



Technical Appendix 2: Ecological Assessment

Allington Lane Solar Farm

19/12/2023



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Neo Environmental Ltd	
Head Office - Glasgow: Wright Business Centre, 1 Lonmay Road, Glasgow. G33 4EL T 0141 773 6262 E: info@neo-environmental.co.uk	
Warrington Office: Cinnamon House, Crab Lane, Warrington, WA2 0XP. T: 01925 661 716 E: info@neo-environmental.co.uk	Rugby Office: Valiant Suites, Lumonics House, Valley Drive, Swift Valley, Rugby, Warwickshire, CV21 1TQ. T: 01788 297012 E: info@neo-environmental.co.uk
Ireland Office: C/O Origin Enterprises PLC, 4-6 Riverwalk, Citywest Business Campus Dublin 24, D24 DCW0, T: 00 353 (1) 5634900 E: info@neo-environmental.ie	Northern Ireland Office: 83-85 Bridge Street, Ballymena, Co. Antrim, Northern Ireland, BT43 5EN. T: 0282 565 04 13 E: info@neo-environmental.co.uk

Prepared For:

Locogen Consulting Ltd



Prepared By:

Laura Stenson BSc (Hons),

Thomas Hill MEnv (Hons)



	Name	Date
Edited By:	Thomas Hill	16/11/2022
Checked By:	Louis Maloney/Colleen Patterson	16/11/2022
	Name	Signature
Approved By	Paul Neary	

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EXECUTIVE SUMMARY

- 2.1. An Ecological Assessment (EcoAs) has been undertaken for a proposed solar farm and associated infrastructure (the “Proposed Development”) on lands circa 0.74km southeast of Eastleigh and circa 2.00km north of Southampton, within the Eastleigh District of Hampshire. This is to assess the potential impacts on local ecology as a result of the Proposed Development. Baseline information within the ecological assessment comprises an initial desk-based assessment and an UK Habitat Classification survey, which have been outlined within the relevant sections of this report.
- 2.2. The desk-based assessment identified that within 15km of the Application Site boundary there are eleven internationally designated sites: Four Special Area of Conservation (SACs), four Special Protected Areas (SPAs), and three Ramsar Sites. The closest of these are River Itchen SAC located 0.35km west of the Application Site at its closest point. No possible SACs (pSACs), potential SPAs (pSPAs), or proposed Ramsar sites were recorded within 15km. There are three Sites of Special Scientific Interest (SSSIs), and four Local Nature Reserves (LNRs) within 5km of the Application Site.
- 2.3. These designated sites have been assessed below. There will be **no adverse effects** on the integrity of any statutory designated sites as a result of the Proposed Development. The only designated sites with connectivity to the Application Site are Itchen SAC & SSSI which have potential ecological and limited hydrological connectivity and Solvent & Southampton Water SPA and Lee-on-The Solent to Itchen Estuary SSSI have potential ornithological connectivity.
- 2.4. There are 39 non-statutory sites (Sites of Importance for Nature Conservation - SINC’s) within 2km of the Application site. Seven of these are immediately adjacent to the application site and have been assessed below. One non-statutory site has ecological connectivity; Allington Lane Pond which is within the site boundary. The other six SINC’s may have potential hydrological connectivity due to ground water flow. However, this is limited and does not pose significant negative effects against the local ecology.
- 2.5. The other non-designated sites do not have potential connectivity and therefore will be scoped out from further assessments.
- 2.6. With the implementation of the recommended measures, it has been determined that there will be **no significant adverse effects** on any designated/non-designated nature conservation sites as a result of the Proposed Development.
- 2.7. A total of 14 habitat types were noted within the Ecological Study Area (ESA) during the UK Habitat Classification surveys undertaken in January 2023 by Ecus Ltd (See Appendix 2D: S1, S2 & S3). During the survey visits, these habitats were assessed for their potential to support protected and notable species. Overall, the current site is considered to be of **relatively low ecological interest** in terms of habitats.

- 2.8. Breeding bird surveys were conducted which were summarised within a breeding bird report. Overall, the site was considered to be of **low importance** for breeding birds. However, there was a barn owl nest with two chicks found on site. More information on the breeding bird surveys and the recommended mitigation measures can be found in **Appendix 2E: Breeding Bird Report**.
- 2.9. From the survey findings and impact assessment conducted it is considered that the Proposed Development is **likely to have no significant adverse effects** on local wildlife. However, precautionary and mitigation measures have been outlined within this report to reduce any potential for effects upon local ecology.
- 2.10. Furthermore, a Biodiversity Management Plan (BMP) and Net Gain Assessment (NGA) has been produced. This encompasses enhancement and compensatory measures to ensure the proposed solar farm will lead to a **10.21% net gain** in area habitat units (see **Appendices 2B and 2C** of this report).

INTRODUCTION

Background

- 2.11. This Ecological Assessment (EcoAs) has been prepared by Neo Environmental Limited, on behalf of Locogen Consulting Ltd (the “Agent”, on behalf of ‘Eastleigh Borough Council’, the “Applicant”) in relation to the development of a Proposed Solar Farm (“the Proposed Development”) on lands circa 0.74km southeast of Eastleigh and circa 2.00km north of Southampton, within the Eastleigh District of Hampshire (“the Application Site”).
- 2.12. A Biodiversity Management Plan (BMP; **Appendix 2B**) and Net Gain Assessment (**Appendix 2C**) have also been prepared for the Proposed Development. These should be read in conjunction with this Ecological Assessment.

Development Description

- 2.13. The proposed solar farm will consist of the construction of PV panels mounted on metal frames, new access tracks, underground cabling, perimeter fencing with CCTV cameras and access gates, a temporary construction compound and all ancillary grid infrastructure and associated works.

Site Description

- 2.14. The Application Site lies at an elevation of approximately 7-17m AOD and covers a total area of c. 44.3 hectares. It is centred at approximate UK National Grid Reference (NGR) SU 47754 16809 and the nearest town of Eastleigh is located c.0.74km northwest of the Proposed Development, with the city of Southampton located approximately 2km to the south, at its closest point. The Application Site is situated in a rural setting, surrounded by villages and settlements within the nearby area. The villages of Horton Heath, Fair Oak, Bishopstoke, and West End are situated c. 0.54km east, c.0.68km north, c.1.43km northwest, c.1.3km south, respectively.
- 2.15. The Application Site comprises of seven fields of agricultural land which is split into two sections, eastern and western, by a railway line situated c.10m from the Proposed development boundary. The fields are bound by a mixture of hedgerows and post-and-wire fencing. There are mature trees adjacent to the eastern western and southern boundaries of the Application Site.
- 2.16. The Proposed Development is in close proximity to the M27 motorway and other A and B roads such as the B3354, B3037, and the A335 which are situated c. 1.24km south, c.0.92 east, c.1.3km north, and c.1.89km northwest, respectively. Local roads in close proximity include Hogwood Lane, which is located adjacent to the southern boundary, and Allington Lane which runs through the centre of the eastern section, and adjacent to the eastern

boundary of the western section. The northern section of the site will be accessed from two entrance points off Allington Lane which dissects this section. The southern section will be accessed from one existing and one new entrance point which are both off Hogwood Lane.

- 2.17. The surrounding area comprises of the River Itchen, which at its nearest point is located c.0.51km northwest, and flows into a small water body located c. 8m south, and the Itchen Valley Country Park, situated c. 0.32km southwest. Southeast of the Proposed Development, there is an industrial estate adjacent to the boundary of the western section; and a business park is located c.0.22km from the eastern section. Southampton Airport is located c. 1.84km west of the Application Site. The Proposed Development lies northwestern to the adjacent, consented Chalcroft Solar Park (Ref: 12/71539).

Scope of the Assessment

- 2.18. An Ecological Assessment has been completed to inform the submission of a planning application to Eastleigh Borough Council for a proposed solar farm development. The aims of this report are to:
- Determine the main habitat types within and immediately adjacent to the Application Site in relation to the Proposed Development footprint;
 - Identify any actual or potential habitat or species constraints pertinent to the development of the Application Site and to identify how the Proposed Development can avoid, mitigate and, if necessary, compensate for impacts on these actual or potential constraints;
 - Assess the potential impacts of the Proposed Development during the construction, operation and decommissioning phases;
 - Provide mitigation to reduce the impacts of the activities undertaken during the various phases of the Proposed Development; and
 - Identify potential opportunities for the Proposed Development to enhance and add to the biodiversity resource within the site.

Statement of Authority

- 2.19. The assessment has been conducted by qualified ecologists. All work has been carried out in line with the relevant professional guidance: CIEEM's Guidelines for Ecological Impact Assessment in the UK and Ireland¹.
- 2.20. Laura Stenson, who wrote this report, is an Ecologist with 3 years professional experience in the ecology sector, which includes terrestrial and marine ecology. Laura holds a BSc in Earth and Ocean sciences and is in the process of applying for membership with CIEEM. Laura has experience in the completion of bird surveys, habitat surveys and ecological report writing having authored and co-authored a number of reports including Ecological Appraisals and Natura Impact Statements.
- 2.21. Thomas Hill, who reviewed and co-authored the report, has four years of experience as an ecologist in a mixture of field and office-based work. Thomas has experience in many surveys and assessments including phase 1 and UK habitat surveys, bat, badger, otter and water vole alongside other protected species surveys. He has worked on projects of varying scales, from simple residential extension developments up to national scale transport infrastructure projects. Thomas is currently working towards CIEEM membership.

CONSULTATION

- 2.22. Neo-Environmental did a pre-application consultation with Eastleigh Council. A site visit was conducted on the 23rd of February 2023 where recommended ecology works, buffer zones, and BNG were discussed with Paul Howe MCIEEM – Eastleigh Council ecologist.
- 2.23. Additionally, in relation to the Proposed Development, Natural England have requested further information regarding the effects of this project in relation to the interest features for which Itchen Valley SSSI has been notified this has been supplied in the River Itchen SSSI Impact Report (See **Appendix 2F - Effects on the Itchen Valley SSSI Assessment**).

¹ CIEEM (2022) Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. Version 1.2.

LEGISLATION AND PLANNING POLICY CONTEXT

International Legislation

- 2.24. International legislation relevant to the Proposed Development is outlined within **Table 2-1** below.

Table 2--1: Relevant International Legislation

Directive	Main Provisions
Bern Convention	The Bern Convention ² came into force in 1982, with the principal aims to ensure conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species (including migratory species) listed in Appendix III.
Bonn Convention	The Bonn Convention ³ came into force in 1985. Contracting Parties work together to conserve migratory species and their habitats by providing strict protection for endangered migratory species (listed in Appendix I of the Convention), concluding multilateral Agreements for the conservation and management of migratory species which require or would benefit from international cooperation (listed in Appendix II), and by undertaking cooperative research activities.
Ramsar Convention	The Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention) ⁴ came into force in 1975. It is an international treaty for the conservation and wise use of wetlands.

National Legislation

Wildlife & Countryside Act 1981 / Conservation of Habitats and Species Regulations 2017

- 2.25. The Wildlife and Countryside Act 1981⁵ (as amended), formerly used to implement EU legislation, has more recently been strengthened by the Conservation of Habitats and Species Regulations 2017. This consolidates and amends existing national legislation, making it an offence to:

² Available at: <https://www.coe.int/en/web/bern-convention>

³ Available at: <https://www.cms.int/en/convention-text>

⁴ Available at: <https://www.ramsar.org/about-the-convention-on-wetlands-0>

⁵Parliament of the United Kingdom, 1981. Wildlife and Countryside Act 1981 (as amended). Available at: <http://www.legislation.gov.uk/ukpga/1981/69>

- *“Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting*
- *Intentionally kill, injure or take any wild animal listed under Schedule 5 of the Act; intentionally damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 of the Act; disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection*
- *Pick or uproot any wild plant listed under Schedule 8 of the Act”*

Environment Act 2021

- 2.26. This Act introduced a legally binding target on species abundance for 2030, aiming to reverse declines of key wild species. It creates a requirement for 10% net biodiversity gain as part of development projects, and for a series of Nature Recovery Strategies to cover England.
- 2.27. The new Act makes minor amendments to the 1981 Act and 2017 Regulations (see above). It expands measures taken against illegal deforestation, enshrines a legal duty for water companies to reduce adverse impacts from storm overflow discharge, and gives statutory effect to conservation covenants. To assist in the above, it also creates an Office for Environmental Protection.

