



Wendlebury Park Farm

Preliminary Ecological Appraisal (PEA)
& Biodiversity Net Gain (BNG)
Feasibility Study



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INTRODUCTION

Instruction and Site Description

Net Gain Ecology were commissioned to complete a preliminary ecological appraisal (PEA), ground level tree assessment (GLTA) for roosting bats and a biodiversity net gain (BNG) feasibility study of an area of land at Wendlebury Park Farm, Wendlebury Road, Chesterton, Oxfordshire, OX25 2PE; hereafter referred to as the 'Site'.

The survey was commissioned to support a planning application for Cherwell District Council, North Oxfordshire. The Site is a 8,415m² (0.8415 hectare) area of land shown by the red line boundary on Figure 1 below. The blue line boundary shows land that is owned by the client but which is not part of this planning application.

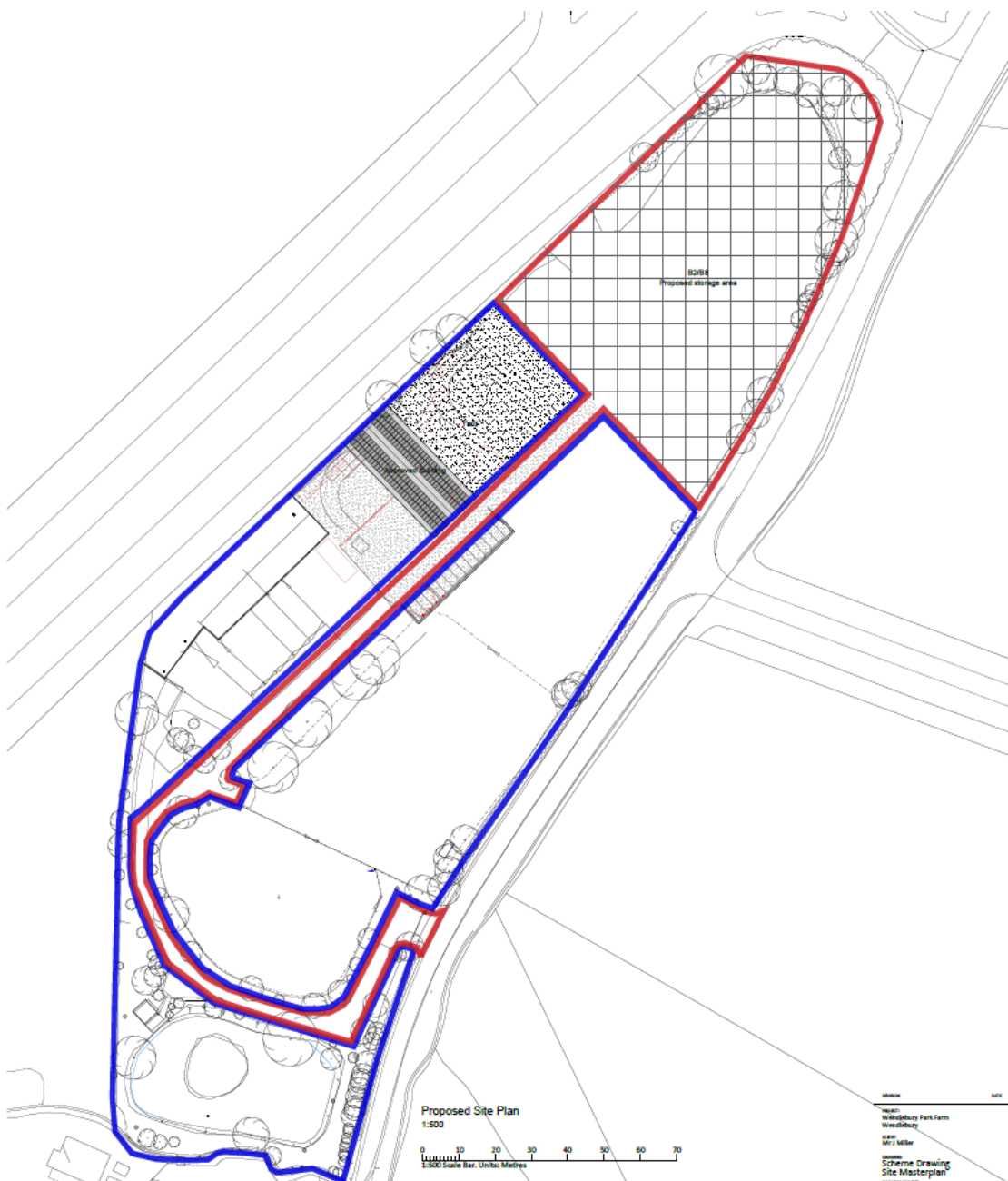


Figure 1. Proposed Site Plan: Site Masterplan (post-development).

The Project

We understand that the proposals relate to a proposed change of use of vacant land which is currently used for ad hoc storage to provide additional external B2/B8 storage. Planning permission use class B2 relates to 'general industrial' uses while B8 relates to 'storage or distribution'. The whole area within the red line boundary will not be clear felled for storage, instead just a central area of grassland within the redline boundary will be utilised as shown below.

