



FORMER SUBSTATION, NUTBOURNE ROAD,
HAYLING ISLAND

ECOLOGICAL IMPACT ASSESSMENT

31/07/2023

CLIENT: Winlaz Property Ltd

PROJECT NO.: NUTBOU-2023

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Executive Summary

SoEcology Ltd was commissioned by Winlaz Property Ltd to produce an Ecological Impact Assessment report to support a planning application for Former Substation, Nutbourne Road, Hayling Island, PO11 9RT, grid reference: SZ 74255 98304.

The development proposals are for the change of use of a former substation to two bed accommodation.

A Preliminary Ecological Appraisal was undertaken in June 2023, which included a Preliminary bat Roost Assessment of the building. The survey did not record any confirmed evidence of bats roosting, however, potential roosting features were recorded that could not be scoped-out as part of the PRA, which included suitably sized gaps between the front and rear soffits and brickwork, missing and lifted tiles in the roof, and suitable sized gaps in the brickwork. The Site's densely built-up location, well-lit by street lights and exposed position close to the shore reduced the potential for bats to utilise the building and overall, the building was assessed to be of moderate suitability for roosting bats. The survey also noted the presence of a pigeon at the front of the buildings roof and a mammal hole leading under the northern foundations of the building.

The desk-top study confirmed that the Site is located within the 5.6km agreed Zone of Influence (ZoI) of international statutory designations named Solent Maritime SAC and Chichester Harbour & Langstone Harbours SPA. A mitigation strategy has been adopted by these designations, whereby any development resulting in a net increase in dwellings need to provide a financial contribution to finance the management of cumulative recreational impacts, detailed in Section 5 of this report.

In response to the survey findings, further bat surveys were undertaken to confirm presence/likely absence of bats roosting, in the form of two dusk emergence surveys in July 2023. The surveys did not record bats emerge or re-enter the property and it is assessed to be likely absent of roosting bats.

The unidentified mammal hole was monitored between 28th June and 20th July 2023 using a trail camera. The trail camera recorded regular presence of two foxes and confirmed that the mammal hole is a fox den. There is potential for this fox den to be utilised for rearing young in the 2024 breeding season and humane mitigation measures are required in the form of a one-way gate to allow foxes to exit but not enter outside of the season where dependent young are likely to be present.

The Site does not support key habitats of nature conservation concern in Hampshire and there are no habitats on-site considered to be greater than site value. However, the combined loss of the low value habitats has been calculated to result in a net loss in biodiversity value. The baseline and likely post development biodiversity value has been calculated using the Small Site Metric to aid in the feasibility assessment of achieving a net gain in biodiversity. The calculation has influenced the mitigation and compensation measures recommended in this report to offset any losses.

The survey and assessment concluded that amphibians, reptiles, badger, hazel dormice, notable plants, roosting bats are likely absent. The presence of priority invertebrate species, nesting birds, foraging and commuting bats could not be scoped out. Due to the nature of the proposals and habitat to be lost to facilitate them, further surveys are not deemed necessary and precautionary mitigation measures are deemed sufficient.

Compensation and enhancement recommendations are provided in this report with the aim of pro-actively influencing the design phase to achieve a net gain in biodiversity in accordance with the National Planning Policy Framework and Environmental Act 2021.

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1 Introduction

SoEcology Ltd was commissioned by Winlaz Property Ltd to produce an Ecological Impact Assessment (EclA) report to support a planning application for Former Substation, Nutbourne Road, Hayling Island, PO11 9RT, grid reference: SZ 74255 98304.

The purpose of the EclA report is to support a planning application for the change of use of a former substation to two bed accommodation.

The Site is approximately 0.02ha in size and comprises an old brick-built substation, a new small substation and vacant land of gravel substrate with tall herb growth.

The purpose of an EclA report is:

- To identify potential significant ecological effects associated with the development proposals;
- To provide appropriate mitigation measures to ensure compliance to relevant policies and legislation (see Section 2);
- To provide an assessment of significant residual effect;
- To identify how mitigation measures will be secured;
- To identify appropriate compensation and enhancement measures to negate any negative significant residual effects and with the aim of achieving a net gain in biodiversity, in compliance with relevant policy; and
- To set out requirements for post-construction monitoring, if required.

This report is suitable to support the planning application proposed at the time of this report write-up. This report may require amending if the proposals change since the report submission date displayed on the front page. It is important to note that the survey results are valid for 12 months from the date of the last site visit. If this time elapses prior to planning submission, updating surveys will be required.

This report was written by Sophie Lancaster, an Ecologist working in private consultancies since 2013. Sophie has completed a masters (MSc) in Environmental Consultancy and is an Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM). Sophie holds protected species licences for bats (level 2 class licence) and great crested newt (class 1).

2 Planning Policy and Legislation

This section does not provide a comprehensive list of nature conservation policies and legislation within the United Kingdom. The policies and legislation listed below are those relevant to the project only.

2.1 National Planning Policy

The most recent National Planning Policy Framework (NPPF) was published in July 2021. The NPPF sets out the Government's planning policies for England and how these should be applied. Paragraphs of relevance within the NPPF include:

Paragraph 174 of the NPPF states that *"Planning policies and decisions should contribute to and enhance the natural and local environment by:/... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures."*

Paragraph 179 of the NPPF states that *"To protect and enhance biodiversity and geodiversity, plans should:/... promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."*

Paragraph 180 of the NPPF states that *"When determining planning applications, local planning authorities should apply the following principles:*

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons¹ and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*

Paragraph 181 of the NPPF also states that potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are to be afforded the same protection as designated Special Protection Areas, Special Areas of Conservation and Ramsar sites.

The NPPF is also complemented by the Circular 06/2005: Biodiversity and Geographical Conservation – Statutory Obligations and Their Impacts Within The Planning System (Office of the Deputy Prime Minister, 2005). Paragraph 99 states that *"It is essential that the presence or otherwise of protected*

¹ For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision."

The Hedgerows Regulations 1997 were made under Section 97 of the Environment Act 1995. The Circular provides a comprehensive statement of planning requirements in relation to hedgerows: *"They aim to protect important hedgerows in the countryside by controlling their removal through a system of notification to local planning authorities. The system applies to most countryside hedgerows in England and Wales, and covers hedgerows on, or adjoining land used for agriculture or forestry, the breeding or keeping of horses, ponies or donkeys, common land or village greens, SSSIs, or local nature reserves. They do not apply to garden hedges. To be important, the hedgerows must meet certain criteria set out in the Hedgerow Regulations 1997. Permission for removal of a hedgerow is not required if it is less than 20 metres long (unless both ends join with other hedgerows or it is part of a longer hedgerow), or is in, or borders a garden. Similarly, permission to remove a hedgerow is not required in certain circumstances for emergency/access purposes."*

2.2 The Environment Act

The Environment Act was passed in November 2021, after the Environment Bill received Royal Assent. Under Schedule 14 of the Act biodiversity net gain is a mandatory condition for planning applications, with most developments required to achieve a 10% net gain in biodiversity. There is, however, a two-year transition period following Royal Assent, and therefore, Schedule 14 of the Act will not become mandatory until November 2023. Despite this transitional period the Act is considered in this report as Local Planning Authorities will be expected to progressively incorporate the Act in the decision-making process for planning applications and the request for a development to show a 10% net gain in biodiversity is already frequently requested as a condition. Subsequently, it is advised that Biodiversity Net Gain (BNG) is considered early in the planning process and considered within the design stages of the development.

The Act sets out in what manner the biodiversity gain objective is to be met; by undertaking calculations using the biodiversity metric, establishing the pre-development biodiversity value and the post-development biodiversity value with necessary habitat enhancements incorporated. The planning authority must be satisfied that habitat enhancements resulting from the works will be met, *"by virtue of:*

- a) A condition subject to which planning permission is granted,*
- b) A planning obligation, or*
- c) A conservation covenant.*

be maintained for at least 30 years after the development is completed."

Where net gain cannot be achieved on-site a planning application is required to acquire *"Registered off-site biodiversity gain, means any habitat enhancement where:*

- a) The enhancement is required to be carried out under a conservation covenant or planning obligation, and*
- b) The enhancement is recorded in the biodiversity gain site register.*

The biodiversity value of registered offsite biodiversity gain is measured, under the biodiversity metric, in relation to development to which it is allocated."

