

BOUNDARY ACRE, SOUTHAMPTON

PRELIMINARY ECOLOGICAL APPRAISAL

Final Document

January 2025

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EclA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

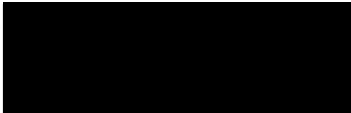
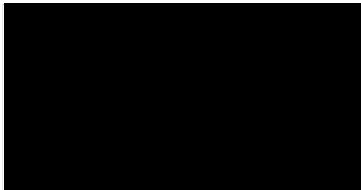
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The Preliminary Ecological Appraisal has been undertaken with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). This report has been produced in accordance with the CIEEM Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

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BOUNDARY ACRE, SOUTHAMPTON

PRELIMINARY ECOLOGICAL APPRAISAL

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Paul Cashin Architects to undertake a Preliminary Ecological Appraisal of Boundary Acre, Southampton, Hampshire, SO31 1DP. The purpose of the appraisal is to assess the site's ecological baseline and identify constraints and opportunities associated with development at the site, to inform a future planning application. The site is located on the outskirts of the town of Bursledon in Hampshire and consists of an area of woodland with the majority of the east site boundary comprising a hedgerow. The current proposals entail the construction of a two-storey dwelling and double garage, with associated access and parking. The removal of a number of trees will be required to facilitate the development proposals.

The main findings of the Preliminary Ecological Appraisal are:

- The site comprises a small block of woodland with the majority of the east site boundary comprising a hedgerow.
- The site lies within the recreational pressure buffers of the Solent and New Forest designated sites, and therefore financial contributions are required to be paid to mitigate for the potential effect of increasing the number of residential dwellings within the site.
- The site additionally lies within the catchment of the Solent designated sites and therefore a Nutrient Neutrality assessment will need to be undertaken to determine if the proposals will result in an increase in nitrogen discharge as a result of new wastewater generated.
- The site has been assessed as having suitability for supporting roosting, foraging and commuting bats, badger, reptiles, great crested newt, hazel dormouse, invertebrates, European hedgehog and common toad.
- Further surveys are recommended to determine the status of bats, great crested newt and reptiles within the site, and once completed further mitigation and compensation measures for these species can be recommended. A Biodiversity Net Gain assessment will need to be prepared in conjunction with the application to ensure the proposals deliver a minimum of 10% net gain in biodiversity units.
- Possible adverse impacts on these ecological features have been identified and appropriate mitigation measures have been proposed including the preparation of a Construction Environmental Management Plan (CEMP), sensitively timed vegetation clearance works carried out under an agreed precautionary destructive search methodology, a sensitive lighting scheme, and the implementation of a suitable invasive species eradication programme.

-
- Compensation and enhancement measures have been recommended including the retention of deadwood habitat could include new native hedgerow planting, installation of new bat and bird boxes and the creation of hibernacula for reptiles, amphibians, and small mammals through the retention of existing deadwood habitat;
 - As further surveys are required, it is not possible at this stage to confirm that the proposals for the site meet the relevant legislation and planning policy, however it is considered that on completion of the further surveys there is scope to achieve this. If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Paul Cashin Architects to undertake a Preliminary Ecological Appraisal to identify the ecological constraints and opportunities associated with Boundary Acre, Bursledon, Southampton, Hampshire, SO31 1DP (hereafter referred to as the site).

1.2 The Site

The site is located in Southampton, Hampshire, centred on National Grid Reference (NGR) SU 4852 1160 (**Map 1**).

The site is approximately 0.1 hectare in size and comprises an area of woodland with a length of hedgerow bounding the site to the east.

Housing and gardens associated with Boundary Acre road, adjoining Dodwell Road, lie immediately adjacent to the east site boundary. Grassland fields bound the site to the north and west, with associated lines of trees and a watercourse tributary of the River Hamble. Further housing off Dodwell Road with associated private greenspace and trees lie to the south.

The wider landscape is dominated by extensive residential areas, particularly associated with the outskirts of the town of Hedge End to the north. Blocks of woodland bounding the M27 motorway carriageway lie to the west, private agricultural land to the south, and large blocks of woodland, including Pilands Copse, to the east. Hoe Moor Creek also runs through Pilands Copse and this watercourse forms a tributary of the River Hamble, which is located approximately 1.6 kilometres to the south-east of the site at its closest point.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study carried out during October 2024. The objectives of the appraisal are:

- To provide preliminary baseline information on the current habitats, the suitability of the site to support notable and protected species, and evidence of notable and protected species both on site and in the immediate vicinity of the site, where relevant;
- To identify the proximity of any statutory sites designated for nature conservation importance;
- To identify the likely ecological constraints associated with the proposals;

- To identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy'¹;
- To identify any additional surveys that may be required to inform an Ecological Impact Assessment (EclA); and
- To identify the opportunities offered by the proposals to deliver ecological enhancement

1.4 Site Proposals

The proposals comprise the construction of a two-storey dwelling and double garage with associated access and parking. The removal of a number of trees will be required to facilitate the development proposals.

The appraisal made reference to an initial proposals plan produced by Paul Cashin Architects, dated October 2022 (Drawing No. 2221-PCA-DR-A-100) (see **Appendix 1**).

It is anticipated that planning permission will be sought during 2025 with construction commencing soon after permission has been granted.

¹ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Eastleigh Borough Council administrative area. This information is then used to make necessary make recommendations for mitigation and enhancements in order to ensure any future planning application accords with relevant planning policy.

2.2 Planning Policy

2.2.1 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the most recent revised NPPF published in December 2024. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF "*Plans and decisions should apply a presumption in favour of sustainable development*". However, Paragraph 195 goes on to state that "*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*"

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 187 states that the planning system should contribute to and enhance the natural environment by "*...minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...*".

A number of principles are set out in Paragraph 193, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats², including ancient woodland³. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly

² The NPPF defines irreplaceable habitats as "*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.*"

³ Natural England defines ancient woodland as "An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."

exceptional reasons and an adequate compensation strategy is in place. Paragraph 193 also states *“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.”*. Paragraph 194 also sets out that potential SPAs, SACs and listed or proposed Ramsar sites or sites acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states *“the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat”*. Paragraph 99 states *“it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted”*.

2.2.2 Local Policy

The Eastleigh Borough Local Plan 2016-2036 was adopted on 25th April 2022. It sets out the policies and plans to guide future development to 2036 and replaced the ‘saved’ policies in the Adopted Local Plan 2001-2011. A number of policies relate to ecology:

- **Policy S9: Green Infrastructure**

In relation to ecology, this policy states that the council will seek to provide green stepping stones such as street trees, green roofs and walls, pocket parks and urban copses as well as connected habitats linking the network of designated sites and existing propriety habitats, taking account of the Hampshire ecological network map.

- **Policy DM10: Water and Waste Water**

This policy states that where new water supply or waste water infrastructure is required or proposed, the development will be phased alongside the provision of infrastructure to ensure compliance with the Habitats Regulations; that there is no deterioration of the status of water bodies; and the avoidance or mitigation of any other adverse impacts.

- **Policy DM11: Nature Conservation**

This policy states that developments should seek to protect, conserve and enhance international, national and local nature conservations designations and networks of natural habitats. A ‘project level’ Habitats Regulations

Assessment will be required where there are likely significant effects on international or European nature conservation sites. In particular, reference is made to the Solent, the New Forest and the River Itchen designated sites. The policy also states that a net gain of biodiversity will be sought on all development sites.

Development will not be permitted if it is likely to have adverse effects on priority habitats, protected or priority species, or on the local ecological network, unless it can be demonstrated that there are no alternative solutions, there is an overall biodiversity net gain or the benefits clearly outweigh the adverse effects.

In relation to ecological survey work, the policy states that development will not be permitted unless it can be demonstrated that there have been thorough habitat and species surveys conducted; a great crested newt strategic survey and strategy have been considered in all developments within 500 metres of a great crested newt pond; and a strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat network.

The Eastleigh Borough Council Biodiversity Action Plan (2012 – 2022), published in December 2012, sets out the updated key actions and objectives which follow the themes of Protection, Land Management, Data and Information, and Education and Awareness. The action plan also defines the Eastleigh Borough Priority Biodiversity Areas and Links and provides information on their qualifying characteristics, designations and locations, including detailed maps.

The Trees and Development Supplementary Planning Document, adopted in April 2022, details guidance and support for planning applicants, including development advice in relation to tree retention, tree protection, potential impacts to ancient and veteran trees, and tree replacement. Further information is provided on the latter including appropriate species and size selection, approved planting and maintenance practices, and the Tree Replacement Policy which aims to ensure a net gain in tree provision, post-development.

Eastleigh Borough Council's approach to biodiversity net gain is in line with statutory requirement; for all relevant developments to achieve 10% biodiversity net gain in line with the Environment Act 2021, as of April 2024. This requirement must always be considered in addition to any mitigation and compensation measures proposed for protected species and habitats. Biodiversity net gain for developments must also be

measured using only the most recently published version of the DEFRA metric, with these measurable gains to be secured and monitored for a minimum of 30 years.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Preliminary Ecological Appraisal. Any significant limitations to the survey methods are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this appraisal (Zone of Influence⁴), the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected. The appropriate survey radii for the various elements of the appraisal (i.e. desktop study and field survey) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to appraisal, its surroundings and the nature and scope of the proposals (if known when the appraisal was undertaken). Determination of the Zone of Influence is an iterative process and will be regularly reviewed and amended as the project evolves.

3.3 Scoping

Protected species considered within this appraisal are those species/species groups considered likely to be encountered given the geographical location and context of the site. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the potential ecological constraints and mitigation measures section (Section 5.0) of this report.

3.4 Desk Study

3.4.1 Biological Records Centre

Hampshire Biodiversity Information Centre (HBIC) was consulted on 30th September 2024 for the following data:

- Records of non-statutory designated sites (i.e. Sites of Importance for Nature Conservation (SINCs)) within one kilometre of the site boundary;
- Records of legally protected and notable species (flora and fauna) within one kilometre of the site boundary, including Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the Natural

⁴ The Zone of Influence, as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities.

Environment and Rural Communities (NERC) Act 2006 and as listed in the England Biodiversity List (**Appendix 2**); and

- Records of bats within two kilometres of the site boundary. Bat species are highly mobile and therefore the search radius is increased for this species group.

3.4.2 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2024) was reviewed on 21st October 2024 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences have been granted were reviewed. This information allows a greater understanding of the potential for European Protected Species to be present in the local area.

3.4.3 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

3.5 Field Survey

The field survey followed UK Habitat Classification (UKHab) methodology (The UK Habitat Classification Working Group, 2018) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features. Habitats described in Section 4.0, have been mapped (**Map 2**), photographs and target notes provided, where relevant.

The UKHab Survey Application, developed using the digital survey platform Coreo was used to map habitats in the field, collect the field survey data and photograph the site.

3.5.1 UKHab Survey

An assessment was made of all habitats within the site, which were classified based on the standardised UKHab survey methodology (The UK Habitat Classification Working Group, 2018). The UKHab classification system comprises two major parts, a hierarchical Primary Habitat system and a list of Secondary Codes. The classification of Primary Habitats is hierarchical with five levels:

Level 1: Major ecosystem, currently covering terrestrial, freshwater and coastal ecosystems.

Level 2: Nine ecosystem types, based upon the Mapping and Assessment of Ecosystems and their Services (MAES) typology and corresponding with major habitat types within the European Nature Information System (EUNIS) habitat classification.

Level 3: 20 broad habitat types, corresponding directly with UK Biodiversity Action Plan Broad Habitats and closely to EUNIS.

Level 4: 80 habitats, including 47 UK Biodiversity Action Plan Priority Habitats, and further splits of Level 3 habitats.

Level 5: 104 habitats, including 69 Habitats Directive Annex 1 habitats and further splits of Level 4 habitats.

It should be noted that not all habitats will be classified to Level 5, for example modified grassland is classified at Level 3 and no Level 4 or Level 5 habitat is applicable. In addition, where Level 4 or 5 habitats are considered to be present on site there may be a requirement for further surveys by a specialist botanist to confirm or classify these habitat types.

During the field survey notes and photographs were taken in order to evidence the surveyor's classification of each habitat type.

Any invasive species⁵ encountered as an incidental result of the survey were recorded.

3.5.2 Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. The following species/species groups were considered during the appraisal.

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2023). An assessment was made of the suitability of trees on the site and immediately on the site boundary to support roosting bats based on the presence of Potential Roosting Features such as and holes, cracks, splits, loose bark and ivy cladding for trees.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the suitability of the site to support roosting, foraging and commuting bats is based on a four-point scale as detailed in **Appendix 3**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved an assessment of the suitability of the site to support badger. Evidence of the species was recorded as an incidental result of the field survey survey and included locating badger setts, paths, and signs of territorial activity such as latrine sites.