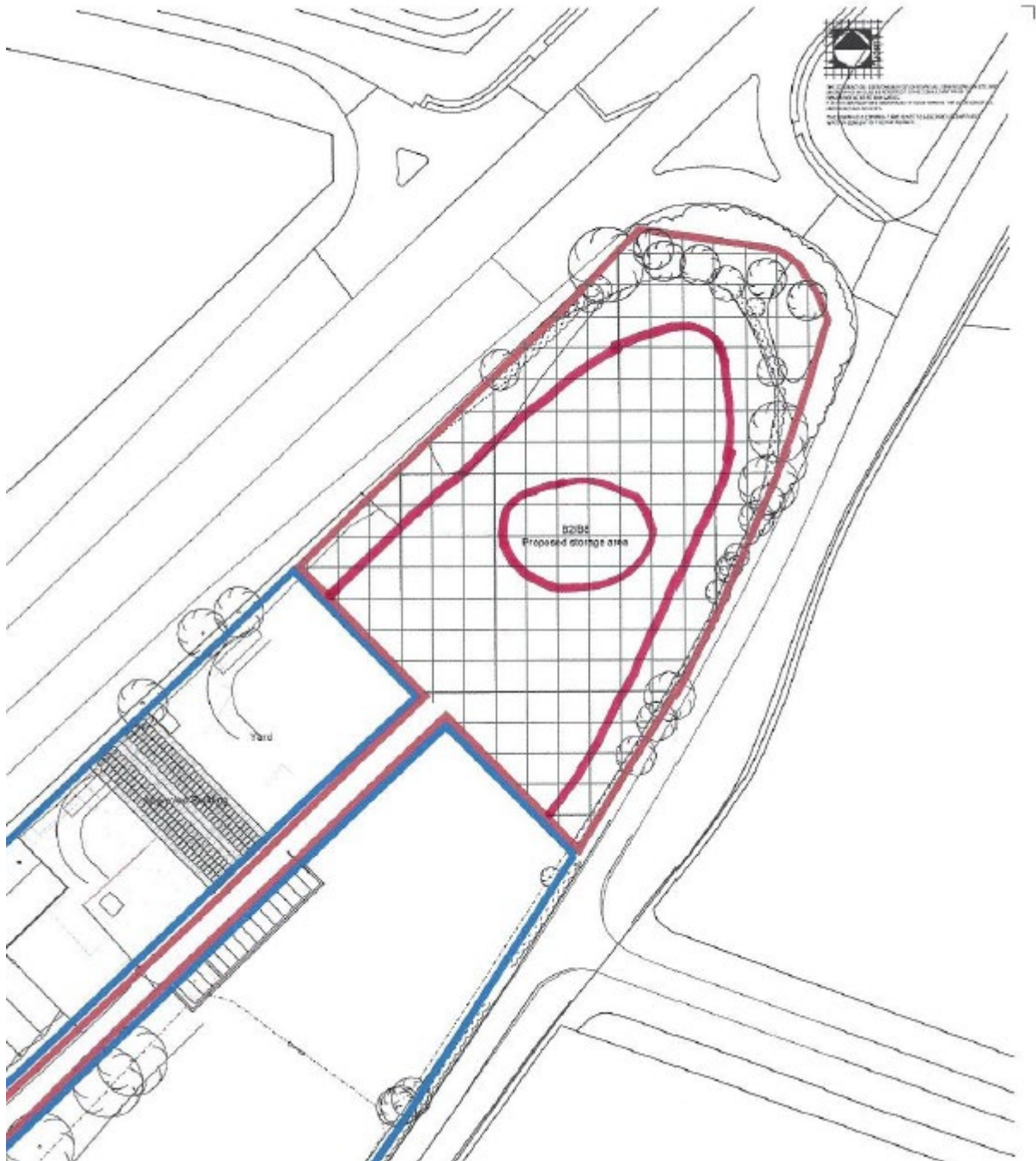


Figure 2. Proposed Site Plan: Site Masterplan (post-development). Close up of the proposed building and parking areas.

Background

To assess the impacts of the proposed development, a PEA, GLTA and BNG baseline assessment was undertaken in May 2024. The purpose of this report is to:

- Identify potential ecological constraints to the proposed development;
- Outline where further ecological surveys are required;
- Outline existing habitat within the Site boundary which should be retained or enhanced to create biodiversity gains; and
- Calculate the biodiversity baseline value of the Site using the Small Sites Metric.

This report has been prepared with reference to current guidelines for Preliminary Ecological Appraisal (CIEEM, 2017¹) and in accordance with BS42020:2013: Biodiversity – Code of Practice for Planning and Development (BSI, 2013).

The BNG baseline assessment element of this report is underpinned by a Biodiversity Metric Assessment, which highlights the baseline conditions at the Site, which will later be used as the marker against which the post development Site can be compared, to determine whether there will be a biodiversity net gain or loss associated with the proposals.

Legislation and Planning Policy

The following national planning policies are relevant to assessing the impacts of development upon nature conservation and the wider natural environment:

- National Planning Policy Framework (NPPF);
- ODPM Circular 06/2005

The NPPF is applied to planning decisions at the local level by Cherwell District Council.

The ODPM circular 06/2005 provides guidance on the application of the law relating to planning and nature conservation as it applies in England, complementing the NPPF. Further details for the ODPM circular can be found in appendix B.

Additional legislation regarding the protected species covered within the report are available in appendix A.

The Site is part of the Chesterton Parish boundary and as such will be covered by the Chesterton Neighbourhood Plan if Chesterton Parish Council are successful with their ongoing application for the designation of a Neighbourhood Area which would enable it to prepare a Neighbourhood Development Plan for the Parish.

The site is not formally identified in the local strategy set out in The Cherwell Local Plan².

¹ Chartered Institute for Ecology and Environmental Management (2017), Guidelines for Preliminary Ecological Appraisal (GPEA).

² The Cherwell Local Plan 2011-2031, Part 1 Adopted 20 July 2015, Cherwell District Council, North Oxfordshire. Available online at: <https://www.cherwell.gov.uk/downloads/download/45/adopted-cherwell-local-plan-2011-2031-part-1>. Accessed on 11/06/2024.

METHODS

The field survey was conducted by Luke Burgess on behalf of Net Gain Ecology on 18th May 2024. Luke is a class 1 survey licence holder for Hazel Dormice and Great Crested Newts (GCN) and has botanical survey skills at Field Identification Skills Certificate (FISC) level 4. FISC is a measure of determining botanical identification skills which is overseen by the Botanical Society for Britain and Ireland (BSBI). Luke was also acting as an accredited agent under the bat licence of Tom Wright, who is a class 2 survey licence holder for bats. Luke has over 7 years' experience working as a professional ecologist and is highly experienced in surveys of this type. Habitats were recorded using the UK Habitat classification system (Version 2.1) (UK Habitat Working Group, 2023³).

Desk Survey

Information on statutory designated nature conservation sites within 2km of the development boundary was obtained from the Government's MAGIC website⁴ in May 2024. Information on historic protected species licenses granted within 2km of the project was also obtained through MAGIC.

A search of biological records, including information on non-statutory designated nature conservation sites, and species of conservation concern was completed by the Thames Valley Environmental Records Centre (TVERC) on 20th May 2024 within a 1km radius of the Site.

Maps and aerial photographs were reviewed to provide an indication of the habitat types likely to occur on adjacent land and the ecological connectivity of the proposed development Site to areas of semi-natural habitats nearby. This information was used to provide context for the assessment of whether the proposed development is likely to support protected habitats and species of conservation concern.

Field Survey

An extended habitat survey (which includes an initial protected/notable species assessment), was undertaken following standard methods as described in the Guidelines for UK Habitat Survey¹.

The survey included mapping the habitats present on Site and recording characteristic plant species, with target notes to identify particular areas of interest or concern. The survey also included an assessment of features which have the potential to support protected and/or notable species and a search for non-native invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Biodiversity Net Gain Assessment

The Small Sites Metric (Defra Biodiversity Metric 4.0) published by Natural England (2023) was used to calculate the baseline biodiversity value of the Site, using the information obtained from the habitat survey.

The Small Sites Metric is suitable for use as the proposals relate to a '*commercial development where total site area is less than 1 hectare*'⁵.

The baseline biodiversity value, given by the number of biodiversity units, is determined by multiplying the area or length of a certain habitat by its 'quality', which encompasses habitat distinctiveness,

³ UKHab Ltd. (2023). UK Habitat Classification Version 2.0. Available online at <https://ukhab.org>. Accessed on 27/04/2024.

⁴ Natural England, MAGIC website. Available online at <https://magic.defra.gov.uk/magicmap.aspx>. Accessed on 27/04/2024.

