

Stourhead Garden Pathway Improvement

Ecological Impact Assessment

1498/ Version 1.0

Client: National Trust

Date: 30 July 2025

DOCUMENT CONTROL

Report prepared for:

National Trust

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DOCUMENT REVISIONS

Version	Details	Date
V1.0	Draft EclA Report issued to Client for review	30 June 2025
V1.0 Final	Final EclA Report issued to Client following review	30 July 2025

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SUMMARY

Purpose of the Report	This Ecological Impact Assessment report presents the current ecological baseline at the Site and a complete assessment of the potential effects of the proposed scheme on those ecological features (including legally protected species) associated with the Site. It provides a description of elements of the ecological baseline, presents a scope of the assessment, defines integrated and embedded ecological mitigation and enhancement measures before considering the potential effects of the proposed development. It also outlines recommendations for future monitoring and management measures and the mechanisms by which these will be secured.
Description of the Proposed Scheme	The proposals include resurfacing, widening and narrowing of the pathway circumnavigating the gardens and the provision of bases to allow for the installation of fixed bases at the National Trust Stourhead, Wiltshire.
Methods	An extended UKHab survey and Biodiversity Net Gain (BNG) habitat condition assessments were conducted on 24 March 2025 at the Site to provide a habitat baseline. A Statutory BNG Metric assessment was subsequently undertaken to confirm the net gain achievable by the proposals.
Key Impacts and Mitigation Measures	The development proposals will result in the loss of 0.11ha of other neutral grassland habitat and 1.62ha of modified grassland within the site boundary. Avoidance measures include: - Retention and protection of adjacent of trees and woodland - Production of a CEMP to include details of pollution prevention measures to safeguard existing waterbodies, woodland and grassland - Precautionary two-stage clearance of any other neutral grassland habitat requiring removal to facilitate the works to avoid impacts to common reptiles and/or other species that may be present - Precautionary clearance of introduced scrub requiring removal to facilitate the works under ECoW supervision to avoid impacts to dormouse. A Construction Environmental Management Plan (CEMP) will be implemented during the construction works to mitigate accidental damage to retained habitats, protect habitats and species in the event of accidental spillages of pollutants and from dust deposition. Compensation for the small loss of modified and other neutral grassland at the site will be provided through the creation of 0.009ha of other neutral grassland and 0.011ha of moderate condition modified grassland. The Statutory BNG Metric assessment calculated a 12.27 % BNG with an 0.42 increase in habitat units with the Trading Rules met. A Landscape and Environment Management Plan (LEMP) will be provided via planning condition which will detail the methods for habitat creation and the requirement for ongoing management and monitoring, including responsibilities and timings.
Conclusions	The site comprises a range of habitats including grassland, introduced scrub and individual trees. The adjacent habitats include woodland and standing water which provide connectivity to the wider local landscape. Together the on-site habitats support a range of legally protected/notable species including bats, dormouse, nesting birds and common reptiles. The BNG assessment has demonstrated that the proposed development will provide over the 10% net gain required. The EcIA demonstrates that there will be non-significant direct and indirect impacts to the habitats on Site as a result of the proposals.
Data Valid Until	24 March 2026

1 INTRODUCTION

1.1 BACKGROUND

The National Trust commissioned Johns Associates Ltd to undertake an Ecological Impact Assessment of works to improve the existing footpath at the Stourhead estate. The site is located at post code BA12 6QF (central Ordnance Survey (OS) grid reference ST 7725 3401). Figure 1 provides the Site location plan. The Site currently consists of the footpath circumnavigating the gardens and Garden Lake at Stourhead.

1.2 PERSONNEL

The UKHab survey, Defra Condition Assessments and BNG Assessment was conducted by Ellie Brine BSc (Hons), a Consultant Ecologist at Johns Associates. Ellie is proficient in botanical identification and is certified FISC Level 4. This survey was extended to cover signs and potential habitat suitability for a range of legally protected and otherwise notable faunal species. This work was undertaken by Matt Johns BSc MSc CEnv MCIEEM, Director at Johns Associates with 30 years experienced as a professional ecologist and holding a range of protected species licenses for over 20 years including bats, dormouse, great crested newt amongst others.

This EclA was compiled by Ellie Brine BSc (Hons) and reviewed by Matt Johns.

1.3 SUMMARY OF PROPOSALS

The proposals include the resurfacing, widening and narrowing of the footpath circumnavigating the National Trust Stourhead Gardens, as well as the provision of bases to allow for the installation of fixed benches.

1.4 PURPOSE OF THIS ASSESSMENT

This Ecological Impact Assessment report presents the current ecological baseline at the Site and a complete assessment of the potential effects of the proposed scheme on those ecological features (including legally protected species) associated with the Site.

It provides a description of elements of the ecological baseline, presents the scope of the assessment, defines integrated and embedded ecological mitigation and enhancement measures before considering the potential effects of the proposed development. It also outlines recommendations for future monitoring and management measures and the mechanisms by which these will be secured.

1.5 ABOUT THIS ECOLOGICAL IMPACT ASSESSMENT

The EclA assessment methodology used has been adapted from the Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (Version 1.3, CIEEM, September 2024). EclA is a process of identifying, quantifying, and evaluating the potential effects of development-related or other proposed actions on habitats, species and ecosystems. The findings of this EclA will inform Wiltshire Council of the ecological issues when determining the planning application for the Site.

A key consideration in scoping and subsequently assessing the impacts of any development is to define the habitats and species that need to be considered. The approach set out below follows the standard guidance published by CIEEM and is widely considered to be current best practice.

Ecological features (habitats, species and ecosystems) present within the Site and its zone of influence are scoped through the desk study and field survey process and their ecological importance determined with reference to a geographical context. In identifying these features or 'receptors', it is important to recognise that a development can affect habitats and species directly (e.g. the land-take required) and indirectly, (e.g. through noise generation or lighting).

The key elements of the assessment process are as follows:

- Identifying and characterising impacts which may be beneficial (positive) or adverse (negative);
- Incorporating measures to avoid and/or mitigate these impacts;
- Assessing the significance of any residual effects after mitigation has been applied;
- Where there are significant residual effects, identifying appropriate compensation measures to offset these; and
- Identifying opportunities for ecological enhancement.

A key principle of EclA is to identify those impacts that are ecologically significant. A significant effect is an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the ecological consequences of permitting such a project (CIEEM, 2024).

Importantly, the design process has been iterative, drawing on ecological information from data search results and field surveys undertaken by Johns Associates in 2025, and making use of best practice design principals to ensure that avoidance, mitigation, compensation and enhancement measures have been formally incorporated into the final design taken forward for the planning submission.

This EclA also provides a summary of a Statutory BNG assessment. The full BNG Assessment Report (Johns Associates, June 2025) is provided as Appendix A to this EclA. From 12th of February 2024, in accordance with Schedule 7A of the Town and Country Planning Act 1990 as inserted by Schedule 14 of the Environment Act 2021, all developments that are not exempt from the provisions of BNG must provide a mandatory 10% biodiversity net gain. If 10% BNG cannot be met, an off-site compensation area or compensation payment to a habitat banking scheme may be required.

Post-development Landscape Plans produced by Land Use Consultants Limited have informed the post-development BNG calculations. Development of these plans was informed by consultation with a suitably qualified ecologist (SQE) to ensure habitats of higher distinctiveness were avoided where possible and the potential biodiversity net gain was maximised to achieve the 10% gain required.

The key elements of this EclA report are:

- Section 1: Introduction – Overview of the proposals, the Site and purpose of report.
- Section 2: Legislation, Planning Policy & Technical Guidance.
- Section 3: Data Gathering Methodology - Consultation undertaken to ensure the most effective input to defining the initial scope of the assessment; Zones of Influence; methods used for all surveys, evaluations and assessments.
- Section 4: Baseline Ecological Conditions – Desk study and field survey results, including the ecological conditions.
- Section 5: Scope of the Assessment – Approach to identifying receptors, potential receptors, and significant effects.
- Section 6: Environmental Measures Integrated and Embedded into the Proposals.
- Section 7: Ecological Impact Assessment – An assessment of whether ecological features will be subject to impacts and characterisation of these impacts and their effects. Assessment of the significance of the residual effects following implementation of embedded mitigation.
- Section 8: Defra Biodiversity Metric 4.0 Results – Tables and summary of results are provided.
- Section 9: Cumulative Effects – An assessment of cumulative impacts and effects including multiple activities and projects creating an additive effect; associated or connected development activity within the Site and consented or unconsented proposals within the agreed Zone of Influence.

- Section 10: Additional Mitigation or Compensation Requirements – Measures to avoid, reduce and compensate any residual negative ecological impacts and their effects.
- Section 11: Implementation of Biodiversity Measures and Monitoring – Provision of mechanisms to evaluate and monitor impacts and their effects and evaluate implemented mitigation, compensation, and enhancement measures.
- Section 12: Conclusion of Significance Evaluation.

1.6 SITE LOCATION AND CONTEXT

The Site is located within the 18th century formal gardens on the Stourhead Estate in west Wiltshire. The footpath mainly circumnavigates the Garden Lake. Directly adjacent are areas of cherry laurel introduced shrub, rhododendron planting and areas of plantation woodland to the east and ancient woodland to the west. The Stourhead mansion lies to the northeast of the Site, with parkland spanning to the north and the wider landscape. The Site is located in a rural setting; connectivity to the wider landscape is optimal for mobile species via linear features including woodland. A plan showing the location and context of the Site is provided as Figure 1.

Figure 1: Site Location and Context



2 LEGISLATION, PLANNING POLICY & TECHNICAL GUIDANCE

2.1 LEGISLATIVE CONTEXT

Many species of animal and plant receive some degree of legal protection. For the purposes of this report, legal protection refers to: species included on Annex II of the Habitats Directive 1992 (Council of European Communities, 22/07/1992), Schedules 2 and 5 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (UK Government, 2019) and Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended) (UK Government, 1981), excluding species that are only protected in relation to their sale (see Section 9[5] and 13[2]) reflecting the fact that the proposed development does not include any proposals relating to the sale of species.

Legal offences associated with species listed on Schedule 2 of the Conservation of Habitats and Species Regulations and Schedule 5 of the Wildlife and Countryside Act in England and Wales include *inter alia*:

- Deliberate capture, injury or killing of animals or taking or destroying their eggs;
- Deliberate disturbance of animals in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
- Intentional or reckless disturbance of an animal in its place of shelter or protection;
- Damaging or destroying a resting place or breeding site;
- Intentionally or recklessly obstructing access to a place of shelter or protection; and
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead animal or any part of an animal.

Relevant species listed on these Schedules that are potentially associated with this Site include bats, dormouse and common reptiles. All bat species and dormouse receive full protection from all legal offences listed above. Common reptile species receive partial protection under the Wildlife and Countryside Act in that they are protected from killing and injury only.

All species of wild bird are protected under the Wildlife and Countryside Act (1981) (as amended) from killing or injury. In addition, it is an offence to take or damage/destroy their eggs and to damage or destroy a nest whilst it is in use. Species listed on Schedule 1 (such as barn owl) receive additional protection in that it is illegal to disturb birds or their young whilst occupying, or near to, an active nest.

Badgers *Meles meles* are protected under the Protection of Badgers Act 1992 (UK Government, 1992), which makes it an offence to wilfully kill, injure or take (or attempt to kill, injure or take) a badger; or to disturb badgers whilst occupying their setts.

A number of wild plants, habitats and animals (including reptiles, hedgehog and most species of bat) are also included within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (UK Government, 2006) which lists flora, fauna and habitats considered by the Secretary of State to be of principal importance for conserving biodiversity. The publication of the "England Biodiversity List" satisfies the requirements of Section 41 of the NERC Act 2006 for the conservation of biodiversity. Section 40 of the NERC Act 2006 requires public bodies, including local planning authorities, to have regard for the conservation of biodiversity in England, when carrying out their normal functions.

Relevant habitats listed within Section 41 that are potentially within the zone of influence of the development proposals include woodland.

The Environment Act 2021 includes a provision for Biodiversity Net Gain, whereby developments must deliver at least 10% net gain from 12th February 2024. Section 8 of this EclA summarises the results of a BNG Assessment using the Defra Metric 4.0 with the full BNG Assessment Report provided as Appendix A.

2.2 POLICY CONTEXT

2.2.1 National

There are numerous national and local planning policies associated with flora and fauna (also referred to as biodiversity) that need to be addressed as part of the planning process. The Government has issued its National Planning Policy Framework (NPPF) in December 2024, which requires impacts to biodiversity to be minimised. Paragraph 194 of the NPPF applies the same protection to Ramsar sites as that conferred by the Habitats Regulations to SACs and SPAs, it also applies the same protection to sites identified or required as compensatory measures for adverse effects on habitat sites.

To protect and enhance biodiversity plans should:

- 192a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;
- 192b) 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.

The NPPF requires development to apply the following principles (Paragraph 193):

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Planning authorities should follow key principles to ensure that the potential impacts of planning decisions on biodiversity conservation are considered. Circular 06/05: Biodiversity and Geological Conservation provides guidance on the application of the law relating to planning and nature conservation and complements the NPPF.

The Natural Environment Paper

“The Natural Choice: Securing the Value of Nature” outlines the Government’s approach and vision for nature in the UK including protecting and improving our natural environment, growing a green economy and reconnecting people and nature.

Biodiversity 2020

A strategy for England’s wildlife and ecosystem services, are the country level strategies for England and builds on the natural Environment White Paper. It sets out the strategic direction for biodiversity policy for the next decade on

land (including rivers and lakes) and at sea. The proprieties for action include a more integrated large-scale approach to conservation, putting people at the heart of biodiversity policy, reducing environmental pressure and improving knowledge.

2.2.2 Local – Wiltshire County Council

Wiltshire and Swindon Local Nature Recovery Strategy (LNRS)

The Wiltshire and Swindon Local Nature Recovery Strategy (LNRS) has not yet been officially published; however, the draft includes a number of nature conservation priorities and measures of relevance to the proposals that have been considered throughout this assessment.

Wiltshire and Swindon Local Nature Recovery Strategy (Consultation Draft, March 2025) – available online at: https://www.wiltshire.gov.uk/media/15315/LNRS-Consultation-doc/pdf/LNRS_Glossy_Doc_V5.pdf?m=1741097351523

Having been through Public Consultation the LNRS is going through the sign-off process with the aim for full sign-off by October 2025. In the absence of an official LNRS, measures detailed within the draft have been considered within this report to inform proposals. This includes:

1. Strategic Significance of habitats and sites within BNG based on Habitat Opportunity Areas and Areas of Particular Importance to Biodiversity, as shown on the Wiltshire LNRS Web App Map (2025).
2. Identification of priority habitats and species

Wiltshire Core Strategy

Core Policy 50: Biodiversity and geodiversity is relevant to this assessment:

1. Protection – proposals must demonstrate how features of nature conservation are being protected as part of the design rational.
 - a. Such features should be retained, buffered and managed favourable
 - b. Connectivity and functionality must be retained
 - c. Removal and damage of such features is only acceptable where appropriate mitigation or compensation measures have been implemented
2. Biodiversity Enhancement – all development should seek biodiversity enhancement opportunities
 - a. Major development to include measures to deliver biodiversity gains through restoration, enhancement and creation of valuable habitats, ecological networks and ecosystem services
 - b. Measures will contribute to the objectives and targets of the Biodiversity Action Plan or River Basin/Catchment Management Plan
3. Local Sites – direct and indirect impacts upon local sites will be avoided through sensitive planning, maintenance of sufficient buffers and ecological connectivity. Damage or disturbance is unacceptable other than exceptional circumstances. Development proposals affecting local sites must make a reasonable contribution to their favourable management in the long-term.

2.3 TECHNICAL GUIDANCE

There are a number of technical guidance documents that have been used to define the adopted approach to undertaking EcIA. These include methods for characterising the ecological baseline and the appropriate

interpretation of data, as well as the specific approach to be adopted for the EcIA. The technical guidance of relevance is listed in Table 2.1.

Table 2.1: Technical guidance adopted for assessing the impacts on Biodiversity

Guidance reference	Usage
Bat Conservation Trust: Bat Surveys for Professional Ecologists	Provides standard good practice guidelines for conducting bat surveys including ecological considerations, timings, preliminary roost assessments, emergence and re-entry surveys, bat activity, licensing, data analysis and interpretation and reporting.
British Standards Institute (BSI): BS 42020:2013 Biodiversity – Code of practice for planning and development	Provides recommendations on topics such as professional practice, proportionality, pre-application discussions, ecological surveys, adequacy of ecological information, reporting and monitoring.
Chartered Institute of Ecology and Environmental Management (CIEEM): Guidelines for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater, Coastal and Marine. Version 1.3, September 2024	Provides technical guidance for assessing the potential ecological impacts of a development. EcIA is a process of identifying, quantifying and evaluating potential effects of development- related or other proposed actions on habitats, species and ecosystems. EcIA can be used for the appraisal of projects of any scale including the ecological component of EIA. When undertaken as part of an EIA, EcIA is subject to the relevant EIA Regulations. Includes guidance on scoping; establishing the baseline; identifying important ecological features; assessing potential impacts; incorporating measures to avoid, reduce and compensate ecological impacts and the provision of ecological enhancements. Guidance on the consideration of the legal and policy framework throughout the EcIA process is also included.
UK Government	Provides standing advice on assessing impacts on a range of protected species, including bats, great crested newts (GCN), badgers, otters, water voles, dormouse, reptiles, wild birds, protected plants, invertebrates and ancient woodland. Includes guidance on survey effort, methods, assessing impacts and mitigation. Incorporates current Natural England (NE) guidance.
The UK Habitat Classification, Version 2.0, 2023	Provides updated guidance to the UK Habitat Classification (UKHab), which is a unified and comprehensive habitat classification system for all terrestrial, freshwater and coastal habitats in the UK. It has been developed to improve habitat categorisation, recording and geospatial analysis for land use and habitat survey and assessment.

3 DATA GATHERING METHODOLOGY

3.1 CONSULTATION

No formal pre-application consultation was submitted to Wiltshire Council and no consultation with any statutory or non-statutory consultee body was conducted to inform this EclA.

3.2 ZONE OF INFLUENCE AND FEATURES OF INTEREST

The proposed development comprises the resurfacing of the main footpath around the Garden Lake, with associated widening and narrowing and the installation of multiple benches.

Detailed knowledge regarding the biodiversity associated with the planning application site has been gained through a desk study completed by Johns Associates on the 17 March 2025, including the review of freely available online information and a data search through the Wiltshire and Swindon Biological Records Centre (WSBRC). Johns Associates completed site surveys in 2025 to provide an ecological baseline, including: an Extended UKHab Survey and Defra condition assessment.

The baseline information currently available has been used to inform the study area associated with the ecological receptors under consideration, which include:

- The habitats, plants and associated fauna associated/ potentially associated with the planning application boundary as shown in Figure 1;
- Adjacent land where accessible/observed from its boundary and/or interpreted using imagery provided by Google Earth Professional; and
- Consideration of potential effects on designated sites and their features of interest, with an examination of statutorily designated sites extending to 5km from the proposed development site. This allows consideration of potential effects beyond the Site boundary, particularly in relation to mobile species such as bats.

Data from the desk study and field surveys were used to determine the current ecological baseline for the Site in terms of the priority habitats and species, legally protected and notable species and statutory and non-statutory designated sites located within the likely Zone of Influence (Zoi) of the proposals. In line with current CIEEM guidance, these are the sites, habitats and species that are of sufficient importance that effects upon them could be deemed significant (see Box 3.1 and Box 3.2).

The data has been used to enable a full assessment of the likely impacts of the proposed activities on habitats and species of conservation interest both on Site, and in immediately adjacent areas.

Statutory biodiversity sites

Internationally important sites (collectively referred to in this EclA as European sites – whilst recognising that Ramsar sites are designated at a global level):

- SACs
- Candidate SACs
- SPAs
- Listed or proposed Ramsar sites, potential SPAs, possible/ proposed SACs; and
- Sites identified or required as compensatory measures for adverse effects on other European sites.

Nationally important sites:

- SSSIs; and
- National Nature Reserves (NNRs).

Locally important sites:

Local Nature Reserves (LNR): Statutory sites that are of importance for recreation and education as well as biodiversity. Their level of importance is defined by their other statutory or any non-statutory designations (e.g. if an LNR is also an SSSI but is not a European site, it will be of national importance). If an LNR has no other statutory or non-statutory designation it should be treated as being of borough/district-level importance for biodiversity (although it may be of greater socio-economic value).

Non-statutory nature conservation sites

- Sites of county importance: non statutory nature conservation sites in Wiltshire are called Local Wildlife Sites (LWS).

Priority Habitats and Species

In this EclA (and following the CIEEM guidance), the geographic level at which a species/habitat has been identified as a priority for biodiversity conservation is referred to as its level of 'species/habitat importance'. For example, habitats and species of principal importance for the conservation of biological diversity in England are identified as of national species or habitat importance reflecting the fact that the importance of these species or habitats has been defined at a national level. The level of importance pertains to the species or habitat as a whole rather than to individual areas of habitat or species populations, which cannot be objectively valued (other than for waterfowl, for which thresholds have been defined for national or international 'population' importance).

- International importance: populations of species or areas of habitat for which European sites are designated
- International importance: populations of birds meeting the threshold for European importance (1% of the relevant international population)¹
- National importance: priority habitats and species of principal importance (HPI and SPI) for the conservation of biological diversity in England¹
- National importance: species listed as being of conservation concern in the relevant UK Red Data Book (RDB) or the Birds of Conservation Concern (BoCC) Red List

- National importance: Nationally Rare and Nationally Scarce species, which are species recorded from, 1-15 and 16-100 hectads (10x10km squares of the national grid) respectively
- National importance: populations of birds comprising at least 1% of the relevant British breeding/wintering population (where data are available); and
- Borough/district importance: habitats and species listed in the Borough or District Biodiversity Action Plan (BAP) – if available.

Notes to Box 3.1:

- SACs are designated under Article 4(4) of Directive 92/43/EEC
- Candidate SACs are designated under Article 4.1 of Directive 92/43/EEC
- SCIs are sites that have been nominated or submitted by Member States and entered onto the list of sites compiled by the European Commission that form (along with SACs and SPAs) the Natura 2000 network. SCIs are subject to the provisions of Article 6(2) of Directive 92/43/EEC. SCIs are afforded full protection by law under the Conservation of Habitats and Species Regulations 2017 (regulation 8(1)(b)) as amended.
- SPAs are classified pursuant to the requirements of Directive 2009/147/EC (Article 4). As European Sites, they are provided with full protection by law under the Conservation of Habitats and Species Regulations 2017 as amended.
- Government policy in England (see NPPF) is that any such compensatory land or water must itself be protected as if it were a fully classified SPA or a fully designated SAC.
- Some SSSIs also wholly or partially fall within a European Site boundary
- The JNCC prepared guidelines to assist in the selection of SPAs (The Birds Directive: Selection guidelines for Special Protection Areas). Stage 1 of the two-stage process identifies those areas used regularly by 1% or more of the Great Britain (or in Northern Ireland, the all-Ireland) population of a species listed in Annex I of the Birds Directive in any season. The JNCC undertakes reviews of the SPA network and populations of its qualification species at roughly decadal intervals with the last (third) review published in 2016.
- Habitats and Species of Principle Importance (HPI and SPI).
- Natural England (2018). UK BAP priority species and habitats, [online]. Available at: <http://naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/prioritylist.aspx>

Box 3.2: Legally protected and controlled species

Legal Protection

Many species of animal and plant receive some degree of legal protection. For the purposes of this document, legal protection refers to:

- Species included in Schedules 1, 5 and 8 of the WCA (as amended), excluding:
 - ▶ Species that are only protected in relation to their sale (see Section 9(5) and 13(2) of the WCA 1981), given that the Proposed Development does not include any proposals relating to the sale of species; and
 - ▶ Species that are listed in Schedule 1 of the WCA 1981 that are likely to breed on or near the site (given that this schedule is only applicable whilst birds are breeding).
- Species included in Schedules 2 and 5 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
- Badgers, which are protected under the Protection of Badgers Act 1992; and
- Hedgerows, some of which are protected under The Hedgerows Regulations 1997.

