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Ecological Impact Assessment

21 Godwin Way,
Fishbourne,
Chichester,
West Sussex,
PO18 8BW

December 2023

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QUALITY CONTROL		
The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.		
Prepared by	Ecologist Abigail Harrington BSc (Hons)	11/12/23
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<p>This report remains valid for 12 months from date of issue.</p> <p>Survey data are valid for 12-18 months from the date the survey was undertaken.</p>		

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Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on site at a later date.

The views and opinions contained within the document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to works.

1. EXECUTIVE SUMMARY

- 1.1. Darwin Ecology Ltd was commissioned by Ms Mandy Wheeler to undertake a Preliminary Roost Assessment (PRA) at 21 Godwin Way, Fishbourne, Chichester, PO18 8BW. The surveys are required to support a planning application for the removal of the flat roof porch on the western elevation and construction of a single-storey L-shaped extension.
- 1.2. During the building inspection no evidence of bats was recorded internally or externally, however, the building was determined to provide a **low potential** to support roosting bats due to a number of lifted roof tiles on the southern elevation.
- 1.3. Proposed plans will not impact the roof or the loft void and therefore will not directly impact any bat roosts or potential bat roosts. Works can proceed without the need to implement any precautionary measures.
- 1.4. **In the unlikely event that a bat is discovered during the works, all works must cease and a bat licence ecologist contacted for advice.**
- 1.5. Outline enhancement recommendations have been made in order to ensure that opportunities are available for protected species following the completion of the development, and that the ecological value of the site is enhanced in the long-term.

2. INTRODUCTION AND BACKGROUND

- 2.1. Darwin Ecology Ltd was commissioned by Ms Mandy Wheeler to undertake a PRA at 21 Godwin Way, Fishbourne, Chichester, PO18 8BW¹. The surveys were required to support a planning application for the removal of the flat roof porch on the western elevation and construction of a single-storey, L-shaped extension.
- 2.2. The proposed drawings on which this assessment is based are provided at **Appendix 1, Proposed Plans**.
- 2.3. The PRA followed the Bat Conservation Trust (BCT) Good Practice Guidelines (2023).
- 2.4. The subsequent Ecological Impact Assessment (EclA) follows the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (2018).

Site Overview

- 2.5. The site is located on the outskirts of the small residential area of Fishbourne approximately 2.8km northwest of Chichester city centre. The A27 is approximately 300m north and the Fishbourne railway line lies approximately 500m south of the application site.
- 2.6. The site comprises a single storey residential dwelling with associated amenity garden and storage building (see Figure 1). It is directly surrounded by residential properties to the north, east and south, and a mosaic of agricultural fields that extend to the west.
- 2.7. The wider landscape comprises further residential properties in the Fishbourne residential area which are surrounded by agricultural land (see Figure 2).

Scope of Assessment

- 2.8. The process of EclA aims to identify, quantify and evaluate the potential effects of development-related or other proposed actions on habitats, species and ecosystems.
- 2.9. Potential effects on the following ecologically sensitive receptors have been considered during the EclA of 21 Godwin Way:
 - Statutory and non-statutory designated sites; and
 - On-site habitats of intrinsic importance (such as buildings or discrete habitat features).
- 2.10. The aim of this report is to:
 - Identify and describe ecologically sensitive receptors within the site (such as bat roosts);
 - Classify the ecologically sensitive receptors presence (e.g. day roost, maternity roost etc);

¹ Ordnance Survey (OS) grid reference SU 83332 05582.

- Carry out an impact assessment of the proposed works and how they will directly / indirectly affect the ecological receptors identified;
- Outline the relevant legislation and protection afforded to protected species present at the site; and
- Provide avoidance, compensation, mitigation and enhancement measures recommended to avoid harm / injury to protected species.



Figure 1: Site location within the local landscape (Copyright Google Earth Pro 2023). Building subject to survey is highlighted in orange.



Figure 2: Site location within the wider landscape (Copyright Ordnance Survey Leisure Maps, 2021Google Earth Pro 2023).

3. LEGISLATION & POLICY

General Wildlife Legislation

- 3.1. Wildlife in the United Kingdom (UK) is protected through European and national legislation, supported by national and local policy and guidance. Development can contribute to conservation and enhancement goals outlined by these various legislation and policy by retaining and protecting the most valuable ecological features within a site and incorporating enhancements to provide biodiversity net gain.
- 3.2. This section provides a brief summary of the principle legalisation and policy that triggers the requirement for preliminary and further ecological assessments in the UK. The presence of protected species within a site are a material consideration during the planning process. Preliminary and any necessary further ecological assessments provide an ecological baseline for a site and evaluation of the potential impact of proposals.
- 3.3. It is the responsibility of those involved with development works to ensure that the relevant legislation is complied with at every stage of a project. Such legislation applies even in the absence of related planning conditions or projects outside the scope of the usual planning process (i.e. permitted development projects or projects requiring Listed Building Consent only).