Hazel Dormouse

The appraisal for the suitability of the site to support hazel dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity

⁵ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

to adjacent areas of woodland/scrub are important features in determining the suitability of the site for hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the suitability for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.3), and their suitability to be used as a network.

Invertebrates

An assessment was made of the suitability of the site to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England Biodiversity List, and Local Biodiversity Action Plan (LBAP) species⁶, specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

3.6 Field Survey Details

The field survey was carried out by Joseph Hunt, Ecologist of ECOSA on 7th November 2024. The weather conditions were dry and overcast with approximately 90% cloud cover, an ambient temperature of 12°C and a light breeze.

During the survey, the surveyor was equipped with 10x40 binoculars and a digital camera.

3.7 Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

⁶ LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

It is not always possible to provide definitive assessments of a species' presence/likely absence at a site and so in the absence of direct evidence, assessments and recommendations are based on the presence of suitable habitat within/adjacent to a site and the results of species records within the desk study data.

The survey was undertaken at a time of year when many species of plant and animal are either dormant, not visible above ground or simply not present in the UK (such as migratory birds). Therefore, the survey was based upon an assessment of the habitat present on site and the suitability of this habitat to support protected species.

The assessed extent of habitat removal, in particular woodland trees, to facilitate the proposed development is based on the recommendations outlined within the Arboricultural Impact Assessment (AIA) completed by Treecall Consulting Ltd during September 2024 (Treecall Consulting Ltd, 2024) (see **Appendix 7**) and shown on **Map 2**. Should the extent of habitat removal change following the preparation of this report then an updating Preliminary Ecological Appraisal should be completed, ideally prior to the submission of the planning application.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Introduction

This section details the results of the Preliminary Ecological Appraisal undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the ecological features recorded during the field survey.

4.2 Statutory and Non-statutory Designated Sites

Details of designated sites are provided in the paragraphs below.

4.2.1 Statutory Designated Sites

There are statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. These are:

- Upper Hamble Estuary and Woods (SSSI) - located approximately 740 metres south-east of the site at its closest point. The site is designated for supporting a diverse range of nesting and wintering bird populations, and nationally important assemblages of invertebrates.
- Manor Farm (LNR) – located approximately 540 metres south-east of the site at its closest point. The site is designated for the deciduous and ancient semi-natural woodland and the presence of notable localised species, including small leaved lime *Tilia cordata* and wild-service tree *Sorbus torminalis*.
- Netley Common (LNR) – located approximately 630 metres west of the site at its closest point, and designated for supporting lowland heath and acidic grassland which support a good diversity of local flora and fauna.

Recent studies (Natural England, 2022) have identified that an increase in nitrogen discharge as a result of new wastewater generated from development located within the 5.6 kilometre catchment of the Solent designated sites has an in-combination effect on the SPA/Ramsar site and SAC associated with the Solent. Due to this, the Zone of Influence has been extended to include the following:

- Solent and Southampton Water (Ramsar) – located approximately 1.4 kilometres south-east of the site at its closest point, and designated for supporting internationally important populations of wintering wetland bird species.
- Solent and Southampton Water (SPA) – Located 1.4 kilometres south-east of the site at its closest point, and designated for regularly supporting in excess of 20,000 individual waterfowl over winter.

- Solent Maritime (SAC) – located approximately 1.4 kilometres south-east at its closest point to the site and designated for supporting Annex I habitats including Atlantic salt meadows and *Spartina* swards.

The New Forest National Park Authority (NFNPA) have identified that residential development within a 13.8 kilometre radius of the district has the potential to result in increased recreational pressure on the SPA/SAC/Ramsar sites associated with the New Forest (New Forest National Park Authority, 2020). As a result, the development has the potential to increase recreational pressure on these designated sites, and the Zone of Influence has been extended to incorporate the following:

- The New Forest (Ramsar) - located approximately 8.85 kilometres south-west at its closest point. The site is designated for its valley mire habitats and diverse assemblage of wetland plants and animals;
- The New Forest (SPA) – located approximately 8.85 kilometres south-west at its closest point. The site is designated for its breeding populations of Dartford warbler *Sylvia undata*, honey buzzard *Pernis apivorus*, nightjar *Caprimulgus europaeus* and woodlark *Lullula arborea*; and over-wintering population of hen harrier *Circus cyaneus*; and
- The New Forest (SAC) - located approximately 8.85 kilometres south-west at its closest point. The site is designated for supporting Annex I wetland habitats of European importance, and the Annex II species southern damselfly *Coenagrion mercuriale* and great crested newt *Triturus cristatus*.

Further details of the statutory designations listed above are provided in **Appendix 2**.

4.2.2 Non-Statutory Designated Sites

There are 12 non-statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. These are:

- Piland's Copse SINC – located approximately 190 metres east of the site at its closest point, and designated for the ancient semi-natural woodland habitat.
- Durncomb's Copse Meadow SINC – located approximately 390 south-east of the site at its closest point, and designated for the lowland meadow and good quality semi-improved grassland.
- Peewit Hill SINC – located approximately 520 west of the site at its closest point, and designated for the lowland heathland and the presence of black bog rush *Schoenus nigricans*.

- Durncomb's Copse SINC – located approximately 550 south-east of the site at its closest point, and designated for the semi-natural ancient woodland.
- Oakleigh Meadow SINC – located approximately 630 south of the site at its closest point, and designated for supporting good quality semi-improved grassland.
- Netley Hill Heath SINC - located approximately 670 north-west of the site at its closest point, and designated for the lowland heathland habitat.
- Windhover (Netley Common South) SINC – located approximately 780 metres west of the site at its closest point, and designated for supporting lowland heathland.
- Sandpit Copse SINC – located approximately 920 metres south-east of the site at its closest point, and designated for supporting the ancient semi-natural woodland and lowland mixed deciduous woodland habitat.
- Windmill Fields Wood SINC – located approximately 980 metres south of the site at its closest point, and designated for supporting lowland mixed deciduous woodland.
- Dumbleton's Copse SINC – located approximately one kilometre north-west of the site at its closest point, and designated for the wet woodlands and lowland heathland which support good diversity of local flora and fauna.

Further information on sites designated for nature conservation are provided in **Appendix 5**.

4.3 Habitats

4.3.1 Desktop Study Results

A review of the HBIC Biodiversity Opportunity Areas map for Hamble Valley revealed that the site area is classified as Biodiversity Action Plan (BAP) priority woodland habitat. The site area has also been categorised under a Tree Preservation Order Zone by Eastleigh Borough Council. Consultation with HBIC and the MAGIC database also revealed the presence of five priority habitats within one kilometre of the site. These include lowland dry acid grassland, lowland heathland, lowland meadow, deciduous woodland and ancient semi-natural woodland.

Consultation with HBIC also revealed the presence of other habitats within the desktop study area including standing waterbodies, broadleaved woodland and neutral

grassland. There are no Habitats of Principal Importance located within or adjacent to the site boundary.

Consultation with HBIC also returned recent records of four notable and near threatened plant species within the desktop study area which are often associated with woodland habitats. These species are wild strawberry *Fragaria vesca*, wood-sorrel *Oxalis acetosella*, sanicle *Sanicula europaea* and goldenrod *Solidago virgaurea*.

4.3.2 **Field Survey Results**

Habitats within the site are shown on the Baseline Habitat Map (**Map 2**) and details of how each habitat has been classified based on the UKHab five-level hierarchical system, with relevant secondary codes, are provided in **Appendix 6**. Habitats are described in general terms using standard UKHab terminology. The main habitats recorded on site during the field survey were as follows:

Other woodland: mixed (w1h)

The site almost entirely comprises a small block of woodland consisting of a mix of native (see **Figure 1**) and non-native trees (see **Figure 2**). Within the woodland area surveyed a varied age structure was recorded as well as the presence of both standing and fallen deadwood (see **Figure 3** and **Figure 4**) and invasive, non-native species, including Japanese knotweed *Reynoutria japonica* (see **Figure 5**) and *Rhododendron* species (see **Figure 6**).

The ground flora layer is dominated by creeping softgrass *Holcus mollis* and soft rush *Juncus effusus* with tall stands of spear thistle *Cirsium vulgare*, common nettle *Urtica dioica*, cow parsley *Anthriscus sylvestris* and broad-leaved dock *Rumex obtusifolius* (see **Figure 7** and **Figure 8**). The shrub layer is dominated by bramble *Rubus fruticosus* scrub (see **Figure 9**) interspersed with sycamore *Acer pseudoplatanus* saplings, butterfly bush *Buddleja davidii*, cherry laurel *Prunus laurocerasus* and Japanese camellia *Camelia japonica*. The canopy layer comprises native tree species such as pedunculate oak *Quercus robur*, silver birch *Betula pendula*, field maple *Acer campestre*, yew *Taxus baccata* and willow *Salix* species, and non-native species including sycamore, Lawson cypress *Chamaecyparis lawsoniana*, silver fir *Abies alba* and western red cedar *Thuja plicata*.



Figure 1: Native trees within woodland block, largely comprising pedunculate oak and silver birch



Figure 2: Group of non-native Lawson cypress trees within woodland block



Figure 3: Standing deadwood tree located on the south site boundary



Figure 4: Fallen deadwood



Figure 5: Patch of Japanese knotweed

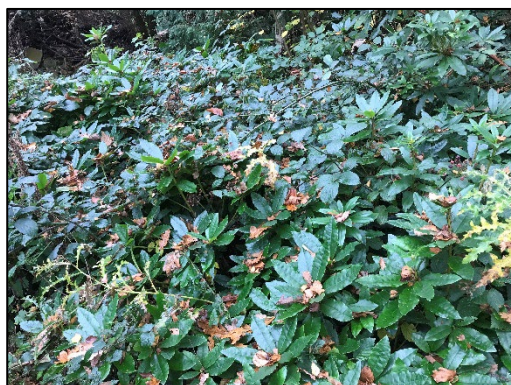


Figure 6: Patch of *Rhododendron* scrub



Figure 7: Ground flora layer of woodland block, largely comprising grasses



Figure 8: Tall stands dominated by common nettle and spear thistle within the woodland ground flora layer



Figure 9: Shrub layer of woodland block, dominated by bramble scrub

Non-native and ornamental hedgerow (h2b)

The site is bounded to the east by a length of hedgerow (H1) comprising only ornamental beech *Fagus sylvatica* and associated with the residential property immediately adjacent (see **Figure 10**). The hedgerow shows signs of active management using hand tools.



Figure 10: Beech hedgerow forming east site boundary, as viewed from the south

4.3.3 Summary

The site comprises mixed woodland and ornamental hedgerow habitats only. Both of these habitats are common and widespread within the wider landscape, with the woodland having the highest relative ecological value.

4.4 Notable and Legally Protected Species

4.4.1 Bats

Desktop Study Results

A number of records of bats were returned by HBIC as part of the desktop study undertaken with the nearest being for common pipistrelle *Pipistrellus pipistrellus*⁷ and serotine *Eptesicus serotinus*, recorded approximately 50 metres north-west of the site in 2012. A number of other species were recorded from within two kilometres of the site including serotine, Natterer's bat *Myotis nattereri*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, *Myotis* bat species⁸ and long-eared bat *Plecotus* species⁹.

Consultation with the MAGIC database produced five recently granted EPSM licences with respect to bats within a two kilometre search radius of the site. The closest licence is located 260 metres north-east of the site and was granted in 2015 for the destruction of a resting place for common pipistrelle. Of the remaining licences, one was granted for the destruction or disturbance of resting places and breeding sites of common pipistrelle, soprano pipistrelle and brown long-eared bat in 2019. The remaining licences were for the destruction of a resting place for common pipistrelle.

Tree Assessment

All trees within the on site woodland were assessed for their suitability to support roosting bats. The results of the tree assessment are provided in **Table 1**.

⁷ There are three species of pipistrelle bat, the common pipistrelle *Pipistrellus pipistrellus*, the soprano pipistrelle *Pipistrellus pygmaeus* and the Nathusius' pipistrelle *Pipistrellus nathusii*. The species can be separated by their echolocations, examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the three species shall be referred to in this report as pipistrelle bat. All three species will roost in similar locations within buildings. The soprano pipistrelle has a tendency to form larger roosts numbering 100's of bats and is associated with wetland habitat. Nathusius' pipistrelle bats frequently share maternity roosts with soprano pipistrelle bats.

⁸ There are seven species of *Myotis* bats in Britain. *Myotis* bats are very difficult to identify specifically, this can generally only be done by examination of physical features and Phylogenetic Analysis Identification of bat droppings. Many of these bats are common and will utilise buildings for roosting often occupying small and inaccessible voids. For the purpose of this report all species shall be referred to as *Myotis* bats unless a specific identification has been possible.

⁹ There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.