Legal Control

Schedule 9 of the WCA 1981 lists species of animal that it is an offence to release or allow to escape into the wild and species of plant that it is an offence to plant or otherwise cause to grow in the wild.

3.3 DESK STUDY

An ecological desk study collating all relevant open-source information relating to the Site and its surrounding area was undertaken by Johns Associates Ltd on 17 March 2025. The data was used to inform the scope of the Site survey and an assessment of the likely effects of the development proposals on legally protected and/or notable species that may be present at the Site. The Multi Agency Geographic Information for the Countryside (MAGIC) website was used to conduct the following desk study searches:

- Records and citations to a 2 km radius for national statutory designated wildlife sites including Sites of Special Scientific Interest (SSSI), Local Nature Reserves (LNR) and National Nature Reserves (NNRs).
- Records and citations to a 5 km radius of international statutory designated wildlife sites including Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar Sites.
- Records and citations to a 10 km radius of SACs designated for supporting species of bat.
- Records of European Protected Species (EPS) Licenses to a 2 km for e.g. bats, dormice *Muscardinus avellanarius* and great crested newts (GCN) *Triturus cristatus*.
- Records to a 1 km radius of pond surveys conducted by Natural England from 2017 to 2019 for GCN.
- Records of potential waterbodies within a 500 m radius of the Site.
- Records within a 250 m radius of Priority Habitats listed under Section 41 of the Natural Environment and Rural Communities Act (NERC) Act 2006

Google Maps aerial images were used to assess habitats at a landscape level (www.maps.google.com) in proximity to the Site.

3.4 DATA SEARCH

A data search was conducted through the Wiltshire and Swindon Biological Records Centre (WSBRC) and records received on the 7th of April 2025. These included non-statutory wildlife sites and legally protected and/or notable species records within 2 km of the Site.

3.5 FIELD SURVEYS

An extended UKHab survey of the Site and BNG habitat condition assessments were undertaken on 24th March 2025 by experienced surveyor Consultant Ecologist Ellie Brine, from Johns Associates Ltd. The weather was dry and sunny with good visibility. This survey was completed in accordance with Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and BS42020:2013 Biodiversity - Code of practice for planning and development (British Standards Institute, 2013).

3.5.1 UKHab Survey

The on-Site and off-Site (where accessible) habitats were classified following the UK Habitat Classification (UKHab) Version 2.0 (UKHab Ltd, 2023) guidelines, which provides a more detailed interpretation of baseline habitat survey data than previous habitat classifications systems, such as Phase 1 Habitat Assessments. The professional edition of UKHab “UK Habitat Classification – Professional Edition1” (UKHab-P) was used which includes Priority Habitat Types, all Annex 1 Habitats and the habitats listed in EUNIS.

The classification of primary habitats is hierarchical with five levels with a list of Secondary Codes; the latter is sub-divided into Essential codes and Additional codes. It is mandator that each recorded habitat parcel is allocated single primary Habitat Code and to record the presence of all Essential Secondary Code features associated with that habitat parcel. Additional Secondary Codes can also be associated with habitat parcels, where it is relevant to the whole parcel. Up to six Secondary Codes can be allocated to a single habitat.

UKHab v2.0 has a total of 268 Secondary Codes, sub-divided into 15 major groupings. Secondary codes are added to habitat parcels to:

- Confirm the identity of habitat mosaic and complexes.
- Add information about habitat origin and modifications.
- Add information on environmental context, management and land use in a consistent manner.

Essential Secondary Codes are identified as 2-digit numbers (10 – 90). Additional Secondary Codes (100 – 853) are 3-digit numbers and cover features including land management, land use (incorporating green infrastructure), environmental qualifiers, species features and hydrological regime descriptors. The UK Habitat Classification v2.0 Secondary Code Groupings are provided in Table 3.1.

Table 3.1: The UK Habitat Classification v2.0 Secondary Code Groupings

UKHab v2.0 Secondary Code Grouping	Description	UKHab v2.0 Codes
Secondary Essentials – Grasslands and Heathland	Habitat mosaic types and complexes that occur in the grassland, heathlands, hedgerows and scrub habitat	10 – 19
Secondary Essentials – Woodlands and Trees	Habitat complexes, origins and mosaic types that principally occur in woods associated with trees	25 – 34
Secondary Essentials – Freshwater	Habitat complexes and origins that principally occur in freshwater habitats	40 – 51
Secondary Essentials – Wetlands	Habitat complexes and environmental qualifiers that principally occur in wetlands	55 – 57
Secondary Essentials – All habitats	Habitat descriptors that can occur on any habitat	60 – 63

UKHab v2.0 Secondary Code Grouping	Description	UKHab v2.0 Codes
Secondary Essentials – Coast	Habitat complexes that principally occur on the coast	70 – 77
Secondary Essentials – Built environment	Habitat complexes, mosaics, land uses and green infrastructure principally associated with the built environment	80 – 90
Additional Secondary Codes – Grasslands and Heathlands	Habitat management, land use, environmental qualifier and species features principally associated with grassland, heathlands, hedgerows and scrub habitat	100 – 131
Additional Secondary Codes – Woodlands and Trees	Habitat management, land use, environmental qualifiers and species features principally associated with woods and trees	200 – 217
Additional Secondary Codes – Freshwater	Habitat management, land use, environmental qualifiers and species features principally associated with freshwater habitats	300 – 323
Additional Secondary Codes – Wetlands	Hydrological regime, habitat management and species features principally associated with wetlands	400 – 425
Additional Secondary Codes – All habitats	Additional habitat descriptors that can occur on any habitat	500 – 532
Additional Secondary Codes – Farming	Habitat management and land uses principally associated with farmlands	600 – 618
Additional Secondary Codes – Coast	Land use and environmental qualifiers principally associated with coastal areas	700 – 703
Additional Secondary Codes – Built environment	Land use and green infrastructure descriptors principally associated with the built environment	800 – 853

Where appropriate, maps were supplemented with target notes which provided specific information on habitats present that were too limited in extent to map at the scale at which data is presented, or the presence of species and habitats of ecological interest.

An annotated habitat map together with descriptions of the recorded habitat types was produced, which was subsequently digitised using ArcGIS software. The survey also included identification of any non-native invasive plant species. Flora taxonomy follows the nomenclature detailed in New Flora of the British Isles (4th Edition) (Stace, 2019). Flora, where appropriate, are given a descriptive score of abundance using the DAFOR scale, as follows:

- D – Dominant
- A – Abundant
- F – Frequent
- O – Occasional
- R – Rare
- L – Locally (to be used as a prefix for any of the above)
- V – Very (to be used as a prefix for any of the above)

ArcGIS Symbology

At the time of production, a complete symbology for all habitats in the UK Habitat Classification Professional Edition (UKHab-P) was not available. The UK Habitat Classification Basic Edition (UKHab-B) symbology has therefore been used, and where necessary to add in habitats not included in UKHab-B we have designed our own hatching system within the Level 2 colours for those habitats – following the guidance provided in the UK Habitat Classification Basic Edition: Suggested Symbology for Maps document (UKHab, 2020).

Minimum Mapping Units

UKHab guidance indicated that UKHab has 3 Minimal Mapping Units (MMU's):

- 25 m² and 5 m length for urban and small-scale development projects, fine scale mapping of designated sites
- 400 m² and 20 m length for landscape scale surveys
- 2500 m² for larger unenclosed upland habitats.

Large scale, simple habitats or feasibility surveys should use a larger MMU. For this project, given the size of the site and the scale of the map the 25 m² and 5 m length MMU has been applied. This will allow all habitats to be clearly visible on the map whilst enabling enough fine detail to remain to clearly show all habitats present.

3.5.2 Species Surveys

The survey was 'extended' to assess the suitability of the Site and immediately adjacent habitats to support legally protected and/or notable species, including (but not limited to) plants, badger *Meles meles*, bats, dormouse, amphibians, reptiles and breeding birds. This included recording visible signs of species presence and/or features that may indicate likely presence. Hedgerows/corridors were assessed for likely value for dormice, trees on Site were assessed for their suitability for roosting bats and waterbodies/ watercourses assessed for suitability for great crested newt, otter and water vole. A search for Invasive Non-Native Species e.g. Japanese knotweed *Reynoutria japonica* was also conducted within the Site and immediately adjacent areas.

Bats

Foraging and Commuting Habitat

The overall suitability of the Site and adjacent habitats for foraging and commuting bats was assessed to determine its importance within the wider local context, particularly with reference to the location of known roosts obtained through the Desk Study. The assessment was conducted using the criteria described in Table 3.2.

Table 3.2: Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement (Collins, 2023)

Suitability	Commuting and Foraging Habitats
None	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines or generate/shelter insect populations available to foraging bats).
Negligible ^a	No obvious habitat features on site likely to be used as flightpaths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	Habitat that could be used by small numbers of bats as flightpaths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for flightpaths such as lines of trees and scrub or linked back gardens.

Suitability	Commuting and Foraging Habitats
	Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flightpaths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
a. Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute). b. For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance. c. Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten, et al., 2016) (Jansen, et al., 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022) and (Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.	

Ground Level Tree Assessment (GLTA)

A survey of the trees was carried out in July 2024 by Matt Johns (class licence registration number: 2015-14942-CLS-CLS). The inspection followed the professional survey guidance as detailed in Bat Survey Guidelines for Professional Ecologists: Good Practice Guidelines (Bat Conservation Trust, 2023).

All trees within the Site boundary were inspected systematically for Potential Roost Features (PRFs) that could be used by bats including woodpecker holes, squirrel holes, rot holes, knot holes, pruning cuts, tear outs, wounds, cankers, compression forks, butt rots, lightning strikes, hazard beams, subsidence, cracks, shearing cracks, transverse snaps, welds, lifting bark, desiccation, fissures, frost cracks, fluting and ivy. The assessment was conducted using the criteria described in Table 3.3.

Table 3.3: Guidelines for Assessing the Suitability of Trees on Proposed Development Sites for Bats (Collins, 2023)

Suitability	Description
None	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

All trees were numbered and marked on a plan of the site. The tree species, height, whether the tree is alive or dead and a tree tag number (if present), the diameter at breast height, number of stems and whether the tree has been coppiced were recorded. Information regarding PRFs present was collected including whether the PRF is on a stem or a limb, the PRF type, height and what direction the PRF faces. The height and orientation of the entrance was recorded if this was different.

3.6 THE BIODIVERSITY METRIC

The Defra Biodiversity Metric 4.0 provides a nationally measurable structured calculation methodology to account for biodiversity losses and gains resulting from development or land management change.

The number of Defra Metric Biodiversity units was calculated for the existing and proposed habitats within the planning application boundary. Biodiversity Net Gain (BNG) is an approach to development that seeks to halt the current loss of biodiversity through development and through the planning system; restore ecological networks through early masterplanning and increase the natural habitat resource and ecological features.

The Biodiversity Net Gain Assessment Report is contained in Appendix A. Summary results are presented in Section 8 of this EclA.

3.7 ECOLOGICAL ASSESSMENT METHODOLOGY

Information for the assessment derives from the results of the desk study, baseline surveys, supplemented by published information (e.g. on the potential biodiversity receptors' status, distribution, and sensitivity to ecological changes) and professional knowledge of ecological processes and functions.

For each scoped-in receptor, effects have been assessed against the predicted future baseline conditions for that receptor (assumed to be no notable difference to the current baseline as noted in Section 4 during construction and operation). This future baseline has been defined using information contained in Section 5 about the likely future use and management of the Site in the absence of development, known population trends (for species) and any other proposed developments (consented or otherwise) that may act cumulatively with the scheme to affect biodiversity receptors. A precautionary basis has also been taken where appropriate.

Throughout the assessment process, the potential for significant effects was used to inform the definition of requirements for additional baseline data collection and the identification of ecological measures to be incorporated into the Proposed Development design (in order to avoid or reduce adverse effects or to deliver enhancements). Measures to comply with relevant policies and legislation have also been included. The results of the assessment reflect the final design (i.e. incorporating the ecological measures).

For each receptor, the assessment deals with the effects of construction, and the effects of the post-construction operation of the covered silage clamps and access track. As more information has become available about the Proposed Development and about the populations of important and legally protected species, the scope of the assessment has been refined to focus on those receptors that have potential to be significantly affected. Each scoped-in receptor has then been subject to further assessment of how it is likely to be affected by the Proposed Development, allowing for ecological changes that could affect the receptor during construction and operation.

A worst-case scenario has been used for the assessment, based on the existing baseline and professional opinion, to ensure that the predicted impacts are not underestimated. The ecological measures have been identified based on the worst-case scenario to ensure that any effects upon valued receptors are avoided where possible and minimised where this is not possible so that residual effects are not significant.

3.7.1 Methodology for Prediction of Effects

The method for the prediction of effects is based on the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines, 2024; these guidelines are widely regarded by the ecology profession as the 'industry standard'.

The spatial extent of the assessment of each potential likely significant effect reflects the area occupied by the receptor that is being assessed and the ZoI associated with the environmental changes that are likely to affect the receptor (refer to Box 3.3). Thus, if part of a designated biodiversity site is located within the ecological ZoI relating to a particular ecological change, an assessment would be made of the effects on the site as a whole. A similar approach was taken for areas of notable habitat. For species that occur within an ecological ZoI that relates to a

change that could significantly affect that species, an assessment was carried out on the total area that is used by the affected individuals or population of the species (e.g. for foraging).

3.7.2 Significance Evaluation Methodology

The assessment has been informed by the specific details of all proposed development and embedded ecological mitigation. The evaluation of effects on receptors are considered following the methodology presented below, and in the context of the scheme description (see Section 1.2). Integrated and embedded ecological measures consist of those described in Section 6.

Using information about the way in which sites/habitats/species are likely to be affected by the Proposed Development, each change (from the baseline situation) that is assessed has been assigned a level of 'magnitude', based on the definitions set out in Table 3.4.

Table 3.4: Guidelines for the Assessment of Change Magnitude

Magnitude of Change	Criteria and Resultant Effect
Major	The change permanently (or over the long-term) negatively affects the conservation status of a habitat/species, reducing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a large area of habitat or large proportion of the wider species population is affected. For designated sites, integrity is compromised. There may be a decrease in the level of biodiversity conservation value of the receptor.
Moderate	The change permanently (or over the long-term) negatively affects the conservation status of a habitat/species reducing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a small-medium area of habitat or small-medium proportion of the wider species population is affected. There may be a decrease in the level of biodiversity conservation value of the receptor. Although there may be some effects on individuals or parts of a habitat area or designated site, the quality or extent of sites and habitats, or the size of species populations would experience little or no reduction. Any changes are likely to be within the range of natural variability and there would be no short-term or long-term change to the conservation status of habitat/species receptors or the integrity of designated sites.
Minor	The quality or extent of designated sites or habitats or the sizes of species' populations, experience some small-scale reduction. These changes are likely to be within the range of natural variability and there is not expected to be any permanent change in the conservation status of the species/habitat or integrity of the designated site. The change is unlikely to modify the evaluation of the receptor in terms of its biodiversity conservation value
Minor/Neutral	A change to the level of which is so low, it is not discernible on designated sites or habitats or the sizes of species' populations, or changes that balance each other out over the lifespan of a project.
Will not occur	The effect will not occur due to an absence of an environmental pathway to the sensitive receptor.

The criteria in Table 3.4 refer to the terms: 'integrity' and 'conservation status.' For habitat areas and species, an effect is assessed as being significant if the favourable conservation status of a receptor would be changed by the Proposed Development. Conservation status is defined by the CIEEM guidelines as follows:

- For habitats – the sum of the influences acting on the habitat and its typical species, that may affect its long-term distribution, structure and functions as well as the long-term survival of its typical species within a given geographical area; and

- For species - the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within a given geographical area.

Negative Effects

A negative effect is considered to be significant if the favourable conservation status of a receptor is compromised by the Proposed Development.

A similar procedure has been used for designated sites that are affected by the development, except that the focus is on the effects on the integrity of each site, defined by the CIEEM guidelines as:

"...the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified."

The assessment of effects on integrity draws upon the assessment of effects on the conservation status of the features for which the site has been designated.

The decision as to whether the favourable conservation status has been compromised is made using informed judgement based on the findings of the assessment of how the resource would be affected.

Positive Effects

A positive effect is assessed as being significant if development activities are predicted to cause:

- An improvement in the condition of a habitat/species population from unfavourable to favourable recovering or favourable (noting that condition data are only available for SSSIs but that professional judgement has been used to apply the same principle to habitats/species elsewhere); or
- Partial or total restoration of a site's favourable condition.

If a species population, habitat or site is already in favourable condition, it is still possible for there to be a significant positive effect. There is, however, no simple formula for determining when such effects are significant and decisions about significance therefore have to be made on a case-by-case basis using professional judgement.

3.8 LIMITATIONS, CONSTRAINTS AND ASSUMPTIONS

The findings of this report are considered valid at the time of survey (April 2025). Should there be delays to the project timetable and/or implementation of the proposed development, updated desk study and/or survey work may be required. In this instance, advice should be sought to ensure the data, recommendations and conclusions set out in this report remain valid.

It has been assumed that the development proposals are as described in this document and that all proposed mitigation, enhancement and management measures will be implemented in full.

This EclA has been produced by Johns Associates Ltd using data gathered from baseline field surveys carried out in 2025 supported by desk study data. The assessment based upon the data presented in this report is considered to be robust.

4 BASELINE ECOLOGICAL CONDITIONS

4.1 DESK STUDY

4.1.1 Statutory Designated Sites

There were two statutory designated sites within 2 km of the proposed Site. A summary of sites and the reasons for designations are provided in Table .1.

No international designated sites were recorded within 5 km of the Site and no Special Areas of Conservation (SACs) for bats were identified within 10 km of the Site.

Table 4.1: Statutory Designated Sites within 2 km.

Site Name & Designation	Description	Distance/ Bearing from Site
Heath Hill Farm SSSI	Heath Hill Farm is composed of 20 ha of hay meadows and permanent pasture. It supports unimproved neutral to calcareous grassland with a floristically rich herbal assemblage. This includes some species of note such as sneezewort <i>Achillea ptarmica</i> , pepper saxifrage <i>Silvaum silaus</i> , corky-fruited water-dropwort <i>Oenanthe pimpinelloides</i> , saw-wort <i>Serratula tinctoria</i> , bitter-vetch <i>Lathyrus linifolius</i> , mat-grass <i>Nardus stricta</i> and locally rare trailing tormentil <i>Potentilla anglica</i> .	1 km to the west
Whitesheet Hill SSSI	An extensive area of botanically rich chalk grassland on predominantly west-facing slopes of the Middle Chalk. The site supports nationally restricted species of animals and plants and is one of the most westerly areas of downland in Britain. A wide range of species considered indicative of a long period of uninterrupted management are present such as chalk milkwort <i>Polygala calcarea</i> , clustered bellflower <i>Campanula glomerata</i> , greenwinged orchid <i>Orchis morio</i> , frog orchid <i>Coeloglossum viride</i> and the nationally restricted dwarf sedge <i>Carex humilis</i> and burnt orchid <i>Orchis ustulata</i> . Several species especially characteristic of the western chalk occur, for example devil's-bit scabious <i>Succisa pratensis</i> , saw-wort <i>Serratula tinctoria</i> , betony <i>Stachys officinalis</i> and heath-grass <i>Danthonia decumbens</i> . Several nationally restricted invertebrates are found on the site including the snail <i>Abida secale</i> , the beetles <i>Ceuthorhynchus terminatus</i> and <i>Bruchidius cisti</i> , and the weevil <i>Apion waltoni</i> . There is a rich butterfly fauna with marsh fritillary, green hairstreak, grizzled skipper, chalkhill blue and the nationally restricted adonis blue, the food plant of which, the horseshoe vetch <i>Hippocrepis comosa</i> , is widespread on the down.	2 km to the east

4.1.2 Non-Statutory Designated Sites

There were 10 non-statutory Local Wildlife Sites (LWS) identified within 2 km of the Site; described in Table 4.2.

Table 4.2: Non-Statutory Designated Local Wildlife Sites within 2 km

LWS name	Reason for designation	Location from the Site
Garden Lake, Stourhead	A large ornamental lake in a landscaped parkland setting.	On Site
Stourhead Woods	A mainly coniferous woodland managed under a continuous cover system. Areas of interest mainly restricted to streams and flushes where wet alder woodland predominates as corridors	On eastern edge of Site
Bonham Hanging	Broadleaved and coniferous plantation woodland on an ancient site on a steep west-facing slope on the Stourhead estate.	120m south

LWS name	Reason for designation	Location from the Site
Top Wood	A small ancient woodland site on a roughly circular hilltop supporting Beech plantation with ornamental plantings.	300m southwest
Lynch Wood	A small ancient woodland site, formerly conifers but recently replanted with broadleaves on the Stourhead Western Estate.	500m east
Sunny Hanging Wood	Hanging woodland on a steep southwest-facing ancient woodland site on the Stourhead estate	520m northwest
Writh Coppice	A small ancient woodland site with stands of conifer and broadleaved plantation and areas of wet and dry semi-natural woodland.	600m southwest
Western Estate Fields	A series of damp meadows and assarts on the Stourhead Western estate.	900m west
Mill Covert	Wet Alder, Ash and Willow woodland and drier Oak woodland in a shallow valley on the Stourhead Western Estate.	1.11km south
Bayley's Coppice	A small Beech plantation on a flat ancient woodland site on the Stourhead estate	1.5km northwest

4.1.3 Priority Habitats (including Ancient Woodland)

The entire Site and wider area are classified as Priority Parkland. Deciduous woodland is present to the south and east and a stretch of semi-improved grassland is located to the northwest.

4.1.4 Granted European Protected Species Licences

Two European Protected Species (EPS) licenses issued by Natural England were identified within 2 km of the Site, for bats. Both licences were for a location 0.15 km to the east of the Site. One license (2016-21127-EPS-AD2) was granted for brown long-eared and lesser horseshoe, allowing damage to a breeding site and damage to a resting place. The second license (EPSM2012-3938) was granted for lesser horseshoe, brown long-eared, grey long-eared and Myotis, allowing destruction of a resting place.

4.1.5 Great Crested Newt (GCN) Pond Surveys 2017 – 2019

There are no records of GCN pond Surveys within 500m of the Site.

4.1.6 Local Species Records

Wiltshire and Swindon Biological Records Centre (WSBRC) provided protected and notable species records and a summary of species that could be supported by the habitats within and adjacent to the proposed Site or that could be affected by the proposed development are provided in Table 4.3.