Bat Legislation

- 3.4. In England and Wales, all bat species and their roosts are legally protected under the European *Habitats Directive (1992)*; the *Conservation of Habitats and Species Regulations (2017)*; the *Wildlife and Countryside Act (1981) (as amended)*; the *Countryside and Rights of Way Act, 2000*; and the *Natural Environment and Rural Communities Act (NERC, 2006)*.
- 3.5. Barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros*, brown long-eared *Plecotus auritus*, soprano pipistrelle *Pipistrellus pygmaeus*, and noctule *Nyctalus noctula* bats are all species of principal importance in England under *Section 41* of the *Natural Environment and Rural Communities Act 2006*.
- 3.6. You will be committing a criminal offence if you:
 - Deliberately capture, injure or kill a bat;
 - Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
 - Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
 - Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; or
 - Intentionally or recklessly obstruct access to a bat roost.

- 3.7. The government's statutory conservation advisory organisation, Natural England, is responsible for administering EPS licenses that permit activities that would otherwise lead to an offence.
- 3.8. A licence can be obtained if the following three tests have been met:
- Regulation 53(9)(a) - there is "no satisfactory alternative" to the derogation, and;
 - Regulation 53(9)(b) - the derogation "will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range" and;
 - Regulation 53(2)(e) - the derogation is for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment".

National Planning Policy

- 3.9. The *National Planning Policy Framework (2023)* aims to minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity. Chapter 15 'Conserving and enhancing the natural environment' details what local planning policies should seek to consider with regard to planning applications.
- 3.10. Planning policies and decisions should contribute to and enhance the natural and local environment by:
- 174 a) Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- 174 b) Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- 174 d) Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- Plans should: distinguish between the hierarchy of international, national and local designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries;

Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and Broads. The scale and extent of development within all these designated areas should be limited, while development within their settings should be sensitively located and designed to avoid or minimize adverse impacts on the designated area.

3.11. Specific policies regarding habitats and biodiversity comprise:

179) To protect and enhance biodiversity and geodiversity, plans should:

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

180) 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 of Sites 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 feature of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees)

should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around development 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.

181) The following should be given the same protection as habitats sites:

- a) Potential Special Protection Areas and possible Special Areas of Conservation;
- b) Listed or proposed Ramsar sites; and
- c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

Local Planning Policy

3.12. The local planning policy for the site is the Chichester Local Plan: Key Policies 2014-2029, with relevant policies comprising:

Policy 49 Biodiversity:

Planning permission will be granted for development where it can be demonstrated that all the following criteria have been met:

- The biodiversity value of the site is safeguarded;
- Demonstrable harm to habitats or species which are protected or which are of importance to biodiversity is avoided or mitigated;
- The proposal has incorporated features that enhance biodiversity as part of good design and sustainable development;
- The proposal protects, manages and enhances the District's network of ecology, biodiversity and geological sites, including the international, national and local designated sites (statutory and non-statutory), priority habitats, wildlife corridors and stepping stones that connect them;
- Any individual or cumulative adverse impacts on sites are avoided; and
- The benefits of development outweigh any adverse impact on the biodiversity on the site. Exceptions will only be made where no reasonable alternatives are available; and planning conditions and/or planning obligations may be imposed to mitigate or compensate for the harmful effects of the development.

Policy 50 Development and Disturbance of Birds in Chichester and Langstone Harbours Special Protection Areas:

It is Natural England's advice that all net increases in residential development within the 5.6km 'Zone of Influence' are likely to have a significant effect on the Chichester and Langstone Harbours SPA either alone or in-combination with other developments and will need to be subject to the provisions of Regulation 61 of the Conservation of Habitats and Species Regulations 2010. In the absence of appropriate avoidance and/or mitigation measures that will enable the planning authority to ascertain that the development would not adversely affect the integrity of the SPA, planning permission will not be granted because the tests for derogations in Regulation 62 are unlikely to be met.

Policy 51 Development and Disturbance of Birds in Pagham Harbour Special Protection Area:

Net increases in residential development within the 3.5km 'Zone of Influence' are likely to have a significant effect on the Pagham Harbour SPA either alone or in-combination with other developments and will need to be subject to the provisions of Regulation 61 of the Conservation of Habitats and Species Regulations 2010. In the absence of appropriate avoidance and/or mitigation measures that will enable the planning authority to ascertain that the development would not adversely affect the integrity of the SPA, planning permission will not be granted because the tests for derogations in Regulation 62 are unlikely to be met.