Table 1: Tree Assessment – Summary of Features with Bat Roost Potential and Evidence of Bat Roost Activity

Surveyed Feature	Figure	Tree Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location
Tree 5 (T5)	 Figure 11: Ivy clad trunk of T5  Figure 12: Canopy of T5  Figure 13: Lifting bark on trunk of T5	T5 is a mature silver birch tree with a diameter at breast height (DBH) of approximately 52cm (see Figure 11 and Figure 12).	The majority of the trunk is thick with ivy cladding and irregularities in the bark texture likely create shallow cavities behind the ivy. Lifting bark and dead limbs were also noted as present (see Figure 13).	No evidence of roosting bats was recorded during the survey.

Surveyed Feature	Figure	Tree Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location
Tree 4 (T4)	 Figure 14: T4 - Early-mature deadwood pedunculate oak tree	T4 is a early-mature pedunculate oak tree entirely comprising standing deadwood. The DBH is approximately 49cm (see Figure 14).	The tree limbs have been cut back close to the main trunk and show signs of splitting. Lifting bark was also noted as present.	No evidence of roosting bats was recorded during the survey.
Tree 2 (T2)	 Figure 15: Trunk of T2  Figure 16: Tear out on limb of T2	T2 is a early-mature pedunculate oak tree, with a DBH of approximately 53cm (see Figure 15).	Ivy cladding was noted as present on the trunk, as well as tear outs on limbs (see Figure 16), wounds on limbs (see Figure 17), lifting bark (see Figure 18) and a number of small dead limbs.	No evidence of roosting bats was recorded during the survey.

Surveyed Feature	Figure	Tree Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location
	 Figure 17: Wound on limb of T2  Figure 18: Lifting bark on trunk of T2			
Tree 1 (T1)	 Figure 19: T1 - mature pedunculate oak tree	T1 is a mature pedunculate oak tree, with a DBH of approximately 110cm. (see Figure 19)	Dead limbs (see Figure 20), wounds on limbs (see Figure 21) and cankers on limbs (see Figure 22) were noted as present, as well as lifting bark and knot holes where dead limbs were once present.	No evidence of roosting bats was recorded during the survey.

Surveyed Feature	Figure	Tree Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location
	 Figure 20: Dead limb on T1  Figure 21: Wound on limb of T1  Figure 22: Cankers on limb of T1			

Surveyed Feature	Figure	Tree Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location
Tree 8 (T8)	 Figure 23: Trunk of T8  Figure 24: Lifting bark on T8	T8 is a early-mature sycamore tree, entirely comprising standing deadwood. The DBH is approximately 48cm. (see Figure 23)	Lifting bark was the only feature noted as present (see Figure 24).	No evidence of roosting bats was recorded during the survey.
Tree 15g(a) (T15g(a))	 Figure 25: T15g(a) - semi-mature deadwood sycamore tree	Tree 15g(a) is a semi-mature sycamore tree, entirely comprising standing deadwood (see Figure 25). The DBH is approximately 20cm. This tree is part of a larger group of trees named T15g in the Arboricultural Impact Assessment.	Dead limbs and desiccation fissures were noted as present.	No evidence of roosting bats was recorded during the survey.

Surveyed Feature	Figure	Tree Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location
Tree 16 (T16)	 Figure 26: Limb of T16 leaning over west site boundary, with a wound	T16 is an early-mature willow tree species with a DBH of approximately 41cm.	Wound on limb only (see Figure 26).	No evidence of roosting bats was recorded during the survey.
Tree 17 (T17)	 Figure 27: Upper trunk of T17 leaning over west site boundary	T17 is a semi-mature willow tree species, entirely comprising standing deadwood. The DBH is approximately 20cm (see Figure 27).	Knot holes, lifting bark and desiccation fissures were all noted as present.	No evidence of roosting bats was recorded during the survey.
Tree 9g(a) (T9g(a))	 Figure 28: Wound on trunk of T12g(f)	T9g(a) is an early-mature willow tree species, with a DBH of approximately 30cm. This tree is part of a larger group of trees referred to as T9g in the Arboricultural Impact Assessment.	Vertical wound on trunk only (see Figure 28).	No evidence of roosting bats was recorded during the survey.

Surveyed Feature	Figure	Tree Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location
Tree 12g(f)	 Figure 29: Ivy clad trunk of T12g(f)	T12g(f) is an early-mature silver birch tree, with a DBH of approximately 30cm. This tree is part of a larger group of silver birch trees organised in a line parallel with the west site boundary. The group is referred to as T12g in the Arboricultural Impact Assessment.	Ivy cladding on trunk only (see Figure 29).	No evidence of roosting bats was recorded during the survey.

It is understood that the trees numbered T3, T4, T5, T8 and T17 are all proposed for removal as part of the proposed development in line with the Arboricultural Impact Assessment (AIA) completed by Treecall Consulting Ltd during September 2024 (Treecall Consulting Ltd, 2024) (see **Appendix 7**). It is also understood that the trees numbered T1, T2, T9g(a), T12g(f), Tree 15g(a) and T16 are to be retained and remain unimpacted by the development proposals. The trees numbered T12g(k, l and m), T13g, T14, T19, T20g (a and b), T25g and a proportion of the trees numbered T26g have also been identified for removal according to the completed AIA, however during the field survey these trees were all assessed to be of negligible suitability for roosting bats.

Foraging and Commuting Habitat

The site is small but is assessed as having moderate suitability for foraging and commuting bats as it provides continuous suitable woodland and hedgerow habitats. The site is well-connected to further suitable woodland habitat to the west through lines of trees dividing up areas of grassland. The woodland blocks to the west of the site are associated with the M27 motorway corridor and therefore may act as an commuting route for bats in the local area.

4.4.2 Otter

Desktop Study Results

Consultation with HBIC produced no recent records of otter *Lutra lutra* within the desktop study area and a review of the MAGIC database returned no granted EPSM licences in respect of otter within a two kilometre radius of the site. However, these findings do not confirm the absence of the species in the local area.

Field Survey Results

The site itself does not contain any watercourses suitable for use by otter. A tributary of the River Hamble, located approximately 100 metres west of the site, likely provides suitable habitat for otter. However, it is unlikely that otter would disperse 100 metres from their preferred riparian habitat to utilise the site which does not provide any suitable habitat for the species. Therefore, otter is considered absent from the site and is given no further consideration within this report.

4.4.3 Badger

Desktop Study Results

Consultation with HBIC produced five records of badger *Meles meles* within the desktop study area, with the most recent record being from 2010. Two of these records are separated from the site by the M27 motorway carriageway which is considered to be a significant barrier to dispersal for badger. Of the two records which are found on

the same side of the M27 as the site, the closest is approximately 820 metres north-east of the site boundary.

Field Survey Results

No evidence of badger was recorded on site during the field survey. The on site woodland, with its varied structure, provides suitable habitat for foraging badger, as well as the hedgerow along the east site boundary. The woodland also provides opportunities for sett building, particularly the earth banks on the east and south boundaries (see **Figure 30**). The site is also well-connected to further suitable habitat for badger to the west, such as the blocks of continuous woodland to the west associated with the M27 corridor and expanses of grassland with lines of trees. Therefore it is possible that badger use the site for foraging and could potentially construct a sett in the future.



Figure 30: Earth bank located parallel to the south site boundary.

4.4.4 Hazel Dormouse

Desktop Study Results

Consultation with HBIC produced three recent records of hazel dormouse *Muscardinus avellanarius* within the desktop study area, with the most recent of these records being from 2020. However, the locations of all these records are separated from the site by the M27 motorway carriageway which is considered to be a significant barrier to dispersal for hazel dormouse.

Consultation with the MAGIC database revealed the presence of one granted EPSM licence (EPSM2012-4209) with respect to hazel dormouse *Muscardinus avellanarius* within the two kilometre search radius. This was located approximately 1.9 kilometres north of the site and granted from 2013 to 2017 for the damage and destruction of a breeding site and resting place.

Field Survey Results

No evidence of hazel dormouse was recorded on site during the field survey. The site supports suitable woodland habitat for hazel dormouse, with a varying tree age structure and shrub layer containing key food sources such as bramble and hazel *Corylus avellana*. The on site hedgerow also provides further habitat suitable for hazel dormouse. Additionally, the site is well-connected to further suitable habitat for hazel dormouse within the wider landscape, particularly the blocks of continuous woodland to the west associated with the M27 corridor connected to the site through lines of trees.

4.4.5 Water Vole

Desktop Study Results

Consultation with HBIC produced no records of water vole *Arvicola amphibius* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Field Survey Results

The site itself does not contain any watercourses suitable for use by water vole. A tributary of the River Hamble, located approximately 100 metres west of the site, likely provides suitable habitat for water vole. However, it is unlikely that water vole would disperse 100 metres from their preferred riparian habitat to utilise the site which does not provide any suitable habitat for the species. Therefore, water vole is considered absent from the site and is given no further consideration within this report.

4.4.6 Birds

Desktop Study Results

Consultation with HBIC returned recent records of three notable and protected bird species within the desktop study area. Of these species nightjar is an amber listed species of conservation concern¹⁰, as well as being listed under Schedule 1¹¹ of the Wildlife and Countryside Act. Records of hobby and red kite were also returned which are also Schedule 1 bird species.

¹⁰ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.

¹¹ Birds listed on Schedule 1 of the Wildlife and Countryside Act (1981 as amended) are afforded additional protection making it an offence to: Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or; Intentionally or recklessly disturb the dependent young of any such bird.

Field Survey Results

During the field survey, robin *Erithacus rubecula* and wren *Troglodytes troglodytes* were recorded within the site boundary, the latter of which is amber listed species of conservation concern.

The site supports suitable woodland habitat for nesting birds, with a varying tree age structure and shrub layer consisting of large shrubs and dense scrub. The on site hedgerow also provides further habitat suitable for nesting birds. Additionally, the site is well-connected to further suitable habitat for breeding birds within the wider landscape, particularly the blocks of continuous woodland to the west associated with the M27 corridor connected to the site through lines of trees.

Because of the scale and types of habitats present on the site, it is highly unlikely that the site supports notable populations or assemblages of wintering birds or ground nesting birds. Therefore, both wintering birds and ground nesting birds are not considered further in this report.

4.4.7 Reptiles

Desktop Study Results

Consultation with HBIC produced 10 records of slow-worm *Anguis fragilis*, 10 records of adder *Vipera berus* and six records of common lizard *Zootoca vivipara* within one kilometre of the site between 2005 and 2023. The nearest records for slow-worm, adder and common lizard are located approximately 50 metres to the north-west of the site, recorded in 2012. A single record of grass snake *Natrix helvetica* was recorded on site in 2014.

Field Survey Results

The site supports suitable woodland habitat for reptiles, in particular the areas of dense scrub which make up the shrub layer. The on site hedgerow also provides further habitat suitable for reptiles. Piles of fallen deadwood (see **Figure 31**), brash (see **Figure 32**) and waste materials (see **Figure 33**) were also noted which provide natural and artificial refugia for the species group. Additionally, the site is well-connected to further suitable habitat for reptiles within the wider landscape, particularly the blocks of continuous woodland and areas of grassland to the west.



Figure 31: Piles of fallen deadwood scattered throughout the on site woodland



Figure 32: A pile of brash within the on site woodland



Figure 33: Waste materials scattered throughout the on site woodland

4.4.8 Great Crested Newt

Desktop Study Results

Consultation with HBIC produced no recent records of great crested newt *Triturus cristatus* within the desktop study area and review of the MAGIC database returned no granted EPSM licences in respect of great crested newt within a two kilometre radius of the site. However, these findings do not confirm the absence of the species in the local area.

An assessment of aerial photography and 1:25,000 OS mapping identified the presence of seven ponds within 500 metres of the site. However, three of these ponds are separated from the site by the M27 motorway carriageway which is considered to be a significant barrier to dispersal for the species. Of the four which are found on the same side of the M27 as the site, the closest pond is approximately 190 metres north-west of the site boundary.

The nearest waterbody is a tributary of the River Hamble, located approximately 100 metres west of the site. However given that this watercourse contains flowing water, it

is unsuitable for egg laying and therefore will not support great crested newt during their aquatic breeding life phase.

Field Survey Results

The habitat on site is unsuitable for breeding great crested newt as there are no bodies of water present. The site supports suitable woodland and hedgerow habitat for great crested newt during their terrestrial life phase, in particular the areas of dense scrub which make up the shrub layer of the woodland. Piles of fallen deadwood (see **Figure 31**), brash (see **Figure 32**) and waste materials (see **Figure 33**) were also noted which provide natural and artificial refugia for this species. Additionally, the site is well-connected to further suitable terrestrial habitat for great crested newt within the wider landscape, particularly the blocks of continuous woodland and areas of grassland to the west.

4.4.9 Invertebrates

Desktop Study Results

Consultation with HBIC returned recent records of 81 notable species of invertebrates within the desktop study area, including 61 records of stag beetle *Lucanus cervus*, with the closest record located approximately 370 metres north-east. The stag beetle is a Species of Principle Importance in England, a UK Biodiversity Action Plan Priority species and is nationally scarce.