Table 4.3: Local species records (WSBRX, 2024)

Species/Groups	Details
Plants	There were 249 records of notable plant species within 2km of the Site. Locally scarce species include royal fern <i>Osmunda regalis</i>, hard-fern <i>Blechnum spicant</i>, brittle bladder-fern <i>Cystopteris fragilis</i>, small pondweed <i>potamogeton berchtoldii</i>, fat duckweed <i>Lemna gibba</i> and marsh pennywort <i>Hydrocotyle vulgaris</i>, ivy-leaved bellflower <i>Wahlenbergia hederacea</i>, narrow-leaved bittercress <i>Cardamine impatiens</i>, treacle-mustard <i>Erysimum cheiranthoides</i>, meadow saffron <i>Colchicum autumnale</i>, tawny sedge <i>Carex laevigata</i> and fine-leaved sheep's fescue <i>Festuca filiformis</i>. The nationally rare species <i>Carex pseudocyperus</i> x <i>rostrata</i> is located on the Stourhead Estate and the NERC Section 41 species fine-leaved sandwort <i>minuartia hybrida</i> has also been recorded on the estate. Vulnerable species located on and around the estate include small water-pepper <i>Persicaria minor</i>, knotted pearlwort <i>Sagina nodosa</i>, water violet <i>Hottonia palustris</i>, sainfoin <i>Onobrychis viciifolia</i>, strawberry clover <i>Trifolium fragiferum</i> and prickly poppy <i>Roemeria argemone</i>. The endangered, Section 41 and UKBAP species corn buttercup <i>Ranunculus arvensis</i> was recorded at a farm 1km east of the Site.

Species/Groups	Details
	Multiple records for the schedule 8 species bluebell <i>Hyacinthoides non-scripta</i> were returned on and around the Site.
Amphibians	There were 7 records of amphibians within 2km of the Site with the closest being for common frog <i>Rana temporaria</i> at the Garden Lake. The remainder were for common frog and common toad <i>Bufo bufo</i> . No records for great crested newt <i>Triturus cristatus</i> were returned.
Badger	There were 13 records for badger <i>Meles meles</i> including 1 badger sett within the last 10 years. There were 2 records within 500m of the Site.
Bats	There were 199 records of bats within 2km of the Site including 48 roost records, with the closest roost 200m east of the Site. Bat species with roost records include serotine <i>Eptesicus serotinus</i> , <i>Myotis</i> sp, daubentons <i>Myotis daubentonii</i> , common pipistrelle <i>Pipistrellus pipistrellus</i> , soprano pipistrelle <i>Pipistrellus pygmaeus</i> , brown long-eared <i>Plecotus auritus</i> and lesser horseshoe <i>Rhinolophus hipposideros</i> . Further bat species recorded include barbastelle <i>Barbastella barbastellus</i> , bechsteins <i>Myotis bechsteinii</i> , Brandt's <i>Myotis brandtii</i> , whiskered <i>Myotis mystacinus</i> , natterers <i>Myotis nattereri</i> , noctule <i>Nyctalus noctule</i> and greater horseshoe <i>Rhinolophus ferrumequinum</i> .
Birds	There were 3047 records for birds within 2km of the Site. Records of birds of prey include 31 for sparrowhawk <i>Accipiter nisus</i> including a breeding pair, 30 for red kite <i>Milvus milvus</i> including a breeding pair, 9 records for peregrine <i>Falco peregrinus</i> including a breeding pair, 8 records for hobby <i>Falco Subbuteo</i> including a breeding pair, 50 records for kestrel <i>Falco tinnunculus</i> including a multiple breeding pairs, 2 records for merlin <i>Falco columbarius</i> , 8 records of tawny owl <i>Strix aluco</i> and 2 records of barn owl <i>Tyto alba</i> including a breeding pair. Many of the remaining records were for more common species that are listed within the IUCN red list as vulnerable. Further species of note include swift <i>Apus apus</i> , pochard <i>Aythya farina</i> , snipe <i>Gallinago gallinago</i> , golden plover <i>Pluvialis apricaria</i> , woodcock <i>Scolopax rusticola</i> , lapwing <i>Vanellus vanellus</i> , cuckoo <i>Cuculus canorus</i> , lesser redpoll <i>Acanthis cabaret</i> , sedge warbler <i>Acrocephalus schoenobaenus</i> , skylark <i>Alauda arvensis</i> , corn bunting <i>Emberiza calandra</i> , yellowhammer <i>Emberiza citronella</i> , reed bunting <i>Emberiza schoeniclus</i> , brambling <i>Fringilla montifringilla</i> , grasshopper warbler <i>Locustella naevia</i> , redwing <i>Turdus iliacus</i> and fieldfare <i>Turdus pilaris</i> .
Reptiles	There were 11 records for reptiles including 2 for slow worm <i>Aguis fragilis</i> , 3 for grass snake <i>Natrix helvetica</i> , 1 for adder <i>Vipera berus</i> , and 5 for common lizard <i>Zootoca vivipara</i> . The closest record was for adder, adjacent to Site.
Other mammals	There were 155 records of other mammals within 2km of the Site. 1 record for otter <i>Lutra lutra</i> 1km southwest of the Site was returned. 6 records for hedgehog <i>Erinaceus europaeus</i> including one immediately adjacent to Site. 1 record for water shrew <i>Neomys fodiens</i> 1.5km east of the Site. 8 records of brown hare <i>Lepus europaeus</i> with the closest 600m east of the Site. 20 records for rabbit with the closest 400m east of the Site. There are 119 records for dormouse including numerous nest counts and juveniles. Many of these records were located in the woodland on and adjacent to the Site.
Invertebrates	There were 197 notable invertebrate species within 2km of the Site. Species notable within Wiltshire that are present include white ermine <i>Spilosoma lubricipeda</i> , beaded chestnut <i>Agrochola lychnidis</i> , blood-vein <i>Timandra comae</i> , brindled beauty <i>Lycia hirtaria</i> , dingy skipper <i>Erynnis tages</i> , dot moth <i>Melanchra persicariae</i> , dusky thorn <i>Ennomos fuscantaria</i> , garden tiger <i>Arctia caja</i> , knot grass <i>Acrionicta rumicis</i> , marsh fritillary <i>Euphydryas aurinia</i> , oak hook-tip <i>Watsonalla binaria</i> , rosy rustic <i>Hydraecia micacea</i> , rustic <i>Hoplodrina blanda</i> , shoulder-striped wainscot <i>Mythimna comma</i> , wall <i>Limenitis Camill</i> and white ermine <i>Spilosoma lubricipeda</i> .

4.2 FIELD SURVEYS - HABITATS

4.2.1 On-Site Baseline Habitats

The Existing UKHab Plan (Figure 2) and the baseline BNG habitat condition sheets (Appendix B of the BNG Report contained in Appendix C) should be referred to throughout this section. Area-focused plans are in Appendix A and B. For the purposes of these proposals, habitats within 2m of the current footpaths have been recorded as opposed to the overarching habitat. For example, whilst much of the Site falls within woodland habitat, the habitat directly adjacent to the path consists predominantly of introduced species such as cherry laurel and rhododendron. Due to

the low impact construction and operation of proposals on adjacent habitat and absence of tree removal it has been classified at a higher resolution to more accurately represent the habitat that is to be directly impacted. Furthermore, the areas directly adjacent to the footpath receive extremely high levels erosion (Plate 1), an impact that these proposals are considered to mitigate and therefore enhance adjacent habitats. Appropriate measures will be undertaken to avoid impacts to wider habitats as outlined in Section 6. The Schedule 9 non-native invasive species *Rhododendron ponticum* and three-cornered leek *Allium triquetrum* (Plate 2) were encountered during the survey.

Plate 1: Erosion due to high traffic levels



Plate 2: Three-cornered leek



Modified Grassland g4

Areas of modified grassland adjacent to the path were subject to an intensive management regime of regular mowing to a length of approximately 7cm (Plate 3). Areas with evidence of erosion as a result of high levels of foot traffic had been resown with a species-poor grass mix (*Festuca/Lolium*) (Plate 4). The species diversity here was limited, with quadrat data reflective of this habitat shown in Table 4.4. Across the Site there were few instances of forbs and species representative of higher distinctiveness habitat such as woodland and other neutral grassland however they were at such a low frequency that they are not considered substantial enough to characterise this habitat. A general species list is provided in Table 4.5.

Table 4.4: Quadrat data for modified grassland

Species	Common Name	DAFOR
Q1		
<i>Poa annua</i>	Annual meadow grass	D
<i>Trifolium repens</i>	White clover	F
<i>Taraxacum Sp.</i>	Taraxacum Sp.	O
Q2		
<i>Poa annua</i>	Annual meadow grass	D
<i>Ranunculus repens</i>	Creeping buttercup	O
<i>Bellis perennis</i>	Daisy	O
<i>Taraxacum Sp.</i>	Taraxacum Sp.	O
<i>Trifolium repens</i>	White clover	O
<i>Holcus lanatus</i>	Yorkshire-fog	O
<i>Festuca rubra</i>	Red fescue	O
<i>Cerastium fontanum</i>	Common-mouse ear	R
Q3		
<i>Poa annua</i>	Annual meadow grass	A
<i>Lolium perenne</i>	Perennial rye grass	F
<i>Bellis perennis</i>	Daisy	O
<i>Ranunculus repens</i>	Creeping buttercup	O
<i>Taraxacum Sp.</i>	Dandelion	R

Table 4.5: General species list for modified grassland habitat

Species	Common Name	DAFOR
<i>Lolium perenne</i>	Perennial rye grass	A
<i>Poa annua</i>	Annual meadow grass	A
<i>Festuca sp.</i>	Fescue sp.	F
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	O
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Holcus lanatus</i>	Yorkshire fog	O
<i>Rumex obtusifolius</i>	Broadleaved dock	O
<i>Bellis perennis</i>	Daisy	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Taraxacum sp.</i>	Dandelion	O
<i>Ficaria verna</i>	Lesser celandine	O
<i>Plantago lanceolata</i>	Ribwort plantain	O
<i>Trifolium repens</i>	White clover	O
<i>Ranunculus repens</i>	Creeping buttercup	O
<i>Carex sylvatica</i>	Wood sedge	O
<i>Plantago major</i>	Greater plantain	R
<i>Anemone nemorosa</i>	Wood anemone	R
<i>Veronica hederifolia</i>	Ivy-leaved speedwell	R
<i>Rumex sanguineus</i>	Wood dock	R
<i>Cerastium fontanum</i>	Common mouse-ear	R

Plate 3: Mown modified grassland



Plate 4: Reseeded modified grassland



Plate 5: Modified Grassland (representative)



Plate 6: Modified Grassland (representative)



Other Neutral Grassland g3c

There were several areas of other neutral grassland along the path, which are detailed in the tables below. Table 4.6 details the species present woodland ground flora dominated areas of the path (Plates 7, 8, 9 - Areas 34, 35, 37, 42, 41, 43, 44, 45). For the purposes of this proposal, areas dominated by woodland ground flora have been mapped as other neutral grassland and will adhere to specific measures outlined in section 6.

Table 4.6: g3c woodland parcel species

Species	Common Name	DAFOR
<i>Poa annua</i>	Annual meadow grass	A
<i>Festuca rubra</i>	Red fescue	A
<i>Carex sylvatica</i>	Wood-sedge	F
<i>Plantago lanceolata</i>	Ribwort plantain	F
<i>Hyacinthoides non-scripta</i>	Bluebell	F
<i>Glechoma hederacea</i>	Ground ivy	F
<i>Fragaria vesca</i>	Wild strawberry	O
<i>Ficaria verna</i>	Lesser celandine	O
<i>Veronica montana</i>	Wood speedwell	O
<i>Ajuga reptans</i>	Bugle	O
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass	O
<i>Ranunculus bulbosus</i>	Bulbous buttercup	O
<i>Bellis perennis</i>	Daisy	O
<i>Allium triquetrum</i>	Three-cornered Garlic	O
<i>Lolium perenne</i>	Perennial rye-grass	O
<i>Waldsteinia fragarioides</i>	Barren strawberry	O
<i>Heracleum sp.</i>	Hogweed	O
<i>Dryopteris filix-mas</i>	Male fern	O
<i>Veronica montana</i>	Wood speedwell	O
<i>Carex sylvatica</i>	Wood-sedge	O
<i>Allium triquetrum</i>	Three-cornered leek	O
<i>Asplenium scolopendrium</i>	Harts-tongue fern	O
<i>Circaea lutetiana</i>	Enchanter's-nightshade	O
<i>Primula veris</i>	Cowslip	O
<i>Dryopteris dilatata</i>	Broad Buckler-fern	O
<i>Aegopodium podagraria</i>	Ground-elder	O
<i>Luzula campestris</i>	Field wood-rush	R
<i>Veronica chamaedrys</i>	Germander speedwell	R
<i>Lysimachia arvensis</i>	Scarlet pimpernel	R
<i>Ranunculus acris</i>	Meadow buttercup	R
<i>Rumex sanguineus</i>	Wood dock	R
<i>Hypochaeris radicata</i>	Cat's-ear	R
<i>Cardamine hirsuta</i>	Hairy bitter-cress	R
<i>Cardamine pratensis</i>	Cuckooflower	R
<i>Geum urbanum</i>	Wood avens	R

Species	Common Name	DAFOR
<i>Jacobaea vulgaris</i>	Common ragwort	R
<i>Cerastium fontanum</i>	Common mouse-ear	R
<i>Veronica hederifolia</i>	Ivy-leaved speedwell	R
<i>Carex pendula</i>	Pendulous sedge	R
<i>Primula vulgaris</i>	Primrose	R
<i>Cardamine hirsuta</i>	Hairy bitter-cress	R
<i>Cardamine pratensis</i>	Cuckooflower	R
<i>Silene dioica</i>	Red campion	R
<i>Viola reichenbachiana</i>	Early dog-violet	R
<i>Filipendula ulmaria</i>	Meadowsweet	R
<i>Ranunculus bulbosus</i>	Bulbous buttercup	R
<i>Chrysosplenium oppositifolium</i>	Opposite leaved golden saxifrage	R
<i>Prunella vulgaris</i>	Selfheal	R
<i>Carex remota</i>	Remote Sedge	R
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell	R
<i>Arum maculatum</i>	Lords-and-Ladies	R
<i>Galium aparine</i>	Cleavers	R
<i>Veronica chamaedrys</i>	Germander speedwell	O
<i>Lysimachia arvensis</i>	Scarlet pimpernel	O

Plate 7: Woodland representative ground flora



Plate 8: Woodland representative ground flora (ferns)



Plate 9: Woodland representative ground flora (bluebell)



Area 64 - There was a small area of other neutral grassland adjacent to the footpath in the north-west of the Site. supporting occasional common spotted orchids *Dactylorhiza fuchsia* (Plate 10).

Table 4.7: Species recorded in Area 64

Species	Common Name	DAFOR
<i>Carex depauperata</i>	Starved Wood-sedge	F
<i>Festuca rubra</i>	Red Fescue	F
<i>Juncus effusus</i>	Soft-rush	F
<i>Trifolium ornithopodioides</i>	Bird's-foot Clover	O
<i>Filipendula ulmaria</i>	Meadowsweet	O
<i>Trifolium repens</i>	White Clover	O
<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Centaurea nigra</i>	Common Knapweed	O
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	O
<i>Aegopodium podagraria</i>	Ground-elder	R
<i>Luzula campestris</i>	Field Wood-rush	R
<i>Agrostis stolonifera</i>	Creeping Bent	R

Plate 10: Composition of Area 64



Area 46 was an area of tall forbs located to the southwest of the Site. Species recorded here are shown in Table 4.8.

Table 1.8: Species present in Area 46

Species	Common Name	DAFOR
<i>Asplenium scolopendrium</i>	Hart's tongue	F
<i>Filipendula ulmaria</i>	Meadowsweet	F
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	F
<i>Circaea lutetiana</i>	Enchanter's-nightshade	O
<i>Aegopodium podagraria</i>	Ground-elder	O
<i>Geranium robertianum</i>	Herb-Robert	O
<i>Dryopteris dilatata</i>	Broad Buckler-fern	O
<i>Cardamine hirsuta</i>	Hairy Bitter-cress	O
<i>Hyacinthoides non-scripta</i>	Bluebell	O

Species	Common Name	DAFOR
<i>Primula veris</i>	Cowslip	O
<i>Veronica montana</i>	Wood Speedwell	R
<i>Viola reichenbachiana</i>	Early Dog-violet	R
<i>Silene dioica</i>	Red Campion	R

Plate 11: Composition of Area 46



Introduced Shrub u1d

Throughout the Site, there were areas of introduced shrub adjacent to the path. The most significant area of this habitat formed the understory/ ground layer of the woodland to the east of the Site (Areas 8, 9, 10) and was dominated by heavily managed cherry laurel *Prunus laurocerasus* (Plate 12). Other species recorded within this habitat type included Portugal laurel *Prunus lusitanica*, box *Buxus sempervirens*, rhododendron sp., yew *Taxus baccata*, Darwin's barberry *Berberis darwinii*, flowering currant *Ribes sanguineum*, *Elaeagnus*, hydrangea *Hydrangea macrophylla*, white dogwood *Cornus alba* and spotted laurel *Aucuba japonica*.

Due to the density and evergreen nature of much of the introduced shrub, the ground flora in these areas is extremely impoverished with much of the ground layer consisting of bare ground (Plate 13).

Plate 12: Dense *Prunus lustinaica*



Plate 13: Bare ground underflora



Rhododendron Scrub h3g

To the east of the Site was an area of dense scrub with rhododendron *Rhododendron ponticum* dominant (Plate 14).

Plate 14: Rhododendron scrub



Artificial Unvegetated, Unsealed Surface u1c

The majority of the Site was made up of the existing footpath which comprised artificial unvegetated, unsealed surface.

Buildings u1b5

There were several buildings close to the path including the Pantheon, Gothic Cottage and Temple of Flora. These were typically of stone construction.

4.2.7 Adjacent Habitats

Lake r1g

The Stourhead Garden Lake was located adjacent to the Site boundary. It was ornamental in nature with limited marginal vegetation due to the presence of vertical reinforced/ man-made banks. There was also limited submerged and emergent vegetation evident at the time of survey.

Ponds r1g

The Lily Pond (furthest north) and Diana's Basin were located immediately adjacent to the path in the north of the Site. These were connected to a further two ponds further to the north. The Lily Pond had a higher wildlife value with sloped edges, marginal woody species and moderate distinctiveness neutral grassland around much of its banktop. It also had a high presence of aquatic vegetation, including bulrush *Typha latifoli*, reed canary grass *Phalaris arundinacea*, common reed *Phragmites australis*, willow *Salix* sp., Glyceria sp., water mint *Mentha aquatica*, water lily *Nymphaea alba*, yellow flag iris *Iris pseudacorus*. Diana's basin had similar aquatic vegetation present; however, the adjacent habitat was largely formal planting with a more ornamental character.

Trees

A full breakdown of the trees present on and adjacent to Site is detailed in the Tree Constraints Plan – Stourhead Garden Path – 5.3.25 and the companion Preliminary Tree Schedule produced by Bosky Trees. Of the 645 trees within the plan, 115 were located adjacent to the RLB. Of those, 49 were non-native ornamental species. There was one veteran tree (T249) that the path is being realigned to avoid the RPZ of and there many veteran trees in the wider Site that will be positively impacted by proposals due to the realignment of the path to avoid RPZ.

Woodland

Much of the habitat directly adjacent to the pathway was plantation woodland, likely first established when the gardens were designed. The canopy of the woodland to the northeast of the Site was dominated by predominantly same age beech *Fagus sylvatica* with an understory of cherry laurel *Prunus laurocerasus*. The cherry laurel was heavily managed, generally to a height of 50cm, and lacked any ground flora due to its dense evergreen foliage. There were small pockets of natural woodland ground flora throughout, that included bluebell, broad buckler-fern, bramble, ivy, enchanters' nightshade and male fern. It is possible that some of the rarer fern species such as brittle-bladder and hard fern that are present in the wider estate, are present within these areas.

To the west of the Site was an area of mixed plantation woodland, directly to adjacent to the footpath. This area was dominated by ornamental species such as Lawson cypress *Chamaecyparis lawsoniana*, western red cedar *Thuja plicata*, Rhododendron, various spruce species, black oak *Quercus velutina*, English oak *Quercus robur* and alder *Alnus glutinosa*. The understory was heavily managed and dominated by non-native shrubs. Similarly to the eastern woodland, there were areas with typical woodland flora; however these were only present occasionally and were typically interspersed between patches of highly managed modified grassland and introduced shrub.

Figure 2: Baseline UKHab Habitat Plan



4.3 FIELD SURVEY RESULTS – SPECIES & SPECIES GROUPS

4.3.1 Bats

Ground Level Tree Assessment (GLTA) for Potential Roosts

All of the individual trees located within 10m of the pathway and focus of the Proposed Development were inspected from ground level using close focusing binoculars and a torch. In excess of 50 trees with limited suitability for roosting bats, together with certain buildings are located in this buffer zone around the area of works but none of them are directly affected. These features are not located immediately adjacent to the pathway and elevated above any level where daytime working would occur.

All trees are being retained, root protection areas protected, and they will not be lit by construction works.

As such, the trees will not be subject to any notable disturbance greater than the high intensity of pedestrian passage (including lit/musical events) that currently occurs or passage of vehicles such as mobility cars and gardening/grounds management vehicles. It is reasonable to therefore scope out any further survey or investigation of potential roosting features on that basis.

Foraging and Commuting Habitat

The Site is considered to offer high suitability habitat for foraging and commuting bats with continuous high-quality habitat that is well connected to the wider landscape. The path is surrounded by high-quality habitat including areas of woodland and a lake providing an ecological corridor for bats to commute and forage along.

Notwithstanding this, the proposals are focusing on the pathway – not the extensive adjacent vegetation and will not affect the availability, quality, or extent of foraging or commuting bat habitat. As such, these habitat functions for bats subject to any notable disturbance greater than the high intensity of pedestrian passage (including lit/musical events) that currently occurs or passage of vehicles such as mobility cars and gardening/grounds management vehicles. It is reasonable to therefore scope out any further survey on that basis.

4.3.2 Great Crested Newt (GCN)

Diana's Basin and the Lily Pond underwent a Habitat Suitability Index (HSI) assessment for Great Crested Newt: both ponds received a score of 0.49 (Poor). Great crested newt have never been recorded on site by the National Trust and no previous projects have had to consider this species. Combined with the absence of GCN records for the area within 2km of the Site, GCN are considered highly likely to be absent from the Site and very unlikely to be in adjacent habitats.

4.3.3 Nesting Birds

The grassland within the Site has negligible suitability for ground nesting birds due to the short sward height and high levels of disturbance. The areas of introduced shrub provide potential nesting habitat, along with the adjacent woodland habitat. During the Site survey a nesting thrush was noted in box hedging immediately adjacent to the path in Area 9.

4.3.4 Badger

No evidence of badger was recorded at the time of survey from within the Site or immediately adjacent habitats. However, the Site is considered to offer suitable foraging habitat.

4.3.5 Dormouse

Dormouse are known to be present within the wider Stourhead Estate and numerous records exist within the woodland that surrounds the Site. However, the habitats within the Site boundary are generally unsuitable including the areas of introduced shrub which are both structurally unsuitable and subject to very high levels of disturbance. No evidence of nests or feeding signs were recorded during the site surveys.

4.3.6 Other Mammals

No field signs of other mammals were recorded on Site during the survey. However, considering the habitats present it is likely that a range of common mammals use the habitats for commuting, foraging and nesting, including foxes, squirrels, rabbits and hedgehogs. Hedgehog may forage and commute across the Site and are likely to nest within the off-site woodland.

4.3.7 Reptiles

No evidence of reptiles was identified during the field survey. The majority of the grassland is unsuitable due to the short-sward height. The shrubs may provide potential sheltering habitat, while the edges of the off-site aquatic habitat may provide sheltering and basking opportunities, as well as access to prey, particularly for grass snake if present in the wider local area.