Policy 52 Green Infrastructure:

Development will be expected to contribute towards the provision of additional green infrastructure and protect and enhance existing green infrastructure. Planning permission will be granted where it can be demonstrated that the following criteria have been met:

- The proposals maintain and where appropriate contribute to the network of green infrastructure i.e. public and private playing fields, recreational open spaces, parklands, allotments and water environments;
- The proposals contribute to improving the health and well-being of the local and wider community;
- Where appropriate, the proposals incorporate either improvements to existing green infrastructure or the restoration, enhancement or creation of additional provision/areas;

- Where appropriate, the proposals incorporate either improvements to existing ecology and biodiversity or the restoration, enhancement or creation of additional habitat and habitat networks;
- Where appropriate, the proposals incorporate either improvements to existing trees, woodland, landscape features and hedges or the restoration, enhancement or creation of additional provision/areas;
- Where appropriate, the proposals create new green infrastructure either through on site provision or financial contributions. Where on-site provision is not possible financial contributions will be required and be negotiated on a site by site basis; and
- The proposals do not lead to the dissection of the linear network of cycleways, public rights of way, bridleways and ecological corridors such as ancient woodlands, hedgerows, ditches and water environments.

West Sussex Plans

- 3.13. West Sussex does not contain a single Biodiversity Action Plan document but instead has multiple plans addressing ecology and development.

West Sussex Tree Plan 2020-2025

- 3.14. This plan sets out three strategic aims to maintain, protect and improve the trees within West Sussex:

- to maintain the trees and woodlands in the County Council's ownership;
- to protect trees and woodlands from new development and other threats; and
- to improve tree cover in West Sussex through natural regeneration, the planting of new trees, and the creation of new woodlands.

Pollinator Action Plan 2019-2022

- 3.15. This plan acknowledges the importance of pollinators and sets out to raise awareness and ensure information is provided to the council and local business and people to help protect and increase pollinator populations. West Sussex County Council will work to fulfil 5 aims:

- encourage local plans, policy and guidance to represent the needs of pollinators
- protect and enhance the amount of pollinator habitat in West Sussex to prevent extinctions and improve the status of any locally threatened species
 - improve our knowledge and understanding of pollinators in our local area
 - increase awareness of pollinators and their habitat needs across local residents, businesses and other landowners
 - increase the contribution to pollinator conservation of land under the ownership of, or managed by, the County Council.

Structure Plan 2001-2016

- 3.16. This plan sets out the strategic planning framework for West Sussex and guides the way the county will grow and develop during the years leading up to 2016 and beyond. The County Council envisions West Sussex to continue to be a county with a network of small to medium-sized towns and villages, where people feel that the countryside is never far away and where social and economic needs are met in high quality environments. Protecting the environment and using natural resources and assets wisely is a key aim of the plan and policies which reflect this aim include making the best use of the land that has to be developed; safeguarding biodiversity and geological features; minimising flood-risk and protecting the coast; protecting, managing and using soil, air, water and minerals wisely; maximising energy efficiency; and managing waste.

4. METHODOLOGY

Desk Study

- 4.1. A desk study was undertaken for designated sites and bat species and habitat records within 2km of the site:
- The MagicMap website was reviewed, to obtain information on any designated sites of nature conservation interest within 2km of the site and details of any European Protected Species (EPS) licences issued within 2km;
 - The Chichester District Council Planning Portal was searched for past and pending planning applications that may have associated ecological documents detailing results of bat surveys; and
 - Google Maps and Ordnance Survey (OS) Leisure Maps was utilised to view aerial photographs, maps and mapnik data, and to assess the ecological context of the site within the wider landscape.
- 4.2. Natural England has developed a tool to help assess the potential risks to Sites of Special Scientific Interest (SSSIs) by proposed developments. These are known as 'Impact Risk Zones' (IRZs) and they define the area around a SSSI that could be sensitive to development, considering the particular sensitivities of the feature for which the site is designated.
- 4.3. The IRZs help inform whether a development proposal may affect a SSSI and if so, whether it is necessary for the Local Planning Authority (LPA) to seek pre-application advice from Natural England. Information on the IRZs was determined from the MAGIC website to determine if the LPA is required to seek consultation for the current development.

Building Inspection

- 4.4. Ecologist Abigail Harrington BSc (Hons) conducted an internal / external building inspection at the site at 21 Godwin Way on 7th December 2023. The weather conditions at the time of the survey were dry with a strong breeze and an outside temperature of 7°C. The following methodology was followed:

External Survey

- 4.5. An investigation was carried out of external features with potential for use by roosting bats, such as gaps under roof and ridge tiles, gaps at soffit boxes or fascias. A search for bat droppings was made beneath each potential entry/exit point identified where accessible. The surveyor used binoculars and powerful, low-heat LED torch.

Internal Survey

- 4.6. An investigation was carried out of the roof void (including the floor and walls) for signs of bats roosting and the access potential into the roof void for bats. The surveyor looked for

bats, bat droppings, likely access points, signs of feeding, dead bats, scratch marks and staining, and made a suitability assessment of the structure of the roof.