Field Survey Results

The woodland habitat on site contains deadwood habitat for saproxylic invertebrate species such as stag beetle, mostly associated with the standing deadwood trees and fallen deadwood / brash piles scattered throughout the site. The woodland shrub and ground flora layers consist of plant species which flower in the spring/summer and the trees provide leaf litter in the autumn/winter. Therefore the site is also likely to support numbers of common and widespread pollinating and terrestrial invertebrate species.

4.4.10 Other Relevant Species

Desktop Study Results

Consultation with HBIC produced 16 recent records of European hedgehog *Erinaceus europaeus* within the desktop study area, with the most recent of these being from 2020. Five of these records are separated from the site by the M27 motorway carriageway which is considered to be a significant barrier to dispersal for European hedgehog. Of the 10 records which are found on the same side of the M27 as the site, the closest is approximately 300 metres south of the site boundary. One record of harvest mouse *Micromys minutus* was also recorded in 2021, however this is also separated from the site by the M27 carriageway.

Field Survey Results

The site supports suitable woodland habitat for European hedgehog and common toad, in particular the areas of dense scrub which make up the shrub layer. The on site hedgerow also provides further habitat suitable for these species. Piles of fallen deadwood (see **Figure 31**), brash (see **Figure 32**) and waste materials (see **Figure 33**) were also noted which provide natural and artificial refugia for these species. Additionally, the site is well-connected to further suitable habitat for European hedgehog and common toad within the wider landscape, particularly the blocks of continuous woodland and areas of grassland to the west.

4.5 Summary of Key Ecological Features

The following features are those with greatest ecological value that lie within the site's Zone of Influence:

- The site lies within the 5.6 kilometre buffer zone of the Solent and Southampton Water SPA/Ramsar sites and Solent Maritime SAC catchment, situated approximately 1.4 kilometres to the south-east of the site.
- The site lies within the 13.8 kilometre buffer zone of the SPA/SAC/Ramsar sites associated with the New Forest, which lie approximately 8.85 kilometres south-west of the site boundary.
- Upper Hamble Estuary and Woods SSSI is located approximately 740 metres south-east of the site, Manor Farm LNR is located approximately 540 metres south-east of the site, and Netley Common LNR is located approximately 630 metres west of the site;
- The site has suitability to support roosting bats;
- The site has been assessed as having moderate suitability to support foraging and commuting bats;
- The site has suitability to support resident and foraging badger;
- The site has suitability to support hazel dormouse;
- The site has suitability to support breeding birds;
- The site has suitability to support common reptiles species;
- The site has suitability to support great crested newt during the species' terrestrial life phase;
- The site has suitability to support notable assemblages of invertebrates; and

- The site has suitability to support European hedgehog.

5.0 POTENTIAL ECOLOGICAL CONSTRAINTS AND RECOMMENDATIONS

5.1 Introduction

This section identifies potential constraints to the proposed development scheme based on the key ecological features as identified in Section 4.0 and summarised in Paragraph 4.5 Recommendations are included for mitigation and compensation based on the identified ecological constraints, and opportunities for enhancement are discussed.

5.2 Further Survey

Further ecological survey work will need to be undertaken prior to the submission of any planning application in order to allow the Local Planning Authority to fully assess the potential effects of the proposals on protected species. At this stage, it is therefore not possible to confirm that the proposals for the site meet the requirements of NPPF and The Eastleigh Borough Local Plan (refer to Section 2.0). The full detail of mitigation measures cannot be established without the results of more detailed survey work. The more detailed survey work recommended for the site are a biodiversity net gain habitat condition assessment, bat tree endoscope surveys, reptile surveys and great crested newt eDNA surveys.

Some of these surveys may not be required if all impacts on the target species can be avoided through sensitive scheme design and/or working methods.

Details of the survey requirements including survey effort and timings are provided in the relevant sections below.

5.3 Designated Sites

5.3.1 Potential Constraints

The increase in local residents has the potential to result in increased recreational pressure on the Solent and Southampton Water SPA/Ramsar site in combination with other plans or projects. The site also lies within the 13.8 kilometre recreational pressure buffer of the New Forest designated sites, and the net increase in residential development has the potential to increase recreational pressure, either alone or in combination with other plans and projects.

The proposals would result in wastewater discharge from the site, which has the potential to result in an increase in nitrogen output into the Solent and Southampton Water SPA/Ramsar site. This has been identified as having a likely significant effect in combination with other plans or projects.

5.3.2 Potential Mitigation and Compensation Measures

The proposals will need to make a contribution towards the Bird Aware Solent strategy (Bird Aware Solent, 2017) which will offset potential impacts as a result of increased recreational pressure through visitor management initiatives delivered by the Bird Aware strategy.

In line with Eastleigh Borough Council Interim Mitigation Strategy (Eastleigh Borough Council, 2022), the proposals will be required to address potential recreational impacts on the New Forest designated sites. This will either involve a contribution towards an existing Strategic Mitigation Package or a bespoke mitigation package may be devised. Contributions towards an existing Strategic Mitigation Package will likely comprise either proportionate provisions of Suitable Alternative Natural Greenspace (SANG) within Eastleigh borough or financial contributions to the management of recreational impacts within the New Forest.

A strategy in order to ensure that the site can deliver “nitrate neutrality” will need to be devised as part of the proposals in order to ensure that there is no likely significant effect either alone or in-combination with other plans or projects. It is recommended that a calculation is undertaken to determine the level of nitrate output and the scope of mitigation required which may take the form of financial contribution or off-site offsetting through land use change, amongst other options.

5.3.3 Enhancement Opportunities

No enhancement measures are recommended in relation to designated sites.

5.4 Habitats

5.4.1 Potential Constraints

The loss of woodland habitat as a result of the development proposals has been identified as a potential constraint to the development proposals.

In addition, stands of the invasive, non-native species Japanese knotweed and *Rhododendron* are also present within the woodland understorey of the site. Japanese knotweed and *Rhododendron* are both listed under Schedule 9 of the Wildlife and Countryside Act 1981, which makes it illegal to allow the species to grow in the wild. A potential constraint to the development is the accidental spread of these invasive species during the site preparation, construction and operational phases of the development, if appropriate mitigation measures are not implemented. Refer to **Appendix 2** for details.

5.4.2 Further Survey

To inform a biodiversity net gain assessment, the biodiversity metric calculator requires information regarding the current condition of the habitats on site. Therefore a walkover survey is required in order to collect the relevant information.

The condition of a habitat represents its relative quality judged against the perceived ecological optimum state for that particular habitat type. Therefore, habitat condition is specific to the habitat type and not comparable between habitat types.

The condition assessment will be based on the criteria within the Statutory Biodiversity Metric Condition Assessments (Natural England, 2023). Some habitat types (for example most agricultural habitats and hardstanding) are not subject to assessment and are assigned default scores by the calculation tool.

For proposed habitat creation, retention and enhancement a 'Target Condition' is assigned, this is the condition that it is proposed the habitat will achieve post-development and is based on the same criteria as the condition assessment.

There is a possibility that due to the habitat types present within the site that seasonal constraints to the condition assessment may be applicable. For example, it will not be possible to robustly assess more ecologically valuable grasslands over winter months.

5.4.3 Potential Mitigation and Compensation Measures

It is understood that areas of the woodland habitat and the existing on site hedgerow are to be retained and unimpacted by the proposed development. Retained habitats should be protected from damage during construction by installing protective fencing around buffer areas. The installation of protective fencing should follow guidance set out in BS 5837:2012 – Trees in relation to design, demolition and construction (British Standards Institution, 2012). These measures will be incorporated into a Construction Environmental Management Plan (CEMP) to be implemented as part of the construction phase of the scheme, with input from an ecologist.

It is recommended that the areas of Japanese knotweed and *Rhododendron* be subject to an eradication programme to be undertaken by specialist contractors. This should be undertaken in advance of any development works commencing at the site.

There are no current landscaping plans at this stage. Any new landscaping should be designed to incorporate appropriate native species and an ecologist will be consulted as part of any forthcoming landscape plans.

5.4.4 Enhancement Opportunities

No enhancement measures in relation to habitats are proposed.

5.5 Bats

5.5.1 Potential Constraints

The loss of woodland habitat as a result of the development proposals will remove suitable habitat present for roosting bats and may disrupt potential foraging and commuting routes within the site. If present during the construction works, this may result in the destruction of roosts and the killing/injury of individuals. This has therefore been identified as a potential constraint to the development proposals.

Multiple trees within the on site woodland have been assessed as having suitability for roosting bats. This is due to the presence of multiple PRFs providing occasional shelter and protection for small numbers of bats, albeit are unlikely to support a high-status roost. Given this assessment, further surveys are required in order to ascertain the presence/likely absence of roosting bats within the trees.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 2** for details.

5.5.2 Further Survey

Any trees assessed as having suitability for roosting bats which are to be removed will require an endoscopic inspection to be undertaken to allow for an appropriate assessment of the PRFs identified. In accordance with the current best practice guidelines (Collins, 2023), PRFs are classified into two groups; PRF-I's and PRF-M's. PRF-I's are those features which have been assessed as having the potential to support only small numbers of roosting bats and PRF-M's are those features which have been assessed as having the potential to support more significant numbers of roosting bats. If the PRFs identified on the standalone cherry tree are classified as PRF-I's, then no further survey work will be required. However, if any of the PRFs are classified as PRF-M then further survey work will be required.

Where PRF-M's have been identified on trees, three PRF inspection surveys will be required to re-assess PRFs and determine the presence/likely absence of bats utilising appropriate equipment and methods. The three surveys must be undertaken within the bat survey season (May to September, inclusive) with at least one of the surveys undertaken during the peak bat survey season (May to August, inclusive). Surveys must be undertaken at least three weeks apart from one another.

5.5.3 Potential Mitigation and Compensation Measures

A suitable mitigation and compensation strategy would be devised upon completion of the further recommended survey work. However, it is recommended that as much

woodland habitat as is feasible is retained to maintain roosting, foraging and commuting suitability for bats at the site.

Details of any additional lighting proposed for the site are not yet known. However, if new lighting is to be introduced this should comprise directional lighting in order to minimise any spill on to both retained and newly created habitat. Ideally the bulbs will be LED and at the warmer end of the spectrum (e.g. avoiding blue or white light). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife (BCT, 2019). New lighting should be task related, and limited to the access points of the new proposed facilities. Guidance on task related lighting levels and mitigation options as described within the Bats and Artificial Lighting in the UK report will be followed (BCT and the Institution of Lighting Professionals, 2023).

To compensate for the loss of suitable tree roosting habitat for bats on site, it is recommended that Vivara Pro WoodStone bat tubes, or similar design, be incorporated into the fabric of the proposed residential dwelling and garage buildings. The tubes should be located below the eaves, and wherever possible not above windows or doors to prevent accidental disturbance to bats utilising the feature. The features should ideally be positioned towards retained woodland habitat for accessibility for the species group into the wider landscape.

5.5.4 Enhancement Opportunities

As a form of enhancement for bats, it is recommended that further WoodStone bat boxes be erected onto suitable retained mature trees within the site. These bat boxes are suitable for a range of bat species and will provide additional bat roosting opportunities post-development. The boxes will be positioned at a minimum height of three metres, away from artificial light sources, sheltered from strong winds and exposed to the sun for part of the day (usually south or south-west facing elevations).

5.6 Badger

5.6.1 Potential Constraints

The loss of woodland habitat as a result of the development proposals will remove suitable habitat present for resident badger and may disrupt potential foraging and commuting routes within the site. If present during the construction works, this may result in sett damage and the killing/injury of individuals. This has therefore been identified as a potential constraint to the development proposals.

Any excavations left open at night may result in individuals becoming trapped and unable to escape.

Badger are protected from killing and injury, and their setts protected from damage and interference, under the Protection of Badgers Act 1992. Refer to **Appendix 2** for details.

5.6.2 *Potential Mitigation and Compensation Measures*

Given the suitability of the site for resident badger, an updating walkover undertaken by a suitably qualified ecologist is recommended prior to construction commencing. If evidence of resident badger is recorded then a suitable mitigation strategy should be devised, potentially including a sett closure under a Natural England badger mitigation licence.

In order to prevent individuals from becoming trapped in excavations overnight, all open excavations should be covered when construction works have finished for the day, and a timber ramp inserted to allow any trapped individuals to escape on their own accord. These measures will be incorporated into a CEMP to be implemented as part of the construction phase of the scheme, with input from an ecologist.

5.6.3 *Enhancement Opportunities*

No enhancement measures in relation to badger are proposed.

5.7 Hazel Dormouse

5.7.1 *Potential Constraints*

The loss of woodland habitat as a result of the development proposals will remove suitable habitat present for hazel dormouse. If present during the construction works, this may result in destruction of nests and the killing/injury of individuals. This has therefore been identified as a potential constraint to the development proposals.

In England, hazel dormouse and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, this species is protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 2** for details.