Natural Environment and Rural Communities Act 2006

- 2.28. The Natural Environment and Rural Communities (“NERC”) Act⁶ places a duty on planning authorities to have due regard for biodiversity and nature conservation during operations, ensuring that biodiversity is a key consideration in the local planning process.
- 2.29. Section 41 of the NERC Act lists a number of habitats and species of principal importance for the conservation of biodiversity in England.

Hedgerows Regulations 1997

- 2.30. Under the Hedgerows Regulations 1997, certain hedgerows⁷ are classified as ‘Important’ based on factors such as the presence of a certain number of woody native plant species. Subject to certain exceptions, the removal of an ‘Important’ hedgerow is prohibited.
- 2.31. ‘Removal’ includes uprooting all or part of the hedgerow, as well as any acts that could lead to the hedgerow’s destruction. Removal is permitted under Section 6 of the Act under a small number of exemptions, including:

⁶ Available at <https://www.legislation.gov.uk/ukpga/2006/16/contents>

⁷ Available at <https://www.legislation.gov.uk/uksi/1997/1160/contents/made>

“for carrying out development for which planning permission has been granted or is deemed to have been granted, except development for which permission is granted by article 3 of the Town and Country Planning General Permitted Development Order 1995 in respect of development of any of the descriptions contained in Schedule 2 to that Order other than Parts 11 (development under local or private Acts or orders) and 30 (toll road facilities).”

Protection of Badgers Act

- 2.32. The Protection of Badgers Act 1992⁸ makes it illegal to kill, injure or take a badger or to intentionally or recklessly interfere with a badger sett. Sett interference includes disturbing badgers whilst they are occupying a sett or obstructing access to it.

The Invasive Alien Species (Enforcement and Permitting) Order 2019

- 2.33. This Order⁹ replaces some functions of the Wildlife & Countryside Act 1981 (as amended) affecting certain invasive species. It is an offence to ‘*plant or otherwise cause to grow*’ a plant species listed in Schedule 2, Part 2 of the Order.

Planning Policy

National Planning Policy Framework (2023)

- 2.34. The National Planning Policy Framework (“NPPF”)⁹ sets out the government planning policies for England and how they should be applied. With regards to ecology and biodiversity, Chapter 15 “Conserving and Enhancing the Natural Environment”, paragraph 174, states that planning policies and decision should enhance the local environment by:

- 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);
- 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;
- Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

⁸Parliament of the United Kingdom (1992). Protection of Badgers Act 1992. Available at <http://www.legislation.gov.uk/ukpga/1992/51/contents>

⁹ Parliament of the United Kingdom (2019). The Invasive Alien Species (Enforcement and Permitting) Order 2019. Available at: <https://www.legislation.gov.uk/uksi/2019/527>

- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate. Minimise impacts on, and provide net gains in, biodiversity where possible. Recognise the wider benefits of natural capital and ecosystem services.

2.35. Under these aims, paragraph 175 stresses the need to plan for natural capital at a catchment or landscape scale, linked to national and local targets. Paragraph 180 sets out the principles that local planning authorities should apply when determining planning applications:

- 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;
- 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;
- 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
- 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.

Biodiversity Action Plans

- 2.36. The UK Biodiversity Action Plan (UKBAP; 1994)¹⁰ was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. Lists of national Priority species and habitats were produced with all listed species/habitats having specific action plans, defining the measures required to ensure their conservation.
- 2.37. While the UKBAP has since been superseded by the UK Post-2010 Biodiversity Framework (see above), regional and local BAPs have been produced to develop plans for species/habitats of nature conservation importance at regional and local levels. While these in turn are no longer valid, the species they listed can be cross-referenced with section 41 of NERC to provide a more local list. This list includes common toad (*Bufo bufo*) house sparrow (*Passer domesticus*), yellowhammer (*Emberiza citrinella*), great crested newt (*Triturus cristatus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Natterer's bat (*Myotis nattereri*), brown hare (*Lepus europaeus*), otter (*Lutra lutra*), West European hedgehog (*Erinaceus europaeus*) and water vole (*Arvicola amphibius*).

Eastleigh Borough Local Plan 2016-2036¹¹

- 2.38. Adopted in 2016, this is the current Local Plan for the Eastleigh, in which the Application Site falls. The relevant policies set out within the Plan include the following ecological provisions.

Policy DM3, Adaptation to climate change

All development should be designed to adapt to the predicted climate change impacts for the Borough.

a. To reduce the potential impacts of surface water flooding, sustainable drainage systems need to be implemented as part of an integrated SuDS strategy for the site in accordance with policy DM6 (Sustainable surface water management and watercourse management) and as part of the landscape framework for the site including green open space and green roofs where appropriate.

b. New development should have a cooling strategy which can include: i. cooling through generous green infrastructure ii. areas of shade iii. water cooling iv. building design and orientation to reduce overheating v. 'cool roofs' or green roofs and green walls vi. porous cool pavements

¹⁰Available at: <https://data.jncc.gov.uk/data/cb0ef1c9-2325-4d17-9f87-a5c84fe400bd/UKBAP-BiodiversityActionPlan-1994.pdf>

¹¹Available at: https://eastleighboroughcouncil.citizenspace.com/planning/sitenotices/user_uploads/final-local-plan-document-june-2018-print.pdf

To adapt to water stress, new development should be designed to reduce demand. Measures can include: i. Reduced residential mains water consumption (as per policy DM2) ii. Water efficient appliances, fittings and leak detection devices for non- residential and multi-residential development iii. Rainwater harvesting and grey water recycling iv. Drought resistant landscape design.

Policy DM4, Zero or low carbon energy

“The Borough Council will permit the development of infrastructure to: i. generate zero or low carbon energy; and/ or ii. make more efficient use of energy sources e.g. installations deploying combined heat and power (CHP technology); subject to general development criteria and provided that the development:

- a. has no significant adverse impact on the landscape or landscape features, biodiversity or heritage assets;*
- b. does not involve the loss of land in public recreational use (see policy DM34);*
- c. does not involve the permanent loss*
of the best and most
- d. valuable agricultural land.”*

Policy DM8, Pollution

“Development will not be permitted if it is likely to cause loss of amenity or impact on public health or other unacceptable environmental impacts through:

- i. air pollution (including odours or particulate emissions);*
- ii. pollution of surface, underground, coastal waters or other watercourses;*
- iii. noise or vibration;*
- iv. light intrusion; or v. land contamination.*

Development susceptible to particular forms of pollution will not be permitted: a. where it will be affected by such pollution, unless measures can be taken that adequately mitigate the polluting effects; or b. where it would inhibit existing economic or other activities giving rise to acceptable polluting effects. Where a development site is known or suspected to be contaminated, before the site is developed the Borough Council will require the contamination to be remediated to a standard where as a minimum it cannot be defined as ‘contaminated land’ under Part IIA of the Environmental Protection Act 1990.”

Policy DM11, Nature conservation

The Borough Council will work with statutory and voluntary agencies and developers to:

- i. Protect, conserve and enhance areas subject to international, national and local nature conservation designations;*
- ii. Assist in achieving national, county and local biodiversity targets as set out in Biodiversity Action Plans (BAPs);*
- iii. Protect, conserve and enhance networks of natural habitats and features, including the Priority Biodiversity Areas and Priority Biodiversity Links identified in the Eastleigh Borough Biodiversity Action Plan 2012-2022, and watercourses and wetland complexes, woodland trees and hedgerows important to biodiversity and local character; and*
- iv. On new development sites seek enhancement of biodiversity through the protection and connection of existing and provision of new habitats and features compatible with the native biodiversity characteristics of the Borough.*

The Council will work with PUSH, Natural England, the Environment Agency and other wildlife organisations to develop and implement a strategic approach to the protection of European sites from the direct and indirect effects of development including recreational disturbance. Within Eastleigh Borough this will include:

- a. implementing the Solent Recreation Mitigation Strategy and contributions to recreation mitigation for the New Forest or alternative agreed approaches if required;*
- b. preserving the water quality and flows within the Itchen and Hamble;*
- c. protection of the River Itchen SAC including water quality and the southern damselfly from the impacts of nitrogen deposition; and*
- d. contributing to major elements of the PUSH Green Infrastructure Strategy and other strategies for the provision and enhancement of multifunctional green infrastructure including green routes, ecological networks and biodiversity enhancements (see policy S10). Development which is likely to adversely affect the integrity of an international or European nature conservation site will not be permitted. Development which is likely to have a direct or indirect adverse effect on a Site of Special Scientific Interest (SSSI) will not be permitted, unless the Borough Council is satisfied that there are no alternative solutions and the reasons for the development clearly outweigh the harm to the nature conservation value of the site. Development will not be permitted if it is likely to have a direct or indirect adverse effect on a Site of Importance for Nature Conservation (SINC) or Local Nature Reserve as shown on the policies map (or on a more recent plan provided by the Hampshire Biodiversity Information Centre), unless it can be demonstrated to the satisfaction of the Borough Council that:*
 - i. the benefits of the development clearly outweigh the adverse effects on the nature conservation value of the site;*
 - ii. the adverse impacts are unavoidable;*
 - iii. measures are taken to mitigate or, if this is not possible, compensate for the adverse effects, such that the development will result in at least no net loss of biodiversity; and*

iv. buffers free from development are provided to Locally designated sites within or adjacent to developments to alleviate recreational impact and impacts on edge habitats and to maintain dark skies. Impacts on priority habitats and protected and priority species will not be permitted unless the applicant can evidence that;

- there has been thorough habitat and species surveys;*
- there is an overall biodiversity gain; and*
- protected species impacts have been avoided or mitigated and their needs taken into consideration within the development design;*
- the great crested newt strategic survey and strategy have been considered in all developments within 500m of a great crested newt pond;*
- the strategic bat trapping survey has been considered in all developments within the locality of a woodland surveyed or connected habitat networks.*

In determining planning applications, the Borough Council will:

- a. seeks opportunities to create or enhance habitats and features of nature conservation interest, having regard to local geodiversity and soils;*
- b. has regard to the need to protect, and opportunities to enhance the Priority Biodiversity Areas and the Priority Biodiversity Links set out in the Council's Biodiversity Action Plan⁴⁵; and*
- c. for residential developments within 5.6 km of the Solent Special Protection Areas (SPAs), require contributions to the Solent Recreation Mitigation Strategy or site-specific measures to address recreational disturbance as agreed by the Council and Natural England."*

2.39. The EcoAs of the Proposed Development will consider the policies outlined above.

Guidance Documents

BS 42020:2013 Biodiversity

- 2.40. The British Standards Institute has published *BS 42020:2013 Biodiversity*¹². *Code of Practice for Planning and Development* which offers a coherent methodology for biodiversity management. This document seeks to promote transparency and consistency in the quality and appropriateness of ecological information submitted with planning applications and applications for other regulatory approvals.
- 2.41. BS 42020:2013 cites CIEEM EcIA Guidelines as the acknowledged reference on Ecological Impact Assessment (“EcIA”). These guidelines provide recommendations on topics such as professional practice, proportionality, pre-application discussions, ecological surveys, adequacy of ecological information, reporting and monitoring.

CIEEM Guidelines

- 2.42. CIEEM have produced guidance on Ecological Impact Assessment (EcIA)¹³ and Ecological Report Writing¹⁴. EcIA is a process of identifying, quantifying and evaluating potential effects from activities such as those related to development on habitats, species and ecosystems. Whilst this document is not an EcIA, the principles remain transferable, and the EcoA creation process follows the tasks set out in **Table 2-2** below, as if the document were an EcIA.

Table 2-2: EcIA Process

Task	Description
Scoping	Determining the matters to be addressed in the EcIA, including consultation to ensure the most effective input to defining the scope. Scoping is an ongoing process – the scope of the EcIA may be modified following further ecological survey/research and during impact assessment.
Establishing the baseline	Collecting information and describing the ecological conditions in the absence of the proposed project, to inform the assessment of impacts.
Important ecological features	Identifying important ecological features (habitats, species and ecosystems, including ecosystem function and processes) that may be affected, with reference to a geographical context in which they are considered important.

¹² BS 42020:2013 Biodiversity. Code of practice for planning and development

¹³ CIEEM (2022) Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. Version 1.2.