4.3.8 Invertebrates

Habitats and plant species present on Site offer suitable habitat and foraging opportunities for a range of common terrestrial invertebrate species. Larval food-plants for notable within Wiltshire species are present across the Site. However, no notable observations were made during the survey.

4.4 SUMMARY BNG RESULTS

The full BNG assessment spreadsheet is provided separately to this report. Appendix B provides the full Statutory BNG Assessment Report with a detailed analysis of the results. Figure 3 provides the post-development UKHab plan which was informed by the Landscape General Arrangement from Land Use Consultants (13000-LUC-XX-XX-DR-L-01203-01204 Landscape General Arrangement.dwg). The loss in grassland introduced shrub compensated with the provision of other neutral grassland and modified grassland along the footpath.

In summary there is a **12.27% BNG** (0.42 net unit increase) as a result of the proposed footpath development and the Trading Rules have been met.

5 SCOPE OF THE ASSESSMENT

The scope of the assessment was established through a review of the overall baseline and the proposed development design.

5.1 APPROACH TO IDENTIFYING RECEPTORS

The identification of receptors is based on relevant guidance and the professional judgement of qualified technical specialists who have undertaken a desk study and ecological field surveys at the application Site.

In some cases, even without quantified information, it is reasonable to conclude that some potential receptors will not experience significant effects. This is sometimes the result of mitigation measures that have been incorporated into the proposed development, which might reasonably be expected to be effective.

The following have been considered in identifying potential receptors:

- The importance (or value) of the receptor at a local, regional and national level;
- The extent to which important ecological receptors will be affected by changes that are expected to result from the proposed development;
- The sensitivity of the important ecological receptors to the changes that are likely to occur;
- The likely magnitude, duration and other characteristics of the effects; and
- Relevant best practice and guidance where specialist methodologies have been developed as detailed below.

5.2 POTENTIAL RECEPTORS

A key consideration in assessing the effects of the proposed development on flora and fauna is to define the habitats and species that need to be included in the assessment. In identifying these receptors, it is important to recognise that a development can affect flora and fauna both within the site (e.g. through the land-take required) as well as beyond the site (e.g. through noise generation, changes in air quality or local hydrology etc.). The approach that has been taken in preparing this EclA is to identify important biodiversity resources, (the sites, habitats and species of sufficient importance that effects upon them could be significant), as well as considering legally protected species.

Assessment of the effects of the proposed development on biodiversity was undertaken with reference to CIEEM's EclA Guidelines (September 2024). The assessment has focused on legally protected and otherwise important biodiversity resources (refer to Boxes 3.1 and 3.2).

The starting point for the assessment was to undertake an exercise using the baseline data, subdividing the recorded biodiversity receptors (designated sites, species populations and habitats) into:

- Those that could be significantly affected by the proposed development or for which the development could result in the contravention of relevant legislation, and that therefore require more detailed assessment; and
- Those that were assessed as not likely to be either significantly affected or whose presence was not likely to result in any relevant legislation being contravened, and that did not therefore require further assessment (i.e. that were 'scoped out' of the assessment).

For sites/habitats/species that meet the criteria in Box 5.1 and/or Box 5.2 overleaf, the next stage of the scoping assessment is to determine whether the identified receptors are likely to be of sufficient 'biodiversity conservation value' that an effect upon them could be significant in EclA terms. In this context:

- Biodiversity conservation value relates to the quality and/or size of sites or habitats, or the size of species populations (see Box 5.1); and

- Potential significance means that the effect could be of sufficient concern, or for positive effects, of such substantial benefit that it could influence the decision about whether or not development consent or a specified other consent should be granted.

Box 5.1: Value and Importance for Biodiversity Conservation

The distinction between importance and value can be illustrated by common species such as the house sparrow. This species is important at a national level because it is a priority species (Section 41, NERC Act 2006). However, a small population that could be affected by a development would often be assessed as being of insufficient value for an effect (whether adverse or beneficial) to be of potential significance, due to the small size of the population. On this basis, it would not need to be assessed further (i.e. it would be 'scoped out' of the assessment).

5.3 SPATIAL SCOPE

The spatial scope of the assessment of each potential significant effect reflects:

- The area occupied by the receptor that is being assessed; and
- The Zone of Influence (Zol) associated with the ecological changes that will result from the proposed development that may affect the receptor.

Thus, if part of a designated biodiversity site is located within the ecological Zol relating to a particular ecological change, an assessment is made of the effects on the biodiversity site as a whole. A similar approach has been taken for areas of notable habitat. For species that occur within an ecological Zol that relates to a change that could significantly affect the species, an assessment has been carried out on the total area that is used by the affected individuals or population of the species (e.g. for foraging or commuting).

Receptors that are of sufficient value that an effect upon them would have the potential to be significant, together with all relevant legally protected species, are taken through to the assessment stage. This involves identifying, for each receptor:

- Any ecological changes that are likely to be caused by the proposed development which have the potential to lead to a significant effect and/or to contravene relevant legislation;
- For those ecological changes, determining the area within which each change could cause a likely significant effect or could contravene relevant legislation (i.e. an 'ecological Zol' - see Box 5.2);
- Comparing the area where the receptor occurs with the ecological Zol; and
- If the receptor occurs or is likely to occur within the Zol, concluding that either the receptor could be subject to a significant effect and/or the relevant legislation could be contravened, in which case the effects upon the receptor are scoped in, or no significant effect is likely to occur and it is scoped out.

Box 5.2: Defining Ecological Zol

An ecological Zol is the area affected by changes associated with the development. This zone is the same for all affected receptors in the case of land take. By contrast, for each environmental change that can extend beyond the area affected by land-take (e.g. changes in noise associated with development activities within the land-take area), the Zol may vary between receptors, dependent upon the receptors' sensitivity to the change and the precise nature of the change.

For example, dormouse might be unaffected by noise associated with a development unless the noise is generated very close to where the dormouse nests, while another mammalian species might be disturbed at much greater distances; other species (e.g. of invertebrate) may be unaffected by changes in noise. A further complication is that the response of a receptor to a change associated with one development may differ to the response of the same receptor to a similar change on another development. This can occur as a result of the wide range of variables that influences the precise nature of any change (e.g. for noise this can include: differing baseline noise conditions; specific magnitude, timing or other characteristics of the noise; and the effects of screening and topography).

In view of these complexities, the definition of the zones of influence that extend beyond the land-take area will be based upon professional judgement, informed by discussions with the technical specialists who are working on other aspects of the planning application where required. These specialists will provide information about the environmental changes that they have assessed. This information will be combined with available ecological information about receptors' sensitivities to different environmental changes in order to define the extent of each ecological Zol.

The key issues relating to biodiversity receptors and the proposed development are as follows:

- The effects of temporary and permanent habitat loss from land take by construction areas;
- Damage/harm to fauna;
- The effects of pollution (construction dust and pollution from accidental spillage of fuels, lubricants etc. that may affect terrestrial and/or aquatic habitats);
- Noise, visual or light disturbance to fauna;
- The positive effects of ecological enhancement from creation, enhancement and management of habitats within the Site boundary.

There are a range of biodiversity receptors at the Site and there is also a wide variation in the spatial influence of different elements of the development proposals. For example, the majority of changes are very localised (e.g. physical changes close to the silage clamps).

The effects of temporary and permanent habitat loss from construction and operational phases of the proposed development were initially considered across the whole application Site, but then refined on the basis of the presence/absence of specific habitats within the development footprint (e.g. breeding bird habitat within or adjacent the development area), the affinity of particular species for these habitats, in combination with the function of the on-site habitat to species that use key habitats located off-site (e.g. bats roosting/ birds nesting within adjacent woodland areas).

Emissions of dust from construction activity (including construction of structures, earth-moving, and track-out of dust due to vehicles leaving Site) are potentially significant for sensitive habitats and have been included in the assessment.

Consideration of potential disturbance to ecological receptors from noise, vibration, visual or light was extended across the application Site and adjacent habitats.

5.4 POTENTIAL ECOLOGICAL RECEPTORS AND SIGNIFICANT EFFECTS

Table 5.1 summarises information regarding the ecological receptors that have been identified through the scoping process as having the potential to be significantly affected by the proposed development and the legislation that could be contravened as a result of the proposals without implemented mitigation and the potential effects that need to be assessed.

Additionally, Table 5.1 summarises the details of receptor habitats and species that have been scoped out of further assessment due to non-presence or no potential impacts predicted as a result of the proposals.

Table 5.1: Scoping Results of Potential Ecological Receptors and Legislation.

Potential receptor	Important/ valued and/or legally protected?	Relevant criteria (from Box 3.1) and legislation (from Box 3.2)	Potentially significant effects/ legal contravention and causal changes
Heath Hill Farm SSSI	Biodiversity conservation value Legal status	National importance NERC Act 2006 S.41 Habitats and Species of Principal Importance	The SSSI is located approximately 1 km from the Site. Due to the distance of the Site from the SSSI, lack of identified source-receptor pathways and the scale and nature of the proposed works, no potentially significant effects to the SSSI are predicted. Scoped out of the assessment.
Whitesheet Hill SSSI	Biodiversity conservation value Legal status	National importance NERC Act 2006 S.41 Habitats and Species of Principal Importance	The SSSI is located approximately 2 km from the Site. Due to the distance of the Site from the SSSI, lack of identified source-receptor pathways and the scale and nature of the proposed works, no potentially significant effects to the SSSI are predicted. Scoped out of the assessment.
Garden Lake, Stourhead LWS	Biodiversity conservation value Legal status	County importance NERC Act 2006 S.41 Habitats of Principal Importance	The Garden Lake LWS is located immediately adjacent to the Site boundary. There is potential for accidental damage to this as a result of accidental spillages of contaminants (including silt/ soil and hydrocarbons) into the lake. Scoped into the assessment.
Stourhead Woods LWS	Biodiversity conservation value Legal status	County importance NERC Act 2006 S.41 Habitats	Stourhead Woods are located along the eastern edge of the Site. Whilst the habitat for which

Potential receptor	Important/ valued and/or legally protected?	Relevant criteria (from Box 3.1) and legislation (from Box 3.2)	Potentially significant effects/ legal contravention and causal changes
		of Principal Importance	the LWS is designated are absent from within the Site itself, there is potential for accidental damage to occur to individual trees as a result of machinery/ plant movements and for the pollution of soils should an accidental spillage of contaminants occur. Scoped into the assessment under woodland.
8 other non-statutory LWSs	Biodiversity conservation value Legal status	County importance NERC Act 2006 S.41 Habitats of Principal Importance	These LWSs are all located between 0.1 km and 1.5 km from the Site and are considered to be at a sufficient distance whereby significant effects are unlikely and/or source receptor pathways do not exist. Scoped out of the assessment.
Woodland (adjacent to Site)	Biodiversity conservation value.	Conservation of Habitats and Species Regulations 2017 Wildlife & Countryside Act 1981	there is potential for accidental damage to occur to individual trees as a result of machinery/ plant movements and for the pollution of soils should an accidental spillage of contaminants occur. Furthermore, the woodland adjacent to the Site is known to support a range of protected and notable species and disturbance effects are possible during the construction phase. Scoped into the assessment.
Plants (protected or invasive species)	Biodiversity conservation value	EC Habitats Directive Wildlife & Countryside Act 1981	There is the potential for Schedule 8 plant species to be present in and adjacent to the Site. Whilst under intensive management, there is presence of both invasive and undesirable species on Site which may be spread by the works. Scoped into the assessment.
Other neutral grassland	Biodiversity conservation value	EC Habitats Directive Conservation of Habitats and Species Regulations 2017	Some habitat on Site recorded as other neutral grassland has abundant levels of species indicative of ancient woodland

Potential receptor	Important/ valued and/or legally protected?	Relevant criteria (from Box 3.1) and legislation (from Box 3.2)	Potentially significant effects/ legal contravention and causal changes
			ground flora. Widening of the path into this habitat could therefore result in a net loss of this long-continuity species composition. Scoped into the assessment.
Bats	Biodiversity conservation value Legal status	International and national importance Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 NERC Act 2006 S.41 Species of Principal Importance Wildlife & Countryside Act 1981	The site was assessed to provide high foraging opportunity for bats. There is potential for commuting/ foraging behaviour to be influenced by construction works occurring on Site, particularly if works are conducted at night or involve the use of additional artificial lighting. Disturbance effects may also occur due to the use of machinery and the presence of lighting and contractors, particularly at dusk or overnight. Scoped into the assessment.
Birds	Biodiversity conservation value Legal status	National importance (BoCC Red List Species) Wildlife & Countryside Act 1981 NERC Act 2002 S41 Species of Principal Importance	Suitability for both rare and common species of nesting birds was recorded within vegetation and buildings on site. Vegetation removal could result in the risk of accidental disturbance of nesting birds/ loss of adults/ young/ eggs. Scoped into the assessment.
Dormouse	Biodiversity conservation value Legal status	International and national importance Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 NERC Act 2006 S.41 Species of Principal Importance Wildlife & Countryside Act 1981	Dormouse are known to be present within the wider Stourhead Estate. Habitat on-site and in immediately adjacent areas is considered to be sub-optimal and subject to high levels of anthropogenic disturbance. For these reasons, dormouse are not considered likely to be present within the Site or the Zone of Influence of the proposed works.

Potential receptor	Important/ valued and/or legally protected?	Relevant criteria (from Box 3.1) and legislation (from Box 3.2)	Potentially significant effects/ legal contravention and causal changes
			Scoped out of the assessment.
GCN	Biodiversity conservation value Legal status	Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 Wildlife & Countryside Act 1981 NERC Act 2006 S.41 Species of Principal Importance	None of the waterbodies on or adjacent to Site were considered suitable for GCN and no records of this species were returned for the area within 2km of the Site. This species is considered to be absent from the Site. Scoped out of the assessment.
Common Reptiles	Biodiversity conservation value Legal status	Local Importance Wildlife & Countryside Act 1981	Construction activity impacts arising from vegetation removal and pre-commencement works (e.g. soil-stripping) have the potential to result in killing /injury offences being committed. Scoped into the assessment.
Badger	Legal status	Local Importance Protection of Badgers Act 1992	No evidence of badger was recorded within the site. There may be some loss of potential foraging habitat where the path is proposed to be narrowed, but habitat creation/ enhancement elsewhere will provide additional areas of suitable habitat for this species. Scoped out of the assessment.
Other NERC S.41 Mammals (Hedgehog)	Biodiversity conservation value Legal status	NERC Act 2006 S.41 Species of Principal Importance Wildlife & Countryside Act 1981	There is habitat suitability for hedgehog on site as identified within shrub and grassland areas around the waterbody. Vegetation removal and construction activities have the potential to affect available foraging habitat and may lead to killing/ injury of individual hedgehogs. Scoped into the assessment alongside common reptiles due to replicate measures.
Invertebrates	Biodiversity conservation value Legal status	NERC Act 2006 S.41 Species of Principal Importance	There are multiple plant species present that support the larval stage of locally notable species. This includes Rumex sp., Plantago sp. and various grass species that support species

Potential receptor	Important/ valued and/or legally protected?	Relevant criteria (from Box 3.1) and legislation (from Box 3.2)	Potentially significant effects/ legal contravention and causal changes
			such as dot moth <i>Melanchra persicariae</i>, rustic <i>Hoplodrina blanda</i> and knot grass <i>Acronicta rumicis</i> (Habitat creation/ enhancement and management at the Site will provide additional areas of suitable habitat for a range of terrestrial invertebrate species. Scoped into the assessment under plants and other neutral grassland – not assessed separately.

5.5 CLIMATE CHANGE

Greenhouse gas (GHG) emissions contribute to climate change, which could affect the designated features of local sites, habitats and species considered in this EclA. For example: climate change may lead to changes in the distribution of bats due to other areas within the UK and abroad becoming more suitable for the species, leading to declines in local populations.

The Climate Change Adaptation Manual – Evidence to Support Nature Conservation in a Changing Climate produced by Natural England (2020) supports practical and pragmatic decision making and guides reasonable judgement on the potential effects of climate change on the key habitats associated with the application Site. The habitats that characterise the application site: for example, other neutral grassland, modified grassland, introduced shrub and sealed surfaces are of low vulnerability to climate change.

Climate change and its implications for biodiversity have been incorporated into the design of embedded ecological mitigation and enhancement habitats to reduce the risk of impact on legally protected and other species. Selection of measures that are based on habitats that are known to be more resilient to climate change and provide extended ecological functionality for a wide range of species across the Site have been selected.

This has largely been achieved through the creation of additional areas of replacement habitat that are considered to have a low level of sensitivity to climate change (subject to appropriate management). These measures are associated with the creation of areas of other neutral grassland and modified grassland and the retention of woodland/ trees with the primary objective to support native wildlife.

As a result, no further biodiversity mitigation for climate change as part of the proposed development is required beyond that included in the embedded mitigation and enhancements set out in this EclA, including management and monitoring beyond that identified.

5.6 TEMPORAL SCOPE

The temporal scope of the assessment of biodiversity is consistent with the period over which the proposed development would be carried out and therefore covers the construction and operational periods. Should permission be granted, the pre-construction phase of the proposed development is likely to commence in 2025.

Potential effects on biodiversity receptors have the potential to arise for part of, or the entirety of, the construction phase. The impacts from all construction activities have been considered and the assessment has identified which activities are likely to cause effects on each specific biodiversity receptor.

5.7 INTER-RELATED EFFECTS

There are two types of inter-related effect:

- Combined effects: when individual effects of the proposed development combine to create a cumulative effect; and
- Interactive effects: consideration of interactions between different effects in relation to a specific receptor.

Combined effects normally occur when different activities associated with a project act upon the same ecological receptor (e.g. the additive effect of physical disturbance from construction activities upon nesting birds may occur at the same time as transport related noise and lighting, that may act upon the same receptor(s) during the construction phase). In determining such effects, consideration is given to the sensitivity of the receptor and the magnitude of the ecological change. This is considered directly within the assessments included in this EclA and, as such, is not reported separately.

Interactive effects are assessed in relation to a specific receptor where the effect could be caused by the interactions of different types of effect from project activities even if individually these are insignificant (e.g. the interaction of noise disturbance and lighting changes on bats).

The assessment of effects on biodiversity receptors has the potential to be exacerbated by climate change, and this has been incorporated into the approach to integrated and embedded mitigation as set out in this EclA.

5.8 RECEPTORS SCOPED OUT OF FURTHER ASSESSMENT

The following receptors have been scoped out of further assessment because potential effects are either absent or not considered likely to be significant:

- All statutory designated sites and 8 non-statutory designated sites have been scoped out of further assessment due to their distance from the Site, the scale and nature of the proposals and the lack of identified source-receptor pathways.
- Although areas of suitable terrestrial habitat for amphibians are present within the Site boundary, (comprising other neutral grassland and woodland edge habitats), these are sub-optimal, and no evidence of these species was recorded during the 2025 field survey. Furthermore, the adjacent ponds had a poor HSI scores and there were no records of this species returned for the area within 2km of the Site. It is therefore considered reasonable to conclude that amphibians are absent from the Site, and on this basis the species group has been scoped out of further assessment. Proposed measures to safeguard reptiles would also be suitable for amphibian species, and no additional measures are considered necessary.
- Habitat on-site and in immediately adjacent areas is considered to be sub-optimal for dormouse and subject to high levels of anthropogenic disturbance. For these reasons, dormouse are not considered likely to be present within the Site or the Zone of Influence of the proposed works.
- Although suitable foraging habitat for badgers and other S41 mammals (such as hedgehogs) is present within the Site boundary, this is limited in extent and more suitable alternative areas are available in the wider locality. On this basis, impacts to the local badger population are not considered to be significant and therefore this species has been scoped out of further assessment.

6 ENVIRONMENTAL MEASURES INTEGRATED AND EMBEDDED INTO THE PROPOSALS

6.1 INTRODUCTION

A range of environmental measures have been integrated and embedded into the development proposals as outlined in this Section. The design process has included consideration of the ecological constraints and has incorporated measures to reduce the potential for adverse ecological effects in accordance with the 'mitigation hierarchy' (Avoid, Mitigate, Restore, Offset, Compensate) and relevant legal requirements and planning policy. The measures identified and adopted include those that are inherent to the proposed development and can be expected to be applied as part of construction environmental best practice methods, which are a result of legislative requirements.

The development design and impact avoidance measures will be adopted during the construction and occupation phases of the proposed development. Table 6.1 outlines how these embedded measures will influence the biodiversity assessment. A Construction Ecological Management Plan (CEMP) will be produced through Planning Condition that will set out full details of the requirements of these measures during the pre-commencement and construction phases of the proposals.

Table 6.1: Summary of Integrated and Embedded Biodiversity Mitigation and Enhancement Measures

Receptor	Changes and Effects	Integrated/Embedded Measures and Influence on Assessment
Woodland including Stourhead Woods LWS and veteran trees	Potential for accidental damage to trees and/or their root protection areas (RPAs) during pre-commencement and construction phases of the development as a result of machinery/ plant movements (causing soil compaction and/or direct physical damage to trunks or branches), the incorrect storage of materials within RPAs or spillages of contaminants (such as fuels) into the soil. Habitat retention, protection and appropriate on-going management will ensure these features are retained in a healthy state and continue to provide habitat for a range of species throughout the 30-year management period. No works will take place within or immediately adjacent to the RPA of veteran trees as detailed in the Tree Constraints Plan – Stourhead Garden Path – 5.3.25 and companion Preliminary Tree Schedule produced by Bosky Trees. Potential for accidental damage to trees and/or their root protection areas (RPAs) during pre-commencement and construction phases of the development as a result of machinery/ plant movements (causing soil compaction and/or direct physical damage to trunks or branches), the incorrect storage of materials within RPAs or spillages of contaminants (such as fuels) into the soil.	<u>Construction</u> 1. Installation of site demarcation/ tree protection fencing around retained habitat areas and individual trees and adjacent to the Site boundary in accordance with BS5837:2012 to prevent unauthorised access/ accidental damage. Use of associated signage as required. Further details outlined in the Arboricultural Impact Assessment and Tree Protection Plan produced by Bosky Trees. 2. Preparation and implementation of an appropriate Construction Ecological Management Plan (CEMP) through Planning Condition to set out specific measures, supervision and monitoring to avoid or minimise all potential construction related effects arising from: lighting; vibration; noise; dust; accidental damage as a result of unauthorised access and pollutants affecting retained vegetation, using industry best practice methodologies and guidance. All ecological elements to be supervised by a suitable qualified ecologist (Ecological Clerk of Works – EcoW) or carried out by ecologists and ecological contractors. Works will be confined to defined working hours and areas/ compounds and access tracks, with fencing and signage to be installed to protect adjacent areas of habitat to be retained.