5.7.2 *Potential Mitigation and Compensation Measures*

Further surveys for hazel dormouse have not been considered within this appraisal. Despite the site supporting suitable habitat for the species, the size of the site would limit the scope and results of a survey.

However, as a mitigation measure to prevent the killing and/or injury of hazel dormouse individuals and the destruction of nests that may be present, a precautionary destructive search methodology is recommended. This will involve an ecologist supervising any required vegetation removal.

All clearance works will be undertaken in a methodical manner under the supervision of a Natural England dormouse licenced ecologist. This will comprise a sensitive vegetation clearance methodology undertaken in either April/May or mid-September/October using hand tools. Should any hazel dormouse individuals or nests be identified during the vegetation clearance, then works should cease immediately until a suitable mitigation strategy can be devised and agreed under a Natural England hazel dormouse mitigation licence.

5.7.3 Enhancement Opportunities

No enhancement measures for hazel dormouse are proposed.

5.8 Birds

5.8.1 Potential Constraints

The removal of woodland habitat as a result of the development proposals will result in the loss of suitable habitat present for nesting birds within the site. If present during the construction works, this may result in the destruction of nests and the killing/injury of individuals. This has therefore been identified as a potential constraint to the development proposals.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981. Refer to **Appendix 2** for details.

5.8.2 Potential Mitigation and Compensation Measures

The removal of any woodland habitat should be undertaken outside of the breeding bird season, which extends from March to August (inclusive). If this is not possible, a suitably qualified ecologist should inspect the structures to be removed immediately prior to works commencing. Any active nests encountered should be left with an undisturbed and suitably sized buffer area scoped out by the supervising ecologist, until chicks have fledged and/or the nests are no longer in use.

It is recommended that additional nesting opportunities be incorporated into the proposed residential dwelling and garage buildings by installing build-in bird boxes such as the Vivara Pro Woodstone House Sparrow Nest Box and Vivara Pro WoodStone Swift Nest Box (see **Figure 34** and **Figure 35**).

The boxes will be positioned at a minimum height of three metres, away from artificial light sources, sheltered from strong winds and ideally positioned for accessibility for the species group into the wider landscape. The boxes should also not be installed on south facing elevations as there is the potential for chicks in the nest to overheat in warmer temperatures. The nesting features should be located below the eaves, and

wherever possible not above windows or doors to prevent accidental disturbance to birds using them.



Figure 34: Vivara Pro WoodStone House Sparrow Nest Box



Figure 35: Vivara Pro WoodStone Swift Nest Box

5.8.3 Enhancement Opportunities

Additional nesting opportunities may be provided by installing artificial nesting features such as bird boxes, for example Vivara Pro WoodStone Bird Boxes or similar, upon mature retained trees within the site boundary. These bird boxes are suitable for a range of bird species and will provide additional nesting opportunities post-development. The boxes should be positioned at a minimum height of three metres, away from artificial light sources and sheltered from strong winds. The boxes should also not be installed on south facing elevations as there is the potential for chicks in the nest to overheat in warmer temperatures.

5.9 Reptiles

5.9.1 Potential Constraints

The removal of woodland habitat, particularly the dense scrub and piles of deadwood and brash, as a result of the development proposals will result in the loss of suitable habitat present for reptiles. If present during the construction works, this may result in the killing/injury of individuals. This has therefore been identified as a potential constraint to the development proposals.

Widespread reptile species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm, see **Appendix 2** for details.

5.9.2 Further Survey

Due to the suitability of areas of the site to support reptiles, and the fact that suitable habitat will need to be cleared to facilitate the development proposals, reptile presence/absence surveys are recommended in order to determine the current status

of any on-site population of reptiles. The survey should comply with the Herpetofauna Workers Manual (Gent T & Gibson S, 2003), the most up to date reptile survey guidance (Froglife, 1999), and will follow Institute of Chartered Ecology and Environmental Management (CIEEM) guidance.

The reptile survey will involve the distribution of approximately 50 bitumen reptile refugia in suitable areas of reptile habitat within the site, followed by a minimum bedding in period of two weeks. The reptile refugia should then be inspected on seven occasions to determine the status of reptiles at the site. Reptile surveys can be undertaken between April and October (with April, May and September being optimal).

Survey visits should be carried out when the weather conditions are suitable for reptile activity; this is generally when conditions are sunny but relatively cool so that animals return to refugia to maintain their body temperature.

5.9.3 *Potential Mitigation and Compensation Measures*

Specific mitigation recommendations for reptiles will be made once the recommended further reptile surveys have been undertaken and presence/likely absence of the species group has been confirmed.

5.9.4 *Enhancement Opportunities*

Specific enhancement recommendations for reptiles will be made once the recommended further surveys have been undertaken.

5.10 Great Crested Newt

5.10.1 *Potential Constraints*

The removal of woodland habitat, particularly the dense scrub and piles of deadwood and brash, as a result of the development proposals will result in the loss of suitable terrestrial habitat present for great crested newt. If present during the construction works, this may result in the killing/injury of individuals. This has therefore been identified as a potential constraint to the development proposals.

In England, great crested newt and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, this species is protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 2** for details.

5.10.2 *Further Survey*

It is recommended that eDNA surveys be undertaken of the four ponds within a 500 metre radius of the site to which access can be granted by the relevant landowner. This entails the collection of water samples which are subsequently tested for the presence of great crested newt DNA in order to establish the presence/likely absence of great

crested newt at the site. This survey work will need to be undertaken between the months of mid-April and the end of June. The survey should comply with the Herpetofauna Workers Manual (Gent T & Gibson S, 2003), the most up to date great crested newt mitigation guidelines (English Nature, 2001), and will follow Institute of Chartered Ecology and Environmental Management (CIEEM) guidance.

Should the eDNA surveys confirm the presence of great crested newt within the onsite pond, it may be necessary to carry out further population assessment surveys. This will involve six survey visits, using survey methods including bottle trapping, torching, netting and egg searching. The surveys must be carried out between mid-March and June with three surveys carried out between mid-April and mid-May.

An alternative option to traditional surveys could be registering the site on a District Level Licencing (DLL) programme scheme. The DLL programme in the local area is provided by NatureSpace. On submission of a licence enquiry form and payment of a 'first-stage fee' NatureSpace will provide a report that presents the proportionate outcome of their detailed site assessment, including the 'second-stage fee' and any mitigation requirements. NatureSpace states that this report is '*Guaranteed to satisfy the local planning authority that great crested newt constraints are resolved*'. The 'second-stage fee' is to cover the necessary great crested newt compensation provided by NatureSpace. NatureSpace provide a certificate that confirms great crested newt compensation has been paid for. This certificate can be used to discharge any conditions related to making contributions to the DLL programme.

5.10.3 Potential Mitigation and Compensation Measures

Specific mitigation and compensation measures recommendations for great crested newt will be made once the recommended further reptile surveys have been undertaken and presence/likely absence of the species group has been confirmed.

5.10.4 Enhancement Opportunities

Specific enhancement recommendations for great crested newt will be made once the recommended further surveys have been undertaken.

5.11 Invertebrates

5.11.1 Potential Constraints

The on site woodland vegetation to be removed is likely to support common and widespread invertebrate assemblages. The removal of any deadwood and brash piles containing suitable habitat for saproxylic species such as stag beetle would result in a net loss of suitable habitat for notable invertebrate assemblages within the site, and has been identified as a potential constraint to the development proposals.

5.11.2 Potential Mitigation and Compensation Measures

It is recommended that the existing deadwood and brash piles are retained within the site boundary where possible, and relocated to suitable retained boundary habitat to ensure the retention of suitable deadwood habitat for saproxylic species such as stag beetle.

5.11.3 Enhancement Opportunities

The wood from any trees to be felled to facilitate the development proposals should remain on site and be used to construct log piles within retained areas of the on site woodland. These log piles will provide further suitable habitat for terrestrial invertebrates, including eventual deadwood suitable for saproxylic species such as stag beetle.

5.12 Other Relevant Species

5.12.1 Potential Constraints

The removal of woodland habitat, particularly the dense scrub and piles of deadwood and brash, as a result of the development proposals will result in the loss of suitable habitat present for European hedgehog and common toad. If present during the construction works, this may result in the killing/injury of individuals and the destruction of nests for European hedgehog. This has therefore been identified as a potential constraint to the development proposals.

European hedgehog and common toad are both listed within schedules of the Wildlife and Countryside Act 1981 (Schedule 6 and Schedule 5 respectively) which affords these species legal protection. European hedgehog and common toad are both also species of 'principal importance' under the NERC Act. Refer to **Appendix 2** for details.

5.12.2 Potential Mitigation and Compensation Measures

European hedgehog and common toad will be protected during the vegetation clearance at the site by the workers conducting the vegetation clearance using hand tools to gradually cut the vegetation down.

To mitigate against potentially killing and/or injury of European hedgehog common toad during the construction phase it is recommended the following measures are put in place:

- Covering of all excavations overnight or providing means of escape so that hedgehogs do not become trapped;
- Any exposed pipes, of more than 150 millimetres diameter, blanked off at the end of each working day; and

- Any open excavations will be checked each morning to ensure no hedgehog has become trapped. Should an animal become trapped then works will stop. A means of escape will be provided and the animal allowed to escape of its own accord.
- Any storage of building materials will be preferentially located upon sealed surface habitat in the first instance.
- These measures will be incorporated into a CEMP to be implemented as part of the construction phase of the scheme, with input from an ecologist.

It is recommended that the existing deadwood and brash piles are retained within the site boundary where possible, and relocated to suitable retained boundary habitat to ensure the retention of suitable hibernacula habitat for European hedgehog and common toad.

5.12.3 Enhancement Opportunities

No enhancement measures for European hedgehog or common toad are recommended.

6.0 CONCLUSION

6.1 Conclusion

The site lies within the recreational pressure buffers of the Solent and New Forest designated sites, and therefore financial contributions are required to be paid to mitigate for the potential effect of increasing the number of residential dwellings within the site. The site additionally lies within the catchment of the Solent designated sites and therefore a Nutrient Neutrality assessment will need to be undertaken to determine if the proposals will result in an increase in nitrogen discharge as a result of new wastewater generated.

The site has been assessed as having suitability for supporting roosting, foraging and commuting bats, badger, reptiles, great crested newt, hazel dormouse, invertebrates, European hedgehog and common toad.

Further surveys are recommended to determine the status of bats, great crested newt and reptiles within the site, and once completed further mitigation and compensation measures for these species can be recommended. A Biodiversity Net Gain assessment will need to be prepared in conjunction with the application to ensure the proposals deliver a minimum of 10% net gain in biodiversity units.

Possible adverse impacts on these ecological features have been identified and appropriate mitigation measures have been proposed including the preparation of a Construction Environmental Management Plan (CEMP), sensitively timed vegetation clearance works carried out under an agreed precautionary destructive search methodology, a sensitive lighting scheme, and the implementation of a suitable invasive species eradication programme.

Compensation and enhancement measures have been recommended including the retention of deadwood habitat could include new native hedgerow planting, installation of new bat and bird boxes and the creation of hibernacula for reptiles, amphibians, and small mammals through the retention of existing deadwood habitat.

As further surveys are required, it is not possible at this stage to confirm that the proposals for the site meet the requirements of NPPF and Local Planning Policy, in particular Policies S9, DM10 and DM11 of the 'The Eastleigh Borough Local Plan 2016-2036' document (refer to Section 2.0 for more details). However, it is considered that on completion of the further surveys there is scope to achieve this.