¹⁴ CIEEM (2017) Guidelines for Ecological Report Writing

Impact assessment	An assessment of whether important ecological features will be subject to impacts and characterisation of these impacts and their effects ³ . Assessment of the significance of the residual ecological effects of the project (those remaining after mitigation), including cumulative effects.
Avoidance, mitigation, compensation and enhancement	Incorporating measures to avoid, reduce and compensate negative ecological impacts and their effects, and the provision of ecological enhancements. Monitoring impacts and their effects. Evaluation of the success of proposed mitigation, compensation and enhancement measures.

2.43. The aims of their EclA guidelines are to:

- promote good practice;
- promote a scientifically rigorous and transparent approach to Ecological Impact Assessment (EclA);
- provide a common framework to EclA in order to promote better communication and closer cooperation between ecologists involved in EclA; and
- provide decision-makers with relevant information about the likely ecological effects of a project.

Natural England and Forestry Commission Guidelines

2.44. Natural England have published standing advice for various protected species and habitats in England. The advice covers accepted and recommended survey, avoidance, mitigation and compensation standards for development affecting these ecological features. These advice documents have been borne in mind where relevant to the Proposed Development.

2.45. Within this series, Natural England and the Forestry Commission Standing have published joint standing advice for ancient woodland and ancient and veteran trees¹⁵. This advice guides planning authorities in assessing the impacts of proposals affecting these features. It also provides guidance on reaching planning decisions and avoiding, mitigating and (as a last resort) compensating for impacts on these features.

¹⁵ <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

METHODOLOGY

Zone of Influence

- 2.46. The Zone of Influence (Zol) is the area encompassing all predicted negative ecological effects from a Proposed Development and is informed by the habitats present within the Application Site and the nature of the Proposed Development. Due to the scale and nature of the Proposed Development, it is considered that the Zol outlined in **Table 2-3 below** was appropriate for the gathering of information to inform the desk study.

Table 2-3: Zone of Influence for Ecological Features

ECOLOGICAL FEATURE	Zone of Influence (Zol)
International (former European) statutory designations	15km (or beyond in the case of significant hydrological or ornithological influence)
National statutory designations	5km
Non-statutory designations	2km
Protected and Priority species	2km

Desk Study

- 2.47. A desk-based assessment was undertaken to collate available ecological information for the Application Site and the surrounding area. This included a search of statutory designated sites within an appropriate radius of the Proposed Development, including: Special Protection Areas (SPA), Special Areas of Conservation (SAC), and Ramsar Sites all at a 15km radius, and Sites of Specific Scientific Interest (SSSIs), National Nature Reserves (NNR) and Local Nature Reserves (LNRs) at a 5km radius. The description of each of these sites was obtained utilising the Multi-Agency Geographic Information for the Countryside (MAGIC) website¹⁶.
- 2.48. A data search was conducted through the Hampshire Biodiversity Information Centre (HBIC) to obtain information regarding protected/Priority species and non-statutory sites within 2km of the Application Site boundary.

¹⁶ Available at - <https://magic.defra.gov.uk/>

Field Survey

UK Habitat Classification Survey

- 2.49. A UK Habitat Classification Survey was undertaken on the 4th, 11th, and 12th of January 2023 by Ecus Ecologists.

Table 2-4: Survey details

Survey Date	Surveyor(s)	Name of Report
4/01/2023	Alex Hellyar BSc (Hons) and Nicole Bell MSc BSc (Hons).	P21 & P22 Allington Lane – North – Preliminary Ecological Appraisal
11/01/2023	Alex Hellyar BSc (Hons) and Nicole Bell MSc BSc (Hons).	P28 Allington Lane – Hearts – Preliminary Ecological Appraisal
12/01/2023	Claire Evans MSc BSc (Hons) and Molly-Marie Mills MSc BSc	P29 & P30 Allington Lane – Hogswood – Preliminary Ecological Appraisal

- 2.50. The Ecological Survey Area (ESA) covered all land within the development boundary of the Application Site.
- 2.51. Survey work undertaken in accordance best-practice methodology at the time of survey (UK habitat survey version 1 guidance¹⁷). This habitat classification method provides a standardised system to record and map semi-natural vegetation and other wildlife habitats to assess the potential importance for nature conservation. Habitats were mapped electronically in the field in order to produce a digital habitat map. As not every primary habitat has an existing symbology based on the UK habitat symbology document, those without will be categorised at a broader level of classification for the purposes of the habitat map, unless they denote a priority habitat, in which case, a designated symbology will be created for this map.
- 2.52. This habitat classification method provides a standardised system to record and map semi-natural vegetation and other wildlife habitats in order to assess their potential importance for nature conservation.

¹⁷ Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020) The UK Habitat Classification User Manual Version 1.1

Habitat Condition Survey

- 2.53. The condition of the different habitats within the site was assessed in accordance with the Biodiversity Metric Gain 3.1 Technical Supplement¹⁸. Assessment was performed by the respective habitat surveyor in January 2023.

Species Scoping Survey

- 2.54. A species scoping survey was carried out to identify the presence of protected species, or the potential of the Application Site to support protected species. The aim of the survey was to provide an overview of the Application Site and to determine whether any further survey work was required.
- 2.55. **Table 2-4** below outlines the relevant habitat and field signs that indicate the potential presence of protected or Priority species within the ESA.

Table 2-4: Indicative Habitats and Field Signs of Protected Species

Taxon	Indicative Habitat(s)	Field Signs (In Addition to Sightings)
Bats	Roosts – trees, buildings, bridges, caves, etc. Foraging areas – e.g. parkland, water bodies, streams, wetlands, woodland edges and hedgerow. Commuting routes – linear features (e.g.) hedgerows, water courses, tree lines).	In or on potential roost sites: droppings stuck to walls, urine spotting in roof spaces, oil from fur staining round roost entrances, feeding remains (e.g. moth wings under a feeding perch).
Badger	Found in most rural and many urban habitats.	Excavations and tracks: sett entrances, latrines, hairs, well-worn paths, prints, scratch marks on trees.
Dormouse	Deciduous woodland, overgrown/species-rich hedgerows and associated scrub.	Nests, feeding remains (distinctively marked hazelnut shells).
Otter	Watercourses.	Holts (or dens), prints, spraints (droppings), slide marks into watercourses, feeding signs (e.g. fish bones).

¹⁸ Panks, S., White, N., Newsome, A., Nash, M., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Cashon, C., Goddard, F., Scott, S.J., Heaver, M., Scott, S.H., Treweek, J., Butcher, B., and Stone, D. (2022). Biodiversity Metric 3.1: Auditing And Accounting For Biodiversity – User Guide. Natural England

Taxon	Indicative Habitat(s)	Field Signs (In Addition to Sightings)
Water Vole	Watercourses.	Droppings, feeding signs (e.g. nibbled grass stalks in small piles)
Birds	Trees, scrub, hedgerow, field margins, grassland, buildings.	Nests, droppings below nest sites (especially in buildings of trees), tree holes.
Common reptiles	Rough grassland, log and rubble piles.	Sloughed skins.
Great Crested Newt	Ponds during breeding season (spring). Can also be found in: woodland, hedgerows, scrub, marshes and tussocky grassland	Presence of eggs usually found attached to underside of leaf of aquatic plants. Cream yolk and translucent 'egg white'.

Breeding Bird Survey

- 2.56. The breeding bird surveys were carried out on five days between the 16th April 2023 and the 27th June 2023 by Phil Budd BSc. (Hampshire Ecological Services Ltd) See **Appendix 2E: Breeding Bird Report** for more information.
- 2.57. The surveys followed standard breeding bird survey protocol detailed in the Common Birds Census (British Trust for Ornithology 1983). This method uses a territory-mapping approach to estimate the number and positions of territories for each species present on each survey during the breeding season. The surveyor recorded all bird activity encountered during the surveys. The results were documented by noting the time, species and behaviour. This included nesting, singing, calling, repeated territorial calls, territorial aggression, displaying, adults carrying food or nesting material, juvenile birds and family groups, flying and any other social interaction. Where possible, the age and sex of the bird was also recorded.

Great Crested Newt Survey

- 2.58. All on-site ponds and water bodies were assessed and surveyed on the 29th and 30th June 2023 by John Poland CEnv MCIEEM CBiol MSB.
- 2.59. Only the Allington Lane Pond SINC had formal permission to survey which returned negative results for Great Crested Newts. For more information see **Appendix 2H – Great Crested Newt Report**.

Weather Conditions

- 2.60. The weather conditions during all surveys were within acceptable temperatures, with no weather conditions which would significantly impact their findings, or any subsequent findings of this report. Specific details can be found within the respective reports for each survey (see **Appendices 2D, 2E, 2G & 2H**).

Limitations

- 2.61. Results of historic assessments undertaken by Ecus Ltd and Hampshire Ecological Services Ltd are representative of the time that surveying was undertaken and were done for different development applications.
- 2.62. The absence of specific species records returned during the data search does not necessarily indicate absence of a species or habitat from an area, but rather that these have not been recorded or are perhaps under-recorded within the search area.
- 2.63. A UK Habitat Classification Survey does not aim to produce a full botanical or faunal species list or provide a full protected species survey, but enables competent ecologists to ascertain an understanding of the ecology of the site in order to:
- Identify broadly the nature conservation value of a site and preliminarily assess the significance of any potential impacts on habitat/species recorded, and
 - Confirm the need and extent of any additional specific ecological surveys that are required to identify the true nature conservation value of a site.
- 2.64. It is acknowledged that January is not the optimal time for habitat surveys as spring and summer surveys allow for a more detailed species list to be obtained, however, the classification of habitats remains unaffected by the season during which the survey took place as primary habitats onsite are still identifiable in winter through vegetative characteristics. Furthermore, agricultural use, which has increased disturbance and nutrient input within the site, will likely preclude the presence of any higher priority/distinctiveness grassland habitat.
- 2.65. It should also be noted that the red line boundary has been altered since the initial surveys were undertaken, and therefore the supporting surveys and reports have been assessed to the current red line boundary, shown in 8121-DRW-DES-0002-Location Plan-v1.0.
- 2.66. Whilst it is acknowledged that **Appendix 2D – S2 P28 Allington Lane – Hearts – Preliminary Ecological Appraisal** contains draft watermarks, it has been confirmed that this is the most up to date edition of the document. Therefore, this does not constitute a significant limitation.

Evaluation Methods

- 2.67. The evaluation of ecological receptors is based upon CIEEM guidelines¹⁹ (2017), which suggest that the value or potential value of an ecological resource or feature (for example a habitat type, species or ecosystem) should be determined within a geographical context (e.g., rare at a local level). Attributing a value to a receptor, which is also a designated site, is generally precise, as the designations themselves provide an indication of value.

Adopted Design Principles

- 2.68. Where possible, measures have been implemented as part of the iterative design process to prevent the various phases of the Proposed Development affecting sensitive ecological features. The evaluation of the ecological baseline has enabled the inclusion of integral design measures including the following:
- Water bodies/water courses – 10m buffer on either side
 - SINCs – 20m buffer
 - Ancient Woodland – 15m buffer
 - Buffer from Root Protection Zones (RPZ) – 5m minimum
 - Buffer from Trees –5m minimum
 - Buffer from hedges –5m minimum

Impact Assessment

- 2.69. The impact assessment process involves:
- Identifying and characterising impacts and their effects;
 - Incorporating measures to avoid and mitigate negative impacts and effects;
 - Assessing the significance of any residual effects after mitigation;
 - Identifying appropriate compensation measures to offset significant residual effects;
 - Identifying opportunities for ecological enhancement.
- 2.70. The terms ‘impact’ and ‘effect’ are used commonly throughout ecological reports. Impact is defined as a change experienced by an ecological feature, while effect is defined as the

¹⁹ CIEEM (2022) Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. Version 1.2.

outcome to an ecological feature from an impact. Impacts and effects can be positive, negative or neutral.

- 2.71. Assessment of potential impacts and effects needs to consider on-site, adjacent and more distant ecological features, including habitats, species and statutory and ecological designated sites.
- 2.72. This Ecological Assessment has been concluded by an experienced ecologist following CIEEM guidance²⁰.