Receptor	Changes and Effects	Integrated/Embedded Measures and Influence on Assessment
		3. All site personnel will be required to attend a pre-commencement Toolbox Talk, which will cover all ecological and broader environmental working practices to be followed during the course of the works. 4. Boundary habitats and individual trees will not be subject to an increase in lighting levels (<0.5 lux) during construction works. There will be no construction lighting used between dusk and dawn, to minimise impacts on nocturnal species i.e. bats and badgers. <u>Operation</u> A. No site boundary habitats will be exposed to lighting levels that exceed 0.5 lux to ensure their continued functionality for light sensitive species of bat and other nocturnal animals. B. Preparation and implementation of an appropriate Landscape and Ecological Management Plan through Planning Condition to introduce a long-term programme of high quality and appropriate management and monitoring of all retained, enhanced and newly created habitats to maximise habitat diversity, quality and ecological value and to ensure target habitat conditions are met and the calculated BNG is delivered. Relevant works to be supervised by a suitably qualified ecologist (SQE) and carried out by experienced ecological contractors.
Garden Lake, Stourhead LWS	Potential for accidental pollution and contamination to the lake as a result of machinery/plant movements and spillages of contaminants. Potential for localised collapse of the lake bank due to the movement of heavy machinery/ plant.	<u>Construction</u> Measures 1, 2, 3. <u>Operation</u> Measure B
Plants (protected or invasive species), Other Neutral Grassland and Invertebrates	Potential for the spread of invasive species due to the movement of soil containing plant fragments. Loss of habitat which contains protected species such as bluebell and notable woodland ground flora. Loss of invertebrate foraging habitat including larval food plants for notable invertebrate species. Spread of invasive species (three-cornered leek)	<u>Construction</u> Measures 1, 2, 3. 5. Any removal of other neutral grassland to facilitate path widening should occur under the supervision of an SQE and carried out by experienced ecological contractors. 6. Any Other Neutral Grassland habitat removed should be translocated to suitable areas, including those where the path is to be narrowed.

Receptor	Changes and Effects	Integrated/Embedded Measures and Influence on Assessment
		7. Any invasive species that pose a threat of spread and competition with native species should be removed by an experienced and specialist contractor and the area monitored for re-growth.
Bats	Potential for accidental damage to veteran trees and woodland as a result of unauthorised access by machinery/ plant and spillages of contaminants (such as fuels) into the soil. These also provide suitable bat foraging and commuting habitat and may support off-site roosts. Potential for disturbance to any bats roosting within trees as a result of machinery movements/ noise/ lighting. Potential for disturbance to commuting/ foraging bats during the pre-commencement and construction phases of the development as a result of unregulated working hours. Habitat enhancement, creation and on-going management will provide additional areas of suitable habitat for bats. No new lighting or night-time working is proposed.	<u>Construction</u> Measures 1, 2, 3, and 4 8. No works will be undertaken at night and there will be no illumination of the working area overnight to prevent adverse effects to foraging and commuting bats. 9. Enhancement of the Site and wider local area as a result of the creation of other neutral grassland, protection of veteran trees through path realignment and on-going habitat management. <u>Occupation</u> Measures A and B
Breeding Birds	Potential direct effects on birds, young and/or eggs due to disturbance, damage or destruction of active nests associated with vegetation removal and from construction related noise and vibration. Habitat enhancement, creation and on-going management will provide additional areas of suitable habitat for nesting and foraging birds.	<u>Construction</u> Measures 1, 2, 3 and 9 10. Avoidance of potential effects on actively nesting birds, young, eggs and nest through the avoidance of vegetation clearance and building modification works between February and August inclusive, or through the use of a suitably qualified ecologist who has confirmed no nesting activity present within 48 hours of works commencing between February and August. <u>Operation</u> Measures A and B
Common Reptiles and Amphibians, S41 mammals such as hedgehog	Potential risk of accidental injury/killing during the site preparation and construction phases as a result of vegetation removal works, soil stripping/ movement, use of plant/ machinery and risk of individuals becoming trapped in open excavations. Habitat enhancement, creation and on-going management will provide additional areas of suitable habitat for common reptiles and amphibians.	<u>Construction</u> Measures 1, 2, 3 and 9 11. Phased directional reduction in vegetation height and extent (first cut to 15cm, to 5cm and then to ground level) with arisings being removed from areas that will be affected by construction. Vegetation maintained with a short sward height until construction works commence. Precautionary hand search followed by destructive search (if required) of suitable refugia (including stone walls) to be undertaken by an Ecological Clerk of Works. <u>Operation</u> Measure B

7 ASSESSMENT OF RESIDUAL EFFECTS AND EMBEDDED MITIGATION MEASURES

7.1 INTRODUCTION

A range of measures have been integrated and embedded into the development proposals as outlined in Table 6.1 in Section 6. The design process for the proposed development has included consideration of the ecological constraints from an early stage and has incorporated measures to reduce the potential for adverse ecological effects in accordance with the 'mitigation hierarchy', legal requirements and relevant planning policy. The measures identified and adopted include those that are inherent to the proposed development and can be expected to be delivered as part of the scheme.

7.2 LIKELY SIGNIFICANT EFFECTS

Based on the assessment methodology set out in Section 3, Table 5.1 presents those receptors that have been identified (through the scoping process) as having the potential to be significantly affected by the proposed development (due to their biodiversity conservation value and/or for which legislation could be contravened). Table 5.1 identifies the potential changes and effects that need to be assessed for each of these receptors.

In broad terms, the changes and effects that may occur as a result of the proposals and which may give rise to significant effects on those ecological receptors scoped into this assessment have been identified as:

- Habitat loss/ degradation as a result of construction;
- Pollution incidents occurring during construction including dust generation and accidental spillages (e.g. hydrocarbons);
- Damage/harm to flora and fauna during construction activities from machinery/ plant or as a result of unauthorised access into valued areas of habitat to be retained;
- Disturbance (from noise, vibration, visual and light) to surrounding habitats and associated species;
- Habitat enhancement and creation prior to or during the construction phase; and
- Habitat management and monitoring during the operational phase.

The following sections present the assessment of effects on each of the receptors that have been scoped into this EcIA, taking the embedded mitigation measures into account for both the construction and operational phases of the development. Where significant residual effects remain, Section 10 presents the additional mitigation/compensation measures that will be implemented in order to further reduce these residual effects until they are considered to be not significant (or are as low as is reasonably practicable).

7.3 ASSESSMENT OF RESIDUAL EFFECTS: WOODLAND INCLUDING STOURHEAD WOODS LWS AND VETERAN TREES

Stourhead Woods LWS, individual trees and woodland are assessed together in this section, as the same potential impacts and mitigation measures apply to all.

7.3.1 Construction

Habitat Loss/ Degradation

All trees are to be retained as part of the proposals and therefore no habitat loss is predicted. No works will take place within or immediately adjacent to these habitats.

There is the potential for accidental damage to occur to the root protection areas (RPAs) of trees during pre-commencement and construction phases of the development as a result of machinery/ plant movements causing soil compaction and/or the incorrect storage of materials within RPAs. Direct damage to trunks or branches may also

occur as a result of plant and machinery movements. Site demarcation/ tree protection fencing will be installed around habitat areas to be retained and to safeguard the RPAs of individual trees within and adjacent to the Site boundary (embedded Mitigation Measure 1) in accordance with BS5837:2012 to prevent unauthorised access by machinery/ plant and to ensure all materials are stored in the correct site compound location (which will also be sited away from RPAs). This will ensure no habitat degradation as a result of construction activities.

The production and implementation of a CEMP (Mitigation Measure 2) will ensure all on-site contractors attend a toolbox talk (Mitigation Measure 3) which will highlight working practices required to minimise the effects of noise, vibration and dust, will communicate the ecological sensitivities of the site and confirm the correct access routes and storage compounds to be used for the duration of the construction phase of the development. Protected areas of habitat will be explained and the fencing highlighted.

No increased lighting of individual trees or woodland edge habitats will occur, (Mitigation Measure 4), which will also prevent habitat degradation.

The predominant reason for narrowing the footpath is to redirect the footpath from tree RPAs, reducing compaction and promoting longevity.

Taking these embedded mitigation measures into account, a **minor positive** on the Stourhead Woods LWS and the individual trees on Site is predicted as a result of enhancement to tree RPAs which is **not significant**.

Pollution Incidents

There is potential for the contamination of soils to occur in the vicinity of trees as a result of accidental spillages of materials including hydrocarbons (from fuels), which could have a chronic effect on tree health.

The installation of tree protection fencing and associated signage (Mitigation Measure 1) will ensure that RPAs are protected from spillages occurring within them. The CEMP (mitigation Measure 2) will include details of the emergency response required to deal with spillages, including the location and use of spill kits, which will also act to protect soils within and adjacent to the Site. All on-site contractors must attend a tool-box talk (Measure 3) before being permitted to work on Site, which will include details of emergency response procedures following a spillage of a contaminant. All staff will also be made aware of storage areas, and all potentially contaminating material will be appropriately stored, with drips trays/ bunds as required to ensure any spillages are contained.

Taking these mitigation measures into account, a **minor negative effect** Stourhead Woods LWS and the individual trees on Site is predicted as a result of potential pollution incidents, which is **not significant**.

7.3.2 Operation

Habitat Creation, Enhancement and Management

Appropriate monitoring and management of all retained, newly created and enhanced habitats during the operational phase of the proposed development will be required to ensure maximum biodiversity net gain is achieved (and maintained) as a result of the development and no habitat loss through degradation occurs. The implementation of Measure B in Table 6.1 (HMMP) will ensure that all habitats are appropriately managed and maintained.

The veteran tree will be regularly monitored as part of the requirements of the LEMP, with necessary management measures to be carried out as required to ensure its continued health.

No site boundary habitats (including woodland and veteran trees) will be exposed to lighting levels that exceed 0.5 lux to ensure their continued functionality for light sensitive species of bat and other nocturnal animals.

Consequently, a **minor** magnitude of change is predicted, which is positive but does **not constitute a significant effect** on the lines of trees, ancient woodland and veteran trees adjacent to the Site.

7.4 ASSESSMENT OF RESIDUAL EFFECTS: PLANTS, OTHER NEUTRAL GRASSLAND, GARDEN LAKE AND INVERTEBRATES

Plants, other neutral grassland, the Garden Lake LWS and invertebrates are assessed together in this section, as the same potential impacts and mitigation measures apply to all.

7.4.3 Construction

Habitat Loss/ Degradation

Due to minor levels of widening of the path some loss of habitat containing notable and protected plant species is predicted. In this case, areas to be lost will be removed with appropriate methods (Measure 5) and translocated to an appropriate area, such as that where the path is narrowed (Measure 6).

There is the potential for accidental damage to occur to areas of other neutral grassland and lake as a result of machinery/ plant movements causing soil compaction and/or the incorrect storage of materials within RPAs. Direct damage to protected plants may also occur as a result of plant and machinery movements. Site demarcation/ tree protection fencing will be installed around habitat areas to be retained and to safeguard protected plant species within and adjacent to the Site boundary (embedded Mitigation Measure 1) to prevent unauthorised access by machinery/ plant and to ensure all materials are stored in the correct site compound location (which will also be sited away from RPAs). This will ensure no habitat degradation as a result of construction activities.

The production and implementation of a CEMP (Mitigation Measure 2) will ensure all on-site contractors attend a toolbox talk (Mitigation Measure 3) which will highlight working practices required to minimise the effects of noise, vibration and dust, will communicate the ecological sensitivities of the site and confirm the correct access routes and storage compounds to be used for the duration of the construction phase of the development. Protected areas of habitat will be explained and the fencing highlighted.

Whilst the Rhododendron on Site is heavily managed and poses little to no risk as an invasive species, the three-cornered leek located at the north of the Site may spread to the detriment of other plant species. It is for this reason that it will be removed and undergo repeated monitoring and management to ensure it does not return (Measure 7).

Taking these embedded mitigation measures into account, a **minor negative** impact on plants, other neutral grassland and invertebrates on Site is predicted as a result of potential harm and damage to flora compositions and larval food plants which is **not significant**.

Pollution Incidents

There is potential for the contamination of soils to occur in the vicinity of protected habitats as a result of accidental spillages of materials including hydrocarbons (from fuels), which could have a chronic effect on plant and aquatic health.

The installation of habitat protection fencing and associated signage (Mitigation Measure 1) will ensure that habitats are protected from spillages occurring within them. The CEMP (mitigation Measure 2) will include details of the emergency response required to deal with spillages, including the location and use of spill kits, which will also act to protect soils within and adjacent to the Site. All on-site contractors must attend a tool-box talk (Measure 3) before being permitted to work on Site, which will include details of emergency response procedures following a spillage of a contaminant. All staff will also be made aware of storage areas, and all potentially contaminating material will be appropriately stored, with drips trays/ bunds as required to ensure any spillages are contained.

Taking these mitigation measures into account, a **minor negative effect** on plants, other neutral grassland and invertebrates on Site is predicted as a result of potential pollution incidents, which is **not significant**.

7.4.4 Operation

Habitat Creation, Enhancement and Management

Appropriate monitoring and management of all retained, newly created and enhanced habitats during the operational phase of the proposed development will be required to ensure maximum biodiversity net gain is achieved (and maintained) as a result of the development and no habitat loss through degradation occurs. The implementation of Measure B in Table 6.1 (LEMP) will ensure that all habitats are appropriately managed and maintained.

No site boundary habitats (including other neutral grassland) will be exposed to lighting levels that exceed 0.5 lux to ensure their continued functionality for light sensitive species of bat and other nocturnal animals.

Consequently, a **minor** magnitude of change is predicted, which is positive but does **not constitute a significant effect** on the lines of trees, ancient woodland and veteran trees adjacent to the Site.

7.5 ASSESSMENT OF RESIDUAL EFFECTS: BATS

On-Site and immediately adjacent habitat areas provide commuting and foraging habitat for bats, with mature trees within the mature woodland and veteran trees also likely to provide suitable roosting habitat.

7.5.1 Construction

Injury/ killing of individual bats and habitat Loss/ degradation

Implementation of integrated/ embedded measures 1, 2, 3 and 4 will avoid or mitigate for potential effects to bats] during the construction phase of the development. Suitable areas of habitat adjacent to the working area and access track will be retained and protected from damage and disturbance through the use of tree protection/ site demarcation fencing and associated signage. The CEMP and toolbox talk will ensure all contractors are aware of the potential for legally protected species to be present within or adjacent to the Site, and the working practices to be employed to avoid adverse effects occurring.

Lighting of boundary habitats and trees will be avoided, (Mitigation Measure 4), and no night-working is proposed (Mitigation Measure 5). These embedded mitigation measures will minimise potential effects to nocturnal species including bats.

There will be no net loss of roosting opportunities, due to the retention and protection of all mature trees within and adjacent to the Site, along with embedded habitat creation and enhancement (Mitigation Measure 6). Some low quality introduced shrub habitat may be lost, which should be done under the supervision of an SQQ (Measure 10). Furthermore, low-level, short-term disturbance effects may occur as a result of increased noise levels at the site during the construction and resurfacing of the path.

Consequently, a **minor** magnitude of change is predicted which is **negative**, but which generates **no significant effect** on bats using the Site.

7.5.2 Occupation

Habitat Management

The proposed use of the Site will not result in any loss or reduction in habitat used by bats. The on-going management of retained and newly created habitats, in accordance with the proposed LEMP (Measure B), is likely to result in a positive overall effect on bats at the Site.

With the proposed measures in place, a **minor positive** magnitude of change is predicted which generates **no likely significant effect** on bats.

7.6 ASSESSMENT OF RESIDUAL EFFECTS: BREEDING BIRDS

7.6.1 Construction

Disturbance and Habitat Loss/ Degradation

Construction phase impacts on birds relate to the potential disturbance to foraging, active nests and breeding birds/eggs and young through disturbance of suitable habitat as a result of construction activities including noise or vibration generated by machinery/plant and/or vehicle movements, lighting and dust deposition. The implementation of mitigation measures 1, 2, 3 and 8 will avoid or minimise potential effects to breeding birds during the construction phase of the proposed development.

The implementation of a CEMP, (Measure 2 in Table 6.1), will minimise potential construction related effects through the use of best practice industry working methods. Potential effects to birds, their nests, eggs and/or young will also be avoided through the implementation of integrated/ embedded Measure 10, whereby vegetation clearance will occur outside the bird nesting season, (March to August inclusive). Where this is not possible, a suitably qualified ecologist will confirm no nesting activity is present within 48 hours of clearance by undertaking a careful search of the area of vegetation to be removed/ building to be subject to construction works. Should active nests be present, the nest and a 5 - 10m buffer will need to be protected and clearance works within this area delayed until the chicks have fledged (as confirmed by an ecologist).

By undertaking works outside of the bird nesting season, or by implementing a system of checks immediately prior to clearance where this is not possible, legal offences under the Wildlife and Countryside Act are considered unlikely to occur. Alternative areas of suitable habitat exist both in retained on-Site habitats and in immediately adjacent areas.

Taking into account the inherent mitigation measures contained in Table 6.1 and discussed above, a **minor negative** magnitude of change is predicted which generates **no likely significant effect** on the local breeding bird population.

7.6.2 Occupation

Habitat Management

Potential effects on breeding birds once the site is operational relate to improved habitat availability through the integrated landscape and ecological mitigation measures associated with the creation of grassland and from improvements in existing habitats as appropriate management measures are implemented. Management of all habitat areas will be implemented as part of an LEMP (Measure B). No lighting of boundary features will be implemented as part of the proposals, thereby reducing the potential for disturbance effects to nesting birds (Measure A).

Consequently, a **minor positive** magnitude of change is predicted, but which generates **no significant effect** as a result of the habitat management proposals across the Site for breeding birds.

7.7 ASSESSMENT OF RESIDUAL EFFECTS: COMMON REPTILES & AMPHIBIANS AND S41 MAMMALS

The Site is considered to offer suitable habitat for small numbers of common reptile species (such as slow worm and/or common lizard) and S41 Mammals (such as hedgehog) if present in the wider local area.

7.7.1 Construction

Injury/ killing of individuals and Habitat Loss/ Degradation

There is a very low potential risk of accidental injury/killing during the site preparation and construction phases as a result of vegetation removal works, soil stripping/ movement, use of plant/ machinery and risk of individuals becoming trapped in open excavations

Implementation of integrated/ embedded measures 1, 2, 3, and 9 will avoid or mitigate the potential effects on these species. A phased directional reduction in vegetation height and extent (first cut to 15cm, to 5cm and then to ground level), will also be implemented (Measure 8). Vegetation will be maintained with a short sward height until any construction works commence to deter reptiles from moving into the construction area. A precautionary hand search of suitable features followed by a destructive search will be completed by an ECoW prior to the commencement of works. The working area will be maintained in a condition unsuitable for reptiles during construction works. Holes/ trenches will have a means of escape provided (such as a small ramp). Materials will be appropriately stored to deter reptiles from using them as refugia.

The production of a CEMP (Measure 2) will minimise the potential construction related effects through the implementation of best practice industry working methods. The installation of site demarcation fencing to prevent accidental access into areas of suitable reptile habitat that is to be retained (Measure 1) will protect retained woodland edge habitat from damage by vehicle movements and plant/machinery, with signage to be used as appropriate. Ecological toolbox talks will be mandatory for all construction personnel, with certain tasks being supervised by an ecological clerk of works. Supervision of contractors during clearance of suitable habitat by an ecological clerk of works will ensure no legal offences are committed under the Wildlife and Countryside Act and will safeguard individual reptiles and amphibians.

With the proposed measures in place, a **neutral** magnitude of change is predicted which generates **no likely significant effect** on individual reptiles or mammals that may be present on Site.

7.7.2 Occupation

Habitat Management

The proposed use of the Site will not result in any loss or reduction in habitat used by common reptiles and amphibians (if present in the wider local area). The on-going management of retained and newly created habitats, in accordance with the proposed LEMP (Measure B), is likely to result in a positive overall effect on herptiles and mammals at the Site.

With the proposed measures in place, a **minor positive** magnitude of change is predicted which generates **no likely significant effect** on common reptiles and amphibians.

8 DEFRA BIODIVERSITY METRIC 4.0 ASSESSMENT RESULTS

A summary of the Biodiversity Net Gain calculations is given in Table 8.1 Baseline Habitat. Based on the habitats present, their relative conditions and the geographic location of the Site, it currently comprises 3.39 habitat units.

Table 8.1: Baseline Habitats

Broad Habitat Type	Habitat	Distinctiveness	Area (Ha)	Condition	Units
Grassland	Other neutral grassland	Medium	0.003	Poor	0.01
Grassland	Other neutral grassland	Medium	0.188	Moderate	1.73
Grassland	Modified grassland	Low	0.377	Poor	0.67
Grassland	Modified	Low	0.032	Moderate	0.13
Urban	Artificial, unvegetated unsealed surface	V. Low	0.801	N/A	0.00
Urban	Introduced Shrub	Low	0.415	N/A	0.83
Scrub	Rhododendron scrub	Low	0.009	N/A	0.02
Totals			1.79		3.39

The On-Site Post-Intervention Habitat Units are 3.39 Units (see unlocked Statutory Metric 4.0 which accompanies this planning application, and the BNG Report in Appendix A).

There is a positive 1% Total Net increase in Habitat Units.

The full BNG Report is contained in Appendix A to this EclA.

9 CUMULATIVE EFFECTS

A search of the Wiltshire planning portal for the area within the same post-code as the Site (owing to the small-scale nature of the proposals) for developments that could have a cumulative effect alongside the Stourhead Garden Pathway proposals was undertaken by Johns Associates Ltd in June 2025. Currently registered and previous planning applications within the last 3 years were considered to be predominantly small scale in nature and included domestic extensions, building alterations, tree works, small-scale developments (single dwellings) and change of use applications.

Due to the scale and nature of the proposed development, (including the comprehensive integrated/ embedded mitigation and enhancement measures described in Table 6.1 that form part of the proposals), the associated localised Zone of Influence and low magnitude of predicted change, it is concluded that no additional in-combination effects will arise from the proposals when considered alongside other current and recent planning applications in the local area. The overall ecological enhancement of the Site (through the retention/ enhancement and creation of habitats and their management and monitoring through the implementation of an LEMP) is likely to have a positive effect on the ecological status of protected species within the local area and the biodiversity value of habitats within the Site and immediately adjacent areas. Furthermore, the wider Stourhead Estate is subject to a long-term biodiversity management plan which will have a further positive effect on species and habitats within the area.

10 IMPLEMENTATION OF BIODIVERSITY MEASURES & MONITORING

Table 10.1 summarises the environmental measures embedded within the proposed development and the means by which they will be implemented.