⁵ Department for Environment, Food and Rural Affairs. (2024). The Small Sites Metric (Statutory Biodiversity Metric): User Guide.

condition, and strategic significance. All habitat types are inputted into the metric, with each area or length of habitat displaying different biodiversity units based on their calculated value. The total baseline biodiversity units are determined through the sum of all the habitats on Site.

The post-intervention biodiversity units are determined in the same way as the baseline biodiversity units, however, certain risk factors are also taken into account including the likely difficulty and time taken to achieve the desired habitat enhancement and creation measures. This report presents the results of a baseline biodiversity assessment only.

Calculating the Site Biodiversity Baseline

The Site is separated into habitat parcels based on the UK Habitat survey map. The respective areas (in hectares) of each habitat parcel and respective lengths (in kilometres) of linear features are calculated in Geographical Information System (GIS) mapping software and entered into the calculator tool. The Small Sites Metric calculator tool utilises the UK Habitat Classification System (UKHab) as the standard data input for habitats.

Each habitat or linear feature recorded is assigned a score for 'Distinctiveness', 'Condition', and 'Strategic Significance':

- **Distinctiveness** – An automated score based on the type of habitat present and its value to wildlife. Highly diverse habitats such as those listed as Habitats of Principal Importance under the NERC Act (2006) or Annex 1 habitats in the Habitats Directive (1992) score highly in this category whilst highly modified and low diversity habitats such as arable crops will have low distinctiveness scores.
- **Condition** – A score based on the quality of the habitat parcel. When using the Small sites Metric, condition assessments do not need to be undertaken in the field because condition is automatically assigned by the Metric at the baseline stage. Consequently, there are no condition assessment tables in this report as their would be if the Main Metric tool was used.
- **Strategic significance** – A score based on information set out in local plans or policies. The value of each habitat parcel (or linear feature) is presented in terms of habitat (or hedgerow) 'units'.

Trees

The metric includes a 'tree area calculator', which allows individual trees, which fall outside of areas of scrub, woodland and hedgerows, to be incorporated in to the Small Sites Metric by entering the number of trees present. The size classes used in this assessment are:

- **Small Trees:** Trees with a diameter at breast height (DBH) of <30cm;
- **Medium Trees:** Trees with a DBH of >30 to <60cm;
- **Large Trees:** Trees with a DBH of >60 to <90cm;
- **Very Large Trees:** Trees with a DBH of >90cm.

Ground Level Tree Assessment (GLTA) for Bat Roosting Potential

A GLTA was undertaken of all trees within 30m, access permitting, of the red line boundary to assess their suitability for roosting bats. This involved visually inspecting trees from ground level for potential roosting features (PRFs) which bats may favour (e.g. holes, cracks and cavities that might be used as

bat access-points or roost sites). The PRFs were placed in categories as defined in Table 1, following the updated guidance in Collins (2023⁶).

Table 1. Categorisation of the potential suitability of PRFs on trees

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size of lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

Bat Foraging and Commuting Assessment

The site was assessed in line with the latest guidelines provided in Collins (2023) – guidelines which have been updated recently. Particular attention was placed on linear habitat features (e.g., hedgerows and other linear features) which can provide links to good foraging features in the wider landscape.

Limitations and Assumptions

There were no major survey limitations which fundamentally impact the results of this survey assessment, however it should be noted that ecological surveys are limited by factors which affect the presence of animals. This includes the time of year, migration patterns and the unpredictability of wild animal behaviour.

Furthermore, there are some limitations of the Metric used, as it is only a proxy for biodiversity and thus any proposed mitigation or compensation should be designed using the metric, but underpinned by appropriate ecological expertise.

⁶ Collins, J. (2023), Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London

RESULTS

Statutory Designated Nature Conservation Sites

There are no internationally important designated sites (Special Area of Conservation (SAC), Special Protection Area (SPA) or Ramsar Sites) within 2km of the Site boundary. The closest internationally designated site is the Oxford Meadows SAC, which is located 12.25km south-west of the Site. Oxford Meadows is a nationally important site for its lowland hay meadows which are one of only two sites in the country that supports Creeping Marshwort (*Apium repens*).

There are no nationally important designated sites (Site of Special Scientific Interest (SSSI) within 2km of the site boundary. The closest is Wendlebury Meads and Mansmoor Closes SSSI which is located 2.1km south of the Site and designated for its traditionally managed unimproved grassland meadows.

The Site is within the SSSI Impact Zone for the Wendlebury Meads and Mansmoor Closes SSSI. However, the planned development does not fall into any of the categories which would require the LPA to consult Natural England on the likely risks associated with the development.

Non-Statutory Designated Nature Conservation Sites

There is one non-statutory sites within 1km of the Site, a Cherwell District Wildlife Site known as Bowlers Copse. Bowlers Copse is a located 25m north-east of the Site. Bowlers Copse is a semi-natural community managed lowland mixed deciduous woodland near Wendlebury Village. Bowlers Copse has a range of species typical of long-established woodland including sweet woodruff, sanicle, primrose, bluebell, goldilocks buttercup and a population of the locally uncommon early purple orchid.

Habitats

The 0.8415ha Site is shown on the plan shown in the introduction. The site currently comprises a concrete hardstanding driveway leading to an area of rough grassland at the northern end of the Site which is being partially used for ad-hoc storage as several shipping containers are present on the grassland.

The Site boundary is delineated on the eastern and western sides by hedgerows which form the outer limits of the area owned by the client, beyond which is Wendlebury Road to the east and the A41 to the west. Beyond these roads there is arable land to the east and west of the Site.

To the north of the Site is Bowlers Copse Cherwell District Wildlife Site. To the south there are three small grassland paddocks which form part of the wider site ownership boundary. Further to the south is Wendlebury village, with associated residential properties.

Desk study

A search on Magic shows that there are no habitats from the Priority Habitat Inventory that have been mapped at the Site, i.e. there are no known Habitats of Principal Importance under Section 41 of the NERC (2006) act. The closest area of priority habitat is the deciduous woodland associated with Bowlers Copse 25m north of the Site.

Field survey

The habitats present within the red line boundary of the Site have been mapped in accordance with UK Hab classification as shown on the Map within Appendix A and described below. A condition assessment for each qualifying habitat has not been provided due to the Small Sites Metric being used.

Developed land – sealed surface (u1b)

The southern part of the Site comprises a concrete hardstanding road which provides access to the site from Wendlebury Road.

Alongside the road there is short mown grassland with young planted trees however this habitat is outside of the red line boundary and is therefore not discussed in any further detail in terms of the habitat.



Image 1. Photograph of the concrete access track.

Artificial unvegetated – unsealed surface (u1c)

At the northern end of the Site there is an area of artificial unvegetated – unsealed surface where materials are being stored.



Image 2. Photograph of the artificial unsealed surface in the northern part of the Site.

