species with extinction, some within decades, and species are disappearing at a rate of tens to hundreds of times faster than the natural pace. Between 1970 and 2016, populations of mammals, birds, amphibians, reptiles, and fish have, on average, decreased by 68%. Human activity has dramatically altered 75% of the land surface, significantly impacted 66% of the ocean, and led to the loss of 85% of wetlands. Recognising the severity of this crisis, the integration of Biodiversity Net Gain (BNG) and ecosystem restoration emerges as a crucial strategy for mitigating the adverse effects of human activities on biodiversity. BNG aims to ensure that development projects not only avoid causing harm to ecosystems but actively contribute to a net positive impact on biodiversity. By implementing measures such as habitat creation, restoration, and protection, BNG seeks to counterbalance the negative ecological footprint of development.

The particular site in question, which is a 3-storey building in an urban area, to be extended at the rear to create 1 extra dwelling, is situated in Camden Council. Henport Investment Company Ltd are consulting on this matter and have been asked to provide a biodiversity net gain assessment alongside the application. Accordingly, Tunley Environmental has conducted an independent small site Biodiversity Net Gain (BNG) assessment to identify and quantify the biodiversity of the site before and after the proposed development. This BNG assessment calculates the biodiversity value of the land by evaluating the number of habitats present, the habitat types, size, condition, and location. These data inputs are utilised within the small site's statutory metric, due to the development size, to quantify the biodiversity units present before development. This is the baseline habitats and gives a value for baseline biodiversity units. Below shows the most recent aerial image of the site at 161 West End Lane, NW6 2LG, London, England (**Figure 2**).



Figure 2. Aerial image of the site at 161 West End Lane, NW6 2LG.

Baseline Results (Pre-development)

Prior to analysing the biodiversity units post development, we must conduct a baseline assessment on the site pre-development. This baseline assessment is conducted to determine the existing biodiversity on the project site. This assessment establishes the current state of habitats, species, and ecosystem functions.

The baseline assessment for the site at 161 West End Lane, NW6 2LG, was conducted by analysing site photos to distinguish habitat types as well as implementing Google Earth to accurately analyse site plans alongside dimensions to yield overall meters of the project site by habitat type. Some example images are shown in **Figure 3**. A map of the habitats identified from these images is overlaid into the aerial image above in **Figure 4**.



Figure 3. Images provided to Tunley by Henport Investment Company Ltd of the site.