Table 10.1: Summary of Environmental Measures to be Implemented

Environmental measure	Responsibility for implementation	Compliance mechanism
Production and implementation of a Construction Ecological Management Plan (CEMP)	Contractor/Project Ecologist	Planning condition
Production and implementation of a Landscape and Environment Management Plan (LEMP)	Contractor/Project Ecologist	Planning condition
Toolbox talk and register of attendance for all persons working within the construction area	Contractor/Project Ecologist	Planning condition
Suitably Qualified Ecologist/Ecological Clerk of Works/Ecological Contractors to manage, monitor, supervise and implement all ecological aspects of the development.	Contractor/Project Ecologist	Planning condition
Retention and protection of all woodland/ woodland edge habitats, lines of trees and the veteran oak tree with suitable offsets and barriers	Contractor	Planning condition
Implementation of all on site landscape/habitat measures in accordance with the CEMP/LEMP and the Integrated/Embedded Mitigation and Enhancement measures.	Wiltshire County Council /Project Ecologist/ Contractor/Site Operator	Planning Condition

11 CONCLUSIONS OF SIGNIFICANCE EVALUATION

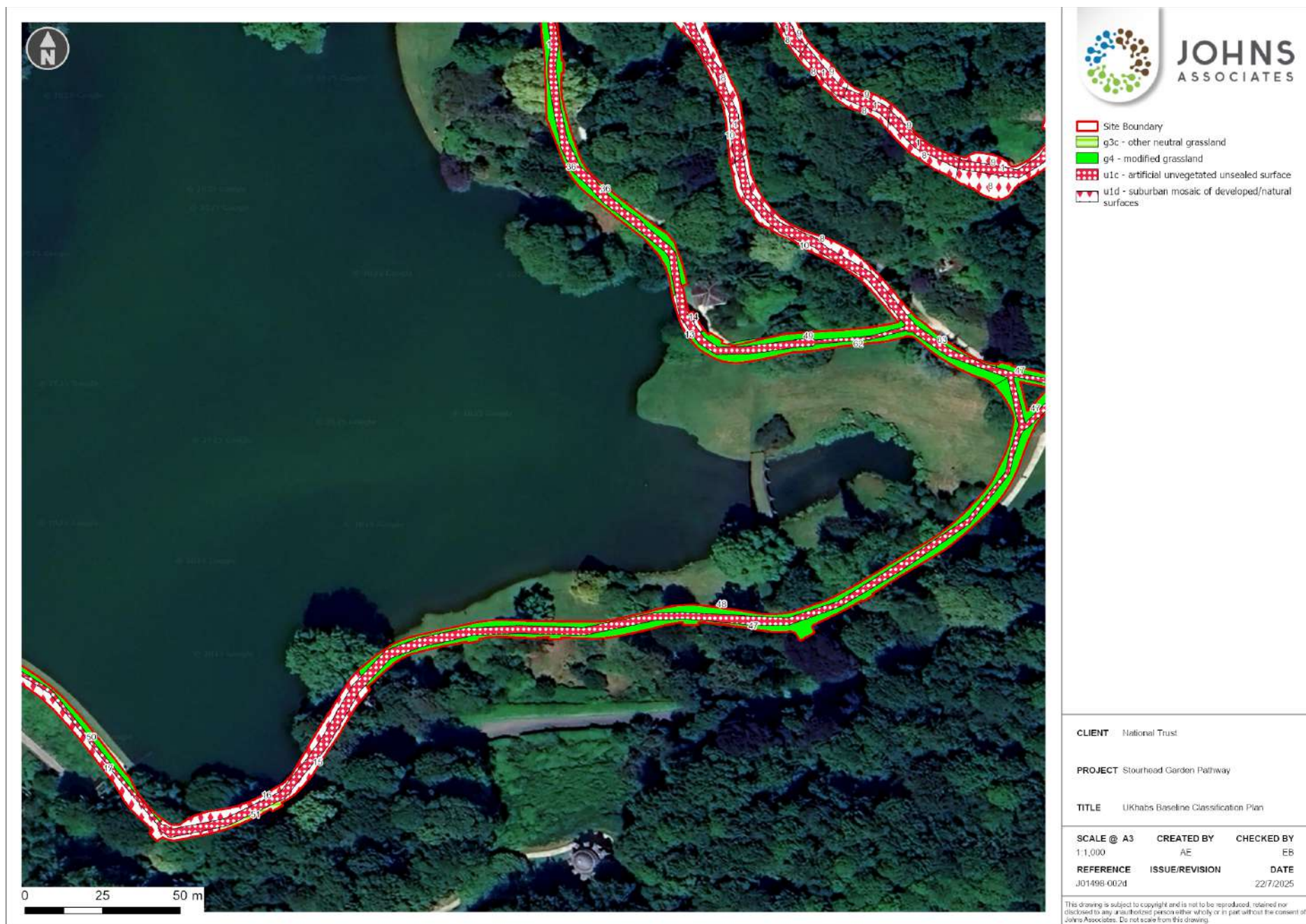
Considering the ecological baseline, the integrated and embedded ecological mitigation and enhancement measures and the assessment of likely significant effects as set out in Section 7 of this EclA, it is considered reasonable to conclude that no negative significant effects will occur to important biodiversity receptors, including legally protected species and designated sites, from either the construction or operational phases of the proposed development. A range of positive effects on biodiversity are considered likely as a result of the proposals. This conclusion will be re-assessed as part of the assessment of likely residual effects

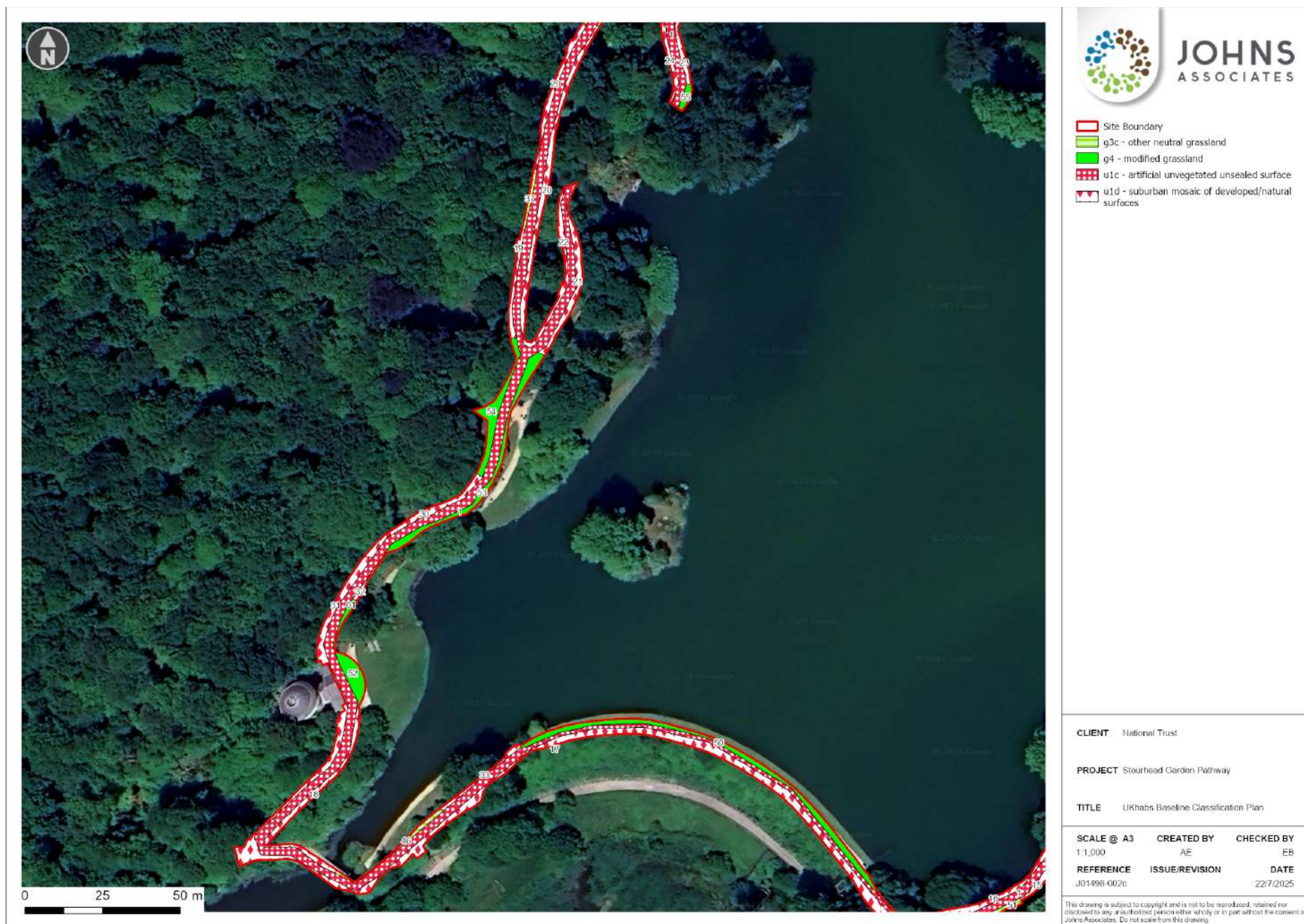
There are no known proposed developments within the wider landscape surrounding the Site that will have a cumulative effect with the proposed development.

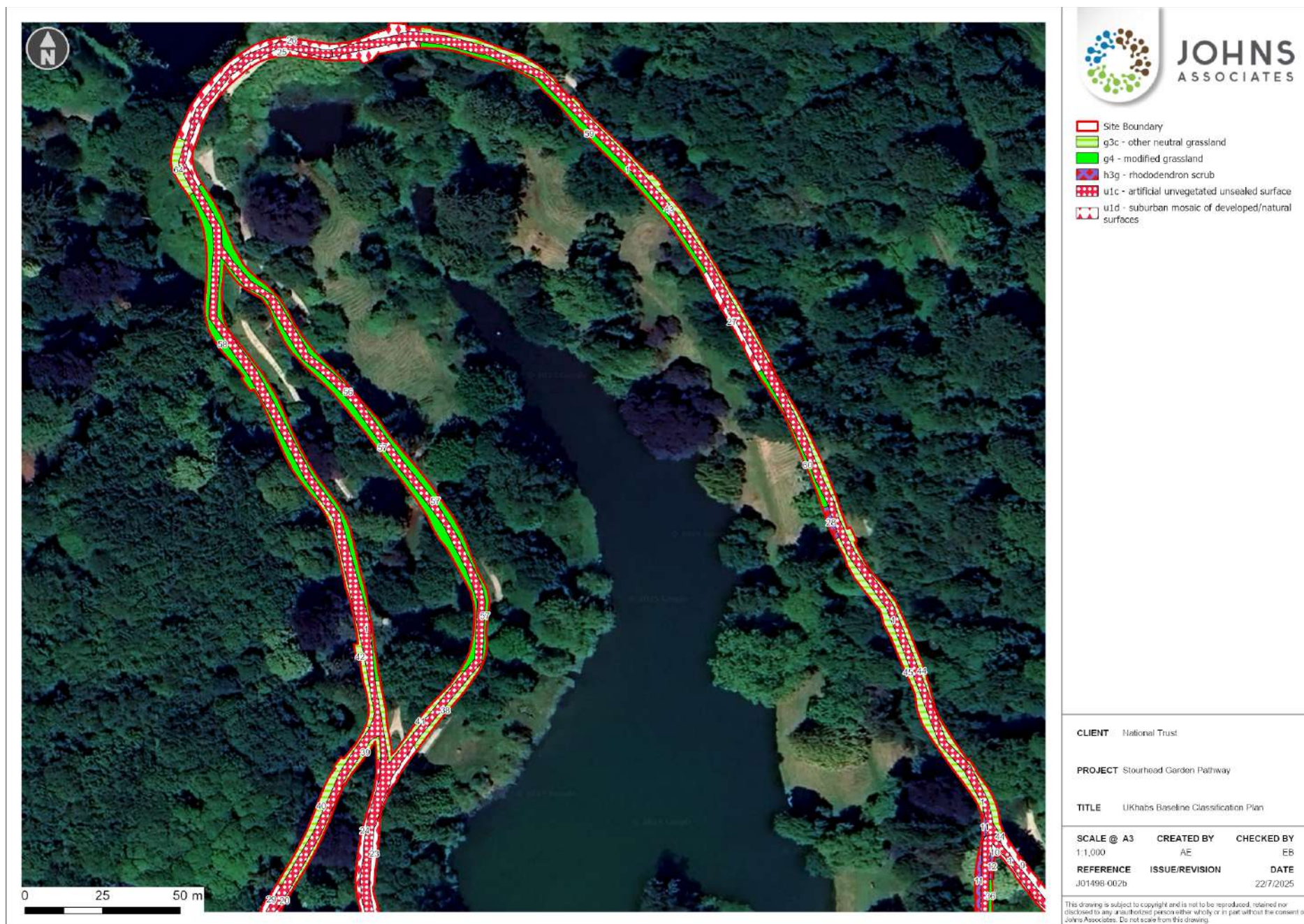
Furthermore, the development proposals are considered to meet the requirements of local and national planning policy alongside best practice in relation to the construction and long-term management of the Site.

The use of the Defra Biodiversity Metric 4.0 has demonstrated that the proposals will also deliver a positive 12.27% Biodiversity Net Gain in line with the requirements of the Town and Country Planning Act 1990 and national and local planning policy.