Assessing the Magnitude of Change

- 2.73. Determining the magnitude of any likely effects requires an understanding of how the ecological features are likely to respond to the Proposed Development. This change can occur during construction or operation of the Proposed Development.
- 2.74. Effect magnitude refers to changes in the extent and integrity of an ecological receptor. A definition of ecological ‘integrity’ that is relevant across the UK is found within Scottish Executive circular 6/1995 (as updated, 2000)²¹. This states that:

“The integrity of a site is the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified”.
- 2.75. Although this definition is used specifically regarding international-level designated sites (SAC and SPA), it is also considered suitable for wider countryside habitats and species for the purposes of this assessment.
- 2.76. Effects can be adverse, neutral or positive. Effects are judged in terms of magnitude in space and time. There are five levels of spatial effects and five levels of temporal effects as described in **Table 2-5** and **Table 2-6** respectively.

Table 2-5: Spatial Effect Magnitude

Spatial Magnitude	Description
Very High	Would cause the loss of the majority of a feature (>80%) or would be sufficient to damage a feature sufficient to immediately affect its viability.

²⁰ CIEEM (2022) Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. Version 1.2

²¹ Natura Casework Guidance: How to consider plans and projects affecting Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). Available at: <https://www.nature.scot/natura-casework-guidance-how-consider-plans-and-projects-affecting-special-areas-conservation-sacs>

High	Would have a major effect on the feature or its viability. For example, more than 20% habitat loss or damage.
Moderate	Would have a moderate effect on the feature or its viability. For example, between 10 - 20% habitat loss or damage.
Low	Would have a minor effect upon the feature or its viability. For example, less than 10% habitat loss or damage.
Negligible	Minimal change on a very small scale; effects not dissimilar to those expected within a 'do nothing' scenario.

Table 2-6: Temporal Effect Magnitude

Temporal Magnitude	Description
Permanent	Effects continuing indefinitely beyond the span of one human generation (taken here as 30+ years), except where there is likely to be substantial improvement after this period in which case the category Long-term may be more appropriate.
Long-term	From 15 years up to (and including) 30 years; for short-lived species such as invertebrates, multiple generations.
Medium-term	From 5 years up to (but not including) 15 years; for short-lived species, a single generation.
Short-term	Up to (but not including) 5 years; for short-lived species, a single season or part of a season.
Negligible	No effect.

BASELINE CONDITIONS

Desk-based Study

Designated Sites

- 2.77. The Application Site does not lie within or adjacent to any statutory designated environmental sites.
- 2.78. Within 15km of the Application Site boundary there are eleven internationally designated sites: four SACs, four SPAs, and three Ramsar Sites. The closest of these is River Itchen SAC located 0.35km west of the Application Site at its closest point. No pSACs, pSPAs, or proposed Ramsar sites were recorded within 15km.
- 2.79. Within 5km of the Application Site there are three SSSIs, namely River Itchen SSSI, Moorgreen Meadows SSSI and Lee-on-The Solent to Itchen Estuary SSSI; as well as four LNRs, namely Wildern LNR, Chessel Bay LNR, Netley Common LNR and Manor Farm LNR. No NNRs are present within 5km. There is not believed to be any material hydrological influence beyond the 15km study area.
- 2.80. The Application Site contains 39 former non-statutory designated environmental sites within 2km of the development boundary. Seven of these are immediately adjacent to the Application Site.
- 2.81. Each of the statutory sites are outlined in **Table 2-7** and **Appendix 2A, Figure 2.1**, and non-statutory sites adjacent to the site are outlined in **Table 2-8** below. Site descriptions and qualifying features are derived from the DBRC data search and the original site citations available from Joint Nature Conservation Committee (JNCC)²² and MAGIC²³.

²² Available at <https://sac.jncc.gov.uk/>

²³ Available at <https://magic.defra.gov.uk/magicmap.aspx>

Table 2-7: Statutory Designated Sites

Site Code	Site Name	Qualifying Features	Distance & Direction	Potential Connectivity with the Proposed Development Site
SAC (15km or extent of significant hydrological influence)				
UK0012599	River Itchen	[3260] Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [1044] Southern damselfly <i>Coenagrion mercurial</i> [1163] Bullhead <i>Cottus gobio</i> [1092] White-clawed (or Atlantic stream) crayfish <i>Austropotamobius pallipes</i> [1096] Brook lamprey <i>Lampetra planeri</i> [1106] Atlantic salmon <i>Salmo salar</i> [1355] Otter <i>Lutra lutra</i>	0.35km West	Ecological and hydrological
UK00300059	Solvent Maritime	[1130] Estuaries [1320] <i>Spartina</i> swards (<i>Spartinion maritimae</i>) [1330] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1110] Sandbanks which are slightly covered by sea water all the time	5.2km Southeast	None

		• [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> ("white dunes")" • [1016] Desmoulin's whorl snail <i>Vertigo moulinsiana</i>		
UK0030147	Emer Bog	• [7140] Transition mires and quaking bogs	8.4km Northwest	None
UK0012557	The New Forest	• [3110] Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) • [3130] Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i> • [4010] Northern Atlantic wet heaths with <i>Erica tetralix</i> • [4030] European dry heaths • [6410] Molinia meadows on calcareous, peaty, or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	13.7km South	None

		• [7150] Depressions on peat substrates of the <i>Rhynchosporion</i> • [9120] Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>) • [9130] <i>Asperulo-Fagetum</i> beech forests • [9190] Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains • [91D0] Bog woodland * Priority feature • [91E0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) * Priority feature • [7140] Transition mires and quaking bogs • [7230] Alkaline fens • [1044] Southern damselfly <i>Coenagrion mercurial</i> • [1083] Stag beetle <i>Lucanus cervus</i> • [1166] Great crested newt <i>Triturus cristatus</i>		
SPA (15km)				
UK9011061	Solvent & Southampton Water	• A046a <i>Branta bernicla bernicla</i>; Dark-bellied brent goose (Non-breeding)	5.2km Southeast	Ornithological

		• A052 <i>Anas crecca</i>; Eurasian teal (Non-breeding) • A137 <i>Charadrius hiaticula</i>; Ringed plover (Non-breeding) • A156 <i>Limosa limosa islandica</i>; Black-tailed godwit (Non-breeding) • A176 <i>Larus melanocephalus</i>; Mediterranean gull (Breeding) • A191 <i>Sterna sandvicensis</i>; Sandwich tern (Breeding) • A192 <i>Sterna dougallii</i>; Roseate tern (Breeding) • A193 <i>Sterna hirundo</i>; Common tern (Breeding) • A195 <i>Sterna albifrons</i>; Little tern (Breeding)		
UK9020330	Solvent and Dorset Coast	• A191 <i>Sterna sandvicensis</i>; Sandwich tern (Breeding) • A193 <i>Sterna hirundo</i>; Common tern (Breeding) • A195 <i>Sternula albifrons</i>; Little tern (Breeding)	7.6km South	None
UK9011031	New Forest	• A072 <i>Pernis apivorus</i>; European honey-buzzard (Breeding) • A082 <i>Circus cyaneus</i>; Hen harrier (Non-breeding) • A099 <i>Falco subbuteo</i>; Eurasian hobby (Breeding)	13.7km South	None

		- A224 <i>Caprimulgus europaeus</i>; European nightjar (Breeding) - A246 <i>Lullula arborea</i>; Woodlark (Breeding) - A302 <i>Sylvia undata</i>; Dartford warbler (Breeding) - A314 <i>Phylloscopus sibilatrix</i>; Wood warbler (Breeding)		
UK9011051	Portsmouth Harbour	- A046a <i>Branta bernicla bernicla</i>; Dark-bellied brent goose (Non-breeding) - A069 <i>Mergus serrator</i>; Red-breasted merganser (Non-breeding) - A149 <i>Calidris alpina alpina</i>; Dunlin (Non-breeding) - A156 <i>Limosa limosa islandica</i>; Black-tailed godwit (Non-breeding)	14.6km Southeast	None
Ramsar Sites (15km)				
UK11063	Solvent & Southampton Water	Dark-bellied Brent geese (<i>Branta bernicla bernicla</i>).	5.2km South	Ornithological
UK11047	New Forest	Hen Harrier (<i>Circus cyaneus</i>)	13.7km South	None
UK11055	Portsmouth Harbour	- Dark-bellied Brent Geese (<i>Branta bernicla bernicla</i>). - Grey Plover (<i>Pluvialis squatarola</i>) - Dunlin (<i>Calidris alpina</i>) - Black-tailed Godwit (<i>Limosa limosa</i>)	14.6km Southeast	None
SSSI (5km)				

2000227	River Itchen	• Classic chalk stream and river, fen meadow, flood pasture and swamp habitats, particularly formations of in-channel vegetation dominated by water crowfoot <i>Ranunculus spp</i>, • Southern damselfly <i>Coenagrion mercuriale</i> • White-clawed crayfish <i>Austropotamobius pallipes</i>, • Otter <i>Lutra lutra</i>, • Water vole <i>Arvicola terrestris</i>, • Bullhead <i>Cottius gobbo</i>, • Brook lamprey <i>Lampetra planeri</i>, • Atlantic salmon <i>Salmo salar</i> • Tufted duck <i>Aythya fuligula</i>, • Pochard <i>A. farina</i> • Shoveler <i>Anas clypeata</i> • Lapwing <i>Vanellus vanellus</i>, • Redshank <i>Tringa tetanus</i> • Snipe <i>Gallinago gallinago</i>, • Sedge warbler <i>Acrocephalus schoenobaenus</i> • Reed warbler <i>A. scirpaceus</i> • Cetti's warbler <i>Cettia cettia</i>.	0.3km West	Ecological
1003005	Moorgreen Meadows	• Marsh orchids <i>Dactylorhiza</i>, • Northern Marsh Orchid <i>D. purpurella</i>.	1.9km South	None
1005846	Lee-on-The Solent to Itchen Estuary SSSI	• Intertidal muds with a littoral fringe of vegetated shingle, saltmarsh,	4.7km South	Ornithological

		reedbed, marshy grasslands and deciduous woodland on alluvium. • Dark-bellied brent geese (<i>Branta bernicla bernicla</i>). • Great-crested grebe (<i>Podiceps cristatus</i>) • Teal (<i>Anas crecca</i>) • Wigeon (<i>Anas Penelope</i>) • Black-tailed godwit (<i>Limosa limosa</i>) • Dunlin (<i>Calidris alpina</i>) • Grey plover (<i>Pluvialis squatarola</i>) • Ringed plover (<i>Charadrius hiaticula</i>) • Redshank (<i>Tringa tetanus</i>)		
LNR (5km)				
1481625	Wildern	• Wetland habitat featuring a mosaic of ponds, two flooded meadows, woodlands and a valley mire all linked by the streams which flow through the site.	3.3km Southeast	None
1008836	Chessel Bay	• Natural shoreline in the lower Itchen River. A narrow strip of woodland, with oak, beech, brambles, and hawthorn.	4.7km South	None
1460441	Netley Common	• Open heathland including grassland with islands of scrub and gorse, surrounded by a mixed woodland fringe.	4.7km South	None
1475820	Manor Farm	• Abundant wildlife from roe deer in the woods to curlews along the river and skylarks in the fields, plus an	4.8km Southeast	None

		amazing array of wildflowers, insects, and reptiles.		
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Table 2-8: Non-statutory Designated Sites

Site Code	Site Name	Distance & Direction	Potential Connectivity with the Proposed Development Site
Designated SINC's (2km)			
EA0066	Allington Lane Pond	Immediately Adjacent	Ecological. Supports GCN
EA0050	Hog Wood & Gravel Pits	Immediately Adjacent	Potential limited hydrological connectivity
EA0052	Hogwood Lane Meadow	Immediately Adjacent	Potential limited hydrological connectivity
EA0053	Hogwood Lane Drove	Immediately Adjacent	Potential limited hydrological connectivity
EA0080	Hearts Copse	Immediately Adjacent	Potential limited hydrological connectivity
EA0151	Field North of Hearts Row, West End	Immediately Adjacent	Potential limited hydrological connectivity
EA0152	Treeline Break, West End	Immediately Adjacent	Potential limited hydrological connectivity

- 2.82. The potential presence of protected species within the study area was assessed through a data search conducted via NEYEDC. This aimed to identify records of invasive, rare, scarce, protected and Priority species within 2km of the Application Site boundary.
- 2.83. In addition, the UK Habitat Classification survey included a species scoping survey in order to assess the potential of the Application Site to support protected species.
- 2.84. **Table 2-9** below summarises the most relevant protected, priority and invasive non-native species recorded within the search area, and their potential to be present within the Application Site at Allington Solar Farm. Invasive species are highlighted in bold.