Modified Grassland (g4, with secondary code 516 'Active Management')

The northern end of the Site is occupied by an area of modified grassland. This area appears to be subject to some infrequent management, such as an annual mow, as evidence by the homogenous sward which did not appear to be totally unmanaged and neglected. Consequently, secondary code 516 'Active Management' is applicable.

The grassland in these areas is best described as a relatively species poor Modified Grassland (UK Habitat code g4) (Image 3). The grassland had a sward typical of this habitat type. Sward height was a uniform c. 40cm tall throughout.

The grassland was characterised by the dominance of a few fast-growing species frequently found in fertile grasslands. The average number of species found within a typical 1m² area of the grassland was less than 6 and the sward was almost entirely comprised of grasses with a very low abundance of flowering herbaceous species present. Herbaceous species present included occasional occurrences of Ribwort Plantain (*Plantago lanceolata*) with rare occurrences of Broadleaved Dock (*Rumex obtusifolius*), Common Hogweed (*Heracleum sphondylium*), Common Nettle (*Urtica dioica*), Common Ragwort (*Senecio jacobaea*), Curled Dock (*Rumex crispus*), Cut-leaved Cranesbill (*Geranium dissectum*), Field Bindweed (*Convolvulus arvensis*), Meadow Buttercup (*Ranunculus Acris*), Spear Thistle (*Cirsium vulgare*); And very rare occurrences of oxeye daisy (*Leucanthemum vulgare*) and Cowslip (*Primula veris*) (1 small patch of each).

Despite condition assessment not being a requirement of the Small Sites Biodiversity Metric, it is worth noting that several of the herbs found in these grassland areas are considered to be indicative of 'sub-optimal' conditions under the Biodiversity Metric 4.0 condition assessment sheets for grasslands (i.e. docks, nettle, and thistles).



Legend

- Site Boundary
- Baseline Linear habitats
- Forecasted Habitats (UK Habs)**
- u1c - Artificial unvegetated, unsealed surface
- Retained habitats (UK Habs)**
- g4 - Modified grassland
- h3h - Mixed scrub
- r1g - Other standing water
- u1 - Developed land, sealed surface

Forecasted habitat map

Of the grasses present, *Dactylis glomerata* (Cock's-foot) and *Holcus lanatus* (Yorkshire Fog) were abundant and Meadow Foxtail (*Alopecurus pratensis*) was frequent. False oat-grass and Rough Meadow-grass were occasional components of the sward.



Image 3. Overview of the modified grassland in the northern part of the Site.

Species-rich native hedgerows (h2a5, with secondary code 11 'Hedgerow with Trees')

There are two species-rich native hedgerows on the Site these are bordering the eastern and western boundaries of the grassland area. In both hedgerows, secondary code 11 'Hedgerow with trees' is applicable.

The species-rich native hedgerow along the eastern boundary of the grassland area is roughly 4m tall and 2m wide and contains a broad mixture of native woody species including Ash (*Fraxinus excelsior*), Blackthorn (*Prunus spinosa*), Dogwood (*Cornus Sanguinea*), Field Maple (*Acer campestre*), Grey Willow (*Salix cinerea*), Hawthorn (*Crataegus monogyna*), Rose sp. (*Rosa sp.*), Sycamore (*Acer pseudoplatanus*), and Wild privet (*Ligustrum vulgare*). There are also several mature Ash trees and semi-mature Ash and Sycamore trees. The vegetative strip at edge of the hedgerow includes Cleavers (*Galium aparine*), Cow Parsley (*Anthriscus sylvestris*), False Oat-grass, Herb Robert (*Geranium robertianum*), and Wood False-brome (*Brachypodium sylvaticum*).

The species-rich native hedgerow on the western boundary of the grassland area is similar to the one on the eastern boundary with a mixture of Ash, Common hawthorn, Dogwood, Field maple, Holly (*Ilex aquifolium*), and Rose sp.



Image 4. Species-rich hedgerow with trees on the eastern boundary of Site.

Mixed scrub (h3h, with secondary code 32 'Scattered Trees')

The northernmost extent of the red line boundary area comprises a block of mixed scrub with scattered trees. The scrub comprised a mixture of Ash, Bramble (*Rubus fruticosus*), Dogwood, Elm (*Ulmus sp.*), Field Maple, Goat willow (*Salix caprea*), and Hawthorn.

Trees included Ash, Field Maple, Leylandii (*Cupressus × leylandii*), Norway Maple (*Acer platanoides*), and Sycamore.

There is no herbaceous vegetation in the field layer of the scrub. Instead, much of the field layer is occupied by a small pond.



Image 5. Scrub habitat surrounding pond

Other standing water (r1g, with secondary code 42 'Pond')

There is small pond within the scrub habitat on the northern boundary of the Site. This pond is heavily shaded by the scrub habitat and therefore does not have any aquatic or marginal vegetation growing in it.

Secondary code 42 'Pond' is applicable because at this time it is not possible to determine whether the pond is priority habitat or not. For example, if it does support Great Crested Newts then it would be considered priority habitat and then secondary code 40 would be applicable instead, but currently its status is unknown.



Image 6. Small pond within scrub habitat

Protected and notable species

Bats

Desk study

The background data search (BDS) did not return any records of bats from places within 1km of the Site. It may be possible that the majority of bat records are held and controlled by the county Mammal Recorder instead of TVERC.

A search for granted Bat protected species licences was carried out. There are two records of granted European Protected Species Licence (EPSL) applications within 2km of the Site. The closest of these is 1.1km north and relates to a 2011 licence allowing the destruction of a breeding and resting place used by Common Pipistrelle (*Pipistrellus pipistrellus*) and Brown Long-eared bats (*Plecotus auritus*). The other record is 1.75km northwest of the Site and relates to a 2016 licence allowing the destruction of a breeding and resting place used by Common Pipistrelle, Soprano Pipistrelle (*Pipistrellus pygmaeus*), and Brown Long-eared bats

Viewing aerial imagery of the wider landscape shows good levels of hedgerow connectivity across the wider landscape and also good levels of tree cover, in particular the nearby woodland blocks to the northeast of the Site and to the south-west of the Site.. The quality of the surrounding habitat increases the possibility of bats being present in the local environment.

Field survey

Foraging and Commuting

The grassland areas on Site represent suitable foraging habitat for bats. These habitats are likely to support insect populations creating a potential food source. However, the low species diversity of grassland is likely to limit the range and abundance of invertebrates the grassland may support. Therefore, the Site is unlikely to represent an important foraging resource for Bats in the local area; additionally there is an abundance of better quality habitat nearby in the areas of offsite grassland and woodland.

The hedgerows which delineate the western and eastern boundaries of the Site may represent an important commuting route for bats in the local area due to their role in connecting areas of woodland to the north-east with a large pond and areas of woodland and grassland to the south-west of the Site. However, it is our understanding that these hedgerow features will not be impacted by the proposals and therefore further survey is unlikely to be required.