APPENDIX A BASELINE UKHAB PLANS



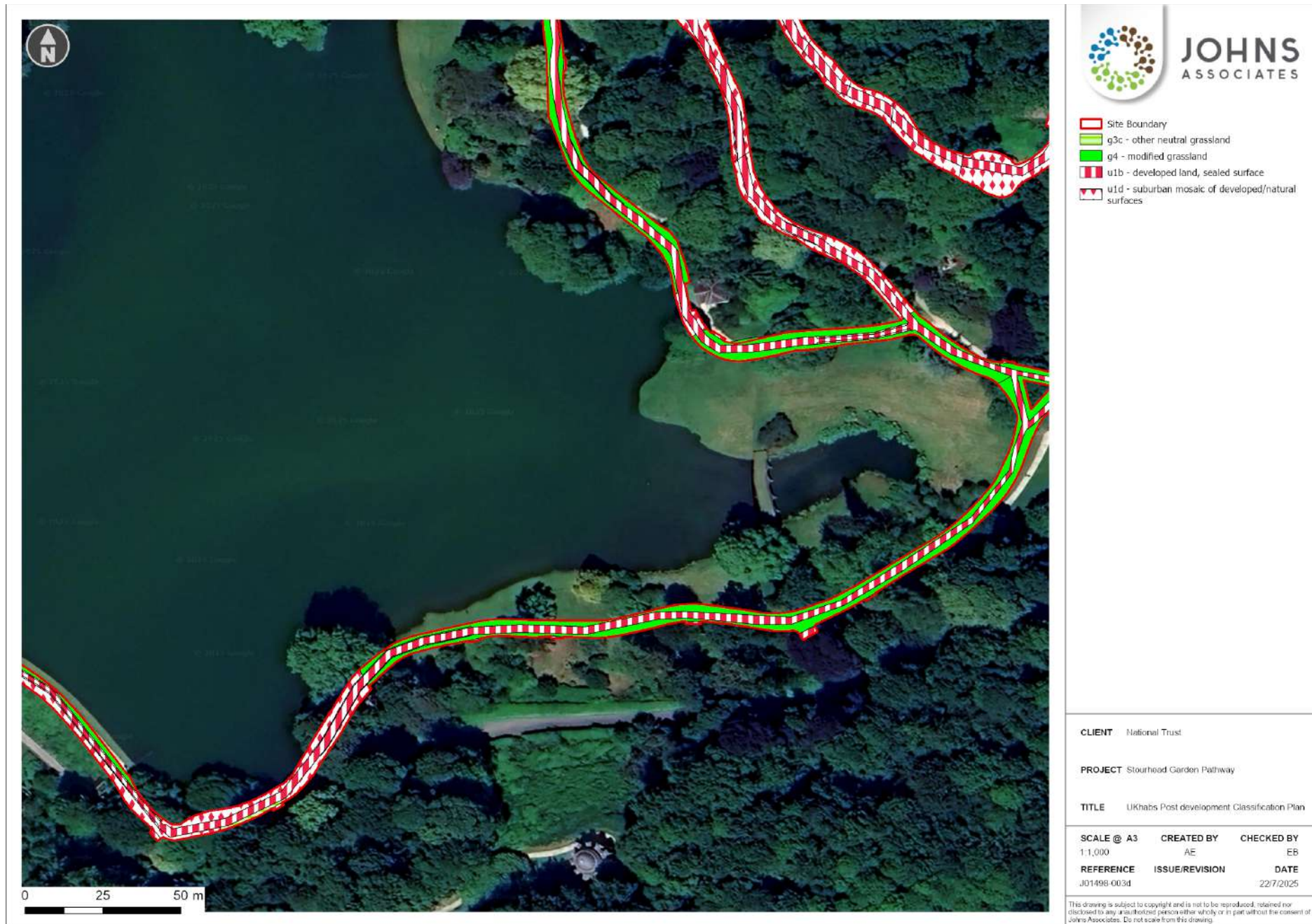


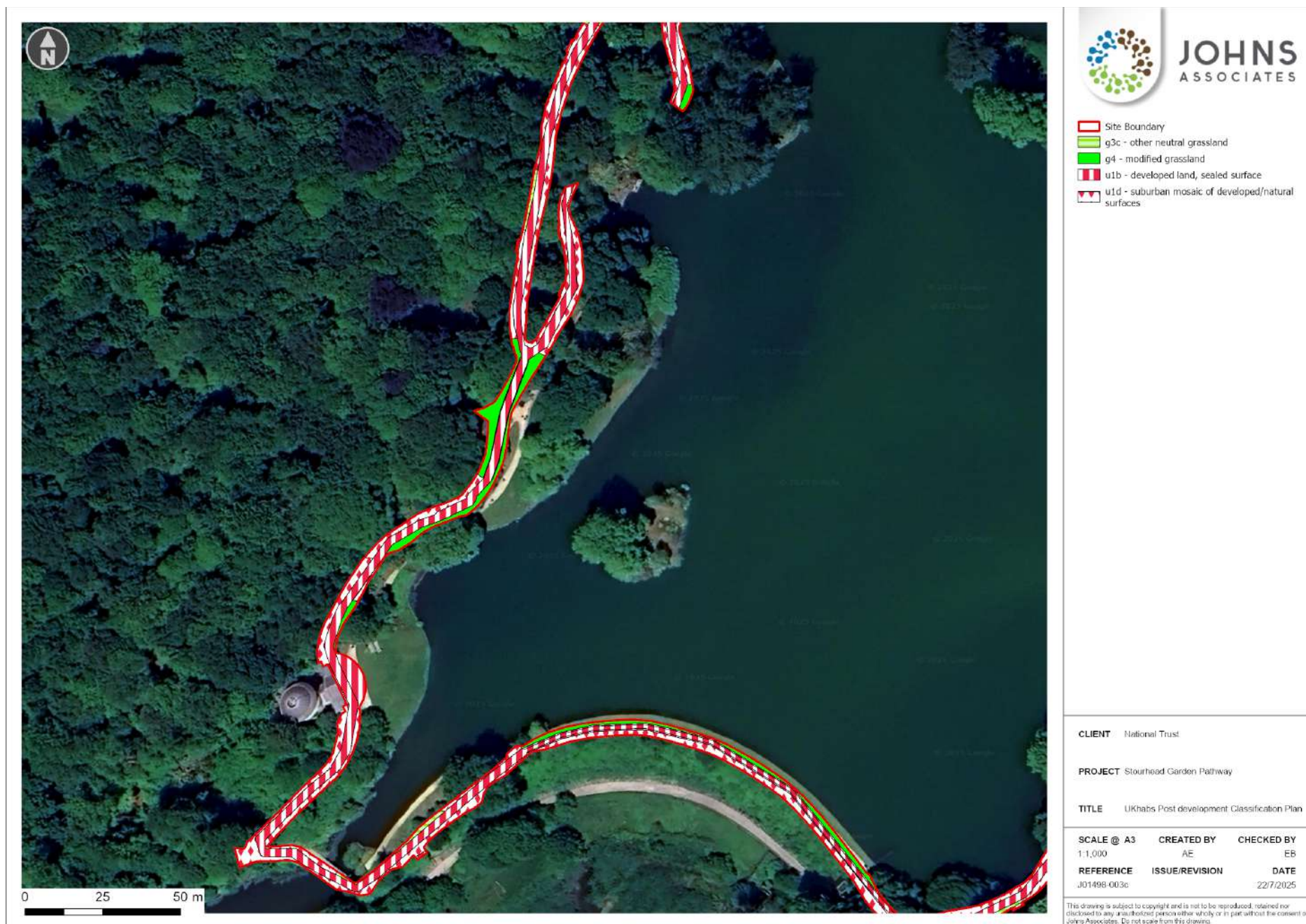


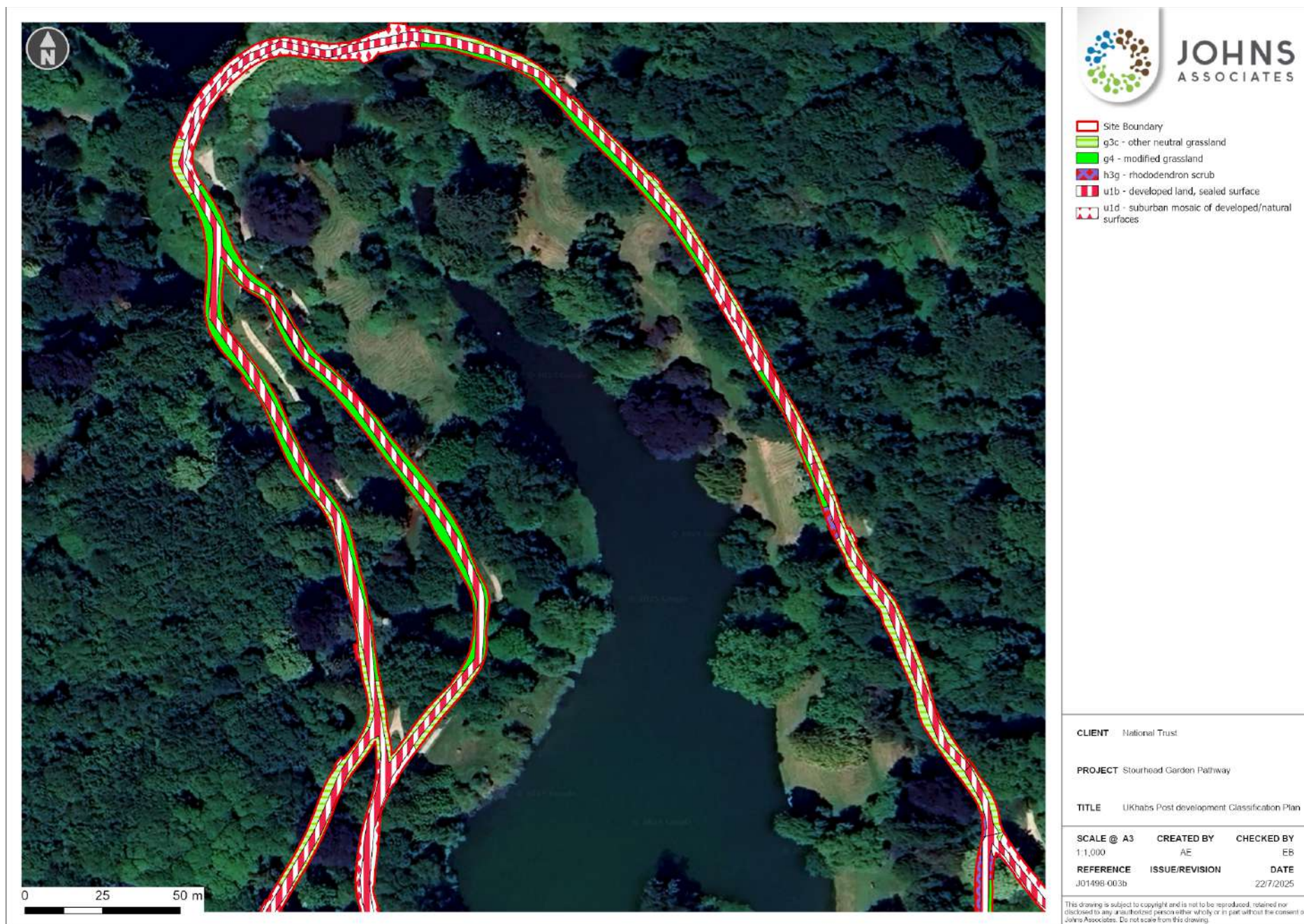


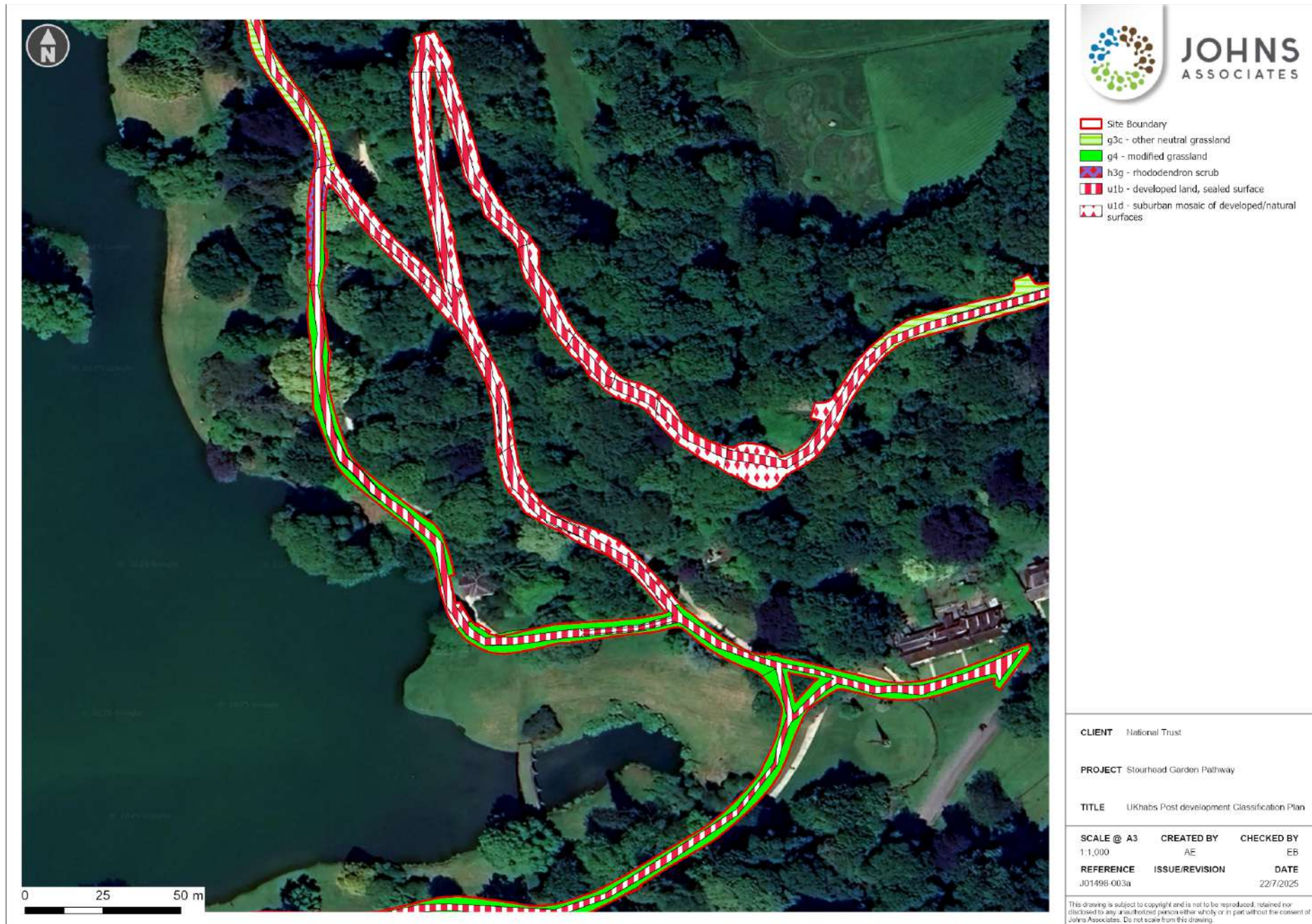


APPENDIX B POST-DEVELOPMENT UKHAB PLANS









APPENDIX C BIODIVERSITY NET GAIN REPORT

Stourhead Garden Pathway Improvement

Biodiversity Net Gain (BNG) Repo

Draft

1498/Version 1.0

Client: National Trust

Date: 11 June 2025

DOCUMENT CONTROL

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DOCUMENT REVISIONS

Version	Details	Date
1.0 Draft	Draft Biodiversity Net Gain (BNG) issued to Client for review	16 May 2025
2.0 Draft	Draft Biodiversity Net Gain (BNG) issued to Client following amendments to redline boundary	30 May 2025

Third party disclaimer

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NON-TECHNICAL SUMMARY

Purpose of the Report	To provide the results of a Biodiversity Net Gain (BNG) conducted for the Stourhead Garden, Wiltshire to inform the masterplanning of the development and the requirement for further habitat compensation and/or enhancement measures. This excludes final design development and, importantly any (as yet unknown) additional areas to facilitate the works (e.g. compounds, access tracks etc).
Summary of Proposed Development	The proposals include resurfacing, widening and narrowing of the pathway circumnavigating the gardens and the provision of bases to allow for the installation of fixed bases at the National Trust Stourhead, Wiltshire.
Surveys Undertaken	An extended UKHab survey and BNG condition assessment was conducted of all areas within the red line planning boundary at the Site to provide a habitat baseline on 24 March 2025.
Summary of Results	The development will result in a 0.42 habitat unit BNG and a 12.27% habitat BNG.
Conclusions	The footpath works result in no net loss of other neutral grassland and a 0.41 habitat unit gain modified grassland which results in overall ecological enhancement of the red line boundary area.
Compensation	No compensation is required.
Enhancement	The statutory 10% gain is being achieved through the enhancement of poor condition grassland to moderate, through the sowing of a diverse lawn mix. Medium distinctiveness other neutral grassland habitat is being created at the Site, the area of this relative to the size of the development is not significant and there are no higher distinctiveness habitats being created relative to the baseline habitats. As a result, an HMMP is not required for the enhancement works.
Data Valid Until	August 2025
Local Planning Authority BNG Statement	
Do you believe that, if the development is granted planning permission, the BNG Condition (as set out in pg 13 of Schedule 7A of the T&CPA 1990) would apply?	Yes
The date of the pre-development biodiversity value of onsite habitat(s) have been calculated and the reason that it is a date earlier than the planning application submission date	25 April 2025.
The pre-development biodiversity value of onsite habitats on this date	3.39 habitat baseline Units
Has there been any loss (or degradation) of any onsite habitat(s), resulting from activities carried out before the date specified in 1. Either: - On or after 30 January 2020 which were not in accordance with a planning permission; or - On or after 25 August 2023 which were in accordance with a planning permission	No
If yes, please provide details including: the date immediately before this activity was carried out; the onsite biodiversity on this date; and any supporting evidence (or reference to relevant document containing these details).	N/A
Publication date of the biodiversity metric tool used to calculate the biodiversity value	Statutory Biodiversity Metric July 2024
Does the application site have irreplaceable habitats	No
If yes, please provide a description of these habitats or reference to relevant documents	N/A
Confirm that application includes the following: i) Completed Biodiversity Metric Tool ii) Baseline and Post-Development Habitat Plans	Yes, Statutory Biodiversity Metric Tool submitted separately and results summarised in this report with the plans included (Figures

iii) If applicable; plans showing irreplaceable habitats on site	2 and 3).
Are there Protected and priority species on Site	Dormouse present in the wider woodland at the Site, but the proposals do not affect this habitat and it is highly unlikely that this species will be encountered.
Designated sites, important habitats or other biodiversity features	No
Features of geological conservation importance	No

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12 INTRODUCTION

12.1 BACKGROUND

National Trust commissioned Johns Associates Ltd to undertake a Statutory Biodiversity Net Gain (BNG) Metric assessment of the proposed garden pathway improvements site at Stourhead, in support of a planning application for the works. The site is located at post code BA12 6QF (central Ordnance Survey (OS) grid reference ST 7725 3401) and is hereafter referred to as the 'Site'. Figure 2 provides the Site location plan. The Site currently consists of a footpath which spans the circumference of the Garden Lake at Stourhead.

12.2 SUMMARY OF PROPOSALS

The proposals include the resurfacing, widening and narrowing of the footpath circumnavigating the National Trust Stourhead Gardens, as well as the provision of bases to allow for the installation of fixed benches.

12.3 PURPOSE OF THIS REPORT

The purpose of this report is to provide the results of a Statutory BNG assessment. Delivery of a 10% BNG became mandatory for most developments on the 12 February 2024 under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). If the required BNG cannot be met on-site, an off-site compensation area or compensation payment to a habitat banking scheme is required. This report will outline the results of the baseline UKHab survey and provide the results of the BNG habitat condition assessments, the post-development habitat condition assessments and the BNG calculations.

12.4 PERSONNEL

The UKHab survey, BNG Condition Assessments and BNG calculations were conducted by Ellie Brine. Ellie has a degree in Wildlife Ecology and Conservation Science and has worked and studied within the environmental sector since 2015. She holds a Level 4 FISC.

12.5 STATUTORY BIODIVERSITY METRIC

The Statutory Biodiversity Metric uses habitat as a proxy for overall biodiversity within different habitat types. Habitats are assigned a value based on their intrinsic biodiversity value or 'distinctiveness', which is predefined for each habitat within the metric. This value is then multiplied based on the size, condition, and geographical location of the habitat in order to ascertain its absolute value in 'biodiversity units'. Separate calculations are used within the metric for area-based habitats, linear habitats (such as hedgerows) and watercourses (including ditches and streams). These units are non-transferable and must therefore be considered individually for each project or development. Hereafter they will be referred to as "habitat units", "hedgerow units" and "river units" respectively. Collectively, they will be referred to as "biodiversity units".

Natural England provides a Calculation Tool with all calculations built in to aid in the assessment process. This report should be read in conjunction with the Calculation Tool provided for the assessment of this Site.

Underlying this assessment process are a key set of principles which explain the intended use of the Metric. They are as follows:

- Principle 1 – The metric assessment should be completed by a competent person.
- Principle 2 – The use of this biodiversity metric does not override existing biodiversity protections, statutory obligations, policy requirements, ecological mitigation hierarchy or any other requirements. This includes consenting or licensing processes, for example woodlands.

- Principle 3 – This biodiversity metric should be used in accordance with established good practice guidance and professional codes.
- Principle 4 – This biodiversity metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice.
- Principle 5 – Biodiversity units are a proxy for biodiversity and should be treated as relative values.
- Principle 6 – This biodiversity metric is designed to inform decisions in conjunction with locally relevant evidence, expert input, or guidance.
- Principle 7 – Habitat interventions need to be realistic and deliverable within a relevant project timeframe.
- Principle 8 – Created and enhanced habitats should be, where practical and reasonable, local to any impact and deliver strategically important outcomes for nature conservation.
- Principle 9 – This biodiversity metric does not enforce a minimum habitat size ratio for compensation of losses. Proposals should aim to:
 - Maintain habitat extent - supporting more, bigger, better and more joined up ecological networks;
 - Ensure that proposed or retained habitat parcels are of sufficient size for ecological function.

During the process of undertaking a biodiversity net gain assessment using the Statutory Biodiversity Metric, the following rules must be followed to ensure its proper use:

- Rule 1 – The trading rules of this biodiversity metric must be followed.
- Rule 2 – Biodiversity unit outputs, for each type of unit, must not be summed, traded, or converted between types. The requirement to deliver at least a 10% net gain applies to each type of unit.
- Rule 3 – To accurately apply the biodiversity metric formula, you must use the biodiversity metric calculation tool or small sites biodiversity metric tool (SSM) for small sites. The tools remove the need for a user to manually calculate the change in biodiversity value. The tool will summarise the results of the calculation and inform a user whether the biodiversity net gain objective has been met.
- Rule 4 – In exceptional ecological circumstances, deviation from this biodiversity metric methodology may be permitted by the relevant planning authority.

12.5.1 Significant On-Site Enhancements

A significant on-site enhancement occurs where habitat enhancement has contributed significantly to the proposed development's BNG, relative to the biodiversity value before development. This varies with the scale of the development but usually include the following:

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

Where there are significant enhancements, they must be secured with a legal agreement (planning obligation or conservation covenant) or planning condition for 30 years in the same way as off-site gains e.g. a Habitat Management and Monitoring Plan (HMMP). Local Planning Authorities (LPAs) will consider the most appropriate mechanism. The above mechanisms can also be applied by the LPA for plans that are not 'significant enhancements' where they contribute to locally important species or ecological networks.

12.5.2 Non-Significant Enhancements

A non-significant enhancement are habitat enhancements whose loss will not significantly decrease the biodiversity value for example private gardens or container planting. These enhancements do not normally require maintenance provisions e.g. an HMMP, legal agreement or commitment to maintain them for 30 years.

12.6 LEGISLATION AND POLICY

The legislation and national and local planning policies which are relevant to this assessment are provided in Appendix A to this report.

Figure 2: Site Location Red Line Boundary Plan and Context of Site



13 METHODOLOGY

13.1 HABITAT CLASSIFICATION AND CONDITION ASSESSMENT

13.1.1 UKHab Survey

An updated UKHab survey of the Site was undertaken on 25 April 2025 by experienced ecologist Ellie Brine BSc (Hons) from Johns Associates Ltd. The weather was dry and sunny with good visibility. The weather was dry and sunny with good visibility. This survey was completed in accordance with the UK Habitat Classification (UKHab) v2.0 (2023) Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and BS 42020:2013 Biodiversity - Code of practice for planning and development (British Standards Institute, 2013).

Each habitat parcel is assessed on its condition via a series of relevant criteria as per the Statutory Biodiversity Metric User Guide (Defra July 2024). Information recorded including species abundance, presence of non-native species, undesirable species, management, habitat structure, human impacts and age of habitats were recorded using the Statutory Biodiversity Metric Condition Assessments in the field which are appended to this report.

A Juniper Systems GEODE GPS/GNSS was used to provide sub-meter accuracy on the survey alongside a tape measure. This ensured that the resolution of the mapped habitat features was at the detailed level. This additional granularity of detail support the robust assessment of change in habitats and the associated BNG assessment.

The on-Site and off-Site (where accessible) habitats were classified following the UK Habitat Classification (UKHab) Version 2.0 (2023) guidelines, which provides a more detailed interpretation of baseline habitat survey data than previous habitat classifications systems, such as Phase 1 Habitat Assessments. The professional edition of UKHab “UK Habitat Classification –Professional Edition1” (UKHab-P) was used which includes Priority Habitat Types, all Annex 1 Habitats and the habitats listed in EUNIS.

The classification of primary habitats is hierarchical with five levels with a list of Secondary Codes, the latter is sub- divided into Essential codes and Additional codes. It is mandator that each recorded habitat parcel is allocated single primary Habitat Code and to record the presence of all Essential Secondary Code features associated with that habitat parcel. Additional Secondary Codes can also be associated with habitat parcels, where it is relevant to the whole parcel. Up to six Secondary Codes can be allocated to a single habitat.

UKHab v2.0 has a total of 268 Secondary Codes, sub-divided into 15 major groupings. Secondary codes are added to habitat parcels to:

- Confirm the identity of habitat mosaic and complexes.
- Add information about habitat origin and modifications.
- Add information on environmental context, management and land use in a consistent manner.

Essential Secondary Codes are identified as 2-digit numbers (10 – 90). Additional Secondary Codes (100 – 853) are 3-digit numbers and cover features including land management, land use (incorporating green infrastructure), environmental qualifiers, species features and hydrological regime descriptors. The UK Habitat Classification v2.0 Secondary Code Groupings are provided in Table 2.

Table 2: The UK Habitat Classification v2.0 Secondary Code Groupings

UKHab v2.0 Secondary Code Grouping	Description	UKHab v2.0 Codes
Secondary Essentials – Grasslands and Heathland	Habitat mosaic types and complexes that occur in the grassland, heathlands, hedgerows and scrub habitat	10 – 19
Secondary Essentials – Woodlands and Trees	Habitat complexes, origins and mosaic types that	25 – 34

	principally occur in woods associated with trees	
Secondary Essentials – Freshwater	Habitat complexes and origins that principally occur in freshwater habitats	40 – 51
Secondary Essentials – Wetlands	Habitat complexes and environmental qualifiers that principally occur in wetlands	55 – 57
Secondary Essentials – All habitats	Habitat descriptors that can occur on any habitat	60 – 63
Secondary Essentials – Coast	Habitat complexes that principally occur on the coast	70 – 77
Secondary Essentials – Built environment	Habitat complexes, mosaics, land uses and green infrastructure principally associated with the built environment	80 – 90
Additional Secondary Codes – Grasslands and Heathlands	Habitat management, land use, environmental qualifier and species features principally associated with grassland, heathlands, hedgerows and scrub habitat	100 – 131
Additional Secondary Codes – Woodlands and Trees	Habitat management, land use, environmental qualifiers and species features principally associated with woods and trees	200 – 217
Additional Secondary Codes – Freshwater	Habitat management, land use, environmental qualifiers and species features principally associated with freshwater habitats	300 – 323
Additional Secondary Codes – Wetlands	Hydrological regime, habitat management and species features principally associated with wetlands	400 – 425
Additional Secondary Codes – All habitats	Additional habitat descriptors that can occur on any habitat	500 – 532
Additional Secondary Codes – Farming	Habitat management and land uses principally associated with farmlands	600 – 618
Additional Secondary Codes – Coast	Land use and environmental qualifiers principally associated with coastal areas	700 – 703
Additional Secondary Codes – Built environment	Land use and green infrastructure descriptors principally associated with the built environment	800 – 853

Where appropriate, maps were supplemented with target notes which provided specific information on habitats present that were too limited in extent to map at the scale at which data is presented, or the presence of species and habitats of ecological interest.

An annotated habitat map together with descriptions of the recorded habitat types was produced, which was subsequently digitised using a geographical information system (ArcGIS). The survey also included identification of any non-native invasive plant species. Flora taxonomy follows the nomenclature detailed in New Flora of the British Isles (4th Edition) (Stace C., 2019). Flora, where appropriate, are given a descriptive score of abundance using the DAFOR scale, as follows:

- D – Dominant
- A – Abundant
- F – Frequent
- O – Occasional
- R – Rare

- L – Locally (to be used as a prefix for any of the above)
- V – Very (to be used as a prefix for any of the above)

13.1.2 ArcGIS Symbology

At the time of production, a complete symbology for all habitats in the UK Habitat Classification Professional Edition (UKHab-P) was not available. The UK Habitat Classification Basic Edition (UKHab-B) symbology has therefore been used, and where necessary to add in habitats not included in UKHab-B we have designed our own hatching system within the Level 2 colours for those habitats – following the guidance provided in the UK Habitat Classification Basic Edition: Suggested Symbology for Maps document (UKHab, 2020).

13.1.3 Minimum Mapping Units

UKHab guidance indicated that UKHab has 3 Minimal Mapping Units (MMU's):

- 25 m² and 5 m length for urban and small-scale development projects, fine scale mapping of designated sites
- 400 m² and 20 m length for landscape scale surveys
- 2500 m² for larger unenclosed upland habitats.

Large scale, simple habitats or feasibility surveys should use a larger MMU. For this project, given the size of the site and the scale of the map the 25 m² and 5 m length MMU has been applied. This will allow all habitats to be clearly visible on the map whilst enabling enough fine detail to remain to clearly show all habitats present.

13.1.4 Strategic Significance

As part of the BNG assessment, habitats are afforded different levels of strategic significance, which describes the local significance of the habitat based on its location and the habitat type. In the absence of Wiltshire Council having a published Local Nature Recovery Strategy, habitats were assigned a strategic significance value using a data search on MAGIC Map for priority and statutory wildlife/habitat designations. The strategic significance is assigned as being high, moderate or low. 'High' strategic value is assigned to biodiversity opportunity areas, core statutory sites, core non-statutory sites and network opportunity areas, 'medium' to habitats that provide connectivity or ecological function to high strategic habitats and 'low' to habitats that do not fall within the above categories.

13.1.5 Distinctiveness

For the purpose of the metric assessment, distinctiveness refers to the relative scarcity of the habitat and its importance for nature conservation. The actual values assigned to each habitat type used in the metric are given in the Technical Supplement. These are automatically applied by the calculator tool based on the habitat type.

13.1.6 Mitigation Hierarchy

Projects should first seek to avoid and minimise effects upon biodiversity, compensation must be justified and as a last resort. Projects should also achieve gains in biodiversity at every stage of the mitigation hierarchy. Avoidance of biodiversity loss should be priority which enables biodiversity gain simpler and more cost-efficient than if biodiversity losses occur. Table 3 provides the application of the mitigation hierarchy in accordance with the BNG Good practice Principles for Development, A Practical Guide, produced by CIEEM, IEMA and Ciria, Baker *et al* 2019.

Table 3: Applying the Mitigation Hierarchy (Biodiversity Net Gain: Good Practice Principles for Development' (Baker et al., 2019)).

Stage	In Practice
1. Avoidance	This first stage is to avoid harm to biodiversity, for example by locating to an alternative site. It is the most important stage and can ease the consent process, whereas missing this stage can lead to criticism, objections and refusal of permission for the development.
2. Minimisation	If avoiding all adverse effects is not possible, action is taken to minimise these effects, such as those in the CIEEM EclA guidelines (CIEEM, 2018), which include timing works to avoid sensitive periods.
3. Compensation	Addressing residual adverse effects is the final stage, only considered after all possibility for avoiding and minimising the effects have been implemented. Compensation does not prevent the effects, rather it involves measures to make up for residual effects that cannot be prevented. Offsetting is a form of compensation that trades losses of biodiversity in one location with measurable gains in another – biodiversity offsets have a formal requirement for measurable outcomes. Offsetting losses of biodiversity with gains elsewhere can be within or outside of the development footprint.

13.2 LIMITATIONS, CONSTRAINTS AND ASSUMPTIONS

The findings of this report are valid at the time of survey. Should there be delays after August 2024 to the project timetable and/or implementation of the proposed development, updated desk study and/or site survey work may be required. In this instance, advice should be sought to ensure the data, recommendations and conclusions set out in this report remain valid.

No limitations or constraints with regard to the field survey or desk study were encountered and therefore the BNG calculations are considered valid.

14 BIODIVERSITY NET GAIN

14.1 STRATEGIC SIGNIFICANCE

The Site is located within an area of Woodpasture and Parkland Priority Habitat, part of the Stourhead Estate and therefore habitats of medium distinctiveness and above have been categorised as having ‘high’ strategic significance.

14.2 EXISTING UKHAB BASELINE HABITAT FINDINGS

The EclA Report Section 3.3 provides the full baseline habitats description. For the purpose of this project the habitats have been classified as those immediately adjacent (within 2m) to the path rather than the overarching habitat. This is due to the low impact of the works (ie: a loss of woodland would not be accurately representative if no trees were to be removed, however a loss of introduced shrub would be).

14.3 EXISTING BNG BASELINE HABITATS

The Existing UKHab Plan (Figure 3) and the baseline BNG habitat condition assessments (Appendix B) should be referred to throughout this section. Two Schedule 9 non-native invasive species were encountered during the survey including planted rhododendron that underwent extensive management and three-cornered leek *Allium triquetrum*. The Statutory BNG Metric Assessment spreadsheet is submitted separately to this report and should be referred to for the areas of habitats and the baseline BNG unit values.

14.3.1 Habitat Distinctiveness

Overall, the majority of the habitats within the Site boundary are of very low to medium distinctiveness and this has been quantified from the Statutory Metric trading summary for each habitat type (Table 4). The wider Site has scope to provide biodiversity net gain to offset the loss in the on-site habitats. Looking at the distinctiveness of each habitat it is possible to highlight areas for potential habitat creation and enhancement. Habitats of low – medium distinctiveness would be suitable for the creation of higher value habitat or improved in terms of their overall habitat condition through the design and implementation of new and appropriate management strategies.