Biodiversity credits can also be purchased to off-set any short fallings in a planning applications biodiversity metric calculation. *"Biodiversity credits means credits under section 101 of the Environment Act 2021."*

2.3 Local Planning Policy

Local planning policy within Havant Borough is provided by the Havant Borough Core Strategy March 2011 with a single policy referring in part ecology and biodiversity:

- **Policy CS11:** Protecting and Enhancing the Special Environment and Heritage of Havant Borough. This policy refers in part to biodiversity stating that planning permission will be granted for development that:
 - Protects and where possible enhances the borough's statutory and non-statutory designated habitats and features of biological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures;
 - Has particular regard for nature conservation designations with international designations given the highest regard;
 - Supports an ongoing programme of survey of habitats, species and designations of SINC's;
 - Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly associated with the coasts, in order to minimise harm;
 - Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and their soil structure, particularly the ancient woodland remnants of the Forest of Bere and coastal salt marsh;
 - Protects wildlife habitats and corridors to prevent fragmentation and to allow species to adapt to climate change; and
 - Responds to the emerging evidence from the Solent Disturbance and Mitigation Project and published recommendations and further research.
- **Policy DM9:** Development in the Coastal Zone. This policy refers to the protection of the coastal zone as defined on the Proposals Map. Permission will only be granted in the coastal zone where the following criteria are met:
 - Has no harmful effects on nature conservation within the Chichester and Langstone Harbour SSSIs and SPA, Solent Maritime SAC and Ramsar site, or any SINC's and Local Nature Reserves;
 - Maintains and enhances the appearance and distinctiveness of existing settlements and landmarks along the coast;
 - Contributes positively to the landscape and has regard to best practice on the design of new buildings in coastal locations;
 - Upgrades existing footpaths and ensures that public access is retained and provided to connect existing paths along the waterfront where appropriate;

- Would result in improvements to or redistribution of moorings, marine berths or launch on demand facilities (dry berths) in the harbours;
- Would not be detrimental to infrastructure for, and quality of, water-based recreation, or be detrimental to the safety of navigation; and
- Provides recreational opportunities that do not adversely affect the character and appearance of the coast

2.4 International Designated Sites

Internationally designated sites include Special Protection Areas (SPAs), Ramsar sites and Special Areas of Conservation (SAC).

SPAs, Ramsar sites and SACs form the Natura 2000 network of sites of nature conservation significance within Europe. SACs are designated under the Habitats Directive² to ensure the favourable conservation status of each habitat type and species. SPA's are designated under the Birds Directive and are designated for 194 threatened species, all of which being migratory bird species. Ramsar are afforded to wetlands of international importance, designated under the Ramsar Convention.

Within the UK these designations are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and Local Planning Authorities (LPA) are required to review all planning applications for potential to affect internationally designated sites. The application site does not need to be on or adjacent to an internationally designated site to have a potential impact. Where an LPA deems a significant effect on a European site to be likely, an Appropriate Assessment is to be undertaken to determine the implications of the development for the site's conservation objectives.

2.5 Nationally Designated Sites

National designations include Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR).

In accordance with Section 28 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 9 of the Countryside and Rights of Way Act 2000, LPAs are required to notify Natural England of a developments potential to likely damage a SSSI before granting planning permission. If a development is anticipated to affect a national designation an Appropriate Assessment is not required, however, the LPA will determine appropriate course of action to prevent adverse effects on the designation. Natural England will be consulted whether or not the application site is located on or adjacent to a SSSI, as indirect effects are also considered. SSSIs designations also frequently cover the same footprint of international designations.

NNR are offered the same level of protection under the National Parks and Access to the Countryside Act 1949, strengthened by the Wildlife and Countryside Act 1981 (as amended).

2.6 Locally Designated Sites

Local Nature Reserves (LNRs) are statutory designations afforded by Local Authorities, protected under the National Parks and Access to the Countryside Act 1949 and the Natural Environment and Rural Communities Act 2006. LNRs qualify for their importance to wildlife, geology, education or public enjoyment and are frequently also SSSIs. They are protected against on site or adjacent development and development that negatively impacts a LNR will only be granted in exceptional circumstances. The level of protection is decided locally via Local Plans and local-by-laws and varies from site to site.

² Council Directive on the conservation of wild birds of 2nd April 1979 (79/409/EEC) and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora of 21st May 1992

2.7 Non-statutory Locally Designated Sites

Non-statutory designations are sites designated by Local Authorities for their nature conservation value at a local level. The name given to such designations differs between Local Authorities from Local Wildlife Sites (LWSs), Sites of Importance to Nature Conservation (SINCs) or Sites of Nature Conservation Importance (SNCIs). The means of their protection is the same as for LNR (see paragraph 2.6).

2.8 Protected Species Legislation

2.8.1 Plants

2.8.2 Birds

All birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to:

- a) Intentionally kill, injure or take a wild bird;
- b) Possess a wild bird or the egg of a wild bird;
- c) Damage and destroy or take an egg of a wild bird;
- d) Take, damage or destroy a nest whilst in use;
- e) Advertise or sell any wild bird or their eggs; and
- f) Use prohibited methods to kill or take wild birds.

Additional protection is offered to birds listed under Schedule 1 of the Wildlife and Countryside Act, such as barn owl *Tyto alba*. The Schedule makes it an offence to intentionally or recklessly disturb listed birds when nest building, in or near a nest that contains young and disturb dependent young.

If found guilty of any of the above offences you can be sent to prison for up to six months and receive an unlimited fine.

Additional protection is offered to birds listed under Annex I of the Birds Directive. Species listed on Annex I are those where their conservation requires the designation of SPA's. Although it is important to note that the recording of the species listed does not automatically qualify a site for SPA status. The species listed include a large number of waders found along the south coast of England, as well as, but not limited to, kingfisher *Alcedo atthis*, Dartford warbler *Sylvia undata*, nightjar *Caprimulgus europaeus* and stone curlew *Burhinus oedipnemos*.

2.8.3 Badger

The Protection of Badgers Act 1992 makes it an offence to:

- a) Intentionally kill, injure or take a badger;
- b) Possess a dead badger or any part of a dead badger;
- c) Cruelty in the form of ill treatment, bait or dig for badger or causing unnecessary suffering;
- d) Damage, disturb, destroy, obstruct access to a badger sett;
- e) Selling or possession of a live badger

2.8.4 Bats

All UK species of bat are fully protected as a European Protected Species under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended), which makes it an offence to:

- a) Deliberately capture, injure or kill;
- b) Deliberately disturb a bat while in a structure or place of shelter or protection;
- c) Damage or destroy a breeding site or resting place;

- d) Obstruct access to their resting or sheltering place; and
- e) Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal.

If found guilty of any of the above offences you can be sent to prison for up to six months and receive an unlimited fine.

Four British bat species are afforded additional protection under Annex II of the Habitats Directive. These species include barbastelle *Barbastella barbastellus*; Bechstein's bat *Myotis bechsteinii*; greater horseshoe bat *Rhinolophus ferrumequinum*; and, lesser horseshoe bat *Rhinolophus hipposideros*. Species listed on Annex II are those where their conservation requires the designation of SACs.

2.8.5 Other mammals

The Wild Mammal Protection Act 1996 makes it an offence for any person to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering to any wild mammal. This includes red fox *Vulpes Vulpes*, deer and European rabbits *Oryctolagus cuniculus*.

2.8.6 Habitats and Species of Principle Importance

Section 41 of the Natural Environment and Rural Communities (NERC) Act, provides a list of habitats and species of principle importance for the conservation of biodiversity in England. The list provided under Section 41 succeeds the UK Biodiversity Action Plan (BAP). The Act provides a guide for governing bodies such as LPA's to ensure the conservation of biodiversity is regarded during their decision making. The species list includes many species referred to within Section 2.0 of this report, as well as, brown hare *Lepus europaeus* and harvest mouse *Micromys minutus*.

3 Methodology

This section of the report details the scope of the assessment, data acquired, surveys undertaken and how potential impacts are assessed.

3.1 Scope of the Assessment

For all projects it is imperative that the zone of influence is established. CIEEM defines zone of influence to be *“the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities”* (CIEEM, 2018). The zone of influence is determined by a suitably experienced ecologist, taking into consideration the site proposals, desk study and field survey results. The zone of influence differs for each ecological feature³. Section 4.0 identifies the projects zone of influence for each ecological feature.

The scope of the assessment initially takes into consideration all possible ecological features that have potential to be impacted by the proposal. The baseline ecological conditions (Section 4.0) includes the outcomes of the desk study and field survey(s), which results in a process of elimination, with ecological features assessed to be likely absent not considered further in the report. Scoping is an ongoing process influenced by further surveys and assessment. Further surveys are required where an impact on an ecological feature cannot be avoided.

3.2 Desk Study

3.2.1 Local Environmental Record Centre

Hampshire Bat Group (HBG) was contacted in June 2023 to provide data on bats within a 2km radius of the site. A data search request for additional ecological features including non-statutory designations was not deemed necessary due to the small scale and nature of the proposals.

3.2.2 Multi-Agency Geographic Information for the Countryside

Defra’s Multi-Agency Geographic Information for the Countryside (MAGIC) online resource was also accessed in July 2023. A search was undertaken to identify any statutory designated sites within a 1km radius and to detect whether the Site is located within the varying buffer zones of internationally designated sites, which require additional consideration in regard to in-direct effects. 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. MAGIC was also accessed to identify any European Protected Species (EPS) mitigation licence applications for protected species within a 2km radius and to identify whether the Site is within the Core Sustainance Zone (CSZ)⁴ for a communal bat roost, to help define the Zone of Influence for the species.