Ground Level Tree Assessment for Bat roosting Potential

There are a few number of trees on the Site, other than those contained within the boundary hedgerows, and none of them had any potential to support roosting bats. Trees which line the access road were also checked, despite falling outside of the red line boundary. None of these were considered to hold any potential to support roosting bats either.

Consequently, no further consideration of bat roost potential in Trees is considered necessary at this Site.

Birds

Desk study

The desk study returned 396 records of protected or notable bird species from within a 1km radius of the Site. These relate to 54 different species of bird. However, 43 of the 396 records were only recorded to the 2-figure grid reference (SP22) level of accuracy which relates to a 10km² area, so it is not possible to determine exactly how far away these records are from the Site with any accuracy.

The remaining records are all recorded to the 4-figure grid reference level of accuracy which are only accurate to a 1km square area. Nevertheless, they do provide an indication of the range of species that are active in the general area.

Of the 54 different species, many are likely to frequent the Site for foraging and possibly even nesting. Some of the most likely candidates from the BDS that might frequent the Site include: Barn Owl (*Tyto alba*), Dunnock (*Prunella modularis*), Fieldfare (*Turdus pilaris*), Firecrest (*Regulus ignicapilla*), Greenfinch (*Chloris chloris*), Grey Wagtail (*Motacilla cinerea*), House Sparrow (*Passer domesticus*), Mistle Thrush (*Turdus viscivorus*), Woodpigeon (*Columba palumbus*), Yellow Wagtail (*Motacilla flava*), and Yellowhammer (*Emberiza citrinellas*). However, the Site is unlikely to represent an important foraging resource for any of these species given the small size.

Field survey

The site contains suitable habitat for nesting birds in the hedgerows, scrub and trees around the boundary of the Site.

Amphibians and Reptiles

Desk study

The BDS returned no records of herptiles from places within 1km of the Site.

A search for granted GCN protected species licences was carried out using the MAGIC website. There are four records of granted European Protected Species Licence (EPSL) applications for GCN within 2km of the Site. The closest of these is 1.65km south of the Site and relates to a 2014 licence allowing the damage and destruction of a GCN resting place.

A search for GCN Class Survey Licence Returns was carried out using the MAGIC website. There are 15 records of GCN survey licence returns from within 2km of the Site. The closest of these is 670m south of the Site and relates to a confirmed GCN presence record from 2016.

There is one pond on the Site, within the scrubby vegetation on the northern boundary

A search of OS colour maps has revealed that there are 6 ponds within 500m of the Site that are not separated by major dispersal barriers, 5 of these are within 250m of the Site, 4 of these are well connected ecologically by continuous areas of semi-natural terrestrial habitat. These include the one small onsite pond within the red line boundary and the larger pond which is outside of the red line boundary but within the wider blue line ownership boundary to the south.

A Habitat Suitability Index (HSI) survey was undertaken of the on-site pond and the large pond within the wider ownership boundary. HSI provides an indication of how suitable a pond is for GCN which can help to determine the likelihood of the species being present. The results of the HSI survey are provided below:

ARGUK GCN HSI Calculator				
Pond Name		Big pond - Offsite	Small pond - Onsite	
Grid Ref		SP 56216 19938	SP 56216 19938	
SI No	SI Description	SI Value	SI Value	SI Value
1	Geographic location	1	1	
2	Pond area	0.9	0.3	Due to being roughly 1300m2 and 150m2 respectively
3	Pond permanence	0.9	0.5	
4	Water quality	0.67	0.33	Put poor for the little one due to being zero submerged plants, heavy shade and presence of mosquito larvae.
5	Shade	1	0.2	Little pond has a totally shaded perimeter.
6	Water fowl effect	0.67	1	Low waterfowl presence at big pond (1 canada goose, 1 mallard and 1 coot seen).
7	Fish presence	0.67	1	Put fish 'possible' for the big pond due to size, permanence and minor water fowl presence. I would imagine sticklebacks at least are probably present.
8	Pond Density	0.9	0.85	9 ponds in 1km around big pond. 7 ponds in 1km around small pond. Excluding ponds within 1km that are seperated by the major barrier of the A41 that is.
9	Terrestrial habitat	0.67	0.67	
10	Macrophyte cover	0.8	0.3	Little pond had no macrophytes
HSI Score		0.81	0.53	
Pond suitability (see below)		Excellent	Below Average	

The HSI scores indicate that both ponds are considered to be 'suitable' for GCN and both ponds have the potential to support breeding populations of the species.

There are an additional 2 ponds within 500m to the west of the site, the other side of the A41, but this dual carriageway represents a significant barrier to newt dispersal and therefore those ponds are unlikely to be linked to the site.

Taking a 'worst-case' scenario and assuming that the on-site pond does contain a breeding population of GCN then Natural England's rapid risk assessment tool can be consulted to see whether an offence is likely from the planned works. Given that the pond is within 100m of the land that will be developed the rapid risk assessment tool suggests that an offence is considered 'Highly Likely'. The results of this rapid risk assessment are provided below:

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	0.5 - 1 ha lost or damaged	0.7
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.7
Rapid risk assessment result:		RED: OFFENCE HIGHLY LIKELY

This indicates that the development activities are of such a type, scale and location that it is highly likely that an offence would be committed should the development proceed in the scenario whereby the pond is known to support a breeding population of GCN. Therefore, it is important to determine whether the ponds in close proximity to the Site support GCN or not and this can be achieved through further survey effort.

Field survey

The grassland habitat offers foraging and commuting habitat for herptile species in the vicinity of the Site.

There may be opportunities for hibernation in the hedgerow bases, tree stump bases, and also within the rock piles that line the northern shore of the large pond in the wider ownership boundary (see image below).



Image 7. Large rocks on the edge of the large pond in the wider ownership boundary which may provide a suitable refuge location for herptiles.



Image 8. Large pond within the wider ownership boundary to the south of the red line boundary Site.

The other ponds within 500m of the Site that fall outside of the red-line boundary and the wider ownership boundary were not subject to a visual assessment during the PEA survey due to access limitations.

Other mammals

Desk study

The desk study returned no other relevant records of mammals from places within 1km of the Site. One record of Otter (*Lutra lutra*) was returned by the BDS but this relates to a location 750m north-west of the Site and is separated from the Site by the A41 which would represent a major barrier of dispersal for Otters.

Field survey

Suitable foraging habitat for Hedgehogs is present on the Site in the grassland habitats and they are likely to be present in the area despite the lack of records returned by the BDS.

Whilst one record for Otter was returned by the BDS, there are no suitable habitats on the Site for this species and they are considered absent from the Site and no further consideration is required.

Small Sites Biodiversity Metric

TW to add details.