6.2 Updating Site Survey

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

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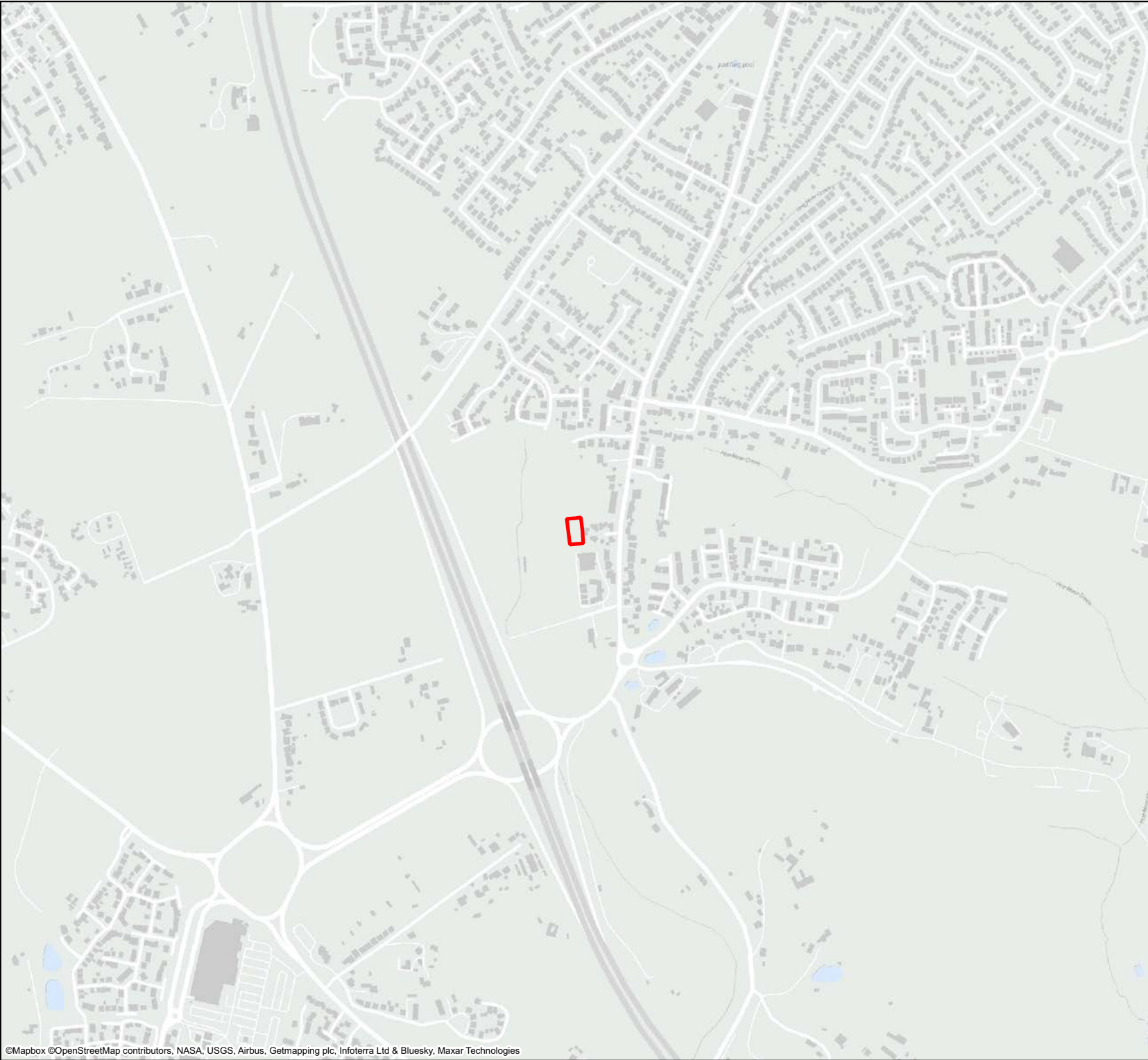
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Map 1 Site Location Plan



**BOUNDARY ACRE, BURLESDON,
SOUTHAMPTON, HAMPSHIRE**

PRELIMINARY ECOLOGICAL APPRAISAL

Map 1 - Site Location Plan

Client:	Paul Cashin Architects
Date:	December 2024
Status:	Draft

KEY

 Site Boundary



Scale at A4 1:10,000
0 100 200 300 400 m



Prepared by: JP	Date: 041224
Last amended by: JP	Date: 041224



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Map 2 Baseline Habitats



**BOUNDARY ACRE, BURLESDON,
SOUTHAMPTON, HAMPSHIRE**

PRELIMINARY ECOLOGICAL APPRAISAL

Map 2 - Baseline Habitats

Client:	Simon Williamson
Date:	December 2024
Status:	Draft

KEY

-  Site Boundary
-  Other woodland; mixed
-  Non-native and ornamental hedgerow
-  Woodland trees with potential roosting features for bats identified as present

Scale at A4 1:300

0 2 4 6 8 m



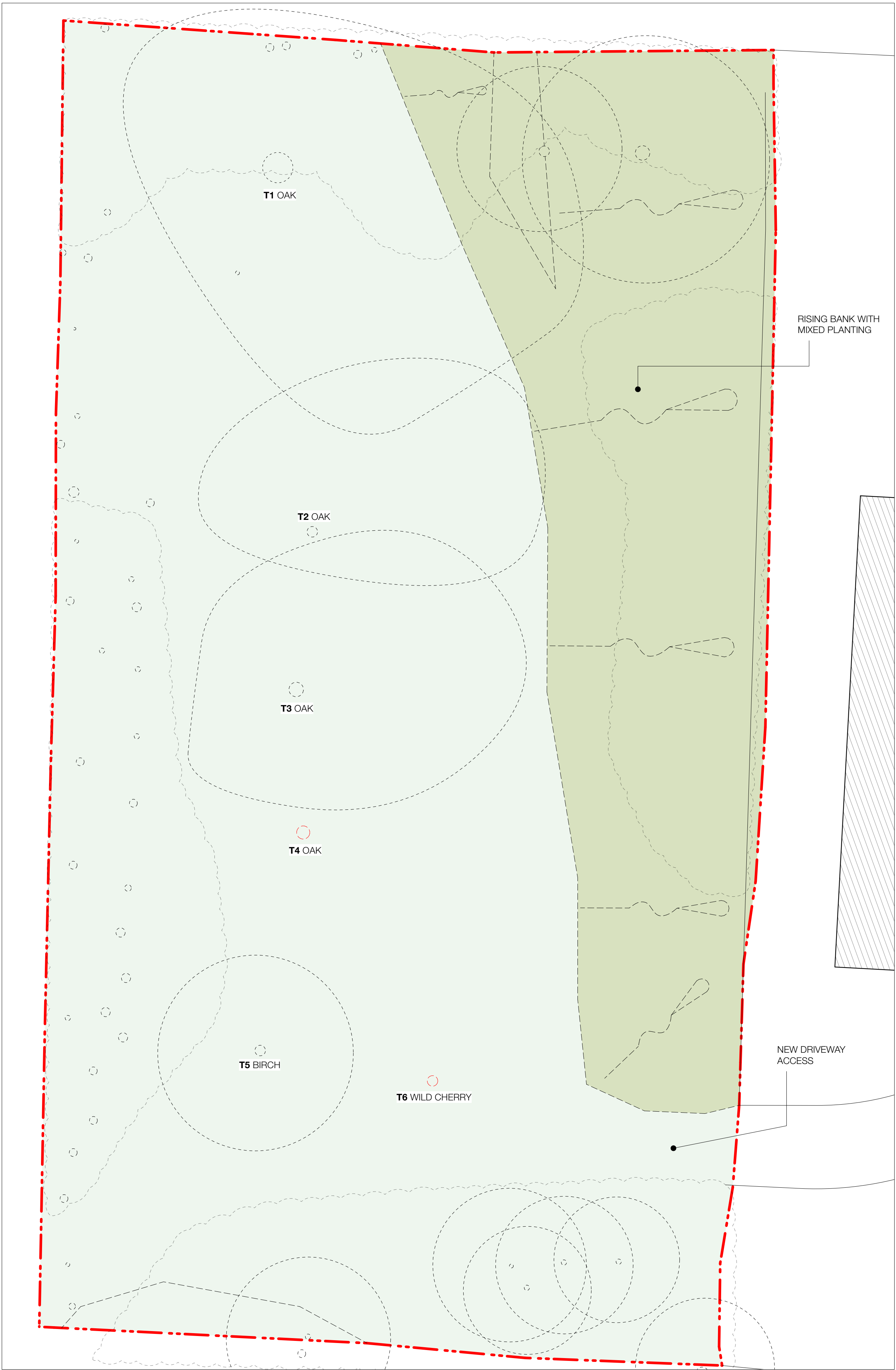
Prepared by: JP	Date: 041224
Last amended by: JP	Date: 061224

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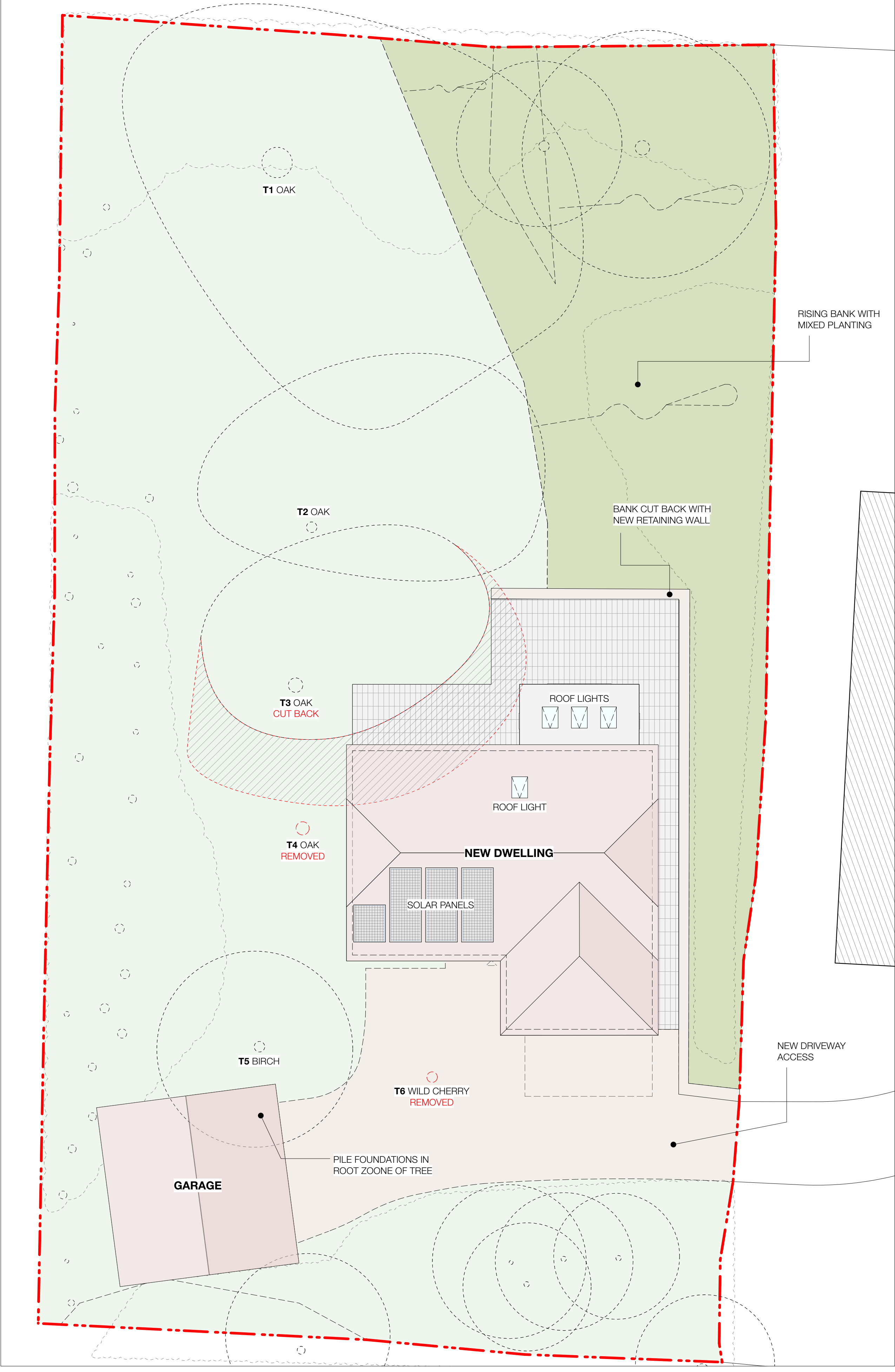
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Appendix 1 Site Proposals Plan



01 EXISTING SITE PLAN
Scale: 1:100

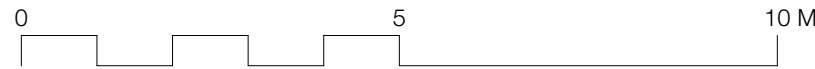


02 PROPOSED SITE PLAN
Scale: 1:100

REV	DATE	NOTES	DRN	CHKD
A	11/1/20			

GENERAL NOTES

THE CONTRACTOR IS RESPONSIBLE FOR THE CHECKING OF ALL SITE DIMENSIONS AND LEVELS. DISCREPANCIES TO BE REPORTED IMMEDIATELY TO THE CONTRACT ADMINISTRATOR / ARCHITECT. TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONSULTANTS DRAWINGS AND INFORMATION. ALL EXISTING SITE, TREE AND BUILDING INFORMATION HAS BEEN COMPILED FROM DIFFERENT SOURCES.



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DRAWING TITLE Proposed Site

DRAWING REF 2221-PCA-DR-A-100

STATUS INFORMATION - NOT FOR CONSTRUCTION

SCALE

PROJECT TITLE BOUNDARY ACRES

CLIENT WILLIAMSON

ORIGIN 10/22

PROJECT NO. 2221

Appendix 2 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
- To impair its ability to survive, breed, or rear or nurture their young;
- To impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Hazel Dormouse and Great Crested Newt

These species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely, to impair its ability to survive, breed, or rear or nurture their young, to impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any one of these species uses for shelter or protection.