3.2.3 Additional Data Sources

Online mapping resources such as OS mapping was used to identify the presence of habitats such as ponds and woodland and hedgerow networks within the surrounding landscape to aid in assessing the Sites connectivity to notable habitats/green corridors and its potential for protected and notable species colonisation. Particular attention was given to the presence of ponds and other waterbodies within a 500m metre (m) radius to assess the Sites potential to support great crested newt.

³ Ecological features – habitats, species and ecosystems that may be affected given the nature of the proposals and geographical location of the application site.

⁴ Core Sustainance Zone (CSZ) is defined as “the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost” (Collins, 2016).

GoogleEarth and MAGIC maps were used to collate existing baseline habitat data in advance of the habitat survey in order to plan the survey appropriate and determining the hierarchical level of classification and scale of mapping required (Butcher, 2020). GoogleEarth timeline is also useful for determining historic management and the possibility for ecological features to be present despite existing sub-optimal conditions, due to habitual tendencies.

3.3 Field Survey

Habitat Survey

The survey followed the UK Habitat Classification (UKHab) system. This classification system integrates with the Phase 1 habitat survey classification which has been the prominent mapping system for ecologists until recently. UKHab also integrates NVC, European Nature Information System (EUNIS) and Farm Environment Plan (FEP). The UKHab is also the classification system for in Natural England's Biodiversity Metric 4.0 and thus, is used to determine biodiversity net loss/gain resulting from a development.

UKHab is hierarchical in the level of classification that can be attained, comprising a total of 5 levels. Level 1 being broad and Level 5 being very specific (NVC level classification). This survey followed the professional edition hierarchy (UKHab-P) and surveyed up to Level 4.

Extra detail on the classified habitats is provided by the inclusion of secondary codes. Secondary codes provide additional information on the environment, management and origin of mapped features. Secondary codes also replace mosaic habitats, which are now mapped by the primary habitat with a secondary code combination. In some instances, secondary codes provide important subdivisions of habitats not covered by Primary Habitat levels and are always included where relevant within a survey.

The Site is mapped using the fine-scale minimum mapping unit (MMU) 25m², 5m length, as detailed survey effort is deemed necessary for the planning application.

The UKHab survey is mapped using QGIS mapping software. The key follows the UK Hab Basic Edition Suggested Symbolology (Butcher, 2020).

For each habitat species composition, management, vegetation structure and age or permanence, where evident is recorded and an assessment of the habitats suitability to support protected and notable species is undertaken. Condition of the habitat is also recorded taking into consideration the condition criteria established in Natural England's Biodiversity Metric 4.0.

Preliminary bat Roost Assessment

The habitat survey considers the potential for protected species, as mentioned in the above paragraph, however, some species require more detailed assessment in the field to confirm potential for presence, such as roosting bats. For this reason, Preliminary bat Roost Assessment is detailed separately in this methodology, below.

The building on-site was assessed for its roosting bat suitability in accordance with the Bat Conservation Trust (BCT) best practice guidance (Collins, 2016). This includes a search of the external elevations for evidence of bats such as droppings and urine staining and potential roosting features such as lifted tiles and fascia's. The Equipment used during the PRA of the building includes a recording form, a camera, binoculars, high powered torch and endoscope.

An internal inspection was also undertaken for evidence of bats such as droppings and any access opportunities for bats using a high-powered torch. The buildings roosting bat suitability is scored as

either negligible, low, medium, high or confirmed in accordance with the BCT criteria, which determines the necessary mitigation requirements.

The Site does not support trees at risk of being directly or indirectly impacted by the development, which required the need for a tree PRA.

The habitat survey and PRA was undertaken by SoEcology Ltd Ecologist Sophie Lancaster. Sophie attained an MSc in environmental Consultancy in 2013, since which she has worked full-time as an Ecologist for private consultancies undertaking habitat and protected species surveys. Sophie is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The survey was undertaken on the 21 June 2023 at 10:30am and for the duration of the survey the weather was 20°C/Beaufort Scale 2 (light breeze)/0%cloud cover.

3.3.1 Limitations

It was not possible to fully scope out the presence of badger setts within a 30m radius of the Site, as the adjacent land is private, and access not granted by the landowner. Effort was made to assess the adjacent private land from the Site boundary and publicly accessible points.

There are intrinsic limitations associated with a PRA of a building, as it is not always possible to scope out the presence of bats, as they can roost within inaccessible areas such as between roof lining and tiles and within cavity walls. A PRA is only capable of scoping in the presence of bats via the identification of direct evidence such as individuals, droppings and urine staining.

The desk-top study data does not provide an exhaustive list of species present within the surrounding area and is only used to aid in the assessment in determining the likelihood of presence and inform the zone of influence of a project.

A full biological record centre desktop study was not undertaken as part of this assessment and bat data was attained only. This is as a full record centre desktop study was not considered necessary given the limited scale of impacts.

The habitat survey was undertaken in June, which is considered an optimal month for this survey type. However, there is always potential for such inspections to overlook species that cannot be found or identified at the time of the survey. This inherent limitation is less likely to be a concern for this small urban plot.

It is not possible for the surveyor to confirm presence/likely absence for all ecological receptors and assessments are made on the likelihood of presence based on whether there is suitable habitat on-site, the site connectivity and geographical positioning and desk-top study data.

3.4 Badger Survey

The initial field survey in June 2021 identified a mammal burrow of suitable size for badger. The surveyor looked for further evidence of mammal presence within the Site such as: setts; latrines; prints and trackways; hair caught on fencing and thistles; feeding remains; foraging signs; and scratch posts.

Badgers will occupy multiple setts over their life cycle and some setts are used more frequently and by a large social group or by individuals sporadically. Sett status is categorised as follows:

- Main: Several holes with large spoil heaps and obvious paths emanating from and between sett entrances
- Annexe: Normally less than 150m from main sett, comprising several holes. May not be in use all the time, even if main sett is very active.

- Subsidiary: Usually at least 50m from main sett with no obvious paths connecting to other setts. May only be used intermittently.
- Outlier: Little spoil outside holes. No obvious paths connecting to other setts and only used sporadically. May be used by foxes and rabbits (NatureScot, 2018).

During a survey a sett entrance is classified according to its degree of usage:

- Well used - are clear of debris and vegetation, sides worn smooth but not necessarily excavated recently.
- Partially used - are not in regular use and have debris e.g. twigs and leaves in the entrance. They could be used after only a minimal amount of clearance.
- Disused - not in use for some time, are partially blocked and could not be used without considerable effort. If the hole has been disused for some time all that may be visible is the overgrown spoil heap and a depression in the ground where the hole used to be. Rabbits and foxes may take over part of a sett and keep disused entrances open.

Joint occupation of setts by foxes and badgers is not unusual and therefore, even with evidence of fox recorded, if not extensive, further monitoring to confirm occupation is advisable.

To determine whether a sett is active guidance varies, and where determining degree of usage four weeks of monitoring is recommended. Where it is not immediately clear that a mammal hole is a sett, guidance by Scottish badgers recommend monitoring of a mammal hole for a minimum of two weeks. Monitoring can involve the use of sand traps (footprint recording) and installing light-weight sticks at the entrance to see if mammals are going in and out of the entrance and also camera traps can be used (Scottish Badgers, 2018). In the surveyors experience, camera traps are a more reliable means of confirming usage.

The badger monitoring at Nutbourne Road commenced on 28th June 2023 and finished just over three weeks later on 20th July 2023. The monitoring survey comprised the installation of a motion sensor trail camera, facing the mammal hole and weekly visits to upload the data and change batteries. During the weekly visits the entrance of the mammal hole was searched again for evidence of badger or fox and current usage.

3.4.1 Limitations

Summer months are considered sub-optimal for assessing potential for badger on-site, however, the reason for this is visual restrictions associated with dense vegetation growth. This is not a limitation within this Site as the vegetation growth is sparse due to the gravel substrate.

The trail cameras did not malfunction and sufficient recordings were made to identify the mammal hole status. No limitations with the survey effort was recorded.

3.5 Bat Survey

Two dusk emergence surveys were undertaken between the 03 July 2023 and 20 July 2023. Two surveyors and three cameras with Infra-red setting and eight infra-red torches were present at each survey to adequately cover the building. The positioning of the surveyors and equipment is provided in Appendix 10.3 In line with BCT best practice guidance, the dusk emergence surveys were undertaken 15 minutes before sunset and at least 1.5 hours after sunset (see Table 3-1). A dawn survey was not required as Night Vision Aids (NVAs) were used for all dusk emergence surveys, enabling the dusk surveys to identify late emerging species in total darkness. A screenshot of the camera view is taken at the end of the survey (see photographs 27 to 29) as proof of visibility.