Table 2-9: Sum of Biological Records

Species	Number of Records	Field Signs or Sightings within ESA	Potential for Species within Application Site
AMPHIBIANS & REPTILES			
Common Toad (<i>Bufo bufo</i>)	6	No	Yes
Grass Snake (<i>Natrix Helvetica</i>)	2	No	Yes
Great Crested Newt (<i>Triturus cristatus</i>)	109	No	Yes
Slow-worm (<i>Anguis fragilis</i>)	16	No	Yes
MAMMALS			
American Mink (<i>Mustela vison</i>)*	37	No	Yes
Brown Long-eared Bat (<i>Plecotus auratus</i>)	42	No	Yes
Common Pipistrelle (<i>Pipistrellus pipistrellus</i>)	242	No	Yes
Daubenton's Bat (<i>Myotis daubentonii</i>)	30	No	Yes
Eurasian Badger (<i>Meles meles</i>)	15	No	Yes
Eurasian Otter (<i>Lutra lutra</i>)	208	No	Yes
Eurasian Water Shrew (<i>Neomys fodiens</i>)	8	No	Yes
European Water Vole (<i>Arvicola amphibius</i>)	212	No	Yes
Hazel Dormouse (<i>Musccardinus avellanarius</i>)	1	No	Yes
Lesser Noctule (<i>Nyctalus leisleri</i>)	1	No	Yes
Long-eared Bat species (<i>Plecotus spp.</i>)	14	No	Yes
Myotis Bat species (<i>Myotis spp.</i>)	47	No	Yes
Muntjac (<i>Muntiacus reevesi</i>)*	4	No	Yes

Nathusius's Pipistrelle (<i>Pipistrellus nathusii</i>)	13	No	Yes
Natterer's Bat (<i>Myotis nattereri</i>)	18	No	Yes
Noctule Bat (<i>Nyctalus noctule</i>)	46	No	Yes
Pipistrelle Bat species (<i>Pipistrellus spp.</i>)	10	No	Yes
Serotine (<i>Eptesicus serotinus</i>)	29	No	Yes
Soprano (Pipistrelle <i>Pipistrellus pygmaeus</i>)	128	No	Yes
West European Hedgehog (<i>Erinaceus europaeus</i>)	51	No	Yes
Whiskered Bat (<i>Myotis mystacinus</i>)	9	No	Yes
Whiskered/Brandt's Bat (<i>Myotis mystacinus/brandtii</i>)	1	No	Yes
BIRDS			
Barn Owl (<i>Tyto alba</i>)	82	Yes	Yes
Bittern (<i>Botaurus stellaris</i>)	1	No	No
Black Kite (<i>Milvus migrans</i>)	3	No	Yes
Black Redstart (<i>Phoenicurus ochruros</i>)	13	No	Yes
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	46	No	Yes
Common Tern (<i>Sterna hirundo</i>)	2	No	Yes
Corncrake (<i>Crex crex</i>)	1	No	Yes
Crane (<i>Grus grus</i>)	4	No	Yes
Crossbill (<i>Loxia curvirostra</i>)	50	No	No
Cuckoo (<i>Cuculus canorus</i>)	113	Yes	Yes
Curlew (<i>Numenius arquata</i>)	4	Yes	Yes

Dark-bellied Brent Gose (<i>Branta bernicla</i>)	4	No	Yes
Dartford Warbler (<i>Curruca undata</i>)	10	No	No
Golden Plover (<i>Pluvialis apricaria</i>)	19	No	No
Goosander (<i>Mergus merganser</i>)	12	No	Yes
Great Black-backed Gull (<i>Larus marinus</i>)	323	No	Yes
Great Crested Grebe (<i>Podiceps cristatus</i>)	5	No	No
Green Sandpiper (<i>Tringa ochropus</i>)	103	No	No
Greenshank (<i>Tringa nebularia</i>)	1	No	No
Grey Heron (<i>Ardea cinerea</i>)	20	No	Yes
Grey Partridge (<i>Perdix perdix</i>)	3	No	Yes
Grey Wagtail (<i>Motacilla cinerea</i>)	40	No	Yes
Hawfinch (<i>Coccothraustes coccothraustes</i>)	16	No	No
Herring Gull (<i>Larus argentatus</i>)	180	No	Yes
Hobby (<i>Falco Subbuteo</i>)	71	No	Yes
Hoopoe (<i>Upupa epops</i>)	1	No	Yes
House Sparrow (<i>Passer domesticus</i>)	15	No	Yes
Kingfisher (<i>Alcedo atthis</i>)	225	No	Yes
Lapwing (<i>Vanellus vanellus</i>)	64	No	Yes
Lesser Black-backed Gull (<i>Larus fuscus</i>)	132	No	Yes
Lesser Redpoll (<i>Acanthis cabaret</i>)	23	No	No
Lesser Spotted Woodpecker (<i>Dryobates minor</i>)	2	No	No
Linnet (<i>Linaria cannabina</i>)	13	No	Yes

Little Egret (<i>Egretta garzetta</i>)	116	No	Yes
Little Gull (<i>Hydrocoloeus minutus</i>)	1	No	Yes
Little Ringed Plover (<i>Charadrius dubius</i>)	1	No	No
Marsh Harrier (<i>Circus aeruginosus</i>)	3	No	Yes
Marsh Tit (<i>Poecile palustris</i>)	20	No	No
Mediterranean Gull (<i>Ichthyaeus melanocephalus</i>)	78	No	Yes
Merlin (<i>Falco columbarius</i>)	13	No	No
Mistle Thrush (<i>Turdus viscivorus</i>)	60	No	Yes
Montagu's Harrier (<i>Circus pygargus</i>)	1	No	No
Nightingale (<i>Luscinia megarhynchos</i>)	8	No	No
Osprey (<i>Pandion haliaetus</i>)	26	No	Yes
Oystercatcher (<i>Haematopus ostralegus</i>)	3	No	Yes
Peregrine (<i>Falco peregrinus</i>)	129	No	No
Pied Flycatcher (<i>Ficedula hypoleuca</i>)	15	No	No
Pochard (<i>Aythya farina</i>)	7	No	Yes
Red Kite (<i>Milvus milvus</i>)	184	No	Yes
Redstart (<i>Phoenicurus phoenicurus</i>)	61	No	No
Redwing (<i>Turdus iliacus</i>)	254	No	Yes
Reed Bunting (<i>Emberiza schoeniclus</i>)	179	No	Yes
Ring Ouzel (<i>Turdus torquatus</i>)	7	No	No
Sand Martin (<i>Riparia riparia</i>)	37	No	No

Shelduck (<i>Tadorna tadorna</i>)	5	No	Yes
Short-eared Owl (<i>Asio flammeus</i>)	3	No	No
Shoveler (<i>Spatula clypeata</i>)	16	No	Yes
Siskin (<i>Spinus spinus</i>)	129	No	No
Skylark (<i>Alauda arvensis</i>)	55	Yes	Yes
Snipe (<i>Gallinago gallinago</i>)	108	No	Yes
Song Thrush (<i>Turdus philomelos</i>)	82	Yes	Yes
Spoonbill (<i>Platalea leucorodia</i>)	1	No	No
Spotted Flycatcher (<i>Muscicapa striata</i>)	148	No	Yes
Starling (<i>Sturnus vulgaris</i>)	41	No	Yes
Swift (<i>Apus apus</i>)	5	No	No
Tree Pipit (<i>Anthus trivialis</i>)	20	No	No
Water Pipit (<i>Anthus spinoletta</i>)	3	No	Yes
Water Rail (<i>Rallus aquaticus</i>)	318	No	Yes
Wheatear (<i>Oenanthe Oenanthe</i>)	124	No	No
Whimbrel (<i>Numenius phaeopus</i>)	29	No	Yes
Whinchat (<i>Saxicola rubetra</i>)	126	No	No
White Stork (<i>Ciconia Ciconia</i>)	2	No	Yes
Wood Sandpiper (<i>Tringa glareola</i>)	1	No	No
Wood Warbler (<i>Phylloscopus sibilatrix</i>)	2	No	No
Woodcock (<i>Scolopax rusticola</i>)	63	No	No
Woodlark (<i>Lullula arborea</i>)	2	No	No
Wryneck (<i>Jynx torquilla</i>)	1	No	Yes
Yellow Wagtail (<i>Motacilla flava</i>)	50	No	Yes
Yellowhammer (<i>Emberiza citronella</i>)	2	No	Yes
FLORA			

Giant Hogweed (<i>Heracleum mantegazzianum</i>)*	1	No	No
Himalayan Balsam (<i>Impatiens glandulifera</i>)*	7	No	No
Japanese Knotweed (<i>Fallopia japonica</i>)*	8	No	No
Rhododendron (<i>Rhododendron ponticum</i>)*	6	No	No

* indicates an invasive species

UK Habitat Classification Survey

2.85. The UK Habitat Classification Survey and Preliminary Ecological Appraisal (PEA) was undertaken by Ecologists from Ecus Consulting Ltd on the 4th, 11th and 12th of January 2023 identified 14 primary habitat types. For the purposes of UK Habitats field work, the Application Site has been split into three parts, one PEA report has been composed for each of these parts.

2.86. Each of these are listed below, with the relevant habitat codes beforehand.

- g3c - Other neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- h3d - Bramble scrub
- r1 - Standing open water and canals
- r1e - canal or ditch
- u1d - Suburban / mosaic of developed / natural surface
- w1f7 - Other Lowland mixed deciduous woodland
- w1g6 - line of trees
- h3h - Mixed scrub
- f2- Fen, Marsh, and Swamp
- u1e - Built linear features
- u1c - Artificial unvegetated unsealed surface

- w1d - Wet woodland
- f2e - Reedbeds

- 2.87. Overall, the site is considered to be of moderate ecological value in terms of habitats. The primary habitat interest derives from the presence of species-rich hedgerows, floodplain grasslands, and woodlands.
- 2.88. Multiple ponds were noted on the site and within 250m of the site boundary however, none of the ponds that were surveyed tested positive for Great Crested Newt. Further details can be seen in the GCN report (**Appendix 2H**) and the accompanying PEAs (**Appendix 2D**).
- 2.89. No non-native invasive or protected species of flora were identified during the survey. However, recent biological records exist for Japanese Knotweed, Giant Hogweed, Himalayan Balsam and Rhododendron within the local area.
- 2.90. A map and detailed descriptions of the habitats present are given in the respective appendices.

Breeding Bird Survey and Report

- 2.91. From the breeding bird surveys and report, it was noted that a total of 36 bird species were recorded during the surveys within the site. Eight species are listed on the amber list of Birds of Conservation Concern (BoCC) (bullfinch, dunnock, kestrel, sedge warbler, song thrush, stock dove, woodpigeon and wren), whilst three species (cuckoo, curlew and skylark) are listed on the red list. All other bird species recorded are listed as green list species. The four species that were confirmed breeders on the site were; Barn Owl (*Tyto alba*), Great Spotted Woodpecker (*Dendrocopos major*), Jackdaw (*Corvus monedula*) & Kestrel (*Falco tinnunculus*).
- 2.92. No specific nocturnal surveys were completed for this site, however, the Breeding Bird Survey report (Appendix E) does not consider this a limitation and an a Barn Owl nest with two chicks was recorded during the survey on the 11th of June 2023. The proposed development may result in the loss of foraging and commuting habitat for Barn Owls. To minimise negative impact, the development will retain all hedgerows and woodland (plus the majority of individual trees) and there are no field margins of importance. Proposed habitats will be created and managed with breeding birds in mind, with the removal of any vegetation carried out outside of the bird breeding season (late February to August inclusive). Various bird boxes will also be erected, including a Barn Owl box if possible in a suitably sheltered area with minimal disturbance. For more information on the survey and the survey findings, please refer to **Appendix E: Breeding Bird Survey Report**.