Potential to Support Roosting Bats

- 4.7. The building was assessed for its potential to support roosting bats as detailed in **Table 1** below which is taken from the Bat Conservation Trust 2023 guidelines Table 4.1, Table 7.1 and Table 7.2.

Table 1: Roost classification from the Bat Conservation Trust (2023) guidelines.

Category	Description of roosting habitat	Number of surveys required
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 crevices/suitable shelter at all ground/underground levels).	No further surveys
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 further surveys
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis by large numbers of bats.	Single survey between May to August
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, condition and surrounding habitat but unlikely to support a roost of high conservation status.	Two surveys with at least one survey between May to August.
High / Confirmed	A structure with one or more potential roost sites that are obviously suitable for use by a larger number of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts.	Three surveys with at least two surveys between May to August.

Limitations

- 4.8. Ecological surveys are limited by factors that affect the presence of plants and animals such as the time of the year, weather, migration patterns. The survey was undertaken in December and therefore represents a valid sample of ecological evidence present on that date/season.
- 4.9. The desk study does not include data from the local environmental records centre (LERC). However, following CIEEM guidelines (2017) it is possible to conduct a robust assessment without the need of LERC data, for example for small-scale projects or on sites such as;
- A field in active arable cultivation where there is no impact on any hedges, trees or water bodies;
 - A small area of cultivated garden/amenity grassland, as above; or
 - A small urban site comprising mostly asphalt or compacted hardstanding.

- 4.10. The proposals only impact the building, surrounding hardstanding and a small area of modified grassland on site. This is a low impact, small-scale project and therefore the lack of LERC data is not considered a limitation to the ecological assessment of the site.
- 4.11. Many species of bat in the UK are crevice-dwelling, and bats or signs of bats can be difficult to find within a building.
- 4.12. No other limitations were encountered, or assumptions made during either the desk study or the field survey and it is considered that with the access gained and recording undertaken an accurate assessment of the site's ecological importance has been made.

5. SURVEY RESULTS

Desk Study

Designated Sites

- 5.1. There are records of six statutory designations within 2km of the application site including an Area of Outstanding Natural Beauty (AONB), one Ramsar site, one Special Protection Area (SPA), one Special Area of Conservation (SAC) and one Site of Special Scientific Interest (SSSI) and one Local Nature Reserve (LNR). These are detailed in **Table 2**.

Table 2: Statutory designated sites within 2km of the site at 21 Godwin Way.

Designated sites	Name and designation type	Reason for designation	Approximate distance from site
Within Site Boundaries	There are no designated sites within the site boundaries		
Within 2km of Site	Chichester Harbour AONB	Backed by the South Downs, Chichester Harbour is a series of tidal inlets, with a narrow mouth to the sea. Wind-sculptured oaks and hawthorns line the shore. The saltmarsh and mudflats are a haven for around 55,000 birds who reside in or visit the harbour throughout the year. These include large flocks of Brent Geese <i>Branta bernicla</i> , Dunlin <i>Calidris alpina</i> , and Little Egrets <i>Egretta garzetta</i> .	800m southwest
	Brandy Hole Copse LNR	6.16ha area with broadleaved and coniferous woodland, open water, marshland, heath, tall fern and herbs.	2km northeast
	Chichester and Langstone Harbours Ramsar & SPA	Chichester and Langstone Harbours are large, sheltered estuarine basins comprising extensive mud and sand flats exposed at low tide. The site is of particular significance for over-wintering wildfowl and waders and also a wide range of coastal and transitional habitats supporting important plant and animal communities.	900m south
	Chichester Harbour SSSI	The site is of particular significance for wintering wildfowl and waders and also breeding birds both within the Harbour and in the surrounding permanent pasture fields and woodlands. Bar-tailed godwit <i>Limosa lapponica</i> numbers are of European importance. Amongst the wildfowl, shelduck, teal and dark-bellied brent goose numbers are of international importance with 5% of the world population of the latter.	900m south

	Solent Maritime SAC	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> • 1130 Estuaries • 1320 Spartina swards (<i>Spartinion maritimae</i>) • 1330 Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) <p>Annex I habitats present as a qualifying feature:</p> <ul style="list-style-type: none"> • 1110 Sandbanks which are slightly covered by sea water all the time • 1140 Mudflats and sandflats not covered by seawater at low tide • 1150 Coastal lagoons * Priority feature • 1210 Annual vegetation of drift lines • 1220 Perennial vegetation of stony banks • 1310 Salicornia and other annuals colonizing mud and sand • 2120 "Shifting dunes along the shoreline with <i>Ammophila arenaria</i> <p>Annex II species present as a qualifying feature:</p> <ul style="list-style-type: none"> • 1016 Desmoulin's whorl snail <i>Vertigo moulinsiana</i> 	900m south
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Protected Species

5.2. There are records on MagicMap of two EPS licences within 2km of the application site including:

- EPS mitigation licence (2019-42746-EPS-MIT) to allow for the destruction of a resting place for common pipistrelle approximately 1km southeast.
- EPS mitigation licence (2019-43626-EPS-MIT) to allow for the destruction of a resting place for common pipistrelle approximately 1.9km southwest.