The bat surveys were undertaken by experienced bat surveyors Sophie Lancaster, Sam Munslow and Thomas Yately. The bat detectors used were Elekon Batlogger M and Elekon Batlogger M2. The NVA's used include a Canon XA11 and Canon XA30 camcorders elevated from the ground using tripods. Nighfox XB5 850nm Low Glow Infrared Torches were positioned in set locations in front of the camera and elevated from the ground to maximise illumination of the property.

On completion of each survey the data collected on the bat detectors were analysed using BatExplorer and BatSound. The camera footage was played back using VLC Media Player.

Table 3-1: Bat survey dates, times and weather conditions

Dusk Emergence Survey – Survey 1			
Date	03/07/2023	Sunset Time	21:20
Start Time	21:05	Finish Time	22:50
Start Temperature	18°C	Finish Temperature	17°C
Start Cloud Cover	50%	Finish Cloud Cover	10%
Start Wind Speed	Gentle breeze	Start Wind Speed	Gentle breeze
Dusk Emergence Survey – Survey 2			
Date	20/07/2023	Sunrise Time	21:06
Start Time	20:53	Finish Time	22:37
Start Temperature	18°C	Finish Temperature	18°C
Start Cloud Cover	90%	Finish Cloud Cover	80%
Start Wind Speed	Light air	Start Wind Speed	Light air

3.5.1 Limitations

It was not possible to view the small east section of roof to the rear of the building due to the tight plot size and not being able to sufficiently distance from the building within the plot to view the roof. It was possible to view the east facing section of roof from the driveway of the bungalow located immediately to the rear, however, despite knocking on the door on each visit to be granted approval to survey from the driveway, the door was never answered. This is not considered a significant limitation due to the small plot and building size, with the surveyors positioned at the front able to detect visually and with the detectors any bat activity occurring from the far end of the plot. An unmanned NVA camera was set-up at the rear to view the soffits which were possible to view from within the confinements of the plot.

No limitations were recorded in relation to the bat surveys, as they were undertaken during suitable weather and the optimal time of year, and the roosting bat features were clearly visible throughout the survey due to the use of NVAs, made evident from photographs 27 to 29. The NVA's also remove the limitation regularly associated with Natterer's, noctule and brown long-eared bats which emerge from roosts without registering on detectors and therefore, their emergence can more easily be missed by the surveyor (BTHK, 2018). Furthermore, the NVA's further remove intrinsic limitations associated with human based method as the NVA's do not get distracted or disturbed and remain focused on the potential roosting features.

The NVAs remove the need for dawn surveys as the emergence time range extremes for all UK bat species were covered in the dusk emergence surveys. Dawns are also considered a sub-optimal survey for confirming roosting bat presence as the re-entry time range extremes according to Andrews, 2017 paper ranges from 413 minutes before sunrise to 2 minutes after. Species such as western barbastelle and Brandt's bat latest re-entry times recorded to be 135 minutes before sunrise and 126 minutes

before sunrise for whiskered bat, which is before the dawn survey start time (Andrews, 2017). Furthermore, Natterer's and barbastelle bats will almost always swarm in total darkness when returning to a roost (BTHK, 2018).

It is not possible to identify population numbers/abundance of any one species recorded on-site, as it is not possible to distinguish between individual bats via their echolocations. For instance, it is not possible to confirm whether multiple passes are from one bat going back and forth or multiple individuals passing once. Activity based data can only confirm the species present and variation in utilisation at differing sampling locations on-site on different months and nights. The timing of echolocation calls can help assess the likelihood of roosts nearby and to an extent the way the Site is used by varying bat species can be concluded.

3.6 Biodiversity Net Gain Metric

It is highly likely that the proposed development will be expected to show that it can achieve a Biodiversity Net Gain (BNG) of 10%. A Small Site Metric calculation has been undertaken as part of the EclA to inform the client on how a 10% gain in biodiversity can be achieved and provide constructive engagement with stakeholders.

The Small Sites Metric – Calculation Tool, which was downloaded in July 2023 was used to quantify the habitat unit baseline and proposed habitat units and calculate the percentage net change in biodiversity. The habitat units attained for a habitat parcel is influenced by strategic significance and distinctiveness, with the condition of each habitat pre-determined within the Small Sites Metric.

Distinctiveness is another measure used in Small Sites Metric, which scores habitats based on their relative biodiversity value. Habitats that are scarce/declining tend to receive a higher distinctiveness score. Distinctiveness is automatically determined within the calculator, which will be issued alongside this report.

A strategic significance score was assigned to each habitat, alongside a habitat condition score. Strategic significance of a habitat is treated as a component of the quality of a habitat parcel and works on a landscape scale. It gives additional biodiversity unit value to habitats that have been identified as habitats of strategic importance to that local area. The strategic significance of a habitat parcel can be determined by published local strategies and objectives to identify local priorities for targeting biodiversity and nature improvement, such as Local Nature Recovery Strategies, local biodiversity plans, National Character Area objectives, Local Planning Authority Local Ecological Networks, Shoreline Management Plans, estuary strategies and green infrastructure strategies.

In this instance, Strategic significance was determined based on the Ecological Network Opportunities map provided with the LERC request and Magic Maps (Defra, 2023) Network Enhancement Zones layer and professional judgement based on general knowledge of the area and online mapping tools.

Strategic Significance can be assigned either low, medium or high, defined as:

- High - Within area formally identified in local strategy, plan or policy
- Medium - Location ecologically desirable but not identified in a local strategy, plan or policy
- Low - Not identified in a local strategy, plan or policy OR No strategy or plan is in place in the area

The classification of habitats in the Small Sites Metric are largely based on the UK Habitat Classification system explained in Section 3.3 the results of the habitat units baseline is available in Section 4.3.

3.7 Assessment

The assessment evaluates the importance of ecological features and the impact and residual effect of a development in accordance with CIEEM (2018) guidance⁵.

The importance of an ecological feature is based on geographical context, in accordance with the following scale of reference:

- International and European
- National
- Regional
- County
- River Basin District
- Local
- Site

The geographical evaluation is determined by professional judgement and legislation and policy documents and data on the distribution of species and habitats. Ecological features assessed to be of site value in Section 4.0 are not considered to be important and their loss is not deemed to have a significant negative impact to overall biodiversity. Subsequently, habitats of site value are not considered for further assessment of effects or mitigation in Section 5. It is important to note that habitats are assessed separately to species and a habitat assessed to be of site value may have potential or be confirmed to support protected species and will indirectly undergo further assessment regarding said specie(s).

The assessment considers potential impacts on each ecological feature assessed to be of local value or greater from all phases of the development e.g. construction, operation and decommissioning. The impacts are characterised as follows:

- Complexity – e.g. direct/indirect, cumulative
- Positive or negative
- Magnitude – numerical value of area of habitat lost and percentage decline in species population.
- Extent – the spatial or geographical area the impact may occur
- Duration – timeframe of impact, taking in consideration the life cycle of the species impacted
- Reversibility – can determine the significance of the effect as some habitats/populations are easier and quicker to replace/recover than others
- Frequency – this can influence the resulting effect e.g. recreational activity
- Timing – similar to frequency and can avoid impacts in some instances.

Once impacts of the proposal have been established attempts are made to avoid and mitigate negative impacts. Once the measures to avoid and mitigate ecological impacts have been finalised, an assessment of the residual impact(s) is to be undertaken to determine the significance of the effects on ecological features. Where significant residual effects cannot be avoided compensatory measures are to be provided. Compensatory measures will be considered against ecological objectives in determining the outcome of the application. Compensation measures are detailed in a separate section of this report, alongside recommendations for enhancements. This clear differentiation

⁵ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

between avoidance/mitigation, compensation and enhancement, ensures the report adheres to the 'mitigation hierarchy'.

Where the residual impact is so minor that the proposals are unlikely to have an effect on an ecological feature at a local scale or above, then the significance of the residual impact is referred to as 'non-significant positive/negative effect'.

A significant effect is referenced to a geographical scale, taking into consideration the geographical importance of an ecological feature and the overall scale of impact the proposals will have on the ecological feature itself. Significant effect is specified in CIEEM (2018), as follows:

"Significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise a project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring."

The EclA report will accord to the precautionary principle and where uncertainty exists for determining no significant effect, a significant effect is to be assumed.

4 Baseline Ecological Conditions

This section of the report details the baseline ecological conditions of the Site based on the desktop study, UKHab survey results and potential for protected species presence. An assessment of ecological value at a geographical scale is made for each ecological feature based on the survey results.

4.1 Designated Sites

The desk top study identified five statutory designations within a 1km radius of the Site. The nearest statutory designation is Solent Maritime SAC located 345m south.

Table 4-1: Statutory designations located within a 2km radius of the Site, in order of proximity.