EVALUATION, POTENTIAL IMPACTS, AND RECOMMENDATIONS

Statutory and non-statutory nature conservation sites

Taking the nature of the development and relatively small size of the Site into consideration, it is considered very unlikely that the proposed development could impact on any nature conservation sites in the vicinity given that the closest statutory designated Site is c. 2.1km away

There is one non-statutory site within 1km of the Site, a Cherwell District Wildlife Site known as Bowlers Copse. Bowlers Copse is located 25m north-east of the Site. Potential pollution pathways for the planned works to negatively impact on the features of interest at this non-statutory site should be considered before works begin. In particular, adequate consideration should be given towards effective management of dust/dust suppression during the proposed works, where required, to avoid dust deposition into nearby sensitive habitats at the non-statutory designated site.

Habitats

The Modified Grassland which will be lost to storage is a fairly ubiquitous habitat that is common and widespread. Whilst the grassland is of limited botanical interest, it may provide significant value to wildlife in the local context, if for example if the on-site pond supports a breeding population of GCN then this area of modified grassland immediately surrounding may represent an important resource of core habitat for the species.

Areas of low value grassland habitat will be lost to facilitate the planned development. From the plans provided it is understood that the two grassland paddocks on the eastern side of the wider ownership boundary area can be made available for habitat enhancements to achieve BNG if required.

The Environment Act 2021, strengthened by the NPPF (2021) states that developments should provide net gains for biodiversity. As such it is applicants responsibility to demonstrate to the local planning authority a feasible way in which BNG could be achieved through the development. Therefore, a BNG baseline assessment has been produced for the development which includes the baseline value of the Site.

It should be noted that the post-development BNG value of the site to determine the % change in value has not been calculated as part of this report and will need to be undertaken when the landscaping proposals are finalised and/or final areas of lost habitat are definitively known. Consequently, the exact details of how to achieve BNG proposed for the site is not outlined within this report either. Instead, a habitat maintenance and monitoring plan (HMMP) will need to be produced in future to outline the details of habitat creation/enhancement and maintenance to achieve the required BNG gain, the details of which are to be agreed in writing with Cherwell District Council.

Bats

Foraging and commuting

The loss of grassland foraging habitat to facilitate the planned development is considered unlikely to have any significant impact on local populations of bats due to the small size of lost habitat and the availability of other larger and better resources in the area. Additionally, no commuting lines will be significantly disrupted or broken by the development. Therefore, no activity surveys are considered necessary to understand how bats use the Site. However, the below considerations regarding lighting should be followed to ensure that potential impacts to bats are minimised.

Artificial lighting can cause disturbance to bats and therefore minor external lighting should be PIR triggered only. Lighting for the scheme should be designed in accordance to the Guidance note 08/18 ILP, Bats and artificial lighting in the UK.

Examples of best practice guidance relating to lighting include:

- i. Avoid installing new lighting in proximity to key ecological features, e.g., hedgerows and woodland edges
- ii. Use modern LED fittings (they emit negligible UV radiation). Avoid using metal halide or sodium fittings.
- iii. Use directional lighting to reduce light spill, e.g., use shields/hoods or install bespoke fittings. Use downlighting to illuminate features such as footpaths whilst minimising the vertical and horizontal spill of light.
- iv. Where using bollard lighting, design columns to reduce horizontal light spill. Use controls so lighting is only active when needed, e.g., the use of timers or motion sensors.
- v. To reduce reflected illumination, use floor surface materials with low reflective quality.
- vi. For internal lights, use recessed light fittings rather than pendant type fittings which will cause considerably less glare. Using low-glare glass may be appropriate where internal lighting could potentially influence sensitive ecological receptors.

Birds

The proposals may require clearance of some areas of suitable nesting habitat including scrub and trees. All active birds' nests, regardless of species, are protected by UK law. A nest is deemed to be active even if it is in the process of being built and does not yet contain eggs or young.

To avoid impacting nesting birds, it is recommended that a pre-works nesting bird check be conducted on any suitable nesting habitat scheduled for removal during the nesting bird season (March to August inclusive). If any nests are found, they must be preserved, with an appropriate species-specific buffer established from the works, and protected from damage or abandonment until the young have fledged.

If clearance of suitable bird nesting habitat is undertaken during the winter months, between October and February, this would be outside of the breeding bird season (March to August inclusive) and therefore a pre-works nesting bird checks would not be considered necessary. However, other possible constraints may preclude winter clearance of bird nesting habitat, i.e. if GCN are found to be present in the on-site pond.

Amphibians and Reptiles

Herpetile species, including GCN and reptile species are considered potentially present on Site due to the presence of suitable breeding ponds for GCN, suitable terrestrial habitat and also features that could support hibernation.

As there is an onsite pond which could viably support a breeding population of GCN, are other suitable ponds within the wider ownership boundary. Natural England's rapid risk assessment tool suggests that an offence would be 'Highly Likely' if a breeding population of GCN were found to be present in the on-site pond (i.e. the notional offence probability score is 0.7, meaning there is estimated to be a 70% chance that an offence would be caused).

Whilst the modified grassland habitat has little intrinsic value for its botanical interest, it would likely represent an important terrestrial habitat for GCN if this species were found to be breeding in the pond on Site.

Therefore, further consideration for this species is necessary to determine whether the ponds within 250m of the Site which are ecologically connected to the Site support GCN or not.

Further survey would be required either through use of eDNA or traditional presence/ likely absence survey methods.

eDNA water surveys detect GCN DNA within a waterbody. This method can be undertaken between April 15th and June 30th which has now passed for the 2024 survey season. Alternatively pond surveys using traditional methods, to determine GCN presence/absence and population size, can also only be carried out during a certain survey window. These should be carried out between mid-March and June. Multiple survey visits are required (a minimum of four to determine presence/absence and a maximum of six to determine population class size), with at least half of these visits occurring during the period between mid-April and mid-May.

Therefore, to avoid any lengthy delays it is suggested that this development proceeds under a District level licence (DDL) for GCN.

District level licencing

The district level licencing (DLL) approach is available to the applicant as the Site falls within Oxfordshire which Nature Space Ltd., operate a district level licencing scheme for the conservation and protection of GCN.

A District Level Licence (DLL) for GCN is an innovative approach to streamline the regulatory process for developments while ensuring the conservation of the species. The DLL is designed to manage the impact of a development on GCN at a strategic level rather than on a site-by-site basis.

It involves a comprehensive, district-wide survey and the creation of conservation plans to identify and enhance key habitats for GCN. It is a proactive approach which allows for better planning and conservation outcomes. A key benefit to the DLL is that presence/absence surveys are not typically required, meaning there can be a cost and time saving for the developer.

Below is a detailed description of how a DLL can be utilised by this development:

- Consult with Local Planning Authority

Engage with the local planning authority to confirm the availability of the DLL and to understand the specific requirements and process. This will be the responsibility of the applicant's planning team. The planning authority will provide guidance on how the DLL can be integrated into the development plans.

- Application and Contribution.