5.3. A search of Chichester Borough Council Planning Portal showed no relevant planning applications with associated ecological documentation in the nearby area in the last two years.

Priority Habitats

5.4. There are multiple areas of priority deciduous woodland within 1km of the site the closest of which is an unnamed area bordering the A27 approximately 250m north. This area of woodland is also registered on the National Forest Inventory (Woodland - Broadleaved). Further priority habitats within 1km of the site comprise a parcel of wood pasture and parkland BAP approximately 500m northeast.

5.5. There are several areas of ancient woodland to the north of the site within a 1km radius. The closest of which is an area of ancient and semi-natural woodland called Stockers Copse approximately 400m north. Another parcel of woodland is located approximately 600m southwest called Chalcroft Copse.

Building Inspection

External Assessment

- 5.6. The building at 21 Godwin Way was a single storey, brick, residential dwelling with a pitched roof covered in concrete interlocking tiles. Several roof tiles on the southern elevation showed lifting, however, the ridge was well sealed and several tiles had been replaced recently following the removal of the original chimney stack. The cement verges of the roof were intact. A plastic soffit box ran along all elevations at the eaves which was tight to the brickwork and showed no wear or gaps. Exposed pipework was recorded protruding from brickwork on the western elevation, however, this connected to internal pipework and did not allow access into the void space.
- 5.7. There was a small single storey extension on the western elevation constructed of brick and plastic boarding. It had a flat roof covered with bitumen felt and lead flashing. Despite signs of lifting of the lead flashing, no crevice spaces suitable for roosting were identified.

Internal Assessment

- 5.8. One void was present within the building approximately 10m(l) x 7m (w) x 2.5m(h) to the apex. It was timber framed with a central ridge beam and was supported by trusses. The ridge was heavily cobwebbed and both gable ends had cobwebs at the apex and along the join between the breeze block gable and the roof. The floor was partially boarded around the loft hatch and was lined with fibre glass insulation. The roof pitches were covered in bitumen felt with a small section of breathable membrane where the chimney had recently been removed. No evidence of the presence of bats was observed within the void space.

Daytime Bat Walkover

On Site Habitats

- 5.9. The building is set within a small area of hardstanding and short sward modified grassland which do not provide suitable habitat for foraging and commuting bats. There is a short hedgerow at the western end of the property, however, this is on a small scale and does not connect to other vegetation that would create a sufficient commuting feature.

Local Habitats

- 5.10. The site is located on the outskirts of a residential area which is surrounded by extensive agricultural land. Small copses of woodland lie to the north, however, these are not extensive and do not connect well to the site.

Photographs



Image 1: View of the eastern gable end of the building.



Image 2: View of the western gable end of the building with single storey porch extension.



Image 3: View of the northern aspect of the building.



Image 4: View of the eastern aspect of the building.



Image 5: View of the loft void at the western gable.



Image 6: View of the void facing the eastern gable.

6. DISCUSSION AND RECOMMENDATIONS

Designated Sites

- 6.1. It is not anticipated that the proposed works will impact any statutory designated sites, priority habitats or ancient woodlands through land take or other direct effects of the development. There will not be an increase in footfall and so it is unlikely that there will be significant impacts to surrounding designated sites for nature conservation.
- 6.2. The site is located in the 5km buffer zone of the Chichester and Langstone Harbours Ramsar & SPA, and the Solent maritime SAC. The proposals for this site include extensions to the existing dwelling which will not result in an increase in residential properties, is of a small development scale and will take place over a short time period. Therefore, it is not deemed necessary to apply for further assessment.

Bats

Status of Bats on Site

- 6.3. The building was assessed as providing **low potential** to support roosting bats due to a number of lifted roof tiles on the southern elevation.

Potential Impacts

- 6.4. The proposed plans at 21 Godwin Way include the removal of the flat roof porch and construction of a single storey extension at the rear of the dwelling. This will only impact brickwork on the western elevation of the existing building. No impacts to the roof or loft void are anticipated and therefore, the proposed works will not result in the destruction of a bat roost or a potential bat roost.
- 6.5. No further surveys or precautionary measures are recommended at this time.
- 6.6. **In the unlikely event that a bat is discovered during the works, all works must cease and a bat licensed ecologist contacted for advice.**
- 6.7. Any new lighting incorporated within the new development has the potential to impact bats using the application site or adjacent habitats, and specifically, those species that are considered to be most light-sensitive.