Badger

The Protection of Badgers Act 1992 consolidates previous legislation (including the Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991). It makes it an offence to:

- Kill, injure or take a badger;
- Attempt to kill, injure or take a badger; or
- To damage or interfere with a sett.

The 1992 Act defines a badger sett as 'any structure or place which displays signs indicating current use by a badger'.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- Intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Reptiles

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations (in England and Wales only) and the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

Species and Habitats of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

Schedule 9 Invasive Species

Japanese knotweed and Rhododendron are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). This makes it illegal to plant or otherwise cause the species to grow in the wild. It is also classed as a 'controlled waste' under the Environmental Protection Act 1990 (EPA). As such it must be disposed of safely at a licensed landfill site according to the EPA (Duty of Care) Regulations 1991.

Appendix 3 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 2**¹².

Table 2: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats 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.
Moderate	A structure of tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated 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 or a patch or scrub.
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of	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-

¹² Table adapted from (Collins, 2023)

	crevices/suitable shelter at all ground/underground levels).	lines, or generate/shelter insect populations available to foraging bats)
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Appendix 4 Statutory Designated Sites within the Desktop Study Area

Details of statutory designated sites within the desktop study area, as listed in Paragraph 4.2.1, are provided in **Table 3**.

Table 3: Statutory Designated Sites Located Within the Desktop Study Area

Site Name	Upper Hamble Estuary and Woods
Site Designation	SSSI
Approximate Relative Location	740 metres south-east of the site at its closest point
Reasons for Designation:	
Upper Hamble Estuary and Woods Site of Special Scientific Interest comprises the uppermost section of the estuary of the River Hamble and its flanking zones of saltmarsh, reedswamp and ancient semi-natural woodland. Twelve types of ancient broad-leaved woodland occur in the SSSI. The variety of species and structure provides ideal conditions for a rich invertebrate fauna including the purple emperor <i>Apatura iris</i> and the rare leaf beetle <i>Orsodacne lineola</i>. Specific habitat types supported by the SSSI include: ▪ <i>Cynosurus cristatus</i> - <i>Centaurea nigra</i> grassland ▪ <i>Scirpus maritimus</i> swamp ▪ <i>Phragmites australis</i> swamp and reed-beds ▪ <i>Glyceria maxima</i> swamp ▪ <i>Atriplex portulacoides</i> saltmarsh ▪ <i>Festuca rubra</i> saltmarsh <i>Puccinellia maritima</i> sub-community ▪ <i>Elytrigia atherica</i> saltmarsh ▪ <i>Spartina anglica</i> saltmarsh ▪ <i>Quercus robur</i> - <i>Pteridium aquilinum</i> - <i>Rubus fruticosus</i> woodland ▪ <i>Quercus spp.</i>-<i>Betula spp.</i>-<i>Deschampsia flexuosa</i> woodland ▪ <i>Alnus glutinosa</i> - <i>Urtica dioica</i> woodland ▪ <i>Alnus glutinosa</i> - <i>Fraxinus excelsior</i> - <i>Lysimachia nemorum</i> woodland ▪ <i>Fraxinus excelsior</i> - <i>Acer campestre</i> - <i>Mercurialis perennis</i> woodland	

Site Name	Manor Farm
Site Designation	LNR
Approximate Relative Location	540 metres south-east of the site at its closest point
Reasons for Designation:	
Adjacent to the River Hamble, the LNR incorporates a variety of habitats including woodland and grassland areas, it supports a wide variety of wildflowers, insects and reptiles. Manor Farm also holds a number of bird species including the curlew <i>Numenius arquata</i> and skylark <i>Alauda arvensis</i>, which are red listed species of conservation concern¹³.	

¹³ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Red List criteria include species which are: globally threatened; have been subject to historical population decline in UK

Site Name	Netley Common
Site Designation	LNR
Approximate Relative Location	630 metres west of the site at its closest point
Reasons for Designation:	
Southampton's last remaining piece of open heathland, including grassland with islands of scrub and gorse, surrounded by a mixed woodland fringe. Heathland is particularly rare and remnant fragments of heathland are of national biodiversity importance and are host to a variety of wildlife.	

Site Name	Solent and Southampton Water
Site Designation	Ramsar Site
Approximate Relative Location	1.4 kilometres south-east at its closest point
Reasons for Designation:	
The site is designated under Ramsar Criterion 1, 2, 5 and 6. Criterion 1 – The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs. Criterion 2 – The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site. Criterion 5 – species with international importance: 51343 waterfowl, count in winter (1998/99 – 2002/2003). Criterion 6 – species/populations occurring at levels of international importance. Qualifying species/populations (as identified at designation) Species with peak counts in spring/autumn: - Ringed plover <i>Charadrius hiaticula</i>. Species with peak counts in winter: - Dark-bellied brent goose <i>Branta bernicla bernicla</i>; - Eurasian teal <i>Anas crecca</i>; and Black – tailed godwit <i>Limosa limosa islandica</i>.	

Site Name	Solent and Southampton Water
Site Designation	SPA
Approximate Relative Location	1.4 kilometres south-east at its closest point
Reasons for Designation:	

during 1800–1995; are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.

The site qualifies for supporting the following Annex I species:

Breeding

- Common Tern *Sterna hirundo*, 267 pairs representing at least 2.2% of the breeding population in Great Britain;
- Little Tern *Sterna albifrons*, 49 pairs representing at least 2.0% of the breeding population in Great Britain;
- Mediterranean Gull *Larus melanocephalus*, 2 pairs representing at least 20.0% of the breeding population in Great Britain;
- Roseate Tern *Sterna dougallii*, 2 pairs representing at least 3.3% of the breeding population in Great Britain; and
- Sandwich Tern *Sterna sandvicensis*, 231 pairs representing at least 1.7% of the breeding population in Great Britain.

This site also qualifies by supporting populations of European importance of the following migratory species:

Over winter

- Black-tailed Godwit *Limosa limosa islandica*, 1,125 individuals representing at least 1.6% of the wintering Iceland - breeding population;
- Dark-bellied Brent Goose *Branta bernicla bernicla*, 7,506 individuals representing at least 2.5% of the wintering Western Siberia/Western Europe population;
- Ringed Plover *Charadrius hiaticula*, 552 individuals representing at least 1.1% of the wintering Europe/Northern Africa - wintering population; and
- Teal *Anas crecca*, 4,400 individuals representing at least 1.1% of the wintering North-western Europe population.

The site qualifies by regularly supporting in excess of 20,000 individual waterfowl over winter.

Site Name	Solent Maritime
Site Designation	SAC
Approximate Relative Location	1.4 kilometres south-east at its closest point
Reasons for Designation:	
Annex I habitats that are a primary reason for selection of this site: ▪ Estuaries; ▪ Spartina swards (<i>Spartinion maritimae</i>); and ▪ Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>). Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: ▪ Sandbanks which are slightly covered by sea water all the time; ▪ Mudflats and sandflats not covered by seawater at low tide; ▪ Coastal lagoons; ▪ Annual vegetation of drift lines; ▪ Perennial vegetation of stony banks; ▪ Salicornia and other annuals colonizing mud and sand; and ▪ Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes). Annex II species present as a qualifying feature, but not a primary reason for site selection: Desmoulin's whorl snail <i>Vertigo moulinsiana</i>.	

Site Name	The New Forest
Site Designation	Ramsar Site

Approximate Relative Location	8.85 kilometres south-west at its closest point
Reasons for Designation:	
The site is designated under Ramsar Criterion 1, 2 and 3. Criterion 1 - The site contains the largest concentration of intact valley mires in Britain. Criterion 2 – The site supports a diverse assemblage of wetland plants and animals including several nationally rare species and at least 65 British Red Data Book species. Criterion 3 – The mire habitats are of high ecological quality and diversity and have undisturbed transition zones. The invertebrate fauna of the site is important due to the concentration of rare and scarce wetland species. The whole site complex is essential to the genetic and ecological diversity of southern England.	

Site Name	The New Forest
Site Designation	SPA
Approximate Relative Location	8.85 kilometres south-west at its closest point
Reasons for Designation:	
The site qualifies for supporting the following Annex I species: Breeding ▪ Dartford Warbler <i>Sylvia undata</i>, 538 pairs representing at least 33.6% of the breeding population in Great Britain; ▪ Honey Buzzard <i>Pernis apivorus</i>, 2 pairs representing at least 10.0% of the breeding population in Great Britain; ▪ Nightjar <i>Caprimulgus europaeus</i>, 300 pairs representing at least 8.8% of the breeding population in Great Britain; and ▪ Woodlark Lullula arborea, 184 pairs representing at least 12.3% of the breeding population in Great Britain. Over winter Hen Harrier <i>Circus cyaneus</i>, 15 individuals representing at least 2.0% of the wintering population in Great Britain.	

Site Name	The New Forest
Site Designation	SAC
Approximate Relative Location	8.85 kilometres south-west at its closest point
Reasons for Designation:	
Annex I habitats that are a primary reason for selection of this site: ▪ Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>); ▪ Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>; ▪ Northern Atlantic wet heaths with <i>Erica tetralix</i>; ▪ European dry heaths;	

- Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*);
- Depressions on peat substrates of the *Rhynchosporion*;
- Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*);
- *Asperulo-Fagetum* beech forests;
- Old acidophilous oak woods with *Quercus robur* on sandy plains;
- Bog woodland; and
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*).

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Transition mires and quaking bogs; and
- Alkaline fens.

Annex II species that are a primary reason for selection of this site:

- Southern damselfly *Coenagrion mercuriale*; and
- Stag beetle *Lucanus cervus*.

Annex II species present as a qualifying feature, but not a primary reason for site selection:

Great crested newt *Triturus cristatus*.

Appendix 5 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) form a network of protected sites across the European Union and United Kingdom. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to SPAs and SACs.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on SPAs, SACs or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a SPA, SAC or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSIs) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNRs) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNRs) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Non-Statutory Sites

Locally Designated Sites

In addition to statutory designations, local authorities often designate sites of nature conservation importance at the local level. Such designations are named differently by each local authority and may be referred to as Local Wildlife Sites (LWSs), Sites of Importance for Nature Conservation (SINCs) or Sites of Nature Conservation Importance (SNCIs), amongst others. The exact level of protection afforded to these sites varies and is normally defined through local planning policy.

Appendix 6 Baseline Habitats

Table 4: Summary of Baseline Habitats

Level 1	Terrestrial
Level 2	Woodland and forest (w)
Level 3	Broadleaved and mixed woodland (w1)
Level 4	Other woodland – mixed (w1h)
Level 5	N/A
Secondary Codes	Semi-natural woodland (30) Young trees – self-set (202) Mature tree (203) Fallen dead wood abundant (214) Standing dead wood abundant (215) Neglected (518) Native (522) Non-native (523) Invasive non-native species (524)
	
Species List	
Native (522) trees and shrubs Pedunculate oak, silver birch, holly <i>Ilex aquifolium</i> , willow species, field maple, yew, beech and hazel	
Non-native (523) trees and shrubs Lawson cypress, sycamore, silver fir, western red cedar, Japanese camellia, cherry laurel, holm oak <i>Quercus ilex</i> , black locust <i>Robinia pseudoacacia</i> , bamboo <i>Bambusa</i> species and Japanese cedar <i>Cryptomeria japonica</i>	
Invasive non-native species (524) Japanese knotweed and <i>Rhododendron</i>	

Creeping softgrass, ragwort *Jacobaea vulgaris*, ivy *Hedera helix*, wood avens, male-fern *Dryopteris filix-mas*, sycamore (seedlings and saplings), common nettle, bramble, wood forget me not *Myosotis sylvatica*, creeping buttercup *Ranunculus repens*, spear thistle, broad-leaved dock, willowherb *Epilobium* species, common dandelion *Taraxacum officinale*, wood sorrel *Oxalis acetosella*, dog's mercury *Mercurialis perennis*, common fleabane *Pulicaria dysenterica*, sow thistle *Sonchus oleraceus*, butterfly bush, herb Robert *Geranium robertianum*, enchanter's nightshade *Circaea lutetiana*, yellow iris *Iris pseudacorus*, cleavers *Galium aparine*, soft rush, creeping thistle *Cirsium arvense*, tutsan *Hypericum androsaemum*, hart's-tongue fern *Asplenium scolopendrium*, elder *Sambucus nigra* and cow parsley

Level 1	Terrestrial
Level 2	Heathland and shrub (h)
Level 3	Hedgerows (h2)
Level 4	Non-native and ornamental hedgerow (h2b)
Level 5	N/A
Secondary Codes	Active management (516)
	
Species List	
Beech	

Appendix 7 Arboricultural Impact Assessment – Tree Constraints Plan

Arboricultural Method Statement (part 1 of 2)

This report is a working document to aid in finalising an effective specification for tree-sensitive operations. It must be retained on site and be available to the site manager/foreman as a reference during construction.

The details in this method statement may include work to protected trees, consent for which is deemed to be granted if it is approved as part of a planning decision.