Table 4: Existing Habitat Type Distinctiveness

Habitat Type	Distinctiveness	Trading Rule
Habitats		
Developed land, sealed surface	Very low	Compensation not required
Artificial unvegetated, unsealed surface		
Modified grassland	Low	Same distinctiveness or better habitat required
Rhododendron scrub		
Introduced shrub		
Other neutral grassland	Medium	Same broad habitat or a higher distinctiveness habitat required

Figure 3: Baseline UKHab Habitat Plan



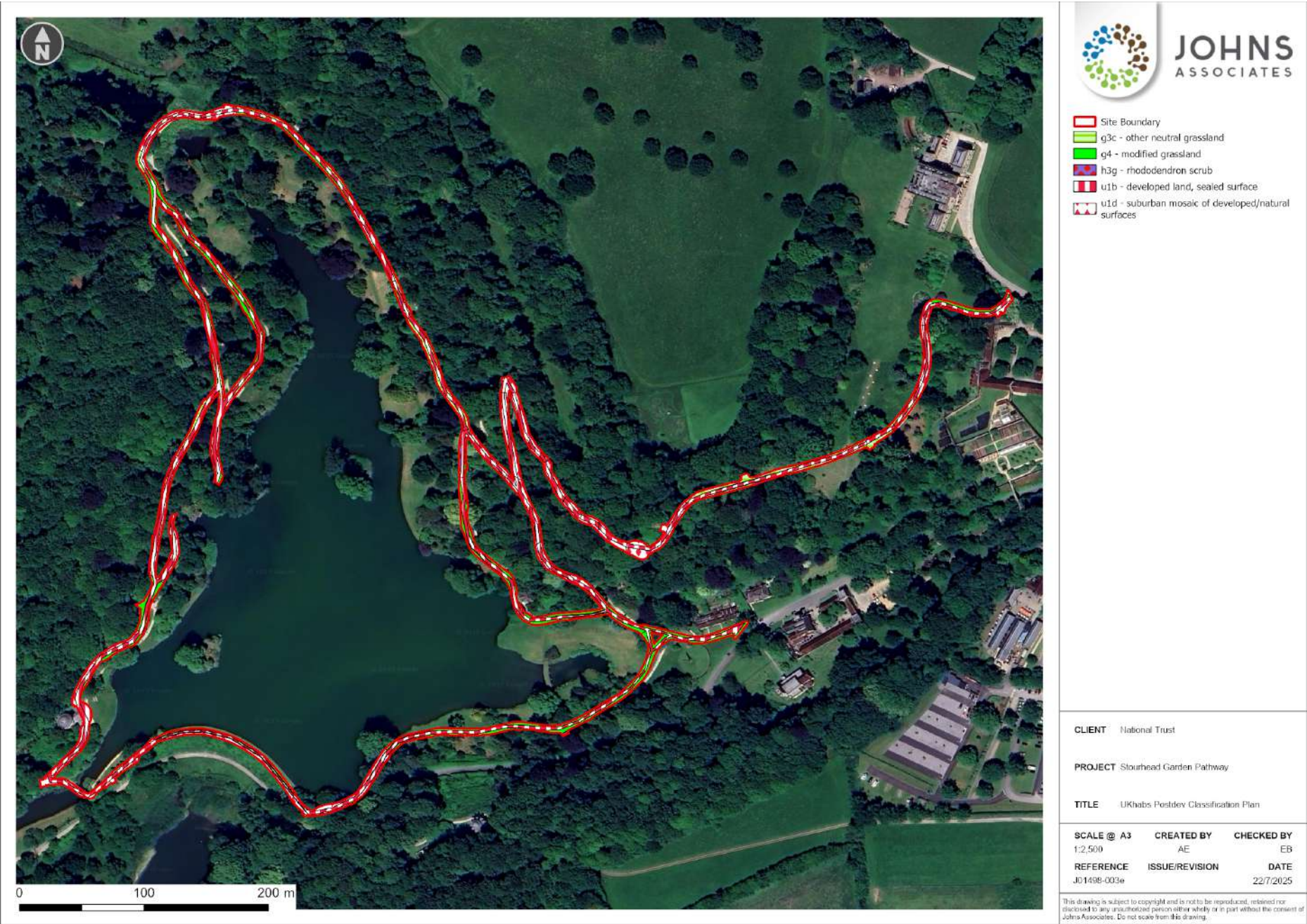
14.4 POST-DEVELOPMENT

14.4.2 On-Site Habitats

The post-development proposals for the Site comprise improvements to the garden footpath including narrowing and widening and the addition of benches with a hard standing footprint. Figure 4 provides the Post-Development UKHab Habitat Plan. Condition assessments for the proposed post-development habitats are provided in Appendix C. The following calculations are based on 13000-LUC-XX-XX-DR-L-01203 & 01204 General Arrangement Plans provided by Land Use Consultants. The majority of the other neutral grassland within the red line boundary will be retained with a loss in 0.04 ha. There is a loss of modified grassland of 0.03 ha, a loss of 0.016 ha of introduced shrub and a loss in 8.01 ha of artificial unvegetated, unsealed surface – sections of the path to be replaced with hardstanding.

The development will result in the creation of 0.009 ha other neutral grassland, 0.011 ha of modified grassland, 0.02 ha of introduced shrub and 0.811 ha of hardstanding (developed land, sealed surface). Habitat creation is only to occur where the path is to be narrowed and is therefore informed by the habitat immediately adjacent.

Figure 4: Post-Development UKHab Habitat Plan



14.4.3 Headline Results

As demonstrated in Table 5 below, the biodiversity net gain results show an overall net gain in habitats. The trading rules have been satisfied for habitats.

Table 5: Summary of Biodiversity Net Gain Assessment before Offsetting

Unit Type	Baseline Units	Post-development Units	Net Unit Change	% Change	Trading Rules Satisfied?
Habitat	3.39	3.81	0.42	12.27	Yes

14.4.4 Compensation and Enhancement Measures

Table 6 below details the requirements of the compensation and enhancement measures which will be implemented in order to achieve the net gain in habitat BNG habitat conditions for the post-development habitats. The enhancement of habitat within the Site is not significant relative to the baseline biodiversity value before development due to:

- Distinctiveness of habitat creation is not increased relative to the distinctiveness of the habitat before development.
- Areas of habitat creation or enhancement are not significant in area relative to the size of the development.
- There are no enhancements to habitat condition, for example from poor or moderate to good.

Due to the enhancement of habitat at the Site not being significant to the relative baseline biodiversity value before development, a Habitat Management and Monitoring Plan (HMMP) is not required to support the application and implementation of the enhancement and a document such as a Landscape Ecological Management Plan (LEMP) or Ecological Enhancement Strategy would be suitable to support the planning application or via planning condition.

Table 6: Summary of Proposed Compensation and Enhancement Measures

Habitat Type	Proposed Compensation or Enhancement Measure	Target Condition	Delivery Details
Grassland	Creation of modified grassland	Moderate	In order to satisfy the criteria for moderate condition as per the Statutory Metric, the following are achievable and must apply: - There must be 6-8 vascular plant species per m²; - No bracken or scrub encroachment should be allowed to establish; - No invasive non-native species should be present.
	Creation of other neutral grassland	Poor	In order to be classified as other neutral grassland as per UKHab, three of the four following criteria must apply: - >20% cover of broadleaved herbs and sedges; - >8 species per m² (including forbs, grasses, sedges and rushes, and excluding bryophytes); - ≥ 1 grass species that is not generally sown for intensive agricultural production (ie. Rye-grasses <i>Lolium spp.</i>, Timothy <i>Phleum pratense</i>, Cock's-foot <i>Dactylis glomerata</i>, Meadow fescue <i>Festuca pratensis</i>) is at least abundant; - Cover of Rye-grasses <i>Lolium spp.</i> and White Clover <i>Trifolium repens</i>, where present, is <30%. In order to satisfy the criteria for poor condition as per the Statutory Biodiversity Metric, the following are achievable and must apply: - The sward height must be varied with at least 20% of the sward >7cm in height, and 20% <7cm; - No bracken or scrub encroachment should be allowed to establish;

14.4.5 BNG Good Practice Principals for Development

In accordance with the BNG Good practice Principles for Development, A Practical Guide, produced by CIEEM, IEMA and Ciria, Baker et al 2019. Table 7 provides the Good Practice Principles that have been applied to the BNG assessment.

Table 7: Accordance with 'Biodiversity Net Gain: Good Practice Principles for Development' (Baker et al., 2019).

Principle	In Practice
1. Apply the mitigation hierarchy	Designs decisions have been documented within the prepared EcIA due consideration for the CIEEM Guidelines for Ecological Impact Assessment (EcIA) (CIEEM, 2018) including mitigation hierarchy. Trading rules have been accorded with in the prepared metric and ecologically justified decisions have been taken in respect of proposed habitats. Avoidance of loss of habitat is not possible within the development footprint, however full compensation of the loss of habitats within the development footprint has been provided.
2. Avoid losing biodiversity that cannot be offset elsewhere	There are no irreplaceable habitats within the red line boundary. Impacts on irreplaceable habitats adjacent have been avoided and the proposals have an overall positive impact on habitats such as veteran trees through the realignment of the path to avoid root protection zones.
3. Be inclusive and equitable	Design decisions taken have considered wider stakeholders including the local population and the end users of the Site. This includes improving accessibility across the Site through the resurfacing of the path.
4. Address risk	A precautionary approach has been taken to creation of new habitat types and condition for biodiversity gain provision, with all habitats included with a predicted poor/moderate condition.
5. Make a measurable net gain contribution	The Statutory Biodiversity Metric has been used to demonstrate a clear and quantified calculation of the net effect of development upon biodiversity, using habitat as a proxy for wider biodiversity. The statutory 10% BNG is achieved.
6. Achieve the best outcomes for biodiversity	The decisions for design proposals have been subject to an iterative process with ecologists to ensure biodiversity is considered from an early stage and the best outcomes for biodiversity are achieved.
7. Be additional	Habitat creation has been included as a betterment to the habitat at the Site, and not as compensation for protected species.
8. Create a net gain legacy	All habitats will be managed for at least 30 years to support long term benefits with interest of both nature and the site users in mind. A LEMP will be produced for the habitats which will outline designing for climate change, adaptive management and the funding mechanisms for the long-term management of the habitats.
9. Optimise sustainability	The habitats are designed to be low maintenance to reduce costs and the need for any pesticides.
10. Be transparent	An iterative approach has been used to inform the biodiversity net gain throughout the design of the Site. Inputs from stakeholders will be used to refine the approach as necessary through the planning process.

15 CONCLUSIONS

Provided that the recommendations for creation and management of habitats can be adhered to, it is predicted that the proposed development will achieve a net gain of 12.27% (0.42 Units). A no net loss has been achieved through footpath narrowing accommodating for adjacent habitat and the required 10% gain has been achieved through the enhancement of poor condition modified grassland to moderate condition modified grassland. The habitat Trading Rules have been met.

Figure 4 Provides the post development UKHab Plan and the Statutory Biodiversity Metric BNG spreadsheet has been submitted separately within this planning application.

It is recommended that a CEMP be produced in order to set out avoidance and mitigation measures during construction, particularly in relation to retained habitats, and root protection zones of trees and woodland in proximity to the footpath.

Due to the site not being 'significantly enhanced', a HMMP will not be required. The habitat and landscape proposals should be included in a LEMP or Method Statement document.

Should any significant changes to the proposals shown in Figure 4 occur, a reassessment of the potential impacts will be required.

16 REFERENCES

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APPENDIX A – LEGISLATION AND PLANNING POLICY

LEGISLATION

Environment Act 2021 and Town and Country Planning Act 1990.

Under the Environment Act 2021, all planning permissions granted in England (with a few exemptions) except for small sites will have to deliver at least 10% biodiversity net gain from 12 February 2024. BNG will be required for small sites from 2 April 2024. BNG will be measured using Defra's biodiversity metric and all off-site and significant on-site habitats will need to be secured for at least 30 years. This sits alongside:

- A strengthened legal duty for public bodies to conserve and enhance biodiversity,
- New biodiversity reporting requirements for local authorities, and
- Mandatory spatial strategies for nature: Local Nature Recovery Strategies or 'LNRS'.

Schedule 7A Biodiversity Gain in England – Part 1 states:

1 (1) This Schedule makes provision for grants of planning permission in England to be subject to a condition to secure that the biodiversity gain objective is met.

(2) Paragraphs 2 to 12 have effect for the purposes of this Schedule.

Biodiversity gain objective

2 (1) The biodiversity gain objective is met in relation to development for which planning permission is granted if the biodiversity value attributable to the development exceeds the pre-development biodiversity value of the onsite habitat by at least the relevant percentage.

(2) The biodiversity value attributable to the development is the total of—

(a) the post-development biodiversity value of the onsite habitat,

(b) the biodiversity value, in relation to the development, of any registered offsite biodiversity gain allocated to the development, and

(c) the biodiversity value of any biodiversity credits purchased for the development.

(3) The relevant percentage is 10%.

(4) The Secretary of State may by regulations amend this paragraph so as to change the relevant percentage.

Biodiversity value and the biodiversity metric

3 References to the biodiversity value of any habitat or habitat enhancement are to its value as calculated in accordance with the biodiversity metric.

4 (1) The biodiversity metric is a document for measuring, for the purposes of this Schedule, the biodiversity value or relative biodiversity value of habitat or habitat enhancement.

(2) The biodiversity metric is to be produced and published by the Secretary of State.

(3) The Secretary of State may from time to time revise and republish the biodiversity metric.

(4) Before publishing or republishing the biodiversity metric the Secretary of State must consult such persons as the Secretary of State considers appropriate.

(5) The Secretary of State may by regulations make transitional provision in relation to the revision and republication of the biodiversity metric.

(6) The Secretary of State must lay the biodiversity metric, and any revised biodiversity metric, before Parliament.

Pre-development biodiversity value

5 (1) In relation to any development for which planning permission is granted, the pre-development biodiversity value of the onsite habitat is the biodiversity value of the onsite habitat on the relevant date.

(2) The relevant date is—

(a) in a case in which planning permission is granted on application, the date of the application, and

(b) in any other case, the date on which the planning permission is granted.

(3) But the person submitting the biodiversity gain plan for approval and the planning authority may agree that the relevant date is to be a date earlier than that specified in sub-paragraph (2)(a) or (b) (but not a date which is before the day on which this Schedule comes into force in relation to the development).

(4) This paragraph is subject to paragraphs 6 and 7.

6 If—

(a) a person carries on activities on land on or after 30 January 2020 otherwise than in accordance with—

(i) planning permission, or

(ii) any other permission of a kind specified by the Secretary of State by regulations, and

(b) as a result of the activities the biodiversity value of the onsite habitat referred to in paragraph 5(1) is lower on the relevant date than it would otherwise have been, the pre-development biodiversity value of the onsite habitat is to be taken to be its biodiversity value immediately before the carrying on of the activities.

7 Where planning permission is granted in respect of land which is registered in the biodiversity gain site register under section 100 of the Environment Act 2021, the pre-development biodiversity value of the land is the total of—

(a) the biodiversity value of the onsite habitat on the relevant date, and

(b) to the extent that it is not included within that value, the biodiversity value of the habitat enhancement which is, on that date, recorded in the register as habitat enhancement to be achieved on the land.

Post-development biodiversity value

8 (1) In relation to any development for which planning permission is granted, the post-development biodiversity value of the onsite habitat is the projected value of the onsite habitat as at the time the development is completed.

(2) That value is to be calculated by taking the pre-development biodiversity value and—

(a) if at the time the development is completed the development will, taken as a whole, have increased the biodiversity value of the onsite habitat, adding the amount of that increase, or

(b) if at the time the development is completed the development will, taken as a whole, have decreased the biodiversity value of the onsite habitat, subtracting the amount of that decrease. This is subject to paragraph 9.

9 (1) This paragraph applies in relation to any development for which planning permission is granted where—

(a) the person submitting the biodiversity gain plan for approval proposes to carry out works in the course of the development that increase the biodiversity value of the onsite habitat, and

(b) the planning authority considers that the increase is significant in relation to the pre-development biodiversity value.

(2) The increase in biodiversity value referred to in sub-paragraph (1) is to be taken into account in calculating the post-development biodiversity value of the onsite habitat only if the planning authority is satisfied that the condition in sub-paragraph (3) is met.

(3) The condition is that any habitat enhancement resulting from the works referred to in sub-paragraph (1)(a) will, by virtue of—

- (a) a condition subject to which the planning permission is granted,
 - (b) a planning obligation, or
 - (c) a conservation covenant, be maintained for at least 30 years after the development is completed.
- (4) The Secretary of State may by regulations amend sub-paragraph (3) so as to substitute for the period for the time being specified there a different period of at least 30 years.

Registered offsite biodiversity gains

10(1) "Registered offsite biodiversity gain" means any habitat enhancement, where—

- (a) the enhancement is required to be carried out under a conservation covenant or planning obligation, and
 - (b) the enhancement is recorded in the biodiversity gain site register (as to which, see section 100 of the Environment Act 2021).
- (2) References to the allocation of registered offsite biodiversity gain are to its allocation in accordance with the terms of the conservation covenant or planning obligation referred to in sub-paragraph (1)(a).
- (3) The biodiversity value of registered offsite biodiversity gain is measured, under the biodiversity metric, in relation to development to which it is allocated.

Biodiversity credits

11 "Biodiversity credits" means credits under section 101 of the Environment Act 2021.

General

12 (1) In relation to development for which planning permission is granted—

"onsite habitat" means habitat on the land to which the planning permission relates;

"planning authority" means the local planning authority, except that—

- (a) in a case where the planning permission is granted by Mayoral development order under section 61DB, "planning authority" means such of the Mayor of London or the local planning authority as may be specified in the order;
- (b) in a case where the planning permission is granted by the Secretary of State under section 62A, 76A or 77, "planning authority" means such of the Secretary of State or the local planning authority as the Secretary of State may determine;
- (c) in a case where the planning permission is granted on an appeal under section 78, "planning authority" means such of the person determining the appeal or the local planning authority as that person may direct.

(2) "Habitat enhancement" means enhancement of the biodiversity of habitat.

(3) References to the grant of planning permission include the deemed grant of planning permission.

NATIONAL PLANNING POLICY

NPPF

There are numerous national and local planning policies associated with flora and fauna (also referred to as biodiversity) that need to be addressed as part of the planning process. The Government has issued its National Planning Policy Framework (NPPF) December 2024, which requires impacts to biodiversity to be minimised. Paragraph 194 of the NPPF applies the same protection to Ramsar sites as that conferred by the Habitats Regulations

to SACs and SPAs, it also applies the same protection to sites identified or required as compensatory measures for adverse effects on habitat sites.

To protect and enhance biodiversity plans should:

- 192a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;
- 192b) 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.

The NPPF requires development to apply the following principles (Paragraph 193):

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁷⁰ and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Planning authorities should follow key principles to ensure that the potential impacts of planning decisions on biodiversity conservation are considered. Circular 06/05: Biodiversity and Geological Conservation provides guidance on the application of the law relating to planning and nature conservation and complements the NPPF.

The Natural Environment Paper

“The Natural Choice: Securing the Value of Nature” outlines the Government’s approach and vision for nature in the UK including protecting and improving our natural environment, growing a green economy and reconnecting people and nature.

Biodiversity 2020

A strategy for England’s wildlife and ecosystem services, are the country level strategies for England and builds on the natural Environment White Paper. It sets out the strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea. The priorities for action include a more integrated large-scale approach to conservation, putting people at the heart of biodiversity policy, reducing environmental pressure and improving knowledge.

LOCAL PLANNING POLICY

As well as national policy, there is relevant biodiversity policy contained within Wiltshire Core Strategy adopted in January 2015. Core Policy 50 is relevant to the proposed application and is summarised below.

Core Policy 50 Biodiversity and Geodiversity

Protection

Development proposals must demonstrate how they protect features of nature conservation and geological value as part of the design rationale. There is an expectation that such features shall be retained, buffered, and managed favourably in order to maintain their ecological value, connectivity and functionality in the long-term. Where it has been demonstrated that such features cannot be retained, removal or damage shall only be acceptable in circumstances where the anticipated ecological impacts have been mitigated as far as possible and appropriate compensatory measures can be secured to ensure no net loss of the local biodiversity resource and secure the integrity of local ecological networks and provision of ecosystem services.

All development proposals shall incorporate appropriate measures to avoid and reduce disturbance of sensitive wildlife species and habitats throughout the lifetime of the development.

Any development potentially affecting a Natura 2000 site must provide avoidance measures in accordance with the strategic plans or guidance set out in paragraphs 6.75-6.77 above where possible, otherwise bespoke measures must be provided to demonstrate that the proposals would have no adverse effect upon the Natura 2000 network. Any development that would have an adverse effect on the integrity of a European nature conservation site will not be in accordance with the Core Strategy.

Biodiversity enhancement

All development should seek opportunities to enhance biodiversity. Major development in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services. Such enhancement measures will contribute to the objectives and targets of the Biodiversity Action Plan (BAP) or River Basin/Catchment Management Plan, particularly through landscape scale projects, and be relevant to the local landscape character.

Local sites

Sustainable development will avoid direct and indirect impacts upon local sites through sensitive site location and layout, and by maintaining sufficient buffers and ecological connectivity with the wider environment. Damage or disturbance to local sites will generally be unacceptable, other than in exceptional circumstances where it has been demonstrated that such impacts:

- i. cannot reasonably be avoided
- ii. are reduced as far as possible
- iii. are outweighed by other planning considerations in the public interest
- iv. where appropriate compensation measures can be secured through planning
- v. obligations or agreements.

Development proposals affecting local sites must make a reasonable contribution to their favourable management in the long-term

APPENDIX B BASELINE BNG CONDITION ASSESSMENTS

Grassland (low distinctiveness)		
Condition Assessment Criteria	Habitat parcel reference	
	8, 26, 27, 30, 31, 39, 41, 43, 49, 58, 59, 60, 61, 66, 74, 76, 78	36
A. 6-8 vascular plant species per m2 (essential criterion)	N	Y
B. Varied sward height	N	N
C. <20% scrub	Y	Y
D. <5% physical damage	Y	N
E. 1-10% bare ground	N	N
F. <20% bracken cover	Y	Y
G. Absence of schedule 9 INNS	Y	Y
Essential criterion achieved	N	Y
Number of criteria passed	4	4
Condition assessment score	Poor	Moderate

Grassland (medium, high and very high distinctiveness)		
Condition Assessment Criteria	Habitat parcel reference	
	51, 64	12, 13, 44, 52, 53, 55, 56, 57, 64, 68, 69, 85
A. Good representation of habitat type	F	Y
B. Varied sward height	Y	Y
C. 1-5% bare ground	F	Y
D. <20% bracken cover	Y	Y
E. <5% physical damage/species indicative of suboptimal condition, absence of INNS	Y	Y
F. ≥ 10 species per m ² (essential, non-acid grassland)	F	N
Essential criterion achieved	Y	N
Number of criteria passed	3	5
Condition assessment score	Poor	Moderate

APPENDIX C POST-DEVELOPMENT BNG CONDITION ASSESSMENTS

Grassland (low distinctiveness)	
Condition Assessment Criteria	Habitat parcel reference
	Post development
A. 6-8 vascular plant species per m ² (essential criterion)	Y
B. Varied sward height	N
C. <20% scrub	Y
D. <5% physical damage	N
E. 1-10% bare ground	N
F. <20% bracken cover	Y
G. Absence of schedule 9 INNS	Y
Essential criterion achieved	Y
Number of criteria passed	4
Condition assessment score	Moderate

Grassland (medium, high and very high distinctiveness)	
Condition Assessment Criteria	Habitat parcel reference
	Post development
A. Good representation of habitat type	N
B. Varied sward height	Y
C. 1-5% bare ground	Y
D. <20% bracken cover	Y
E. <5% physical damage/species indicative of suboptimal condition, absence of INNS	Y
F. ≥ 10 species per m ² (essential, non-acid grassland)	N
Essential criterion achieved	N
Number of criteria passed	4
Condition assessment score	Poor