IMPACT ASSESSMENT

Best Practice Pollution Prevention Measures

- 2.93. Standard best practice pollution prevention measures will be adhered to, which will reduce the potential for impacts on ecology during the construction stage. As these are standard requirements, they are separate to mitigation measures (outlined later in this report).
- 2.94. Relevant measures include but are not limited to:

Pollution Prevention

- Hydrocarbons, greases and hydraulic fluids will be stored in a secure compound area;
- All plant machinery will be properly serviced and maintained, thereby reducing risk of spillage or leakage;
- All waste produced from construction will be collected in skips with the construction site kept tidy at all times;
- Excavated soil will be stored on site, and utilised for landscaping if viable, or removed by a licensed waste disposal unit;
- All materials and substances used for construction will be stored in a secure compound and all chemicals will be stored in secure containers to avoid potential contamination.
- Location of spill kit to be known by all construction workers and implemented in the event of spillage or leakage.

Waste Management

- Skips are to be used for site waste/debris at all times and collected regularly or when full;
- All hydrocarbons and fluids are to be collected in leak-proof containers and removed from site for disposal or recycling;
- All waste from construction is to be stored within the site confines and removed to a permitted waste facility.

Environmental Monitoring

- Contractor to nominate member of staff as the environmental officer with the responsibility to ensure best practice measures are implemented and adhered to, with any incidents or non-compliance issues being reported to project team.

Designated Sites

Statutory Sites

- 2.95. Within 15km of the Application Site boundary there are eleven internationally designated sites: four SACs, four SPAs, and three Ramsar Sites. The closest of these are River Itchen SAC located 0.35km west of the Application Site at its closest point. No pSACs, pSPAs or proposed Ramsar sites were recorded within 15km. There are three SSSIs and four LNRs within 5km of the Application Site.
- 2.96. Upon analysis of the relevant records returned by the desk study, River Itchen SAC/River Itchen SSSI and Lee-on-The Solent to Itchen Estuary SSSI are potentially ecologically connected, Solvent & Southampton Water SPA is potentially ornithologically connected.
- 2.97. The other designated sites listed in **Table 2-7** above are deemed not to have any connectivity. Embedded distance from the proposed development site and New Forest SPA (13.7km) and Portsmouth Harbour (14.6km) are likely to preclude connectivity. Furthermore, there are no records for citation species of Solvent and Dorset Coast SPA within the locale, and habitats on-site are likely to be of negligible value for these species.
- 2.98. There is no other connectivity in the ecological features between the Application Site and these statutory designated sites.
- 2.99. As a result, it is considered that there are no pathways for potential impacts on these sites from the Proposed Development. They have therefore been dismissed from further assessment.

Non-statutory Sites

- 2.100. There are seven non-statutory sites bordering the Application Site. Allington Lane Pond is ecologically connected due to the presence of GCN in this site.
- 2.101. There is no connectivity between the Application Site and the other non-statutory designated sites.
- 2.102. As a result, it is considered that there are no pathways for potential impacts on these sites from the Proposed Development and they have therefore been dismissed from further assessment.

In the Absence of Mitigation

River Itchen SAC and SSSI

- 2.103. The River Itchen is designated as a SAC²⁴ and SSSI and is 0.35km west of the Application site. It is potentially ecologically connected due to the SAC being designated for otter. However, most habitats within the Application Site are considered to be sub-optimal for otter, as the sites consist predominantly of agricultural grassland along with spoil and bare ground, bound by hedgerows and treelines. It is considered that the use of the Application Site by otter is likely to be restricted to commuting otter using the stream identified. Like badger, otter are also a highly mobile mammal with large territories between 2km and 40km+, using watercourses and ditches to commute to suitable foraging areas. Although no otter or field signs of otter were identified within the ESA, it is recommended that a pre-commencement otter survey is carried out as a precautionary measure. Additionally, 208 records of otter were returned from the 2km desk study and no field signs of otter were identified during the site visit.
- 2.104. This SAC and SSSI is potentially hydrologically connected via groundwater flow. Given the proximity it is possible, though unlikely, that pollutants may flow from the Application Site into the River Itchen.
- 2.105. **Table 2-9** below details common water pollutants and their effect on the aquatic environment (table adapted from Ciria guidance). **Table 2-9** below details common water pollutants and their effect on the aquatic environment (table adapted from Ciria guidance²⁵).

Table 2-9: Common Water Pollutants and their Effects on the Aquatic Environment

Common Water Pollutants	Adverse Effect on Aquatic Environment
Silt	Reduces water quality, clogs fish gills, covers aquatic plants, impacts aquatic invertebrates, leads to a reduction in prey for insectivorous/carnivorous species, leads to degradation of habitat
Bentonite (very fine silt)	Reduces water quality, clogs fish gills, covers aquatic plants, impacts aquatic invertebrates, leads to a reduction in prey for species including otter, leads to degradation of habitat
Cement or concrete wash water (highly alkaline)	Changes the chemical balance, is toxic to fish and other wildlife. This can lead to

²⁴ <https://sac.jncc.gov.uk/site/UK0012599>

²⁵ Ciria (2015) Environmental good practice on site guide, 4th edition

	direct impacts for aquatic species, or indirect impacts through loss of prey resources
Detergent	Removes dissolved oxygen, can be toxic to wildlife present within the aquatic environment
Hydrocarbons (e.g. oil, diesel)	Suffocates aquatic life, damaging to wildlife (e.g. otters) and to water supplies including industrial abstractions
Sewage	Reduces water quality, is toxic to aquatic wildlife, and damages water supplies

- 2.106. The potential occurrence of these contaminants and their capability of affecting water quality has been considered during the various phases of the Proposed Development. Potential contaminants are capable of undermining water quality and impacting the qualifying species occurring within the ZOI of the Proposed Development.

Solvent & Southampton Water SPA

- 2.107. Solvent & Southampton Water SPA²⁶ is located 5.2km Southeast of the Application Site. It is designated for the following bird species: Dark-bellied brent goose (*Branta bernicla bernicla*), Eurasian teal (*Anas crecca*), Ringed plover (*Charadrius hiaticula*), Black-tailed godwit (*Limosa limosa islandica*), Mediterranean gull (*Larus melanocephalus*), Sandwich tern (*Sterna sandvicensis*), Roseate tern (*Sterna dougallii*), Common tern (*Sterna hirundo*), Little tern (*Sterna albifrons*).
- 2.108. The habitats within the Application Site are not consistent with the habitats of the SPA, as almost 90% of the SPA comprises tidal rivers, estuaries, mud flats, sand flats, lagoons. Eurasian teal, Ringed plover, Black-tailed godwit, Mediterranean gull, Sandwich tern, Roseate tern, Common tern and Little tern are almost entirely restricted to coastal habitats. It is unlikely that the qualifying bird species listed above would utilise the Application Site due to the lack of preferred habitat for these species to attract them to the proposed development site. It can be concluded that species of fauna listed above have no ornithological connectivity to the Application Site.
- 2.109. Potential ornithological connectivity is limited to Dark-bellied brent goose only. Four records of Dark bellied brent goose were found in the data search. However, it is considered highly unlikely that these species would be dependent upon the habitats found within the Application Site, given the local abundance of more suitable foraging habitat in the coastal/wider area closer to the SPA. It is therefore considered that the loss of habitat as a result of the Proposed Development would have **no significant impacts** on the designated

²⁶ <https://publications.naturalengland.org.uk/publication/6567218288525312>

species of the SPA. As such, the Proposed Development would not result in significant impacts to any of these qualifying species.

- 2.110. Overall, given the habitat present and records in the immediate area it is not believed reasonably likely the Application Site is being used in any significant way.

Lee-on-The Solent to Itchen Estuary SSSI

- 2.111. Lee-on-The Solent to Itchen Estuary SSSI is located 4.7km South of the Application Site.
- 2.112. The estuary provides abundant foraging habitat for many over-wintering bird species. The habitats within the Application Site are not consistent with the habitats of the SPA, almost 90% of the SPA comprises tidal rivers, estuaries, mud flats, sand flats, lagoons, salt marshes and beaches.
- 2.113. The site is of international importance for over-wintering Dark-bellied brent geese, and of national importance for three species of wildfowl (great-crested grebe, teal, and wigeon) and five species of wader (black-tailed godwit, dunlin, grey plover, ringed plover, redshank).
- 2.114. The Application Site is potentially ornithologically connected to the species Dark-bellied brent goose, as four records of Dark-bellied brent geese were found in the data search. However, it is considered unlikely that the designated species of the Lee-on-The Solent to Itchen Estuary SSSI would be dependent upon the habitats of the Application Site, given the local abundance of more suitable foraging habitat in the coastal/wider area closer to the SSSI. Given the habitat present and records in the immediate area, it is not believed reasonably likely the Application Site is being used in any significant way by the Dark-bellied brent goose. Furthermore, given the level of suitable habitat within the wider landscape, it is considered that the potential noise disturbance from the construction and post-construction phases will not be significant for qualifying species associated with the SPA.

Allington Lane Pond SINC

- 2.115. Allington Lane Pond SINC is directly adjacent to the Proposed Development. This SINC has potential ecological connectivity due to the possible presence of Great Crested Newt in the pond and surrounding drainage ditches. The water samples collected in June 2023 tested negative for the presence of great crested newt eDNA.
- 2.116. 'The absence of GCN eDNA from this pond does not mean there is no impact on great crested newt as the site is suitable terrestrial habitat for this species and there have been adjacent breeding records. The Eastleigh Borough Local Plan 2016-2036 Great Crested Newt Study (also known as the North Eastleigh Strategic GCN Survey) published in June 2018, states:
- 2.117. "No records of any newt species or the presence of any newt species were recorded within the waterbody located within the Allington Lane Pond SINC. Hog Wood and Gravel Pits was the only SINC within the study area to have a confirmed breeding presence with GCN eggs recorded within the ponds on-site".

The survey work for this report was conducted in 2016. Based on the current 2023 eDNA survey on the on-site pond, this is still likely to be the case. For more information, see **Appendix 2H**.

Habitats

In the Absence of Mitigation

- 2.118. The construction of the Proposed Development will occur over land which has been identified primarily as neutral grassland, woodland and lines of trees. The site is surrounded by rural environment, some nearby residential housing, with agricultural fields separated by small chunks of woodland and hedgerows. This habitat is generally of moderate ecological value and currently offers potential to support wildlife.
- 2.119. A small section of species-rich hedge (from the ends of two hedges) will be removed. Construction is not anticipated to involve the removal of any other trees or sections of hedgerow. **Figure 1.11 of Technical Appendix 1** shows the location of the proposed hedgerow removal.
- 2.120. By micro siting solar panels and following management practices outlined within the BMP and LEMP, the Proposed Development will result in a relatively minor extent of habitat loss (limited to areas of sparsely vegetated land, and poor condition mixed scrub) in a local context where these habitats are frequent. Therefore, it is **not considered to be significant** in terms of the Application Site's intrinsic habitat interest.
- 2.121. As part of the design proposals (rather than as ecological mitigation), hedgerow sections lost will be replaced with new native species-rich hedges. **Figure 1.11 of Technical Appendix 1** shows the location of the proposed planting. However, in the absence of mitigation, the hedgerow breaks will still constitute loss of small amounts of a Priority habitat. This will lead to effects of **low to negligible spatial** and **medium-term temporal** magnitude, i.e. negligible to minor and **not significant** effects. These magnitudes have been assigned because the loss of hedgerow length will be much less than 10% and, although the new hedges will provide biodiversity benefits in the long term, it will be a number of years until they attain the value of the existing hedges.
- 2.122. The main habitat loss will occur under the Proposed Development footprint in regard to structures such as access tracks, cable trenches and hardstanding for buildings and inverters. Solar panels will be mounted on frames which will be pile driven into the ground in a similar way to fence posts, therefore limiting soil disturbance. The site can be fully restored upon the cessation of the solar farm.
- 2.123. With the implementation of the **Biodiversity Management Plan (Appendix 2B)**, where new habitats will be created using native species appropriate to the Application Site, biodiversity value will increase.
- 2.124. It is therefore considered that the loss of habitat from the Proposed Development **will not be significant**.

Recommended Enhancement Measures

- 2.125. The proposed wildlife enhancements designed into the Proposed Development (see **Appendix 2B: Biodiversity Management Plan**) include the following habitat measures:
- Creation of new species-rich grassland, wildflower grassland, wet meadows, hazel scrub, hedgerows, and trees;
 - Creation of habitat interest features for protected species (e.g., herptile hibernacula and invertebrate hotels; see below).