Statutory Designations		
Designation	Location	Qualifying Reason for Designation
Solent Maritime SAC	345m south	The Solent Maritime SAC qualifies for its Annex 1 habitats of: • Estuaries • Spartina swards <i>Spartinion maritimae</i> • Atlantic salt meadows <i>Glauco-Puccinellietalia maritimae</i>. Annex 2 habitats also present as a qualifying feature include: • 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 • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes"). An Annex II species which is also a qualifying feature for the SAC designation is Desmoulin's whorl snail <i>Vertigo moulinsiana</i>.
Chichester Harbour & Langstone Harbours SPA	360m east	The site is internationally important; supporting >10,000 wintering wildfowl and >20,000 wintering waders. The Site supports internationally important numbers of grey plover <i>Pluvialis squatarola</i>, sanderling <i>Caldris alba</i>, dunlin <i>C. alpina</i>, redshank <i>Tringa totanus</i>, brent goose <i>Branta bernicla bernicla</i>, shelduck <i>Tadorna tadorna</i>, and teal <i>Anas crecca</i>. The site also supports nationally important numbers of ringed plover <i>Charadrius hiaticula</i>, curlew <i>Numerius arguata</i>, bar-tailed godwit <i>Limosa lapponica</i>, turnstone <i>Arenaria interpres</i>, wigeon <i>Anas Penelope</i>, pintail <i>A. acuta</i>, shoveler <i>A. clypeata</i> and the red-breasted merganser <i>Mergus serrator</i>. The Site also provides a breeding site for three species of tern <i>Sterna</i>.
Chichester Harbour & Langstone	360m east	The site includes extensive intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes. The mudflats support beds of eelgrasses <i>Zostera</i> and <i>Enteromorpha</i>, whilst the lower saltmarsh

Harbours Ramsar site		is dominated by common cordgrass <i>Spartina anglica</i>, with a more varied community at higher levels. Of note for the designation is the important assemblages of waders and wildfowl, as detailed in the SPA designation above, as well as black-tailed godwit <i>L. limosa</i> and in particular the two tern species little tern <i>S. albifrons</i> and common tern <i>S. hirunda</i>.
Chichester Harbour SSSI	360m east	A large estuarine basin of particular significance for wintering wildfowl and waders and breeding birds. There is a wide range of intertidal and terrestrial habitats which have important plant communities. Supports internationally important numbers of ringed plover, grey plover, redshank, black-tailed godwit, dunlin, sanderling, curlew and greenshank and bar-tailed godwit numbers are of European importance. Amongst the wildfowl, shelduck, teal and dark-bellied brent goose numbers are of international importance. The designated areas are also important for black-headed gull and three species of terns. Semi-natural broadleaved woodland associated with the Harbour is important for breeding birds and supports two heronries. Notable plants include green-winged orchid <i>Orchis morio</i> and adder's tongue fern <i>Ophioglossum vulgatum</i> and rare annual beard grass <i>Polypogon monspeliensis</i>. Notable invertebrates include the long-winged conehead <i>Conocephalus discolor</i> and the moths, starwort shark <i>Cucullia asteris</i>, the sand dart <i>Agrotis ripae</i>, shore wainscot <i>Mythimna litoralis</i> and lunar hornet <i>Sphecia bemeciformis</i>.
Sandy Point LNR	360m east	The Nature Reserve is a sensitive area of rare maritime heathland, sand dunes and grassland grazed in summer by cattle. Some plants found here occur nowhere else in Hampshire and much of the ground is covered in fragile lichens.

The Site is located within the 5.6km agreed Zone of Influence (ZoI) of international statutory designations named Solent Maritime SAC and Chichester Harbour & Langstone Harbours SPA, located 360m east. The adopted mitigation strategy for these designations states that any developments that will result in a net increase in dwellings needs to provide mitigation and compensation measures to offset recreational impacts. These designations are therefore, considered further in this report.

4.2 Habitats

The habitats present on-site are listed in Table 4-2 below. The table should be read in conjunction with the UKHab survey plan, found in Appendix 10.2.

Table 4-2: List of habitats present on-site based on the UKHab classification system and the geographical scale of value of each habitat. The Alpha code referring to the location of each habitat type as per UKHab survey plan in Appendix 10.2.

UKHab Primary Code	UKHab Secondary Code	Description	Scale of Importance
U1	16	Built-up areas and gardens – <i>tall herb</i>	Site
U1b5	-	Buildings	Site

The Site comprises a small non-residential building with a pitched, pan tile roof and brick elevations, which is centrally positioned within the plot and an electrical sub-station is located on the south-west corner. The substrate surrounding these buildings is gravel and has not been maintained for a while, resulting in tall herb growth predominating. The vegetation comprises drought tolerant species and red valerian *Centranthus ruber* predominates. Other species present include tutsan *Hypericum androsaemum*, ivy-leaved toadflax *Cymbalaria muralis*, wood aven *Geum urbanum*, wood dock *Rumex sanguineus*, common hogweed *Heracleum sphondylium*, ribwort plantain *Plantago lanceolata*, Yorkshire fog *Holcus lanatus*, common nettle *Urtica dioica*, perennial rye-grass *Lolium perenne*, sow thistle *Sonchus* sp., creeping buttercup *Ranunculus repens*, scraggly bramble *Rubus fruticosus* agg., dandelion *Taraxacum officinale* agg., spear thistle *Cirsium vulgare*, creeping thistle *C. arvense*, willowherb *Epilobium* sp., cherry saplings *Prunus* sp.

Overall, the site does not support a valuable habitat or plant community and all habitats are of **site value**.

4.3 Baseline Biodiversity Value

The Sites baseline biodiversity value has been calculated to help provide constructive advice during the design stage of the development, on how a 10% net gain in biodiversity can be achieved. The Sites baseline value has been determined using Natural England's Small Sites Metric 4.0.

Table 4-3 below provides an overview of the baseline habitat units for area and linear habitats. The strategic significance score of low has been assigned to the habitats due the Site being surrounded by dense residential development.

Table 4-3: The Sites baseline units for both habitat areas and hedgerow units.

Habitat Type	Area	Distinctiveness	Strategic Significance	Habitat Units
Vacant or derelict land	123	Low	Low	0.0492
Developed land; sealed surface	77	Very low	Low	0.0000
Total Habitat Units				0.0492

Habitat type incorporated into the Metric differs to the UKHab primary code, as the habitat present and nature of the plot best fits "vacant or derelict land". The UKHab primary habitat type "built-up areas and garden" is the best fit within the UKHab primary habitat selection and is quite a broad habitat type, covering many habitat variations within an urban environment.

4.4 Protected Species

4.4.1 Plants

The survey did not record any flora species of conservation significance. No invasive species were also recorded on-site, therefore, notable plant species and assemblages are considered **likely absent** and are not considered further in this report.

4.4.2 Invertebrates

The Site offers a nectar resource for invertebrates, however, due to the Sites manicured nature and small size, it is unlikely that notable species and assemblages rely on it. Overall, the Site is assessed to be of **Site Value** for invertebrates.

4.4.3 Amphibians

The Site does not support any waterbodies and a review of OS mapping and aerial imagery did not record any waterbodies within a 500m radius, which is the recognised maximum dispersal range for the species. Subsequently, colonisation on to Site is considered highly unlikely and great crested newt are considered **likely absent** and are not considered further in this report.

4.4.4 Reptiles

The Site is small in size and surrounded by dense residential development. The presence of a low population of widespread reptiles such as slow-worm within the local landscape cannot be ruled out, however, the likelihood of widespread reptiles colonising the Site is considered unlikely. The reason for this is the gravel substrate resulting in the sparse growth of tall herbs only with no dense growth at the base to provide shelter and no hibernacula opportunities. Overall, the Site is assessed to be **likely absent** of reptiles.

4.4.5 Birds

The brick-built building on-site provides nesting opportunities for birds, where there are large gaps in brickwork. During the UKHab survey and bat survey a pigeon was recorded entering behind an area of missing tiles on the western end of the roof. At the time of the surveys it is believed that the pigeon is using the crevice as a place of shelter only and there is no active nest with chicks present.

The habitats suitable to support birds within the Site are widespread and makes up a very small percentage of suitable nesting habitat within the local landscape, therefore the habitats are assessed to be of **Site value** for birds.

4.4.6 Badgers

The initial field survey in June 2023 identified a mammal hole of suitable size for badger. A paw print attributed to fox *vulpes vulpes* was recorded around the spoil. No other evidence of recent mammal presence was recorded.

During end of June and July 2023 the mammal hole was monitored using a trail camera over a period of 24 days. The trail cameras recorded fox presence only and confirmed that the mammal hole is a fox den.

Overall, due to the absence of evidence recorded during the survey, in combination with the developed location, badgers are considered **likely absent**.