Mitigation

- 6.8. *Lighting:* Any new external lighting should be directed to avoid light spillage onto vegetation, particularly linear habitat features such as woodland edges or potential roosting sites within trees and buildings. Bats are sensitive to light and could potentially avoid the area if access points or the surrounding areas become lit. Appropriate lighting options will prevent a negative impact on bats potentially using the habitats on site and should be approved by a suitably qualified and licensed bat ecologist. Lighting plans should be approved and signed

off by a licensed bat ecologist prior to submission, to ensure the scheme is suitable for bats. If appropriate measures are taken to reduce light spillage from the development, it is likely that there will be no negative impacts on local bat populations. See the **Appendix** for further information on designing lighting to minimise impacts on bats.

- 6.9. *Habitats*: The proposals do not result in a loss of foraging habitat for bats, however, a wildlife friendly landscaping scheme is recommended to enhance the site for bats and other wildlife.
- 6.10. Given the above mitigation strategies, it is considered likely that there will be no residual impacts on bats using the application site.

Nesting birds

- 6.11. No evidence of nesting birds was observed during the survey. The main dwelling and was well-sealed with no opportunities for nesting.
- 6.12. Given the above, it is considered likely that there will be no residual impacts on nesting birds.

7. ENHANCEMENT RECOMMENDATIONS

- 7.1. National planning policy states that all developments should seek to enhance onsite biodiversity whether impacts on protected species are recorded or not. Incorporating enhancement features into new or renovated buildings should be carefully considered. These features can be simple and inexpensive, please see below for specific recommendations.

Bats

- 7.2. External bat boxes can be mounted onto the existing dwelling at the site. These boxes will remain on site in perpetuity. The location will be determined by a licensed bat ecologist to ensure likelihood of repeated use is increased. The bat boxes will be installed at a height of at least 4m, preferably on a southern un-cluttered aspect with good connectivity to linear features such as other mature trees and hedgerows (see the **Appendix** for further details).

Birds

- 7.3. Tree-mount bird boxes can be installed on any trees or building on site. Bird boxes should be installed at least 4m from ground level and with unobstructed air space in front (see the **Appendix** for further details).

Wildlife Beneficial Landscaping Scheme

- 7.4. Any future landscape planting should seek to enhance biodiversity, improve connectivity to the surrounding habitats and provide food and shelter for a wide range of wildlife. All amenity planting and formally landscaped areas should be designed using a variety of plant species beneficial for wildlife. These do not necessarily have to be native but should be chosen for their ability to provide nectar or fruit and should be non-invasive species. There are a number of specialist seed mixes available specific to certain soil types, growing conditions and designed to benefit different groups of species such as bees or butterflies and moths.
- 7.5. All habitats should be managed in a suitable way to encourage a wide variety of insects and other wildlife to use the site.
- 7.6. Further information regarding habitat creation, enhancement and management can be provided on request.