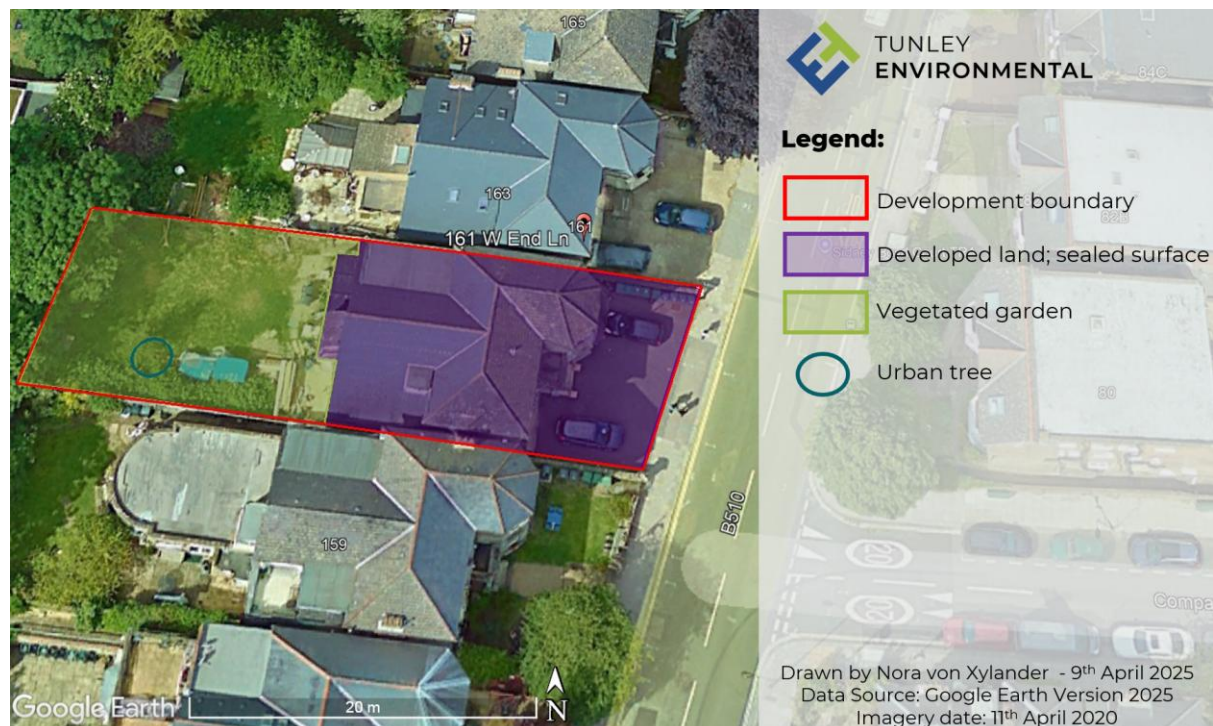


Figure 4. Aerial view separated by different habitat types identified on site baseline.

For the proposed site for development, 'area habitats' biodiversity units were identified pre-development (**Figure 4** and **Table 1**). The [UK habitat classification \(UKHab\)](#) system is utilised to define habitats inputted within the metric. The different 'habitat types' identified on-site for this project included 'vegetated garden', 'developed land; sealed surface', and individual urban trees, with 278 m² of 'developed land; sealed surface' contributing the greatest area. The 3 trees at the back of the garden were not included in the baseline as they are within the construction exclusion zone and enclosed by a tree protection fencing as outlined by the Arboriculture report and Tree Protection Plan.

Table 1. Explanation of baseline habitat types, habitat characteristics, and habitat area/length.

Habitat Type	Habitat Characteristics	Habitat Area	Unit	Condition	Biodiversity Units
Vegetated garden	Gardens that support a variety of plants.	222.00	m²	Condition Assessment N/A	0.04
Developed land; sealed surface	Areas where the surface has been sealed by materials such as concrete, tarmac, or buildings.	278.00	m²	N/A - Other	0.00
Urban/rural tree	Individual trees located in urban or rural environments.	40.69	m²	Moderate	0.04

Biodiversity Net Gain Results

The site at 161 West End Lane, NW6 2LG, aims to consider biodiversity impact by implementing habitat enhancement and habitat creation to account for any biodiversity net loss due to construction, as well as to improve the site for the users of this site whilst still contributing to BNG goals. The plan below (**Figure 5**) shows the proposed site landscape developed and designed by Altaras Architecture Ltd which retains 239 m² of its 500 m² area habitats and includes the design and implementation of vegetated garden.

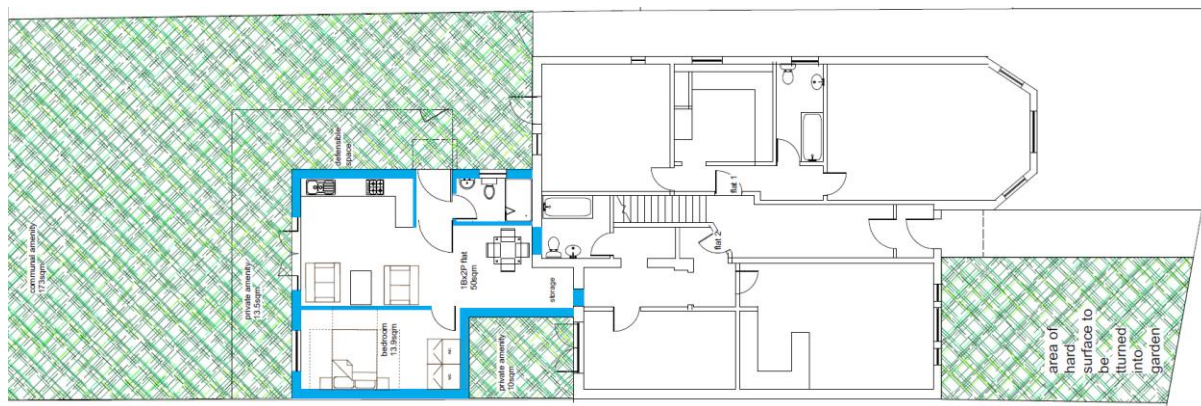


Figure 5. Proposed plan for the site.