4.4.7 Bats

HGB returned records of at least eight bat species within a 2km radius in the last 10 years. No species afforded extra protection under Annex II of the Habitats Directive were in the records. Other species recorded within a 2km radius of the Site include soprano pipistrelle *Pipistrellus pygmaeus*, noctule

Nyctalus noctula, long-eared bat species *Plecotus* sp., common pipistrelle *P. pipistrellus*, serotine *Eptesicus serotinus*, brown long-eared bat *P. auritus*, Daubenton's bat *Myotis daubentonii*, *Myotis* species, Whiskered bat *M. mystacinus*; and Leisler's bat *N. leisleri*.

HBG returned three confirmed bat roost locations within a 2km radius of the Site. The closest bat roost record is from 2016, of long-eared bat species located approximately 1km north-west. The most notable roost record is from 2013 of a common pipistrelle maternity roost located 1.4km north-west. The third bat roost is located 1.27km north-west and is a whiskered bat roost recorded in 2022.

Magic returned records of one European Protected Species (EPS) mitigation licence application to facilitate the destruction of resting place. The licence application is from 2017 located 1.3km north-west. The licence was granted to lawfully facilitate the destruction of non-breeding soprano pipistrelle roost and common pipistrelle roost.

Internal Inspection

The building comprises two separate internal areas. The largest internal area is accessed from the double doors at the front of the property and comprises a vaulted ceiling. The building is steel framed and the ceiling comprises boarding and the walls are white painted brick. No evidence of bats was recorded during the internal inspection and there were no obvious potential entry/egress opportunities for bats. The only potential access opportunity for bats to enter the internal space is via gaps between the ceiling boarding and brick walls.

The rear internal space is partially separated by an internal wall, however, this does not reach to the top of the vaulted ceiling. It is constructed the same as the front interior and the potential entry/egress feature between the ceiling boarding and brick walls is also present. However, the rear does have more apparent entry/egress opportunity associated with the vents on the doors. The interior space is also well lit by glazed side windows. No evidence of bat presence was recorded during the internal inspection.

External Inspection

The external inspection recorded numerous potential entry/egress features for bats to roost, and despite the internal inspection implying that bats have not been roosting within the vaulted internal spaces, there are multiple crevice roosting opportunities within the brickwork and between the tiles and boarding. Potential entry/egress and roosting opportunities recorded during the external inspection are as follows:

- Large deep gaps in brickwork above the front door;
- Deep gap in mortar at front window lintel;
- Missing mortar in brickwork at the front;
- Missing tiles scattered on the front and side elevations;
- Good sized gap between soffit and brickwork at the front and to the rear;
- Large gap in brickwork just beneath the soffit recorded at the front and rear of the building;
- South elevation window, there is a gap between window frame and lintel.

Overall, taking into consideration the Sites built-up location with minimal semi-natural habitat within immediate local landscape and no clear flight paths present, combined with the results of the internal and external inspection, the building is assessed to be of moderate suitability for roosting bats.

Roosting Bat Survey

Roosting bat surveys were undertaken of the building in July 2023. The outcome of the surveys is provided in Table 4-4 below.

Table 4-4: Roosting bat Survey results and general bat activity recorded.

Survey Date	Emergence/re-entry Records	Recorded Bat Activity		
03/07/2023	None	Species	First Pass	Last Pass
		Common pipistrelle	21:31	-
		Activity overview: Two common pipistrelles flew past east to west at 21:31 and no further activity was recorded.		
20/07/2023	None	Species	First Pass	Last Pass
		Common pipistrelle	21:19	22:39
		Soprano pipistrelle	21:26	22:37
		Activity overview: Common pipistrelle and soprano pipistrelle activity was continuous approximately quarter an hour after sunset. Common pipistrelle was the most predominant species recorded out of the two. The majority of the activity recorded was foraging with bats flying in circles and east to west and thus, likely recording the activity of the same individuals.		

No bats were recorded roosting within the property and roosting bats are assessed as **likely absent**.

Significantly higher bat activity was recorded on the second survey, this may be due to the relatively still conditions, although the initial survey was not windy enough to deter bat activity, the exposed location of the Site may have a heavy influence on how local bat populations forage based on conditions.

The bat survey recorded a total of two species of bat foraging/commuting during the surveys. The species include common and soprano pipistrelle, which are the most common and widespread bat species within the UK and are frequently recorded within urban environments. The Site is too small to be utilised for foraging in isolation, but foraging activity above the Site was recorded, more focused to the rear, potentially due to being slightly distanced from the streetlights. Overall, the Site is assessed to be no greater than **site value** for foraging and commuting bats.

4.4.8 Hazel Dormice

The Site is too small to support a viable hazel dormouse population in isolation and is significantly fragmented from the countryside by existing development. Overall, due to the Sites isolation from suitable hazel dormouse habitat, such as, extensive hedgerow network and woodland copses, hazel dormouse are assessed to be **likely absent** and are not considered further in this report.

4.4.9 Other Wildlife

A fox den is recorded to be present on-site. The trail camera did not record foxes entering or exiting the den but two foxes were continuously showing interest in the den and digging at the entrance. There is potential for these foxes to utilise the den for rearing young in the 2024 season.

The potential for hedgehog *Erinaceus europaeus* to utilise the Site is considered low as the substrate is gravel and offers sub-optimal foraging opportunities.

The Site is too small to be of significant value for mobile animals such as fox, therefore, the Site is assessed to be no greater than **site value**.

4.5 Baseline Conditions Overview

The Site is located within the zone of influence of the following designated sites Solent Maritime SAC and Chichester Harbour & Langstone Harbours SPA, located 360m east.

The Site comprises habitats of site value and can be scoped out for further assessment. A Biodiversity Net Gain feasibility assessment has been undertaken based on the habitats present and opportunities to achieve a net gain have been influenced by the metric.

The following protected species are considered likely absent from Site and are not considered further in this report: notable plants, amphibians, badger, reptiles, roosting bats and hazel dormouse.

The Site is considered to be of site value for the following protected species: invertebrates, nesting birds, bat activity and fox.

No further surveys are deemed necessary, however, precautionary mitigation measures will be provided in Section 5 of this report to avoid the risk of a wildlife offence being committed.

5 Assessment of Effects and Mitigation/Compensation Measures

In accordance with CIEEM guidelines, where ecological features have been evaluated at “site value”, no further assessment is deemed necessary as the impact on these receptors is not likely to be of significance. However, mitigation measures may still be required to ensure compliance with current wildlife legislation and best practice guidelines.

The Site is approximately 0.02ha in size and comprises an old brick-built substation, a new small substation and vacant land of gravel substrate with tall herb growth. The design of the proposed development has followed the mitigation hierarchy; firstly impacts to biodiversity have been largely avoided by not extending the building. Secondly, adverse effects have been avoided or minimised through mitigation measures and lastly where there are significant residual adverse ecological effects despite the mitigation proposed, these have been offset by appropriate compensatory measures.

The Site is located within the 5.6km agreed Zone of Influence (ZoI) of international statutory designations named Solent Maritime SAC and Chichester Harbour & Langstone Harbours SPA, located 360m east. Therefore, impacts on these designations and appropriate mitigation measures are required.

The Site does not support key habitats of nature conservation concern in Hampshire. No habitats on-site are considered to be greater than site value and thus, no habitats have been brought forward for assessment of effects and mitigation measures.

The habitats assessed to be of site value are considered collectively within this report in Paragraph 5.2.1 ‘Biodiversity Value’, as although they are of low intrinsic ecological value, their loss without mitigation, compensation and/or enhancements would risk a net loss of biodiversity, which is not in keeping with the NPPF and the Environment Act 2021. Habitat provisions considered sufficient to offset any loss are provided as mitigation/compensation and those, anticipated to provide a net gain in biodiversity are recommended as enhancements.

The following protected species have been scoped out for further assessment: notable plants, amphibians, badger, reptiles roosting bats and hazel dormouse.

An assessment of effects and appropriate mitigation is provided within this section for designated sites, invertebrates, nesting birds, bat activity and fox. No monitoring is mentioned within this section as there are no ecological features of such significance to require monitoring during the operational phase of the development.

5.1 Designated Sites

Potential Impacts

The Site is located within the 5.6km agreed Zone of Influence (ZoI) of international statutory designations named Solent Maritime SAC and Chichester Harbour & Langstone Harbours SPA, located 360m east. This is within the zone of influence for recreational impacts to be likely where an increase in residential or holiday homes is proposed. The Site is not considered to be within proximity to the designations to indirectly impact via light or noise pollution.

The Site is located within a Nitrate Vulnerable Zone (NVZ). An increase in residential property within the area will generate additional nitrogen, and thus, mitigation is required.

Mitigation measures

Any development resulting in a net increase in dwellings within 5.6km of the designations needs to provide a financial contribution to mitigate for recreational impact. Havant Borough Council website⁶ provides “2023/24 rates applicable to permissions granted on or after 1 April 2023” and the total financial contribution for a two bedroom property is £693.95. *“The financial contribution must be secured by a legal agreement confirming that the above financial contribution will be paid. This legal agreement will either be included within the S106 agreement or, for smaller schemes, collected via a Unilateral Undertaking (UU)”*. Due to the nature of the proposals and distance from the designations, no further mitigation would be required.