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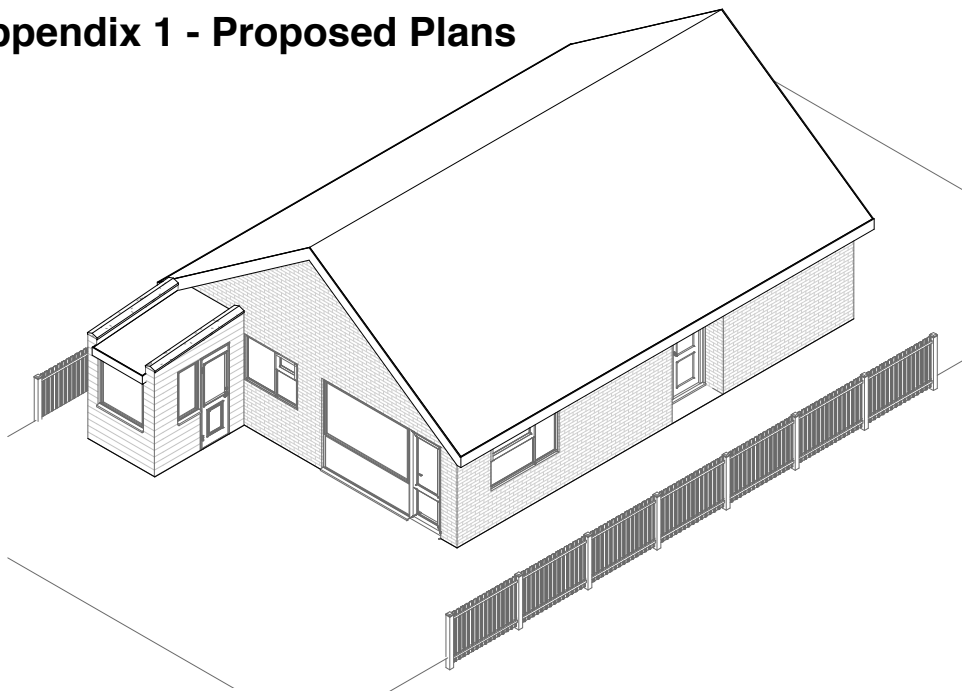
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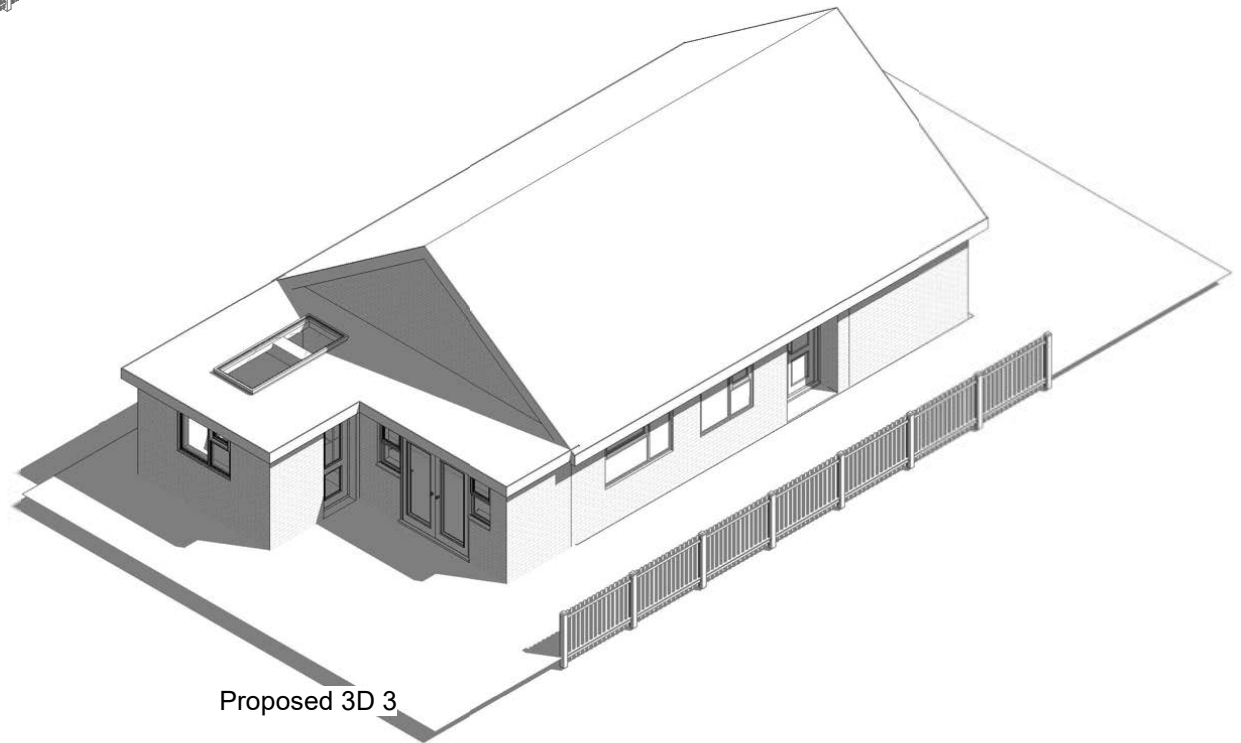
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APPENDICES

Appendix 1 - Proposed Plans



Existing 3D 3



Proposed 3D 3



1:500		50
1:200		20
1:100		10
1:50		5

All measurement to be checked on site prior to any comment

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PROJECT	21 Godwin Way PO18 8BW		CLIENT	Wheeler	
SHEET	3D 3		Date	Issue Date	Scale (@ A3)
			Drawn by	SW	DRAWING NUMBER
			Checked by	SR	P 6
					REV



THE IMPACT OF LIGHTING ON BATS

Bats favour a dark environment for both roosting and foraging as they are adapted to low-light conditions. Artificial lighting will disturb bats if the lighting covers roost access points, flight paths or foraging habitats.

The main peak of nocturnal insect abundance occurs at dusk and a delay in emergence results in a lower foraging rate for bats.

Artificial lighting creates a 'vacuum effect' for nocturnal insects. During the night nocturnal insects use the light of the moon* to navigate. However, artificial lighting and even sky glow above cities obscures the natural moonlight as it is closer

and radiates light in multiple directions.

Some species of bats have been recorded foraging around street lights such as Pipistrelle species and Nyctalus species. However, species that are less tolerant of artificial light are at a disadvantage when foraging as insects are drawn away from these species usual foraging grounds into the zones of artificial light.

Lighting must be considered in context to any development as increased lighting may cause roost abandonment, reduced reproductive success, and reduced foraging. Mitigation to reduce the impacts of lighting for bats is therefore of great importance in bat conservation.