These changes in habitats were taken into account through the calculation of their areas, provided by Altaras Architecture Ltd and verified with an aerial view map, as seen in **Figure 6**. Of the 261 m² area 'habitats' that will be lost during development, the plan creates a variety of different area 'habitats' in its stead (**Table 2**).



Figure 6. Aerial view of the site of post-development.

Table 2. Explanation of habitat type, habitat characteristics, and habitat area of all habitats to be created post-development.

Habitat Type	Habitat Characteristics	Habitat Area	Unit	Condition	Biodiversity Units
Vegetated garden	Gardens that support a variety of plants.	213.00	m ²	Condition Assessment N/A	0.04
Developed land; sealed surface	Areas where the surface has been sealed by materials such as concrete, tarmac, or buildings.	48.00	m ²	N/A - Other	0.00

The loss of the 0.08 baseline units and incorporation of these new habitat areas, which creates 0.04 biodiversity units, brings the site to a total of 0.04 biodiversity units' post-development, translating to -49.77% net loss in biodiversity (see **Table 3**). Therefore, to ensure that the 10% net gain target for biodiversity will be met off-site biodiversity credits are required for this site (see section below).

Table 3. Detailed losses and gains of biodiversity 'area habitat' units resulting from development.

Description of modifications	Losses & Gains of Biodiversity units
Total on-site baseline biodiversity area habitat units	0.08
On-site retention of baseline biodiversity 'area habitat' units - 239 m ² of developed land; sealed surface in n/a - other condition	0.00
On-site loss of baseline biodiversity 'area habitat' units - 222 m ² of vegetated garden in condition assessment n/a condition - 39 m ² of developed land; sealed surface in n/a - other condition - 40.69 m ² of urban/rural tree in moderate condition	-0.08
On-site creation of area habitats (all low strategic significance): - 213 m ² of vegetated garden in condition assessment n/a condition - 48 m ² of developed land; sealed surface in n/a - other condition	+0.04
Total on-site post-development biodiversity 'habitat' units	0.04
Total net gain in biodiversity 'habitat' units	-0.04
Overall percentage net change in biodiversity 'habitat' units	-49.77%

Evidence for Off-site Biodiversity Credits

Henport Investment Company Ltd and Altaras Architecture Ltd are committed to complying with BNG regulations for the site at 161 West End Lane, NW6 2LG, London, in England. Whilst they are not able to reach 'on-site' biodiversity gains for area habitats with a unit deficit of 0.05, they will purchase 'off-site' area habitat units to reach 10% area habitat net gain. **Figure 7** outlines the estimated cost of acquiring these 0.05 'off-site' biodiversity units via the statutory credit mechanism. However, Henport Investment Company Ltd and Altaras Architecture Ltd intend to demonstrate compliance with national BNG policy by first seeking to secure these units through a reputable 3rd party provider, such as [Environment Bank](#), prior to considering the use of statutory biodiversity credits.

Estimated cost of statutory biodiversity credits £2,100 (excluding VAT)		
Tier	Credits	Estimated cost
A1	0.05	£2,100
A2	0.00	£0
A3	0.00	£0
A4	0.00	£0
A5	0.00	£0
H	0.00	£0
W	0.00	£0
Total estimated cost		£2,100

Figure 7. Estimated cost of required 'off-site' biodiversity credits from a statutory provider, needed for proposed development at Willow Bank Walk, Leighton Buzzard, LU7 3UT, England.

Conclusion

The BNG assessment by Tunley Environmental have confirmed that the proposed development on the site at 161 West End Lane, NW6 2LG, London, in England, will result in a **-49.77% net loss** for on-site 'habitat' biodiversity. Accordingly, Henport Investment Company Ltd and Altaras Architecture Ltd are committed **to purchase 0.05 'off-site' biodiversity credits from a 3rd party provider to reach the national standard of 10% biodiversity net gain (BNG).**

BNG approaches offer a pathway to not only safeguard the intricate web of life on Earth but also to preserve the essential ecosystem services that underpin the global economy and human prosperity. As the urgency of addressing biodiversity loss intensifies, a comprehensive strategy that integrates conservation, sustainable development, and restoration efforts is essential to ensure a resilient and biodiverse future for the planet.

Appendix

Data Sources

All data results were analysed through the small site metric from DEFRA. The excel version of the metric will also be submitted alongside this report for further evidence and LPA approval and for compliance with BNG regulations.