Once eligibility is confirmed with NatureSpace, the developer applies to join the DLL scheme. This usually involves paying a two-stage contribution payment to a centrally fund managed by the conservation body. The contribution amount is based on the scale of the development and its potential impact on GCN habitats and is set by a calculation created by NatureSpace Ltd.,

- Mitigation and Compensation

The DLL scheme outlines specific mitigation and compensation measures that the developer must adhere to. These measures are designed to minimise harm to GCNs and may include habitat creation, enhancement, and management at designated receptor sites within the district which the onus will be on NatureSpace to deliver. The developer's contribution to the DLL fund supports these activities.

It should be noted that that the level of on-site mitigation required by the scheme is dependent on the 'Impact risk zone' that the Site falls within. This information will be provided within the NatureSpace report once the initial fee is paid.

- Planning Permission and Conditions

With the DLL in place, the developer can proceed with the planning application. The local planning authority will include conditions related to the DLL in the planning permission. These conditions ensure compliance with the agreed mitigation and compensation measures.

- Monitoring and Reporting

Throughout the construction phase, the developer must comply with the monitoring and reporting requirements specified under the DLL. This ensures that the impact on GCNs is minimised and that the conservation measures are effective.

- Benefits of Using a DLL

Simplified Process & Reduced survey effort: The DLL reduces the complexity and time involved in obtaining individual licences and the need for site specific survey data , allowing for a more streamlined development process.

Enhanced Conservation: By focusing on a district-wide strategy, the DLL ensures that GCN conservation efforts are more effective and better coordinated.

Certainty for Developers: Developers gain more certainty and predictability in the planning process, reducing the risk of delays and unexpected costs.

Cost-Effective: The DLL can be more cost-effective for developers, as the contributions to the central fund are often lower than the costs associated with individual mitigation measures. Utilising a District Level Licence for great crested newts allows developers to contribute to a strategic, district-wide conservation effort while benefiting from a simplified and more predictable regulatory process.

Other mammals

Precautions should be taken during any planned works to avoid adverse effects to hedgehogs. Working at night should be avoided where possible and it is also good practice to cover any excavations overnight to prevent hedgehogs (and other mammals) from becoming trapped in them. If it is not possible to cover excavations, then an egress route should be provided to allow animals to climb out should they become trapped (i.e. ramps or planks of wood). No further surveys for other animals such as hedgehog are considered necessary.

Biodiversity Net Gain Feasibility Study

The Environment Act 2021, reinforced by the National Planning Policy Framework (NPPF) 2021, mandates that developments should provide net gains for biodiversity. Consequently, it is the applicant's responsibility to demonstrate to the local planning authority how BNG can be achieved through the development.

To address this requirement, a BNG feasibility study has been undertaken which evaluates the habitat value of the Site (pre-development) and then compares this value with the post-development habitat score.

Results

There are no statutory protected sites within the redline boundary which would make achieving a net gain impossible through this project.

Based on the plans the provided (Figure 5724-22B Roger Coy Partnership) there will be a loss of 3353m² of modified grassland, to make way for the development proposals (Artificial unvegetated unsealed surface for storage). This will result in an anticipated loss of -1.5424 habitat units, equating to a **-52.79%** net loss in area habitat units on-site.

Due to trading rules which apply to BNG which require a 'like for like' habitat replacement, it is considered that there is not enough available space within the redline boundary to meet a 10% target whilst also satisfying these trading rules, and thus an off-site compensation arrangement is required. Net Gain Ecology understand that the applicant has a wider landholding, comprising fields which appear to also qualify as modified grassland (Assessment made through photographs and not a site walkover), which closely resemble the grassland found within the Site boundary.

Figure 3: Plan of wider ownership and rough area size calculation (Google imagery).

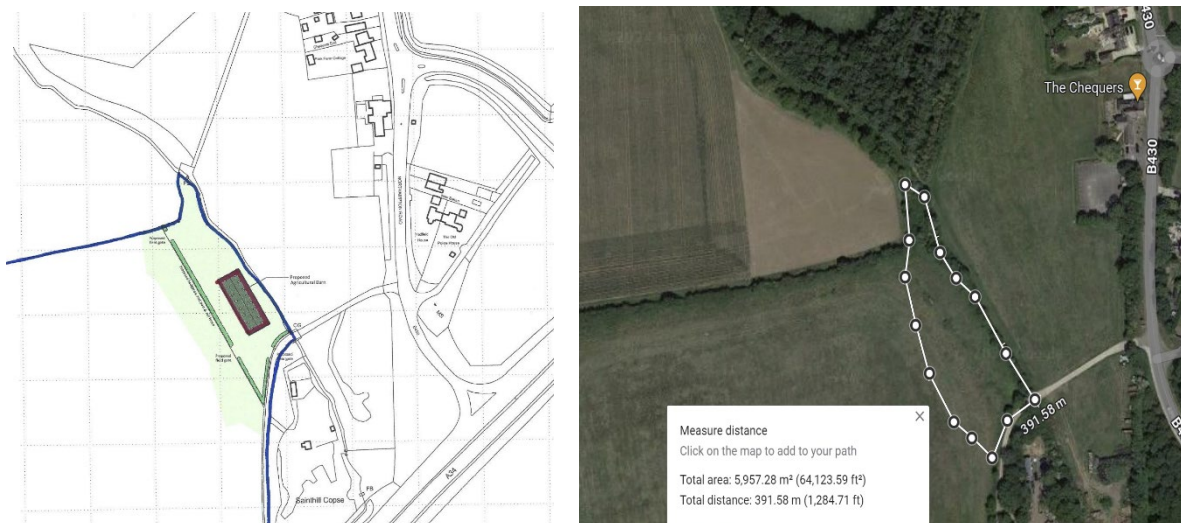


Image 9 & 10. Land at proposed offsetting site.



In order to meet the mandatory 10% Biodiversity net gain target, enhancing a c.6000m² area of the applicant's off-site modified grassland (should it be confirmed to be this habitat type once surveyed) into 'other neutral grassland – g3c' in moderate condition, would achieve >10% BNG for the development, whilst also satisfying trading rules for habitat type and distinctiveness.

According to the Defra Metric Habitat guide⁷ habitat, 'Other neutral grassland' habitat must demonstrate;

- vii. A minimum of 9 native plant species (grasses, sedges and wildflowers) per square metre on average, created or enhanced through,
 - o Soil testing to check habitat will be on neutral¹, low fertility² soils, informing the grassland design and species suitability
 - o - sowing a species-rich, native grassland seed mix with wildflowers, or by spreading green hay from a local donor site providing appropriate species for the location
- viii. Wildflowers (and may include sedges) growing over at least 20% of the habitat area
- ix. Less than 30% of grassland covered by perennial ryegrass and white clover *Trifolium pratense* combined.
- x. A diverse range of native grasses and wildflower species managed to prevent the more dominant 'species to avoid' taking over the grassland.
- xi. Less than 5% scrub and less than 20% bracken cover.
- xii. No invasive non-native plant species as listed on Schedule 9 of the Wildlife and Countryside Act (1981).