Table 1: Summary of predicted impact of lighting for each species/genus

Impact	High	Medium	Low
Behaviour			
Maternity roost	All species	-	-
Night roost	Rhinolophus hipposideras Rhinolophus ferrumequinum Myotis spp. Plecotus spp.	Pipistrellus spp. Nyctalus spp. Eptesicus serotinus Barbastella barbastellus	-
Emergence	All species	-	-
Foraging	Rhinolophus hipposideras Rhinolophus ferrumequinum Myotis spp. Plecotus spp.	-	Pipistrellus spp. Nyctalus spp. Eptesicus serotinus Barbastella barbastellus
Commuting	Rhinolophus hipposideras Rhinolophus ferrumequinum Myotis spp. Plecotus spp.	-	Pipistrellus spp. Nyctalus spp. Eptesicus serotinus Barbastella barbastellus
Swarming	All species	-	-
Hibernation	All species	-	-

*For more information see Warrant, E., and Dacke, M. (2016) Visual Navigation in Nocturnal insects. *Physiology*, 31, 182-196.

Sources of light that can disturb bats include; light spill via windows, sport floodlighting, car headlights, roadside lighting, security lighting, aesthetic lighting of waterways, and aesthetic illumination of buildings. Glare will affect bats over greater distance than the target area directly illuminated.

Avoidance is the most effective method, but if this is not possible the following measures should be considered.

What lighting should I use?

- Low pressure sodium lights or 'warm' LEDs
- Wavelength above 540nm
- Colour temperature below 2700K
- Shielded lights that prevent light spill above a 70 degree angle
- Passive infrared (PIR) motion sensors



What to avoid:

- Lighting roost entrances, flightpaths, and foraging or commuting routes
- Reflective surfaces beneath lighting
- High level lights
- Non-directional lighting

Lighting should be considered at an early stage allowing impacts to be minimised through the design of the site.

Key Points

- Keep lighting intensity to the minimum level required
- Limit the times that lights are on to provide some dark periods (e.g. switching installations off between midnight and 5am)
- Dim lighting according to demand
- As an alternative to lighting pathways use paving materials that reflect moonlight
- Low level lighting allows darkness to be retained within higher vegetation
- Set dark habitat buffers - lighting should always be a minimum of 25m from vegetated margins and 40m from waterbodies
- Incorporate dark corridors within the site
- Compensate for the loss of dark areas by enhancing other dark areas
- Consider building design - install internal lighting away from windows



TYPES OF BIRD BOXES



Vivar Pro Seville 32mm WoodStone Nest Box

- Manufactured from woodstone - increases longevity and provides a consistent internal temperature
- The nest box compensates for the lack of natural cavities that are found in trees
- Suitable for blue tits, tree sparrows, house sparrows, great tits, crested tits, nuthatches, coal tits and pied flycatchers
- Should be installed between 1.5m and 3m high



House Martin Nest Cups



Swallow Nest Bowl

- Suitable nest building mud is difficult for house martins and swallows to find
- Alterations to house construction and roof design have resulted in a decrease of suitable nesting sites
- Install swallow nest bowls within an outbuilding or garage that has flight access - 6cm below the ceiling
- Install house martin nest cups under the eaves of a house - minimum of 2m high



Swift Nest Box

- Swift numbers are declining partly due to a loss of nesting sites
- The entrance hole discourages other birds such as starlings and sparrows
- Install a minimum of 5m high with unobstructed airspace in front of the nest
- Integrated models of swift nest boxes are also available



5KL Schwegler Nuthatch Nest Box

- Manufactured from woodcrete
- Nuthatches prefer nest boxes with larger cavities. They will often occupy owl nest boxes and fill the entrance hole with mud reducing the size to approximately 32mm
- Nuthatches plaster mud on the internal walls of the cavity and line the floor with wood chipping and leaves to nest
- To discourage nuthatches from using owl nest boxes try installing the 5KL immediately adjacent



Open-fronted Nest Box

- Manufactured from woodstone - lifetime of 20-25 years
- Suitable for robin, wren, spotted flycatchers, and black redstart
- Best installed hidden from view on the wall of a building or hidden within ivy/honeysuckle as the boxes open-front may attract predators
- Install at a height of 1-3m



Sparrow Terrace Nest Box

- Sparrow populations are decreasing due to a lack of nesting sites
- Sparrows are a sociable species and prefer to nest in a colony
- Likelihood of uptake is increased if more nesting chambers are available (the example nest box shown contains three nesting chambers)
- Various other nest box designs are available
- Install at a minimum of 2m high



Tawny Owl Nest Box

- Install on a mature tree within a woodland (not on the outskirts)
- Install a minimum of 3m high
- Face the box entrance away from prevailing wind (generally avoiding west/south-west)



Little Owl Nest Box

- Prefer areas of mixed farmland and orchards
- Essential features; small entrance hole (70mm), narrow tunnel, and a dark nesting chamber
- Install on a horizontal tree branch/wall top or beam so that owlets can walk in/out prior to fledging
- Can be installed on any tree species apart from cherry - the cherry harvest coincides with the little owl breeding season
- Entrance hole should face the tree trunk
- Install at a minimum height of 3m