The Site is located within a NVZ, therefore, mitigation is required in the form of “nitrate trading” and buying credits from private landowners to create new habitats that will help remove nitrates that will pollute the Solent’s international and national designations. The involvement of a water design engineer is advised to appropriately mitigate for potential increases in nitrates and provide advice on in-situ pollution prevention opportunities, such as reed bed sewage treatment plants and rain gardens. Mitigating for pollutants is beyond the remit of an ecological consultant and specialist advice is to be sort.

Natural England’s SSSI Impact Risk Zones (SSSI IRZs) identifies specific criteria that determine the potential for certain developments to impact SSSIs within a given area. The Site is within the Chichester Harbour SSSI IRZ which requires urban development with a total net gain of 50 residential units or more to consult Natural England. As the development will only result in an increase in one residential unit, no further consultation is required.

Significance of Residual Effects

Provided that the mitigation measures are followed, the recreational impact of the development on Solent Maritime SAC and Chichester Harbour & Langstone Harbours SPA is considered a **non-significant negative effect**.

5.2 Habitats

5.2.1 Biodiversity Value

Potential Impacts

The Small Sites Metric was populated with the Sites baseline habitat units (see Table 4-3) and calculated the Sites total habitat units to be 0.0492. This is considered to be an inflation of the baseline as the closest habitat type to the existing gravel surface with ephemeral growth is “vacant or derelict land” which scores higher per m² than the vegetated garden creation proposed. The existing baseline is a gravel substrate dominated by red valerian which is a non-native garden escape and therefore, a higher baseline score to vegetated garden seems disproportionate.

The government recently released consultation responses and have stated in addition to householder applications *“we propose to exempt small scale self-build and custom housebuilding. We will aim to define this exemption in a way that addresses the risks of exempting large sites made up of many custom plots and will keep this under review.”* The reason for this exemption is precisely because small scale developments such as this one inherently doesn’t comprise any communal space where management and monitoring can be secured and thus habitat other than “vegetated garden” can be included within the metric. In this instance, the Site is also an unusual small plot and does not quite fit any of the habitat definitions available within the metric.

⁶ Available at: <https://www.havant.gov.uk/unilateral-undertaking-solent-recreation-mitigation-strategy>

Considering the existing baseline, the sensitive design; retaining the accommodation within the footprint of the existing building and soft landscaping proposed within the small extent of external space. The impacts are considered likely to be non-significant negative without mitigation measures.

Mitigation measures

The small site exemptions are yet to be confirmed and the Environment Act is yet to be enforced (November 2023, with an extension until winter 2024 anticipated for small sites). In combinations with the habitat type assigning limitations noted and the small scale and nature of the proposals, the following enhancement options are proposed that cannot be quantified within the Metric and are considered biodiversity attributes by Havant Borough Council⁷:

- Planting does not need to be native to benefit wildlife, however, some species are toxic to bees and should be avoided such as Rhododendrum spp. It is recommended that the landscaping plan provides all-year round food source for pollinators, as warmer winters are disturbing hibernating patterns of insects. The Royal Horticultural Society provide an extensive list of pollinator plants that flower by season (Royal Horticultural Society, 2019).
- A rain garden can be installed on-site, designed by a suitably qualified water engineer.
- Install two insect hotels on-site.
- The installation of additional roosting bat features in the form of WoodStone (durable wood and concrete mix) bat box high up (as close to the ridge as possible) on the eastern elevation.
- The installation of additional nesting bird features in the form of WoodStone (durable wood and concrete mix) bird box on the northern elevation of the building.

Significance of Residual Effects

Provided that the mitigation measures are followed, the development will result in a **no significant effect**. Compensation measures with the aim to provide an enhancement have been provided in adherence to NPPF and local policy and therefore, no compensation measures are provided in Section 6.0.

5.3 Protected Species

5.3.1 Invertebrates

Potential Impacts

The Site has been assessed to be of site value for invertebrates due to its small size and supporting widespread flora and thus, invertebrate assemblages are not going to depend on the habitats present. The proposals include the provision of soft landscaping and the overall impacts are anticipated to be negligible with the only potential impact being a minor loss of pollinator friendly plants.

Mitigation measures

N/A

Significance of Residual Effects

Significant of residual effect is likely to be **non-significant negative effect**. Compensation measures for the potential loss of pollinator friendly plants are provided in Section 6.

⁷ Havant Borough Council. Available at: <https://www.havant.gov.uk/biodiversity-net-gain>

5.3.2 Birds

Potential Impacts

The renovation of the disused electrical substation on-site risk harming active bird nests and the reduction of suitable nesting habitat. A pigeon was repeatedly seen sheltering within the roof behind an area where multiple tiles have been lost at the front of the building. No signs of active nesting e.g. bringing nest material and frequent visits to feed chicks were noted during the Site visits and it was deemed likely that the pigeon was utilising the building for shelter only. However, there is potential for active nesting in the future.

Mitigation measures

The renovation of the roof should be undertaken outside the breeding bird season which extends from March to September, inclusive. If this is not possible, a suitably experienced ecologist will be present within 24 hours prior to clearance to inspect the suitable nesting habitat for active nests. Any active nests will be retained within a suitable buffer determined by the ecologist until the young have fledged.

It is important to note that feral pigeons are capable of breeding throughout the year, though this is unlikely. It is advised that the building is checked for pigeon nests and if feral pigeon nests are identified and found to be active a suitably qualified ecologist is contacted, and a mitigation strategy devised, which will include waiting until the young have fledged before repairing the section of roof the nest is present.

Significance of Residual Effects

Provided that the mitigation measures are followed, the development will result in a **non-significant negative effect**. Compensation measures for the loss of nesting habitat are provided in Section 6.

5.3.3 Bats

Potential Impacts

The proposals have potential to reduce the amount of prey for bat to forage with the removal of the ephemeral growth which attracts night flying insects. The implications are inherently small due to the small scale of the Site and as a vegetated garden replacement proposed. Any increase in light is going to have minimal impact as the species recorded are frequently recorded in urban environments and the Site is already well lit by existing street lighting and lights from surrounding properties.

The building is being reroofed only and therefore, the loss of potential roosting features is likely to be short-term, as tiled roofs weather overtime and lifting in tiles suitable for bat entry/egress naturally form.

Mitigation measures

Light pollution is detrimental to bats, as well as other wildlife and therefore, is to be avoided where feasible. Where lighting is required there are mitigation options for both external and internal luminaires to reduce luminance (brightness) and illuminance (light spill), as follows:

External lighting mitigation options:

- Luminaires are to be directed away from ecological receptors, such as bird and bat roosting provisions.

- Avoid white light and warm colour recommended. Preferable colours are 3000°k to 2700°k (where feasible) with peak wavelengths greater than 550nm;
- 0% upward light output and no tilting of the light head;
- Motion sensors for security lighting;

Significance of Residual Effects

Provided that the mitigation measures are followed, the development will result in a **non-significant negative effect**. Compensation measures for the loss of potential roosting features are provided in Section 6.

5.3.4 Other Mammals

Potential Impacts

The Site is too small to be of significant value for mobile animals such as fox present within the local landscape, the proposals will not prevent fox accessing the Site. However, it is unlikely that the fox den will be retained within the proposals due to its location under the foundation of the building. Suitable alternative fox den creation habitat is present immediately north of the Site. The construction phase does risk trapping and asphyxiating foxes if the den is in use at the time of infilling the den, which would be committing a wildlife offence.

Mitigation measures

To avoid committing a wildlife offence a one-way gate is to be installed at the den entrance to allow foxes to exit and not re-enter to avoid asphyxiating foxes and causing undue harm. Installation of a one-way gate is to be avoided when there is potential for dependent young being present within the den and not of age to leave the den, which is March to mid-May.

Significance of Residual Effects

Provided that the mitigation measures are followed, the development will result in a **non-significant negative effect**. No compensation is deemed necessary for this project.

6 Compensation

The development is inherently of low ecological value. However, to ensure no negative impacts result from the development, compensation measures are proposed.

6.1.1 Invertebrates

The insect hotels and pollinator friendly planting advice provided in Section 5.2.1 to improve the proposals biodiversity value will compensate for any potential loss in suitable invertebrate habitat.

Significance of Residual Effects

Provided the compensation measures are followed the development is anticipated to result in a **non-significant positive effect**.

6.1.2 Birds

The bird box installation advice provided in Section 5.2.1 to improve the proposals biodiversity value will compensate for any potential loss in suitable nesting bird habitat.

Significance of Residual Effects

Provided the compensation measures are followed the development is anticipated to result in a **non-significant positive effect**.

6.1.3 Bats

The bat box installation advice provided in Section 5.2.1 to improve the proposals biodiversity value will compensate for any potential loss in suitable roosting bat habitat.