Failure to comply with the details in this arboricultural method statement could result in enforcement action being taken by the local planning authority.

Tree Surgery

The following works to trees are necessary:

- Fell the following trees to ground level;
T3, oak. Fell to facilitate layout.
T5, birch. Dead. Unsafe.
T8, sycamore. Unsafe.
T12g, trees k, l. Unsafe. (2 trees).
T12g, tree m. Fell to facilitate layout. (1 tree).
T13g, Lawson cypresses. Fell to benefit adjacent trees. (3 trees).
T17, willow. Unsafe.
T20g, Lawson cypresses. Fell to facilitate layout. (2 trees).
T25g, sycamores. Fell to facilitate layout. (7 trees).
- Prune the following trees; T2, oak. Prune eastern crown back to strong growing points by approx 2m.

The legal Duty of Care requires that all works specified in this report should be carried out by qualified, arboricultural contractors working according to Health & Safety Executive guidelines. All work must be carried out to arboricultural industry best practice and in accordance with BS 3998:2010 'Tree work - Recommendations'. All tree management work must take account of the Wildlife and Countryside Act, 1981, as amended by the Countryside and Rights of Way Act 2000, and the Conservation of Habitats and Species Regulations 2017. This legislation makes it a criminal offence to disturb the nests and to injure or kill nesting birds or bats.

Tree Protection Fencing

Tree protection fencing, complying with British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations', must be erected in the positions shown on the plan, opposite, prior to commencement of demolition and remain as an effective barrier and in position until the end of the demolition phase or until the project arboriculturist, or local planning authority provides written authority for its removal.

See illustration below for specification of the tree protection fencing to be erected.

Pre-Commencement Site Meeting

A pre-commencement site meeting must be held at which the site manager, the project arboriculturist and, if required by condition, a representative from the local planning authority are present to discuss the tree protection measures.

General Construction Management

There must be no changes to soil levels within tree root protection areas.

A suggested area for material storage, site office and worker facilities is shown on the plan. Final siting of cabins must be discussed and agreed at the time of the pre-commencement site meeting.

No fires are permitted to be set within the site.

Cement mixing must be carried out only where there is no significant risk of contamination of tree root systems. No cement mixing is allowed within 10m of trees to be retained. If cement mixing is unavoidable within 10m of any retained tree it must be contained in a bunded area, as illustrated below.

Cranes must only be used where there is no possibility of them damaging overhanging branches.

Installation of New Boundary Fencing

Excavations for fencing posts along the yellow line shown on the plan, opposite, must be carried out using hand tools only. Any roots of diameter greater than 25mm must be retained and post positions adjusted to avoid damage to these roots. The project arboriculturist must advise on the appropriateness of root pruning before any significant roots are pruned.

Any root severance that is necessary as part of this operation must be carried out by hand using hand tools only and in accordance with BS 3998:2010 'Tree Work - Recommendations'. Roots must be cut cleanly back to 50mm beyond the area of disturbance, to minimise the exposed root surface, and covered with a soil prior to backfilling.

All post holes within root protection areas must be lined with heavy-duty polythene sheeting to prevent any direct contact between roots and chemicals that could affect tree health.

Excavations for Ground Screws

Prior to the installation of the ground screws, openings must be made in the existing hard standing for each pile. A Fakopp Tree Detector system can then be set up in each hole, connecting to each of the nearby trees, and a test carried out to determine if there are any significant roots present near the hole. Where the result of these tests indicates roots are present the position of that hole must be adjusted to avoid damage to the tree root.

If no Fakopp Tree Detector is available, then, prior to the installation of any ground screw foundation within any tree root protection area, an exploratory hole must be hand dug to a depth of 600mm to establish the presence of roots. The exploratory hole must be repositioned if significant roots (diameter >25mm) are encountered. The underside of the supporting beams for the garage structure and the internal floor (RC slab) must be suspended above existing ground levels and spanned across the installed piles to avoid damage to tree roots. A void / air gap must be maintained beneath the internal floor (see cross section, opposite).

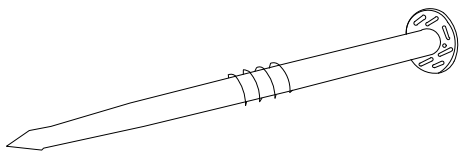
Aeration/Irrigation within the garden room footprint

Lengths of 60mm diameter perforated HDPE pipe must be laid beneath the garage footprint. Each end of the pipe must be connected to a downpipe, at opposite ends of the garage roof. This will redirect rainwater off the roof of the garage and allow it to reach existing tree roots beneath the garden room footprint. The soil beneath the garage must not be disturbed during this operation.

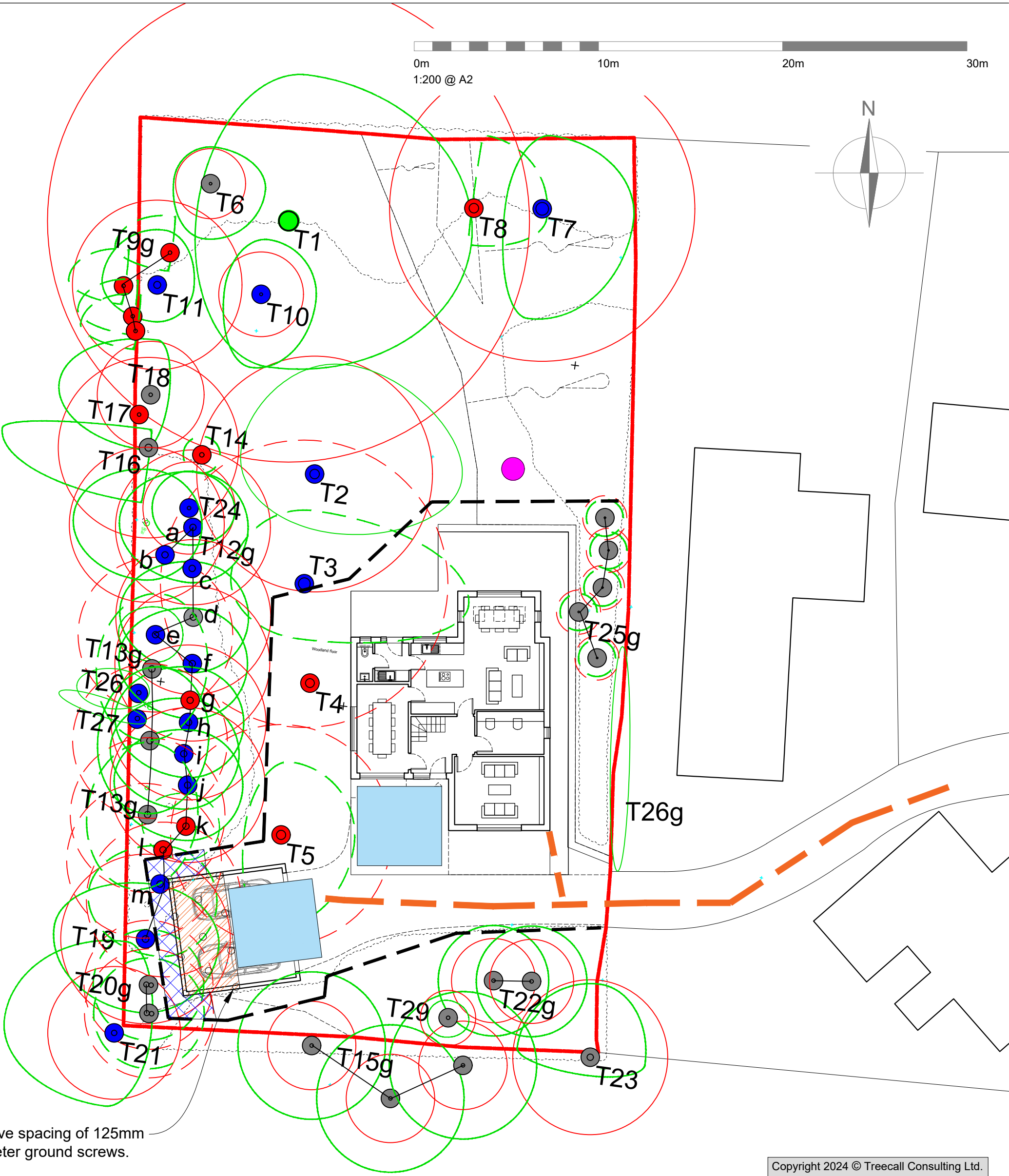
Single size gravel or shingle (no fines) must be backfilled around the pipe within the footprint of the garage.

As water passes along these pipes it will percolate into the ground below. Air will be sucked in to replace the water as it sinks through the soil spaces and this aids the respiration of roots. It is important that the pipe at each end are connected to the downpipes as this maintains a draught through the system.

Illustration of 125mm Helical pile (Great British Ground Screw)



Illustrative spacing of 125mm diameter ground screws.



Title:	Tree Constraints Plan with Pre-Application Comments	
Site:	Land adjacent Boundary Acres	
TC Ref:	DS/19924/SC	
Date:	27 September 2024	
Scale:	1:200 @ A2	

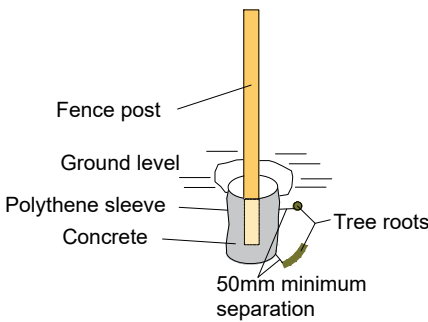
Trees to be removed
(shown with dashed crown spreads and root protection areas):
U Category trees (unsafe): T4, T5, T8, T12g (trees k & l), T17.
C Category trees to be removed for Layout:
T20g (2 trees), T25g (~7 trees).
C Category trees to be removed for good management:
T13g (3 trees)
B Category trees to be removed for Layout:
T3, T12g (tree m).

Key:	
Category	
Trunk diameter (black ring)	
Theoretical Root Protection Area	

British Standard 5837:2012 Categories	
	'A' category trees are those of high quality.
	'B' category trees are those of moderate quality.
	'C' category trees are those of low quality or young trees with a stem diameter below 150mm.
	'U' category trees are those that are unsuitable for retention.

Suggested area for materials & worker facilities.	
Tree protection fencing to be erected prior to the commencement of any works on the site.	
Suggested route for new underground services.	
Suggested location for new soakaways.	
Temporary ground protection to be installed prior to the commencement of any works on the site.	
Area of garage footprint requiring ground screw piles and irrigation/aeration pipes.	

Illustration of fence post installation



Underground Services

Excavations for underground services must be carried out in a way that avoids significant damage to tree root systems. At the time of planning this installation work the project arboriculturist must be consulted.

Deep service runs (depth greater than 600mm) must be installed using trenchless insertion methods, such as moling, with entry and retrieval pits being located outside of tree root protection areas. This will reduce the likelihood of the mole encountering significant tree roots. Shallow service runs (depth less than 600mm) required within any tree root protection area must be dug using the guidance provided by National Joint Utilities Group Volume 4 'Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees'.

Surface water drains and soakaways must be located outside tree root protection areas to avoid damage to roots during excavation. Suitable locations for new soakaways and a suggested route for new services are shown on the plan.

PROHIBITED ZONE - 1m from trunk.

Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.

PRECAUTIONARY ZONE - 4 x tree circumference.

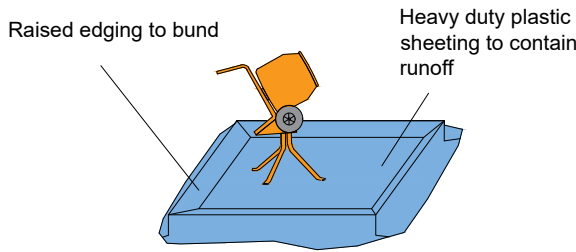
Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with local authority tree officer if in any doubt.

PERMITTED ZONE - outside of precautionary zone.

Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

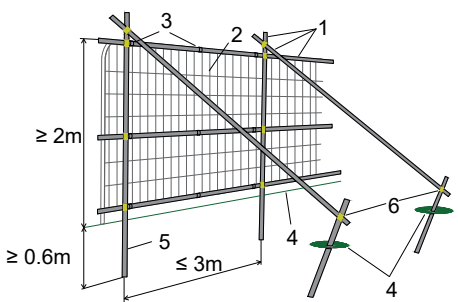
(Source: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees - Issue 2)

Illustration of bunded cement mixing area



Cement, builder's sand and other chemicals used in cement mixing must all be stored on non-permeable surfaces to ensure soil beneath is not contaminated.

Tree Protection Fencing Specification



Key:
1. Standard scaffold poles.
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels.
3. Panels secured to uprights and cross-members with wire ties.
4. Ground level.
5. Uprights driven into the ground until secure (minimum depth 0.6m).
6. Standard scaffold clamps.

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