Residual Effects

- 2.126. With the implementation of the Proposed Development's design measures, best practice measures implemented during the construction phase, and the habitat management outlined, there will be **beneficial effects** on habitats.
- 2.127. With the correct management in place during the 40-year lifespan of the Proposed Development, the potential of the Application Site to support wildlife is likely to be increased. The supporting **BMP** (see **Appendix 2B**) outlines the management proposals to enhance the Application Site's ecological value and therefore increase its potential to support local wildlife. With the implementation of these proposed enhancement measures, it is anticipated there will be a 11.65% **net gain for biodiversity** (See **Appendix 2C** of this report)

Protected and Notable Species

In the Absence of Mitigation

- 2.128. The sections below detail the potential impacts and effects in the absence of mitigation for protected and notable species during the construction phase (approximately six months) and operational phase (40 years) of the Proposed Development.
- 2.129. In accordance with CIEEM guidelines²⁷, the duration of disturbance during construction is considered to be **short term** for the species groups below (except invertebrates). All groups except invertebrates live for several years in the UK. However, it is noted that short-term impacts can lead to long-term effects if e.g. they cause breeding failure in a given year. Invertebrates are assessed in line with their specific life history characteristics.

²⁷ CIEEM (2022) Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. Version 1.2.

Badger

- 2.130. No signs of recent Badger activity were noted within the ESA in any form. The majority of the site offers suitable foraging habitat for this species. All the hedge banks and woodland areas are considered suitable for sett-building. See **Appendix 2G – Badger Summary Report** for more information.
- 2.131. If any badger setts have been excavated since the surveys, the construction phase of the Proposed Development has the potential to impact upon badger by causing disturbance or destruction to a badger sett. During the construction phase, the Proposed Development can also cause undue stress to badgers if these animals are accidentally trapped within any exposed excavations left overnight.
- 2.132. In the absence of mitigation, badger **may be significantly affected** by the Proposed Development. The loss of any newly-created sett would be classed as of **moderate to high spatial** and **long-term temporal** magnitude.

Bats

- 2.133. Following the habitat survey completed by Ecus Consulting Ltd, the suitability of habitat features within the Application Site to support roosting bats was categorised as moderate or high.
- 2.134. During the survey, all trees were assessed for their potential to support roosting bats. Five trees were identified in the North site, containing a number of potential roost features (PRFs) on the number and type of roosting features and surrounding landscape character. These trees had medium to High Bat Roost Potential (BRP).
- 2.135. Six trees were identified in the P28 Allington Lane – Hearts site, containing a number of potential roost features (PRFs). One bat box was noted on this site (See **Appendix 2D: S2**)
- 2.136. Four groups of trees were identified in the P29 & 30 Allington Lane - Hog wood site,, containing a number of potential roost features (PRFs). However, these were considered to have a low suitability for BRP.
- 2.137. More information can be found in **Appendix 2D: S1, S2 & S3**.
- 2.138. Multiple mature trees were recorded within hedges and throughout the woodlands surrounding the Application Site. Many of these trees contain potential roosting features for bats. The Application Site offers a number of optimal habitats for commuting and foraging bats overall, with good habitat connectivity both within the site and linking it to adjacent areas. Key habitat features include hedges, woodlands and woodland edges.
- 2.139. Many species of bat in England commute and forage along linear features, such as a stream/river, hedgerow or woodland edge. However, on occasion they will cross open features (particularly true of species such as Leisler's bat (*Nyctalus leisleri*) that use strong echolocation).

- 2.140. It is noted that the habitats on the site proposed to be lost (sparsely vegetated land, poor condition mixed scrub) are sub-optimal commuting and foraging features for most bat species. It offers sub-optimal foraging habitat for bat species due to limited prey abundance. The loss of this habitat under the Proposed Development footprint will not lead to a significant reduction in foraging habitat for local bats.
- 2.141. A minor loss of more suitable foraging/commuting habitat is predicted from the construction of the Proposed Development, being limited to reduction in length totalling circa 6m across two hedgerows. It can be concluded that no significant fragmentation of habitats will occur; the fencing could disrupt commuting routes along these, but the proposed fence height of 2.0m is unlikely to cause significant disruption. No trees with bat roosting potential will be lost.
- 2.142. Given the likely presence of foraging and commuting bats, there is potential for lighting used during construction to disturb bats. However, it is anticipated that there will be minimal need for construction lighting (if any), as the vast majority of works will be undertaken in daylight. During the winter months, some construction lighting may be needed, but bats are generally in hibernation during this period.
- 2.143. Through the removal of agricultural machinery and chemical crop treatments, the operational phase will lead to a decrease in disturbance below current levels. With the implementation of the supporting **Appendix 2.B** and Landscape & Ecology Management Plan (LEMP) (found within the Land and Visual Assessment (LVA) **Figure 1.11 of Volume 3, Technical Appendix 1**), which outline measures to increase the diversity of flora species within the Application Site, faunal diversity including prey species for foraging bats will also increase. Please note these measures are not provided by way of mitigation, but instead as an integral part of the design of the Proposed Development.

Other Mammals

- 2.144. The Application Site offers suitable sheltering / foraging habitat for hedgehog (*Erinaceus europaeus*) in the form of hedgerows and woodland. The site also offers suitable grassland habitat for brown hare (*Lepus europaeus*). This was corroborated by multiple sightings of hare both within the Application Site and surrounding area. In addition, the Application Site offers suitable habitat for harvest mouse (*Micromys minutus*). This species favors long, tussocky grassland, hedgerows, farmland, and woodland edges.
- 2.145. Hedgehog, brown hare and dormouse are UK and England Priority species²⁸.
- 2.146. No signs of water vole (*Arvicola amphibius*) were noted during any of the surveys undertaken related to the baseline PEAs (**Appendix D**). The agricultural drainage ditches within the site are considered to offer at best limited opportunities for these species. **No significant effect** upon water vole is predicted.

²⁸ See <https://hub.jncc.gov.uk/assets/98fb6dab-13ae-470d-884b-7816afce42d4>

- 2.147. No evidence of other protected or Priority mammals was noted during any of the surveys undertaken related to the baseline PEAs (**Appendix D**). It is expected that the site supports an assemblage of common small mammal species.
- 2.148. There will be negligible loss and fragmentation to the grassland, woodland and hedgerow habitats. Impacts on hedgehog, brown hare and harvest mouse are therefore likely to be limited to dust, noise and vibration disturbance during the construction phase of the Proposed Development.
- 2.149. However, the current baseline includes periodic disturbance of a smaller but not incomparable magnitude from agricultural activities several times a year. The limited human disturbance during the operational phase (constituting activities such as security checks and habitat management operations) will be an improvement on the current situation for these three species.
- 2.150. Fencing used at the Proposed Development Site may contain badger gates and gaps at the bottom to allow continued hare, hedgehog and other mammal movement. This will prevent the Proposed Development affecting access to foraging areas within the Application Site. This measure has been designed into the development, and therefore is not relied upon as mitigation.
- 2.151. **No significant effects** are anticipated upon brown hare or harvest mouse in the absence of mitigation.
- 2.152. Habitats will be significantly enhanced for hedgehog and common small mammals by the creation of new hedgerows, species-rich grassland and scrub as part of the proposed BMP (**Appendix 2B: Biodiversity Management Plan**).
- 2.153. **Positive effects** are anticipated for hedgehog in the absence of mitigation.

Otter

- 2.154. No signs of recent otter activity were noted within the ESA in any form. The majority of the site offers limited suitability foraging / commuting habitat for this species. The wider area adjacent to watercourses may hold suitability for holt construction.
- 2.155. In the absence of mitigation, whilst unlikely, otter **may be affected** by the Proposed Development.

Herptiles

- 2.156. Whilst there are 4 GCN class licences within 250m of the site and a further 3 within 1km of the site, there is no evidence of great crested newt (GCN) on site (see **Appendix 2H**). The absence of GCN DNA from the ponds on this site does not mean there is no impact on great crested newt as the site is suitable terrestrial habitat for this species and there have been

adjacent breeding records. The habitats on site have the potential for Great Crested Newt presence in addition to other herptile species.

- 2.157. Much of the site is considered unsuitable for reptiles due to being intensively managed for agricultural purposes, with many of the fields regularly cultivated up to the base of the surrounding hedges. The majority of hedges were also noted to be fairly heavily shaded by mature / dense shrubs and provide limited opportunities for basking. However, small pockets of suitable habitat were noted, including some hedge margins and in areas with damaged hedgerow, most notably on the west boundary of the Application Site.
- 2.158. No development will occur in the vast majority of these habitats. However, the removal of hedgerow sections at any time of year could lead to disturbance, injury or mortality of sheltering herptiles. Any herptiles using ditches crossed by the proposed access track and/or fencing may also be disturbed by construction activities. In the absence of mitigation, adverse effects of **low** spatial and **medium-term** temporal magnitude could occur on common herptile species. The effect foreseen is therefore considered **not significant**.
- 2.159. The operational phase would, however, lead to reduced disturbance when compared with the baseline level. The proposed enhancements (see **Appendix 2.1**) would also lead to **significant gains** due to the creation of new species-rich grassland and scrub, new tree planting and herptile hibernacula, leading to increased prey abundance and shelter opportunities within the Application Site.

Birds

- 2.160. Main impacts on bird species from developments include:
- Direct loss or deterioration of habitats;
 - Indirect habitat loss as a result of displacement by disturbance.
- 2.161. Breeding birds are highly susceptible to disturbance. The trees and hedgerows within the Application Site are likely to support a variety of common nesting birds during the breeding season, as are the adjacent woodland areas. This assemblage is likely also to include farmland birds of conservation concern.
- 2.162. The constructive phase therefore may potentially have a temporary adverse impact on any established nests of breeding birds within and adjacent to the Application Site. In absence of mitigation, this would result in an effect of **low** spatial and **medium-term** temporal magnitude. The effect may continue beyond a single bird generation but is expected to be sufficiently small for the local population to recover relatively soon. This effect would be **not significant** for the more common species but could be **significant** for Priority species and birds of conservation concern.
- 2.163. The Proposed Development is to be constructed on land that is subject to a level of disturbance from current agricultural activities. However, in the absence of mitigation there

is **potential for significant effects** on breeding birds if construction works are undertaken between the months of March and August inclusive.

- 2.164. Post construction, it is considered that the implementation of the BMP will increase the ecological value of the Application Site for birds. Disturbance during the operational phase is likely to be lower than the level currently experienced from grassland treatment, and from noise and physical disturbance from agricultural vehicles or machinery. Given this, **positive effects** are anticipated for these species during the operational phase.

Invertebrates

- 2.165. The vast majority of the Application Site (improved grassland) is considered to be of very limited value to invertebrates as it is species-poor, with high levels of herbicide and fertilizer inputs. However, hedges, tree-lines, and areas of semi-natural broadleaved are all considered likely to support a more diverse invertebrate assemblage. In addition, drains in the local area are also likely to support a good assemblage of aquatic invertebrates.
- 2.166. Impacts on these species are likely to be limited to dust and other pollution emitted during the construction phase of the Proposed Development. However, the current baseline includes periodic disturbance of a smaller but not incomparable magnitude from agricultural activities several times a year. **No significant effect** is anticipated during the construction phase.
- 2.167. Habitats will be significantly enhanced for invertebrates by new hedgerow, species-rich grassland, woodland and tree planting as part of the proposed BMP (**Appendix 2B: Biodiversity Management Plan**).
- 2.168. Overall, these species are deemed likely to experience **significant positive effects** in the absence of mitigation.

Mitigation and Enhancement Measures and Further Survey

Badger

- 2.169. Given that badger is a highly mobile species and may be present within the Application Site, it is recommended that a pre-construction badger survey is undertaken to assess the presence of badger less than one week prior to construction. Any necessary mitigation will then be designed in accordance with relevant ecological guidance and legislative requirements.
- 2.170. During the construction process, all disturbed ground should be levelled and compacted wherever possible. All excavations are to be covered or closed off securely at the end of each working day to prevent the accidental trapping of badgers.
- 2.171. Enhancements designed into the Proposed Development (see **Appendix 2B: Biodiversity Management Plan**) include the following measure for badgers:

- Creation of new woodland and tree planting, providing new sett-building habitat;
- Increase in foraging habitat and prey availability due to the species-rich grassland.