The planting of night scented climbers, such as star jasmine *Trachelospermum jasminoides* and honeysuckle *Lonicera* sp. up the boundary walls, will attract night flying insects for bats to predate on and is an effective way to add greenery within a small space.

Significance of Residual Effects

Provided the compensation measures are followed the development is anticipated to result in a **non-significant positive effect**.

7 Enhancements

7.1 Habitats

Habitat enhancements that can be incorporated into the development, in addition to the enhancements listed in Section 5.2.1, include:

- Installation of green walls, this can include the planting of pollinator friendly climbers.
- Use peat free compost.
- Installation of a water butt on-site to use rainwater to maintain new planting.
- Any garden lawns can be sown with Emorsgates Flowering Lawn Mixture EL1.
- Under no circumstance is artificial grass to be installed on-site.

7.2 Protected Species

Protected species enhancements that can be incorporated into the development, in addition to the enhancements listed in Section 5.2.1, include:

- The installation of additional roosting bat features in the form of WoodStone (durable wood and concrete mix) bat boxes.
- The installation of additional nesting bird features in the form of WoodStone (durable wood and concrete mix) bird boxes.
- It is recommended that each stretch of boundary fencing has a hole cut at the base to allow free movement of small mammals such as hedgehog. The hole should be a minimum of 5" sq. in size.

8 Conclusions

The Site is approximately 0.02ha in size and comprises an old brick-built substation, a new small substation and vacant land of gravel substrate with tall herb growth. The Site does not support key habitats of nature conservation concern in Hampshire and there are no habitats on-site considered to be greater than site value.

Notable plants, amphibians, badger, reptiles, roosting bats and hazel dormouse have been scoped out for further assessment. Measures to avoid ecological impacts have been inherently incorporated into the developments design proposals by retaining the renovation within the footprint of the existing building.

The mitigation measures set out within this report for designated sites, nesting birds, bat activity and fox ensures the development will adhere to relevant legislation and planning policies.

The Compensation measures provided will also reduce the likelihood of a net loss of the Sites invertebrate, nesting bird and bat value and avoid a net loss in biodiversity.

Enhancement recommendations have been provided in Section 7 of this report with the aim of achieving a net gain in biodiversity in accordance with NPPF and Environmental Act 2021.

9 References

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10 Appendices

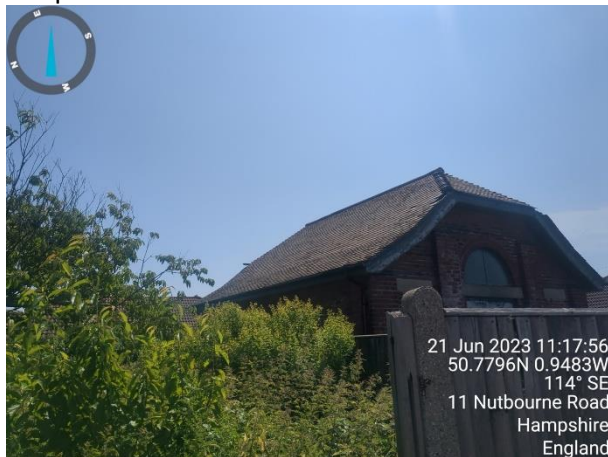
10.1 Photographs



Photograph 1: View of the front of the building from the pavement.



Photograph 2: View of south elevation roof from pavement with missing tiles evident on roof.



Photograph 3: View of north elevation of roof from pavement.



Photograph 4: View of rear of rear elevation of the building.



Photograph 5: View of south elevation window with gap between window and lintel.



Photograph 6: View of soffit that extends along the south and north elevations which is flush with the brickwork.

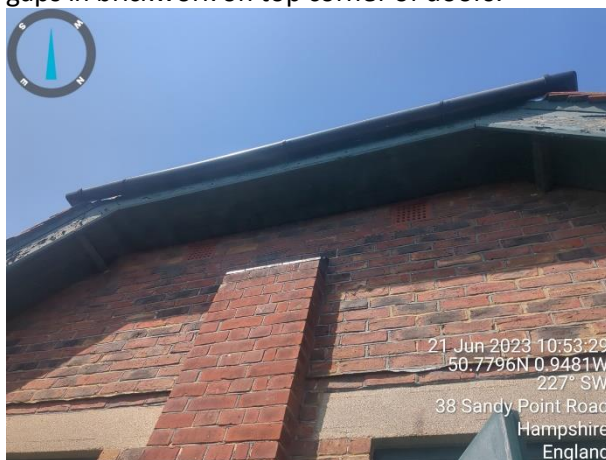
FORMER SUBSTATION, NUTBOURNE ROAD, HAYLING ISLAND



Photograph 7: View of the front of the building with a gap present between brickwork and soffit and gaps in brickwork on top corner of doors.



Photograph 8: View of the rear and southern side of building.



Photograph 9: View of the rear soffit where there is a gap between the soffit and brickwork.



Photograph 10: The vented doors to the rear of the building.



FORMER SUBSTATION, NUTBOURNE ROAD, HAYLING ISLAND

Photograph 11: Deep gaps from missing mortar at the front of the building.



Photograph 13: View of the open interior from the front door.



Photograph 15: Example of gaps between the brickwork and plasterboard from inside. Enables potential access for bats into the interior of the building.

Photograph 12: View of gap between stone lintel and brickwork at the front of the building.



Photograph 14: View of the front door from inside the building.



Photograph 16: Close up of the vents on the doors that are the only entry/egress feature to the interior at the rear.

FORMER SUBSTATION, NUTBOURNE ROAD, HAYLING ISLAND



Photograph 17: View of the interior from the rear half of the building, separated by wall in the middle but open to the roof.



Photograph 18: View of the interior which is lit by a square window on either side.



Photograph 19: View of a mammal burrow underneath the foundations on the northern elevation of the building.



Photograph 20: View of a footprint in the sand outside of the burrow which looks to be attributed to fox.

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Photograph 21: View of the vegetation along the northern boundary of the plot.



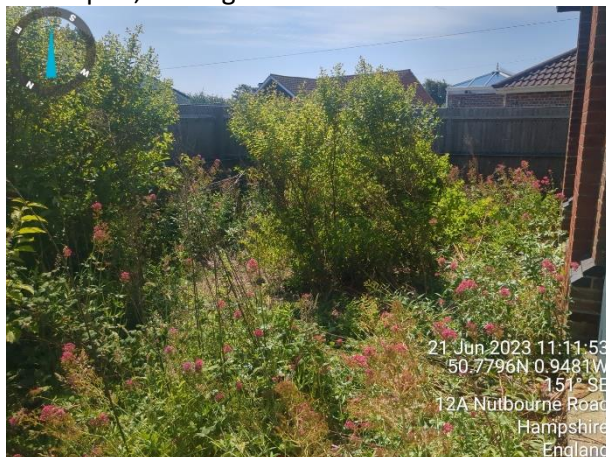
Photograph 22: View of electrical substation located at the front of the plot.



Photograph 23: View of the vegetation at the front of the plot, looking north-west.



Photograph 24: View of the southern boundary of the plot.



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Photograph 25: View of the vegetation to the rear of the building within the plot.



Photograph 26: View of a cherry orchard with overgrown scrub layer located immediately north of the plot.



Photograph 27: View of the south-west elevation of the property with NVA.



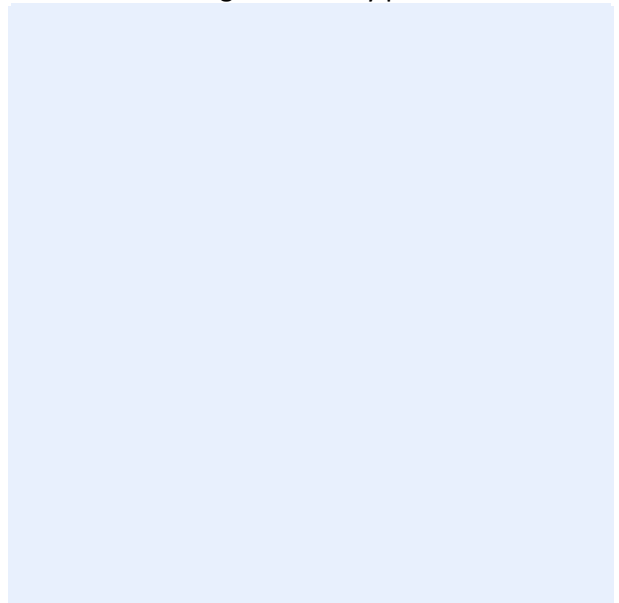
Photograph 28: View of the north-west elevation of the property with NVA.



Photograph 29: View of the east elevation soffits at the rear with NVA



Photograph 30: Example of fox activity which was continuous throughout survey period.



Photograph 31: Example of fox digging at den entrance, recorded more on third week.

Photograph 32:

10.2 UKHab Survey Plan



10.3 Bat Surveyor and Equipment Location Plan