Habitat Classification and Justification

We conducted a thorough assessment of all habitat types utilising the guidelines outlined in "The UK Habitat Classification Version 2" (UKHab). UKHab serves as a comprehensive, hierarchical system that integrates seamlessly with existing classifications in the UK and Europe. It's architecture, inclusive of primary habitats and secondary codes, enhances the accuracy and consistency of habitat assessments by allowing for the direct attachment of additional features such as habitat mosaics and management strategies. This approach not only facilitates the integration of legacy datasets but also enables efficient sharing of habitat data at regional, national, and international levels. BNG Compliance adheres to these classifications, ensuring consistency and compliance with ecological standards. It's essential that a trained and certified ecologist completes the assessment. For more information, please visit: [UKHab](https://ukhab.org/).

Magic Map Results

The below results from DEFRA's Magic Map demonstrates that there are no priority habitats and no designated sites on the site proposed for development or within 500 m (**Figure 8**). The surrounding area of the site is also residential, further demonstrating that the site will not be disrupting any significant biodiversity habitats within the boundary lines.

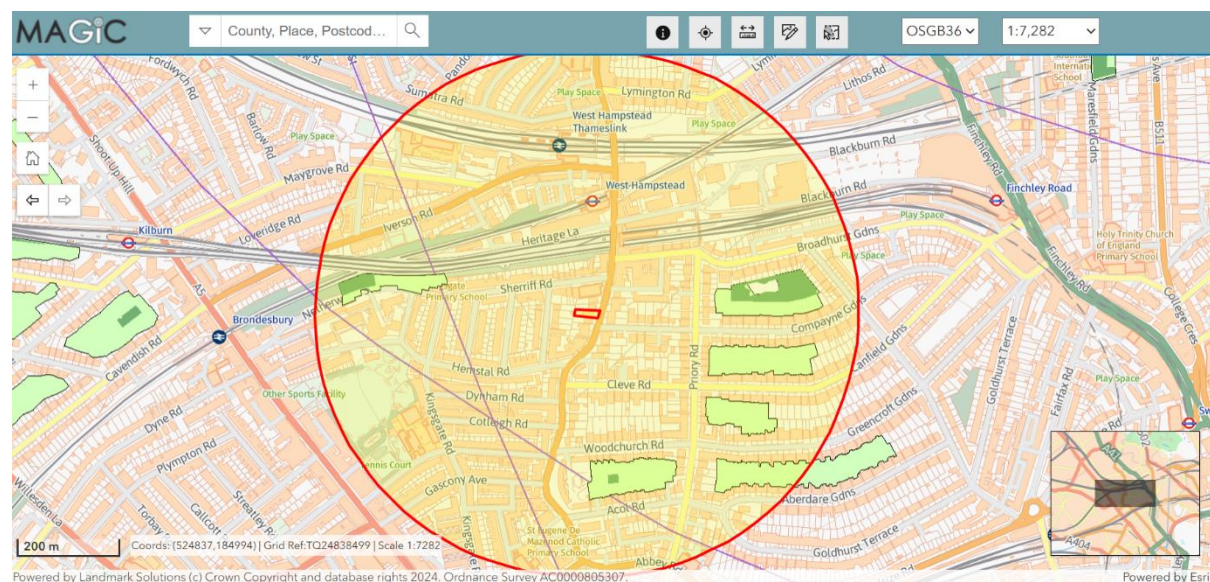


Figure 8. Magic Map results for the site at 161 West End Lane, NW6 2LG.



Competency

Dr Nora von Xylander is a biologist with an International MSc in Marine Conservation and Ecology and a PhD in Climate Change and Coral Conservation. At Tunley, Nora has helped with the development of the Biodiversity Net Gain (BNG) Service. She also completed professional training with Natural England, CIEEM, and UKHab, focusing on BNG regulations and UK habitat identification and remains committed to ongoing training to stay current with BNG standards and regulations.

Dr Aaron Yeardley is the Science Team Co-Lead at Tunley Environmental. He is a Sustainability Scientist who has completed over 20 hours of training through in-house procedures, UKHab webinars, and other accreditations such as CIEEM, making him competent to conduct BNG assessments, provided the habitats are signed off by an ecologist.

Approval

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Position:	Biodiversity Scientist
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Revision:	A

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