Bats

- 2.172. It is not proposed that any trees with bat roost potential (BRP) will be removed at the Application Site. If any mature tree ultimately requires removal, in line with Bat Conservation Trust guidelines²⁹, further surveys will be required should the BRP (as found within **Appendix 2D**) determine the tree to be of medium or high bat roosting potential. Soft felling techniques will be used if low potential exists to ensure that no cavities are cut through, and branches or trunk pieces with cavities are lowered carefully to the ground and left with the access hole upward facing over night to allow any bats to leave.
- 2.173. The enhancements designed into the Proposed Development (see **Appendix 2B: Biodiversity Management Plan**) include the following measures for bats:
- Installation of bat boxes on retained trees of suitable size and location (including designs suitable for locally-present bat species identified by the desk study);
 - Creation of new hedgerows, species-rich grassland, woodland and tree planting, providing new bat foraging opportunities;
 - Measures to increase invertebrate numbers, increasing potential bat prey availability.

Otter

- 2.174. Given that otter is a highly mobile species and cannot be ruled as absent within the Application Site, it is recommended that a pre-construction otter survey is undertaken to assess the presence of otter (alongside the badger survey outlined above) less than one week prior to construction. Any necessary mitigation will then be designed in accordance with relevant ecological guidance and legislative requirements.

Other Mammals

- 2.175. No further survey is considered necessary in connection with other mammal species.
- 2.176. Whilst not recorded on site, and only limited records of small mammals (vast majority being the 51 records of European hedgehog) was found during the data search, enhancement opportunities for priority small mammals exist within the Application Site. As Hampshire notes the importance of small mammal species (such as dormouse, harvest mouse, and European

²⁹ Collins, J. (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd edition. Bat Conservation Trust, London.

hedgehog), as a design and landscaping measure, retained scrub onsite will be managed in a way to optimise the habitat available for this protected species.

- 2.177. Although not relied on as mitigation, badger gates and a 5cm gap in fencing can be secured by a suitably worded planning condition to allow the free movement of any small mammal in, out, and within the Application Site.
- 2.178. The enhancements designed into the Proposed Development (see **Appendix 2B: Biodiversity Management Plan**) include the following measures for hedgehog:
- Creation of new hedgerow, species-rich grassland and scrub habitat;
 - Measures to increase invertebrate numbers, increasing potential hedgehog prey availability.

Herptiles

- 2.179. Following the GCN survey conducted on the 29th and 30th June 2023. The water samples collected from the ponds tested negative for the presence of great crested newt DNA, however, GCN presence has been noted in previous surveys, more information can be seen in **Appendix 2H – Great Crested Newt Report**.
- 2.180. To mitigate any potential risk to GCN a District Level Licence (DLL) issued through NatureSpace is proposed. This will mitigate any potential impact to individual and GCN populations and ensure that the proposed development is compliant with GCN legalisation.
- 2.181. It is recommended that standard good working practices in relation to herptiles are adopted alongside the DLL, throughout the construction phase of the development (see table 2-11).
- 2.182. Strimming or other removal of vegetation during the herptile active season (March to September) should be carried out in phases, towards retained habitat. The initial phase should involve cutting the vegetation to a height of 150mm, followed by a second phase of cutting down to ground level if necessary. This method allows any reptiles or amphibians present to move out of the area ahead of works.
- 2.183. Where/if sections of hedgerow are to be removed, this should occur in suitable weather conditions, ideally using hand tools and during the herptile active season (see **Table 2-11**). If the work needs to occur between October and February, dismantling/removal will be overseen by a suitably qualified and experienced Ecological Clerk of Works (ECoW).
- 2.184. Any amphibians or reptiles found should be moved carefully by an ecologist to suitable retained habitat in the vicinity or, if already present, to one of the herptile hibernacula to be created within the Application Site (see **Appendix 2B: Biodiversity Management Plan** and **Figure 1.11**).
- 2.185. Enhancements designed into the Proposed Development include the following measures for herptiles:

- Creation of new hedgerow, species-rich grassland and woodland over existing agricultural grassland habitat, providing new shelter and foraging resources;
- Enhancement of retained scrub habitat;
- Creation of herptile hibernacula;
- Measures to increase invertebrate numbers, increasing potential herptile prey availability.

Birds

- 2.186. Breeding birds are highly susceptible to disturbance. As the constructive phase may have a significant impact on breeding birds within and adjacent to the Application Site, mitigation measures have been recommended to ensure that no significant impacts occur.
- 2.187. Where works are to commence during the breeding season (March to August inclusive), thorough pre-commencement checks of possible nesting sites should be undertaken by a suitably experienced ecologist prior to works commencing (see **Appendix 2E: Breeding Bird Survey Report**). An appropriate buffer zone must be established around nesting birds until the young have fully fledged.
- 2.188. Proposed enhancements (see **Appendix 2B: Biodiversity Management Plan**) include the following measures for birds:
- Planting of new hedgerows, species-rich grassland, scrub and trees, providing new nesting and foraging resources;
 - Measures to increase invertebrate numbers, increasing potential prey availability for insectivorous birds;
 - Erection of six bird boxes, including a variety of designs with at least one box suitable for the Barn Owl found on the site (see **Appendix 2E: Breeding Bird Survey Report**).

Invertebrates

- 2.189. No further survey or mitigation is considered necessary in connection with invertebrates.
- 2.190. The enhancements designed into the Proposed Development (see **Appendix 2B: Biodiversity Management Plan**) include the following measures benefitting invertebrates:
- Planting of new hedgerows, species-rich grassland, scrub and trees, increasing invertebrate habitat interest;
 - Provision of invertebrate boxes/hotels;

- Creation of bee banks;
- Creation of herptile hibernacula, doubling as a dead wood resource for saproxylic invertebrates.

Residual Effects

- 2.191. With the implementation of pre-commencement surveys and the proposed mitigation measures, it is considered that there will be **no significant negative effects** upon protected or notable species during the construction phase. The BMP and LEMP propose a number of habitat creation and enhancement measures centred around new hedgerows, species-rich grassland, tree and woodland planting, bee banks, invertebrate hotels, herptile hibernacula, and bird and bat boxes. With the implementation of these, **the potential of the Application Site to support local wildlife will increase** and the Proposed Development will lead to a significant **positive effect** on a number of protected species during the operational phase.
- 2.192. Residual effects on badgers are considered to be **minor and positive**.
- 2.193. Residual effects upon bats are envisaged to be **significant and positive**.
- 2.194. Residual effects on hedgehog and common small mammals are considered **significant and positive**.
- 2.195. Residual effects on other mammals including brown hares and harvest mice are considered **minor and positive**.
- 2.196. Residual effects upon herptiles are envisaged to be **significant and positive**.
- 2.197. Residual effects upon birds are considered to be **significant and positive**.
- 2.198. Residual effects upon invertebrates are considered to be **significant and positive**.

CONCLUSION

- 2.199. To minimise potential impacts on local wildlife, protective ecological measures have been incorporated into the Proposed Development as part of the iterative design process. These include buffers from potentially sensitive ecological receptors (see **Table 2-10** below). Standard best practice pollution prevention measures for the construction stage have also been outlined and considered as part of the impact assessment, prior to mitigation. These measures are also outlined within **Table 2-11**.
- 2.200. A total of 14 habitat types were noted during the UK Habitat Classification surveys undertaken in January 2023. The main impacts during the construction phase include the direct loss of habitat under the Proposed Development footprint and indirect loss of habitat due to noise and vibration disturbance, and dust and water pollution. The **loss of these primarily agricultural areas is considered to be of negligible significance** to nature conservation interest within the local area.
- 2.201. The desk-based assessment identified that within 15km of the Application Site boundary there are eleven internationally designated sites: Four SACs, four SPAs, and three Ramsar Sites. The closest of these are River Itchen SAC located 0.35km west of the Application Site at its closest point. No pSACs, pSPAs, or proposed Ramsar sites were recorded within 15km. There are SSSIs, and four LNR within 5km of the Application Site.
- 2.202. These designated sites have been assessed below. There will be **no adverse effects** on the integrity of any statutory designated sites as a result of the Proposed Development. The only designated sites with potential connectivity to the Application Site is Itchen SAC & SSSI with possible ecological and limited hydrological connectivity. Solvent & Southampton Water SPA and Lee-on-The Solent to Itchen Estuary SSSI has potential ornithological connectivity.
- 2.203. There are 39 non-statutory sites (SINC's) within 2km of the Application site. Seven of these are immediately adjacent to the application site and have been assessed below. One non-statutory site has ecological connectivity; Allington Lane Pond which is directly adjacent to the site boundary. The other six SINC's may have potential hydrological connectivity due to ground water flow. However, this is limited and does not pose significant negative effects against the local ecology due to the integral design measures previously outlined.
- 2.204. Recommendations for further survey work have been provided within this report as part of the relevant mitigation measures (please refer to **Table 2-11** below).
- 2.205. It is considered that the short-term disturbance resulting from the Proposed Development **will not be significant** if the recommended mitigation is undertaken. With the implementation of pre-commencement surveys and the proposed mitigation measures, it is considered that there will be **no significant negative effects** upon protected or notable species during the construction phase. The BMP and LEMP propose a number of habitat creation and enhancement measures centred around enhancement of existing habitat, new hedgerows with trees, species-rich grassland and wildflower area, wet meadows, hazel scrub planting,

hibernacula and bird, mammal and invertebrate houses/boxes. With the implementation of these, **the potential of the site to support local wildlife will increase** and the Proposed Development will lead to a **significant positive effect** on a number of protected or Priority species during the operational phase.

- 2.206. The Proposed Development conserves and enhances biodiversity, minimising impacts, providing **net gains** and strengthening existing and retained green infrastructure.

Table 2-10: Integral Design Measures and Standard Best Practice

Receptor	Potential Development Impacts	Phase of Development	Measures Implemented
INTEGRAL DESIGN MEASURES			
Aquatic environment	Pollution	Construction	Avoidance of all surface water areas including ponding
Habitats	Pollution and destruction	Construction	Avoidance of hedgerows, watercourses/field drains, woodland, and trees
STANDARD BEST PRACTICE MEASURES			
Aquatic environment	Pollution	Construction	Best practice pollution prevention measures implemented prior to and throughout the construction phase to prevent contaminants entering the aquatic environment
Badger	Accidental trapping with excavations	Construction	All excavations should be securely covered at the end of each working day

Table 2-11: Recommended Mitigation Measures

Receptor	Potential Development Impacts	Phase of Development	Measures Implemented
MITIGATION MEASURES			
Badger / Otter	Destruction of badger setts / otter rest spots	Pre-construction	Pre-commencement survey (Measures dependent on survey findings)
Bats	Habitat disturbance/destruction	Pre-construction	Bat Roost Potential survey of any tree to be removed (Measures dependent on survey findings)
Birds	Habitat disturbance/destruction of nesting habitat	Pre-construction	Pre-construction nesting bird check (only if works are undertaken)

	(Only if works are undertaken between March and August inclusive)		between March and August inclusive) (Measures dependent on survey findings)
Herptiles	Habitat disturbance/destruction and minor hedgerow loss	Construction	Any vegetation removal from March to September to be carried out directionally towards retained habitat, in two stages Careful removal of hedgerow performed with hand tools, only when air temperature is above 10°C, and not after long dry spells. Ecologist to be contacted if herptiles are found If the work needs to occur between October and February, dismantling/removal will be overseen by a suitably qualified and experienced Ecological Clerk of Works

APPENDICES

Appendix 2A – Figures

- Figure 2.1 – Statutory Environmental Designations

Appendix 2B – Biodiversity Management Plan

Appendix 2C – Net Gain Assessment

Appendix 2D – PEA Reports

- S1 – P21 & 22 Allington Lane – North - PEA
- S2 – P28 Allington Lane – Hearts - PEA
- S3 – P29 & 30 Allington Lane – Hog Wood – PEA

Appendix 2E – Breeding Bird Survey Report

Appendix 2F- Effects on the Itchen Valley SSSI Assessment

Appendix 2G – Badger Summary Report

Appendix 2H – Great Crested Newt Report