⁷ Habitat Guide, The Small Sites Metric (Statutory Biodiversity Metric) Habitat Management and Monitoring Plan Template, April 2024 Natural England Joint Publication JP058

- xiii. Protection from physical damage so that bare ground and other signs of damage (e.g. excessive littering) covers below 5% of the total area. Grassland subject to excessive damage through regular footfall, such as in car parks or in front of building entrances, is unlikely to achieve this habitat type.

With a carefully designed management plan, this area of land could be upgraded from G4 to G3c. To achieve this, it would be necessary to over-seed the grassland with a locally sourced, species-rich seed mix to enhance species diversity. Additionally, certain areas of the fields should be left unmowed and ungrazed during the main flowering period (typically April to September). This management break allows young seedlings to germinate, flower, and produce seeds for the following year.

These recommendations serve as a demonstration of how Biodiversity Net Gain (BNG) could be achieved. It is important to note that the specific details of such management practices, including timing, duration, and responsible personnel, should be outlined in a targeted BNG plan for the site. Furthermore, a Habitat Maintenance and Monitoring Plan (HMMP) must be developed for the site and secured with a legal agreement (planning obligation or conservation covenant) for a minimum of 30 years.

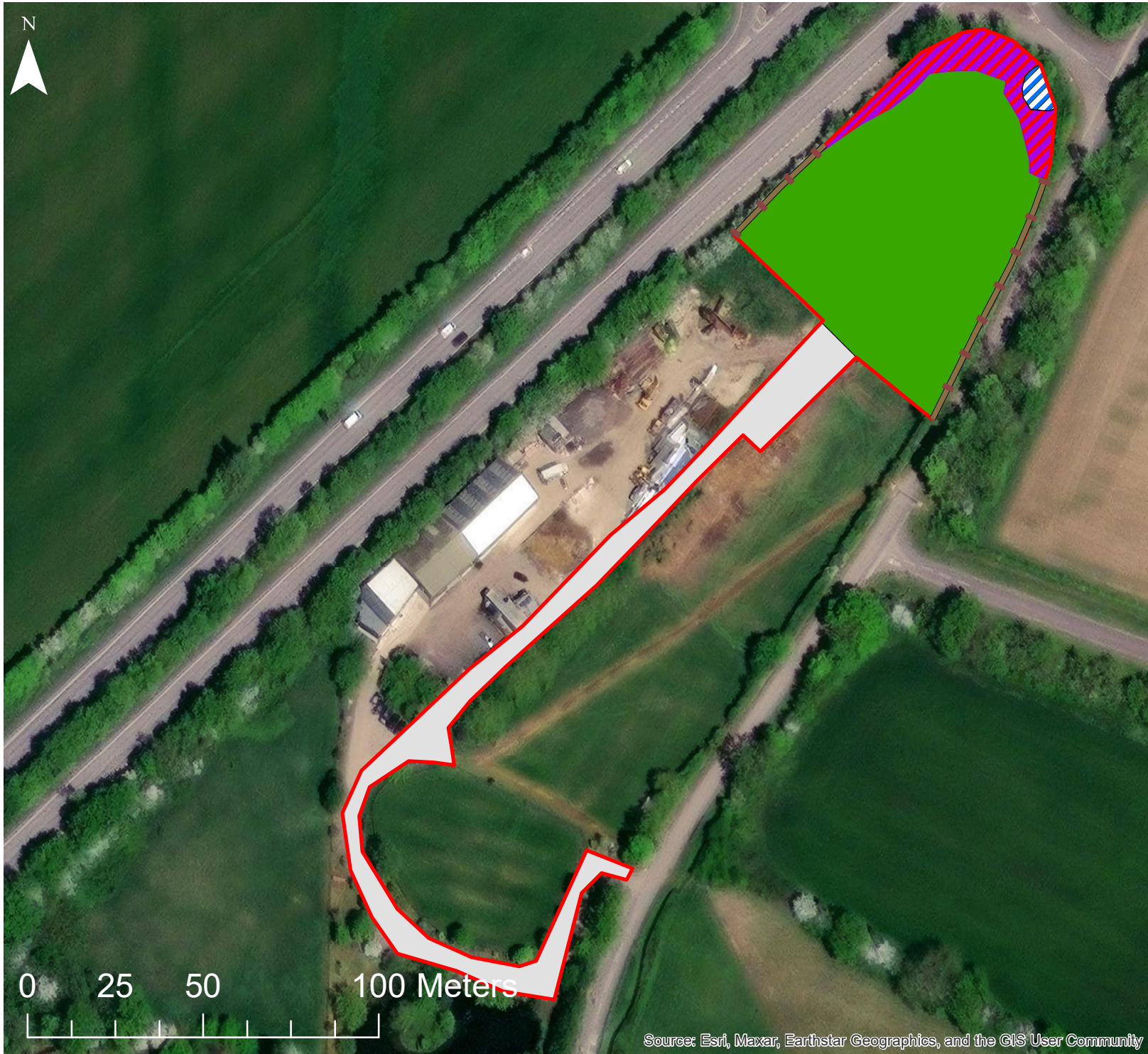
Summary of recommendations

R1 – The applicant should either complete further surveys for Great Crested Newts within the 2025 survey season OR the Site should be registered under NatureSpace Ltd., District level licence for Great Crested Newts in Oxfordshire.




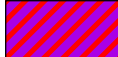


R2- A Biodiversity Net Gain plan and habitat maintenance and monitoring plan should be produced for the Site which details how the development will meet the statutory net gain target.

Image 11. Showing the results of the BNG Metric

Baseline Units	Habitat units	2.9219
	Hedgerow units	0.8880
	Watercourse units	Zero Units Baseline
Post-development Units	Habitat units	1.3795
	Hedgerow units	0.8880
	Watercourse units	0.0000
Total net unit change	Habitat units	-1.5424 ▲
	Hedgerow units	0.0000 ⚠
	Watercourse units	0.0000
Total net % change	Habitat units	-52.79% ▲
	Hedgerow units	0.00% ⚠
	Watercourse units	% target not appropriate
Habitats units required to meet target		1.8346
Hedgerow units required to meet target		0.0888
Watercourse units required to meet target		0.0000



Legend

-  Site Boundary
-  Baseline linear habitats
- UK Habs
 -  g4 - Modified grassland
 -  h3h - Mixed scrub
 -  r1g - Other standing water
 -  u1 - Developed land, sealed surface

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Drawing completed 04/07/2024 - TW - Net Gain Ecology



Legend

- Site Boundary
- Baseline Linear habitats
- Forecasted Habitats (UK Habs)**
- u1c - Artificial unvegetated, unsealed surface
- Retained habitats (UK Habs)**
- g4 - Modified grassland
- h3h - Mixed scrub
- r1g - Other standing water
- u1 - Developed land, sealed surface

Forecasted habitat map